APPENDIX A

RESPONSES TO NOTICE OF PREPARATION (NOP)

FACILITIES DEVELOPMENT
3280-A Crow Canyon Road, San Ramon, CA 94583
(925) 552-5986 • FAX (925) 328-0560

November 16, 2010

Planning Division
Mr. David Crompton
Town of Danville
510 La Gonda Way
Danville, CA 94526

RE: **Case Number LEG10-0004(PUD), DEV-0071(SD), DEV10-0072(DP)**
Assessor's Parcel #s 202-050-071,073,074,078,079,080
Assessor's Parcel #s 202-100-017,019,038,040
Assessor's Parcel #s 215-040-002

Mr. Crompton:

Thank you for allowing the District the opportunity to comment on the above-mentioned project.

The **residential** project located at **Magee Ranch Property** will be subject to a residential rate developer fee per square foot because it is a residential project. The project is within the San Ramon Valley Unified School District. The resident schools for this project are **Green Valley Elementary, Los Cerros Middle, and Monte Vista High Schools**. Due to overcrowding in the District, it is possible that students residing in this subdivision may be diverted to other schools.

Should you have any questions or require additional information, please do not hesitate to contact me.

Sincerely,

Karen DeJesus
Facilities Planning Analyst

State of California – The Natural Resources Agency
DEPARTMENT OF FISH AND GAME
Bay Delta Region
7329 Silverado Trail
Napa, CA 94558
(707) 944-5500
www.dfg.ca.gov

ARNOLD SCHWARZENEGGER, *Governor*
John McCamman, *Director*

December 8, 2010

Mr. David Crompton
City of Danville
510 La Gonda Way
Danville, CA 94526

Dear Mr. Crompton:

Subject: Magee Ranch SummerHill Development Applicaiton, Notice of Preparation, SCH #2010112042, Town of Danville, Contra Costa County

Thank you for providing the Department of Fish and Game (DFG) with the opportunity to comment on the Notice of Preparation (NOP) for the Magee Ranch SummerHill Development Application (proposed project). The proposed project involves subdivision of a 410-acre property into 85 single-family lots. The following comments are intended to assist the Town of Danville in preparation of the draft Environmental Impact Report (EIR) for the proposed project.

At a minimum, the text of the EIR should provide a description of each special-status plant and animal species observed or known to occur within a five-mile radius of the project site, including each species' habitat associations, range, threats, and any other information necessary to support a finding of significance. All species that meet the California Environmental Quality Act (CEQA) definition of rare, threatened and endangered species (see CEQA Guidelines, Section 15380) should be addressed in the EIR.

Special-status species known to exist in the vicinity of the project site include Alameda whipsnake (*Masticophis lateralis euryxanthus*), California tiger salamander (*Ambystoma californiense*), California red-legged frog (*Rana draytonii*), prairie falcon (*Falco mexicanus*), pallid bat (*Antrozous pallidus*), slender silver moss (*Anomobryum julaceum*), Diablo helianthella (*Helianthella castanea*), Congdon's tarplant (*Centromadia parryi* ssp. *congdonii*), chaparral harebell (*Campanula exigua*), oval-leaved viburnum (*Viburnum ellipticum*), Mt. Diablo manzanita (*Arctostaphylos auriculata*), Contra Costa manzanita (*Arctostaphylos manzanita* ssp. *laevigata*), Brewer's western flax (*Hesperolinon breweri*), Hall's bush-mallow (*Malacothamnus hallii*), and Mt. Diablo fairy-lantern (*Calochortus pulchellus*). The project site is also within one mile of Alameda whipsnake critical habitat. Birds protected under Fish and Game Code sections 3503 and 3503.5, and the federal Migratory Bird Treaty Act may also use the project site for nesting.

Additional special-status species occurrence data is available from the California Natural Diversity Database or through DFG's Biogeographic Data Branch at: http://www.dfg.ca.gov/biogeodata/cnddb/subscribe.asp. DFG recommended survey and monitoring protocols and guidelines for special-status species are available at: http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/Protocols_for_Surveying_and_Evaluating_Impacts.pdf. All surveys should be conducted by a qualified biologist (as determined by a combination of academic training and professional experience in biological sciences and related resource management activities) during the appropriate detection period for each species.

Habitat at the project site should be characterized in the EIR by type, quantity, quality and location. Significant habitat features such as creeks and drainages, wetlands, and mature trees should be described. Please describe also the existing and historical use(s) of the project site and the nature and frequency of any disturbances, earthmoving activities, and/or vegetation removal activities that may have altered natural habitat conditions.

The biological resources section should analyze reasonably foreseeable direct and indirect changes, both temporary and permanent, that are likely to occur with implementation of the project. All impacts should be disclosed regardless of their level of significance. Given the project's location in an area of rapid development, special consideration should be given to cumulative impacts, such as a cumulative reduction in the range of a species or obstruction of a regional wildlife movement corridor. Cumulative impacts may be significant even when project-specific impacts are not.

The mitigation measures of the EIR should address direct impacts to individuals of impacted species (e.g. direct take during construction) as well as impacts associated with habitat loss. If existing habitat for special-status species cannot be preserved on-site, it may be necessary for the project sponsor to purchase land, purchase credits through mitigation bank, or provide alternative compensation to mitigate loss of habitat. All project-specific and cumulative impacts to nesting, foraging, wintering, dispersal, and migration habitat (i.e., breeding and non-breeding season) should be mitigated to below a level of significance, or the lead agency should issue findings stating why mitigation is infeasible.

Please be advised that a California Endangered Species Act (CESA) permit must be obtained if the project has the potential to result in take of species of plants or animals listed under CESA or their habitat, either during construction or over the life of the project. Issuance of a CESA permit is subject to CEQA documentation. If the project will impact CESA listed species, early consultation is encouraged, as significant modification to the project and mitigation measures may be required in order to obtain a CESA permit.

For any activity that will divert or obstruct the natural flow, or change the bed, channel, or bank (which may include associated riparian resources) of a river or stream, or use material from a streambed, DFG may require a Lake and Streambed Alteration Agreement (LSAA), pursuant to Section 1600 et seq. of the Fish and Game Code, with the applicant. Issuance

of an LSAA is subject to CEQA. DFG, as a responsible agency under CEQA, will consider the CEQA document for the project. The EIR should fully identify the potential impacts to the stream or riparian resources and provide adequate avoidance, mitigation, monitoring and reporting commitments for completion of the agreement. To obtain information about the LSAA notification process, please access our website at http://www.dfg.ca.gov/habcon/1600/; or to request a notification package, contact the Lake and Streambed Alteration Program at (707) 944-5520.

If you have any questions, please contact Ms. Randi Adair, Environmental Scientist, at (707) 944-5596; or Mr. Liam Davis, Habitat Conservation Supervisor, at (707) 944-5529.

Sincerely,

for Scott Wilson
Acting Regional Manager
Bay Delta Region

cc: State Clearinghouse

DEPARTMENT OF TRANSPORTATION
111 GRAND AVENUE
. O. BOX 23660
OAKLAND, CA 94623-0660
PHONE (510) 622-5491
FAX (510) 286-5559
TTY 711

Flex your power!
Be energy efficient!

December 10, 2010

CC680570
CC-680-R7.55
SCH# 2010112042

Mr. David Crompton
Planning Division
Town of Danville
510 La Gonda Way
Danville, CA 94526

Dear Mr. Crompton:

Magee Ranch SummerHill Development Application Project – Preliminary Development (Plan) and Notice of Preparation (NOP)

Thank you for including the California Department of Transportation (Department) in the early stages of the environmental review process for the Magee Ranch SummerHill Development Application project. The following comments are based on the Plan and NOP. As the lead agency, the Town of Danville (Town) is responsible for all project mitigation, including any needed improvements to State highways. The project's fair share contribution, financing, scheduling, implementation responsibilities and lead agency monitoring should be fully discussed for all proposed mitigation measures. This information should also be presented in the Mitigation Monitoring and Reporting Plan of the environmental document. Required roadway improvements should be completed prior to issuance of the Certificate of Occupancy. Since an encroachment permit is required for work in the state right of way (ROW), and the Department will not issue a permit until our concerns are adequately addressed, we strongly recommend that the Town work with both the applicant and the Department to ensure that our concerns are resolved during the California Environmental Quality Act (CEQA) process, and in any case prior to submittal of a permit application. Further comments will be provided during the encroachment permit process.

Traffic Impact Study (TIS)
Please include the information detailed below in the TIS to ensure that project-related impacts to State roadway facilities are thoroughly assessed. We encourage the Town to coordinate preparation of the study with our office, and we would appreciate the opportunity to review the scope of work. The Department's *"Guide for the Preparation of Traffic Impact Studies"* should be reviewed prior to initiating any traffic analysis for the project; it is available at the following website: http://www.dot.ca.gov/hq/traffops/developserv/operationalsystems/reports/tisguide.pdf

The TIS should include:

1. Vicinity map, regional location map, and a site plan clearly showing project access in relation to nearby State roadways. Ingress and egress for all project components should be clearly identified. State ROW should be clearly identified.

2. The maps should also include project driveways, local roads and intersections, parking, and transit facilities.

3. Project-related trip generation, distribution, and assignment. The assumptions and methodologies used to develop this information should be detailed in the study, and should be supported with appropriate documentation.

4. Average Daily Traffic, AM and PM peak hour volumes and levels of service (LOS) on all significantly affected roadways, including crossroads and controlled intersections for existing, existing plus project, cumulative and cumulative plus project scenarios. Calculation of cumulative traffic volumes should consider all traffic-generating developments, both existing and future, that would affect study area roadways and intersections. *The analysis should clearly identify the project's contribution to area traffic and degradation to existing and cumulative levels of service. Lastly, the Department's LOS threshold, which is the transition between LOS C and D, and is explained in detail in the Guide for Traffic Studies, should be applied to all State facilities.*

5. Schematic illustration of traffic conditions including the project site and study area roadways, trip distribution percentages and volumes as well as intersection geometrics, i.e., lane configurations, for the scenarios described above.

6. The project's consistency with both the Circulation Element of the General Plan and the Contra Costa County Congestion Management Agency's Congestion Management Plan should be evaluated.

7. Mitigation should be identified for any roadway mainline section or intersection with insufficient capacity to maintain an acceptable LOS with the addition of project-related and/or cumulative traffic.

8. Special attention should be given to the following trip-reducing measures:
   - Coordinating with transit providers, to increase transit use by expanding routes and emphasizing express service to regional rail stations, and by providing bus shelters with seating at any future bus pullouts,
   - Providing transit information to all future residents, and
   - Encouraging bicycle- and pedestrian-friendly design.

Please forward three hard copies and one CD of the environmental document, along with the TIS, including Technical Appendices, and staff report to the address below as soon as they are available.

Luis Melendez
Community Planning Office, Mail Station 10D
California DOT, District 4
P.O. Box 23660
Oakland, CA 94623-0660

Encroachment Permit
Please be advised that any work or traffic control that encroaches onto the state ROW requires an encroachment permit that is issued by the Department. To apply, a completed encroachment permit application, environmental documentation, and five (5) sets of plans clearly indicating state ROW must be submitted to the address below. Traffic-related mitigation measures should be incorporated into the construction plans during the encroachment permit process. See the website link below for more information. http://www.dot.ca.gov/hq/traffops/developserv/permits/

Michael Condie, District Office Chief
Office of Permits
California DOT, District 4
P.O. Box 23660
Oakland, CA 94623-0660

Please feel free to call or email Luis Melendez of my staff at (510) 286-5606 or Luis_Melendez@dot.ca.gov with any questions regarding this letter.

Sincerely,

LISA CARBONI
District Branch Chief
Local Development – Intergovernmental Review

c: State Clearinghouse

East Bay Regional Park District
2950 PERALTA OAKS COURT · P.O. BOX 5381 · OAKLAND CALIFORNIA 94605-0381
T: (510) EBPARKS · F: (510) 635-9135 · TDD: (510) 562-8174 · W: EBPARKS.ORG

December 17, 2010

David Crompton
Town of Danville
Planning Department
510 La Gonda Way
Danville Ca 94526

Subject: **Sycamore Valley Regional Open Space Preserve**
Magee Ranch Development – Summer Hill Homes
Notice of Preparation

Dear Mr. Crompton:

The East Bay Regional Park District (the 'District') has had the opportunity to review the Notice of Preparation for the proposed development project at Magee Ranch by SummerHill Homes. The project proposes the subdivision of 85 single-family lots along Diablo Road and McCauley Road. The development would occur on approximately 119 acres of the proposed project site. The remaining 291 acres is proposed to remain as permanent open space.

The property is located adjacent to the Sycamore Valley Regional Open Space Preserve owned and managed by the District as well as protected open space areas managed by local homeowners association.

The Environmental Impact Report (EIR) will need to evaluate the potential for impacts associated with residential development of the 85 single-family lots including the potential for aesthetic, biologic, recreation, and transportation related impacts.

- Custom lots 64, 63, and 62 identified on Figure 3 of the NOP would encompass a number of significant oak trees. The EIR should delineate building envelopes that avoid impacts to oak woodlands.

- The project will increase the use of adjacent open space areas, including the Sycamore Valley Regional Open Space Preserve. The EIR should mitigate the potential for impacts associated with increased recreational use by providing sufficient and permanent funding to ensure long-term stewardship of the properties resources and to provide for public safety and security. The EIR should identify a funding mechanism such as a Zone of Benefit or Community Facilities District to provide for maintenance and operation of protected open

Board of Directors

Doug Siden	Beverly Lane	Carol Severin	John Sutter	Whitney Dotson	Ted Radke	Ayn Wieskamp	Pat O'Brien
President	Vice-President	Treasurer	Secretary	Ward 1	Ward 7	Ward 5	General Manager
Ward 4	Ward 6	Ward 3	Ward 2				

space to ensure the project does not result in significant impacts through increased recreational use.

- The EIR should also seek to enhance recreational access and opportunities by connecting trails within the proposed protected open space and the Sycamore Valley Regional Open Space Preserve by ensuring they are made available for public use. Providing dedicated public access on recreational trails that connect to the regional open space preserve will ensure the property provides the appropriate and necessary recreational access.

- The EIR should address access to protected open space areas from Diablo Road. Currently, no staging area exists in this area. Provision of a staging area along Diablo Road should be considered as a measure to provide for safe recreational access to the open space areas.

The District appreciates the opportunity to comment on the proposed Magee Ranch development and we look forward to reviewing the project EIR. Please feel free to contact me at (510) 544-2623 or bholt@ebparks.org should you have any questions.

Respectfully,

Brian W. Holt, AICP
Senior Planner

Cc: Nancy Wenninger – Assistant General Manager
Larry Tong – Interagency Planning Manager

EAST BAY
MUNICIPAL UTILITY DISTRICT

December 13, 2010

David Crompton, Principal Planner
Town of Danville, Planning Division
510 La Gonda Way
Danville, CA 94526

Re: Notice of Preparation of an Environmental Impact Report for the Magee Ranch (SummerHill) Development Project

Dear Mr. Crompton:

East Bay Municipal Utility District (EBMUD) appreciates the opportunity to comment on the Notice of Preparation of an Environmental Impact Report for the Magee Ranch Development Project located in the Town of Danville (Town). EBMUD has the following comments.

GENERAL

EBMUD owns and maintains an access road in an EBMUD right-of-way (R/W 1581) providing access to EBMUD's Green Valley Reservoir located within the boundary of this property. The integrity of this right-of-way needs to be maintained at all times. Any proposed construction activity, including proposed grading, within the right-of-way will need to be coordinated with EBMUD and may require relocation of the right-of-way, at project sponsor's expense. No buildings, trees, or structures, including decorative pavements shall be constructed in EBMUD's right-of-way unless specific approval is given by EBMUD.

Although the entire development is located within EBMUD's Ultimate Service Boundary, only part of the development (Parcels 48 – 60) is located within EBMUD's current service area. The remaining portion of the development (Parcels 1 – 47 and 61 – 85) is located outside EBMUD's current service area and would need to be annexed into EBMUD's current service area before receiving water service from EBMUD. Please note that EBMUD will not deliver water to any annexed property until a formal approval is issued by U.S. Bureau of Reclamation. A description on the requirements pertaining to annexation is enclosed. The project sponsor should contact the Contra Costa County Local Agency Formation Commission (LAFCO) to apply for annexation.

Recycled Paper

WATER SERVICE

EBMUD's Diablo Pressure Zone, with a service elevation between 450 and 650 feet, will serve the proposed development. Depending on the final elevations of the development, portions of the development located above 650 feet (lots 62 - 64), will require a Low Pressure Service Agreement. A Low Pressure Service Agreement recommends installation and maintenance of individual storage and pumping facilities (hydropnuematic system) and associated plumbing to ensure an adequate water supply at the premises at all times, and would be at the project sponsor's expense. Main extensions, at the project sponsor's expense, will be required to serve the proposed development. Off-site pipeline improvements, include but are not limited to, replacement of existing pipelines to the project site, also at the project sponsor's expense, may be required to serve the proposed development. When the development plans are finalized, the project sponsor should contact EBMUD's New Business Office and request a water service estimate to determine costs and conditions for providing water service to the proposed development. Engineering and installation of water mains, off-site pipeline improvements, and services requires substantial lead-time, which should be provided for in the project sponsor's development schedule.

The project sponsor should also be aware that EBMUD will not inspect, install or maintain pipeline in contaminated soil or groundwater (if groundwater is present at any time during the year at the depth piping is to be installed) that must be handled as a hazardous waste or that may pose a health and safety risk to construction or maintenance personnel wearing Level D personal protective equipment. Nor will EBMUD install piping in areas where groundwater contaminant concentrations exceed specified limits for discharge to sanitary sewer systems or sewage treatment plants. Applicants for EBMUD services requiring excavation in contaminated areas must submit copies of existing information regarding soil and groundwater quality within or adjacent to the project boundary. In addition, the applicant must provide a legally sufficient, complete and specific written remedial plan establishing the methodology, planning and design of all necessary systems for the removal, treatment, and disposal of all identified contaminated soil and/or groundwater.

EBMUD will not design the installation of pipelines until such time as soil and groundwater quality data and remediation plans are received and reviewed and will not install pipelines until remediation has been carried out and documentation of the effectiveness of the remediation has been received and reviewed. If no soil or groundwater quality data exists or the information supplied by the applicant is insufficient EBMUD may require the applicant to perform sampling and analysis to characterize the soil being excavated and groundwater that may be encountered during excavation or perform such sampling and analysis itself at the applicant's expense.

WATER CONSERVATION

The proposed project presents an opportunity to incorporate water conservation measures. EBMUD would request that the Town include in its conditions of approval a requirement that

the project complies with California Model Water Efficient Landscape Ordinance (Division 2, Title 23, California Code of Regulations, Chapter 2.7, Sections 490 through 495). The project sponsor should be aware that Section 31 of EBMUD's Water Service Regulations requires that water service shall not be furnished for new or expanded service unless all the applicable water-efficiency measures described in the regulation are installed at the project sponsor's expense.

If you have any questions concerning this response, please contact David J. Rehnstrom, Senior Civil Engineer, Water Service Planning at (510) 287-1365.

Sincerely,

William R. Kirkpatrick
Manager of Water Distribution Planning

WRK:AMW:sb
sb10_243.doc

Enclosure: Annexation to EBMUD Current Service Area Requirements

cc: Wendi Baker
SummerHill Homes
Ref.: Magee Ranch Project
5000 Executive Parkway, Suite 150
San Ramon, CA 94583

Mark Falgout
Ruggeri-Jensen-Azar
Ref.: Magee Ranch Project
4690 Chabot Drive, Suite 200
Pleasanton, CA 94588

ANNEXATION TO EBMUD CURRENT SERVICE AREA REQUIREMENTS

Changes to EBMUD's water supply commitments, such as supplying water to lands outside EBMUD's existing customer service area, requires EBMUD to seek and obtain approval from the U.S. Bureau of Reclamation (USBR), with whom EBMUD has a contract for supplemental water supply in dry years. To support its approval of any expansion of EBMUD's customer service area, USBR requires environmental documentation that extends beyond what is typically needed to meet the CEQA requirements. This documentation is required to satisfy federal environmental laws including the National Environmental Protection Act (NEPA), the Endangered Species Act (ESA), and Section 106 of the National Historic Preservation Act (NHPA). EBMUD will require any developer requesting annexation to provide such documentation, which EBMUD will use to support its request for USBR's consent to the provision of water service to the annexed area. In evaluating the adequacy of this environmental documentation, USBR typically consults with other federal agencies, including the U.S. Fish and Wildlife Service. In situations where the U.S. Army Corps of Engineers (Corps), in fulfilling its obligations for issuing permits and documenting environmental impacts under the Clean Water Act, ESA, NEPA and other federal environmental laws, USBR has indicated to EBMUD recently that it would prefer that the Corps complete all of its requirements under these laws, after which USBR would augment the documentation only as necessary to fulfill its own requirements to support the expansion of EBMUD's customer service area.

Since documentation that fulfills CEQA requirements is generally also sufficient to meet the majority of NEPA requirements, it is advisable when undertaking work to satisfy CEQA to also be cognizant of the parallel NEPA requirements as well as those NEPA requirements that go beyond CEQA requirements. Early discussions with EBMUD in this regard are highly recommended.

Because the NHPA Section 106 requirements are generally less well understood than other environmental requirements under USBR's purview, new guidelines have recently been issued for conducting studies and preparing documentation to address these requirements. In particular, USBR requires a stand-alone report addressing Section 106 requirements. EBMUD will review the developers' Section 106 report and submit it for USBR's approval. Once satisfied with Section 106 report, USBR may forward it to the State Historic Preservation Officer for approval.

It is important to note that EBMUD's Central Valley Project water supply contract requires payment of USBR's costs incurred to review the relevant documentation supporting any annexation request and to fulfill its own documentation responsibilities under the applicable federal laws. EBMUD requires the developer of any proposed annexation to reimburse EBMUD for these costs. Once a developer approaches EBMUD for annexation approval, EBMUD will require the developer to enter into an agreement (or separate agreements, if necessary) to advance sufficient funds for any related studies or work, including CEQA documentation if necessary, as well as the USBR costs that will be charged to EBMUD.

Charges and agreements related to installation of water delivery facilities and connections are subject to the EBMUD's Regulations Governing Water Service to Customers of EBMUD.

Contra Costa County
Flood Control
& Water Conservation District

Julia R. Bueren,
ex officio Chief Engineer
R. Mitch Avalon,
Deputy Chief Engineer

December 14, 2010

David Crompton, Project Planner
Town of Danville
510 La Gonda Way
Danville, CA 94526

RE: Sub 9291 Magee Ranch (LEG10-0004, DEV10-0071, & DEV10-0072)
Our File: 1002-9291

Dear Mr. Crompton:

We have received the Notice of Preparation (NOP) for the Draft Environmental Impact Report (DEIR) for the Magee Ranch—Summerhill Development and the Request for Comments on the Vesting Tentative Map for Subdivision 9291 Magee Ranch located on the south side of Diablo Road and Blackhawk Road (APN 202-050-071, -073, -074, -078, etc.). We submit the following comments:

Notice of Preparation

1. We recommend that the DEIR include a map of the project area and show all parcels involved in the subdivision.

2. We request that the DEIR provide a map of the watersheds where the project is located, including watershed boundaries. The eastern portion of the project is located within Drainage Area 36 (DA 36). Parcels 66-68, located off of McCauley Road, are in DA 91. These drainage areas define the watersheds for the East Branch of Green Valley Creek and Lower Green Valley Creek, which ultimately drain to San Ramon Creek. The project is also located within Flood Control Zone 3B, which encompasses the entire Walnut Creek Watershed. The existing and planned flood control facilities are designed to mitigate flooding on Lower Green Valley Creek and further downstream on San Ramon Creek.

3. In the Hydrology Section, please identify and show all existing watercourses, tributaries, and man-made drainage facilities within the project site, and that which could be impacted by this project. The discussion should include an analysis of the capacity of the existing watercourses.

4. The Hydrology Section should quantify the amount of runoff that would be generated by the project and discuss how the runoff entering and originating from the site would be distributed between the natural watercourses, the detention basins (if proposed), and the man-made drainage facilities.

5. If improvements or work within the natural watercourses are proposed, the DEIR should discuss the scope of improvements.

6. We recommend that the DEIR address the design and construction of storm drain facilities to adequately collect and convey stormwater entering or originating within the development to the nearest adequate man-made drainage facility or natural watercourse, without diversion of the watershed, per Title 9 of the County Ordinance Code.

7. The DEIR should discuss the adverse impacts of the runoff from the project site to the existing drainage facilities or natural watercourses and drainage problems in the downstream areas, especially on Lower Green Valley Creek where there are known inadequate reaches. The Contra Costa County Flood Control and Water Conservation District (FC District) and the Army Corps of Engineers have performed studies that show that Lower Green Valley Creek downstream of this project does not have sufficient capacity for the 100-year flow event considering the ultimate build-out condition. There are reaches that are unstable and eroding. The effects of this subdivision on these inadequate reaches of Green Valley Creek are unknown. This should be addressed in the DEIR and mitigation for those impacts offered.

8. The Hydrology Section of the DEIR should include a study that uses Contra Costa County's hydrology method (HYDRO6). The existing and planned regional drainage facilities that are affected by development within the San Ramon Creek watershed have been designed using HYDRO6, which is the only method that the FC District will accept. Other commonly accepted hydrology methods were developed using runoff patterns from other regions that do not accurately model the Pacific Coast storm patterns experienced in Contra Costa County. These methods produce runoff results that have proven to be significantly less than field observations of local storms made by the FC District and the Army Corps of Engineers; therefore, please use HYDRO6.

9. The FC District facilities that would be impacted by this development include the Lower Green Valley Creek in DA 91 and San Ramon Creek Channel. There are utilities, houses, and other structures that may be impacted on Green Valley Creek. The DEIR should address these impacts and propose mitigation measures.

10. The DEIR should discuss any proposed on-site and off-site drainage improvements, and include maps or drawings for the improvements.

11. If detention basin facilities are proposed, the DEIR should include a discussion of the basin design information, (i.e., capacity, sizes of inlet and outlet structures, routing, etc.) A discussion of how maintenance of these facilities would be performed and funded should also be included.

12. The DEIR should address the impacts of this project's runoff due to the increase in duration (length of time) of flows as a result of detention and the effect on creeks and channels downstream of the project. Whereas detention basins are capable of mitigating peak flows to pre-project levels, they increase the duration (length of time) of flows in the downstream watercourses, which saturate the channel banks and increase the potential for stream and channel erosion.

13. The Town of Danville (Town) and the Developer should be made aware that residences adjacent to East Branch Green Valley Creek within the unincorporated Diablo Area along Alameda Diablo and La Cadena, downstream of the Subdivision, have reported flooding and erosion issues.

14. The Hydrology Section of the DEIR should address, in quantifiable terms, how the proposed storm drain system will modify the hydrology of the East Branch and Lower Green Valley Creek. For example, it should address how capturing and piping drainage streams from upland areas to bypass the proposed development will impact peak times, durations, and volumes on the East Branch of Green Valley creek and, ultimately, Lower Green Valley Creek. Measures to mitigate any impacts should be proposed.

15. The DEIR should discuss the impacts of the new outfalls on Green Valley Creek and its tributaries and discuss mitigation measures.

16. The FC District should be included in the review of all drainage facilities that have a region-wide benefit, that impact region-wide facilities, or that impact FC District-owned facilities. The FC District maintains portions of Green Valley Creek. The FC District is available to provide technical assistance during the development of the DEIR, including hydrology and hydraulic information and our HYDRO6 method, under our Fee-for-Service program.

17. The DEIR should address a perpetual funding source for maintenance of the new drainage facilities required to serve the subdivision.

18. The DEIR should discuss how the development will comply with the current NPDES (National Pollutant Discharge Elimination System) requirements under the City's Stormwater Management and Discharge Control Ordinances and the C.3 Guidebook.

19. We recommend that the DEIR request the appropriate environmental regulatory agencies, such as the U.S. Army Corps of Engineers, the State Department of Fish and Game, and the State Regional Water Quality Control Board, to explore the permits, special conditions, and mitigation that may be necessary for development of the area.

Vesting Tentative Map

1. The proposed project is located in Drainage Areas 91 and 36, unformed drainage areas. Therefore, there are no drainage area fees due at this time.

2. The project is in the San Ramon Creek watershed. We recommend that all developments in the San Ramon Creek watershed be required to mitigate their adverse drainage impact upon the natural creeks. Toward that end, the following should be added to the conditions of approval for the future developments' applications:

   Mitigate the impact of additional stormwater runoff from those developments draining to San Ramon Creek by either of the following methods:

- Remove 1 cubic yard of channel excavation material from the inadequate portion of San Ramon Creek for each 50 square feet of new impervious surface area created by the development. All excavated material shall be disposed of off-site by the developer at his own cost. The site selection, land rights, and construction staking will be performed by the FC District.

  OR, upon written request by the developer:

- Provide for a cash payment in lieu of actual excavation and removal of material from the inadequate portion of San Ramon Creek. The cash payment will be calculated at a rate of $0.10 per square foot of new impervious surface area created by the development. The added impervious surface area created by the development will be based on the FC District's standard impervious surface area ordinance. The FC District will use these funds to work on San Ramon Creek annually.

3. This site is also upstream of known inadequate reaches of Green Valley Creek. We recommend that the Town require any future development on these sites be subject to the Green Valley Creek Mitigation fee of $0.10 per square foot of newly created impervious surface area. This fee is based on the FC District's Report on Impervious Surface Ordinance. The Town should collect the fee for transfer to the County's Drainage Deficiency Fund.

4. We recommend that the Town condition the applicant to design and construct storm drain facilities to adequately collect and convey stormwater entering or originating within the development to the nearest adequate man-made drainage facility or adequate natural watercourse, without diversion of the watershed.

5. The applicant should be required to submit hydrology and hydraulic calculations to the Town that prove the adequacy of the in-tract drainage system and the downstream drainage system. We defer review of the local drainage to the Town. However, the FC District requests to review the regional drainage study for impacts to Green Valley Creek.

6. The developer's hydrology and hydraulic report should analyze the effects to Green Valley Creek upstream and downstream of this development and propose any necessary mitigation.

7. The FC District and the Army Corps of Engineers have performed studies that show that Green Valley Creek downstream of this project does not have sufficient capacity for the 100-year flow event considering the ultimate build-out condition. The developer needs to show that the proposed project will not exacerbate the existing capacity issues on Green Valley Creek by increasing peak volumes and duration.

8. We are concerned that Green Valley Creek will be affected by the secondary storm drain system, which appears to be designed to prevent minor tributary drainage flows upstream of the proposed development from flowing through the development and requiring C.3 mitigation. Concentrating drainage that normally flows overland in

naturally formed ditches into pipes reduces the opportunity for infiltration and may decrease the time it takes water to arrive at Green Valley Creek, thereby affecting peak volumes and duration of flows in Green Valley Creek. The hydrology and hydraulic report should address this concern.

9. A 26-acre detention basin was proposed on the opposite side of Green Valley Creek toward the eastern end of this project at the current location of Diablo Creek Place under Amendment #3 of the San Ramon Watershed Right-of-Way and Improvements Plan, dated July 1977. The proposed basin was never built at this location. Although it was determined that Amendment #3 of the Zone 3B plan did not apply anymore during the FC District's review of Subdivision 8919 (Matadera), the developer might consider constructing a detention basin within their proposed development at a similar point along Green Valley Creek, in order to mitigate impacts along the Creek.

10. We are concerned about the potential for increased erosion within the reaches of Green Valley Creek downstream of this project. We recommend that the Town require the developer to identify and mitigate the potential impact related to erosion due to increased peak and volume of stormwater from this project by performing an inventory of Green Valley Creek to identify any critical locations prone to erosion. This requirement is similar to a mitigation measure that the County required for Subdivision 8905 (Humphrey Property) located in Alamo upstream of Subdivision 9291 in the Green Valley Creek watershed. FC District and Town records could be used by the developer to identify areas of past complaints or bank repair.

11. We recommend that the Town condition the developer to contact the appropriate environmental regulatory agencies, such as the U.S. Army Corps of Engineers, State Department of Fish and Game, and State Regional Water Quality Control Board, to obtain all the necessary permits for this project or show that such permits are not necessary.

12. This development should be required to adhere to the Creek Structure Setback requirements in accordance with Division 914 of the County Ordinance Code. The creek structure setback line adopted by the FC District is a minimum horizontal distance of 30 feet from the top of the bank (as opposed to 15 feet in the Town Ordinance). Per the County ordinance, the top of the bank is determined either by a projection of a 2.5:1 slope from the toe of the channel (as opposed to 2:1), or by design stormwater surface elevation, plus freeboard (not shown on the applicant's plans), whichever is greater. We recommend that the Town utilize the County's Creek Structure Setback requirements for this development. The applicant should show how the top of the bank was determined and also show the horizontal and vertical scales on the submitted creek cross-section drawings.

13. The applicant should be required to comply with the current NPDES requirements under the City Stormwater Management and Discharge Control Ordinances and the C.3 Guidebook. We support the State's goal of providing best management practices to achieve the permanent reduction or elimination of stormwater pollutants and downstream erosion from new development. The FC District is available to provide technical assistance for meeting these requirements under our Fee-for-Service program.

We appreciate the opportunity to review plans involving drainage fee matters and welcome continued coordination. If you have any questions, please contact me via e-mail at kschu@pw.cccounty.us or by phone at (925) 313-2179; alternately, you may contact Teri Rie at trie@pw.cccounty.us or (925) 313-2363.

Sincerely,

Kara Schuh-Garibay

Kara Schuh-Garibay
Civil Engineer
Contra Costa County Flood Control
& Water Conservation District

KS:cw
G:\fldctl\CurDev\CITIES\Danville\Sub 9291 Magee Ranch\NOP & VTM Magee Ranch Comment Letter 12-2010.docx

c: Tim Jensen, Flood Control
Teri E. Rie, Flood Control
Wendi Baker, SummerHill Homes
5000 Executive Parkway, Suite 150
San Ramon, CA 94583
Diablo Community Services District
Diablo MAC

David Crompton

From: Planning
ent: November 17, 2010 1:27 PM
o: David Crompton
Subject: FW: Magee Ranch Comment

Sincerely,

David Casteel
Planning Division – Code Enforcement Officer
(925) 314-3335
dcasteel@danville.ca.gov

Town of Danville
510 La Gonda Way
Danville, CA 94526

From: tina.olmsted@gmail.com [mailto:tina.olmsted@gmail.com]
Sent: Tuesday, November 16, 2010 9:19 PM
To: Planning
Subject: Magee Ranch Comment

Data from form "Comments for the Public Record" was received on 11/16/2010 9:19:09 PM.

Magee Ranch - Comments for the Public Record

Field	Value
FirstName	Christina
LastName	Olmsted
Address	18 Black Oak Court
City	Danville
State	CA
Zip	94506
Organization	
Title	
Email	tina.olmsted@gmail.com
Phone	
Fax	
Concerns Comments	I am extremely concerned about the proposed development. Traffic on Blackhawk road is very congested, especially in the mornings. It can take

Field	Value
	20-25 min to get from Hidden Oaks to Green Valley. The town MUST do a traffic study before it can allow 80+ additional houses in this congested area. I was very disappointed after we moved here and I began to experience the awful traffic in the morning. The school bus system has helped a bit but traffic still exists most mornings. In addition, the schools in this area are already too full. I moved here two years ago and Green Valley was full and I was diverted to another school. Friends moved here this summer and they were diverted as well. How can you add 80+ new families when the schools cannot take the children. Please address these two very important concerns.

Email "Magee Ranch Comment" originally sent to Planning@danville.ca.gov from tina.olmsted@gmail.com on 11/16/2010 9:19:09 PM.

David Crompton

From: Arlene Reed [radiablo@sbcglobal.net]
nt: November 17, 2010 6:42 PM
J: David Crompton
Subject: SummerHill - Magee Ranch Project

Dear Mr. Crompton,

We bought a lot in Diablo 36 years ago and moved into our home 32 years ago. We chose the area because of its charm and rural feeling. Danville was like this, too. However, congestion, traffic, pollution, school overcrowding, road noise have created very adverse conditions. The SummerHill-Magee Ranch Project proposal will drastically increase all of these problems. We are very much opposed!!

Ralph and Arlene Reed

David Crompton

From: Mary Banfield [tahitibound22@yahoo.com]
nt: November 18, 2010 9:10 AM
.o: David Crompton
Subject: Please stop the Summerhill Development in Danville

Hi David,
My name is Mary Banfield. I am a 10 year Danville resident and home owner in Danville and live off Diablo Road. I am voicing my opposition to this proposed development. Please do not allow them to destroy what makes living in Danville so special by building all these homes in that gorgeous space. This is outrageous. Please hear us and stop this development.

Mary Banfield

David Crompton

From: Planning
nt: November 19, 2010 8:40 AM
o: David Crompton
Subject: FW: Magee Ranch Comment

I believe you are familiar with this person.

Sincerely,

David Casteel
Planning Division – Code Enforcement Officer
(925) 314-3335
dcasteel@danville.ca.gov

Town of Danville
510 La Gonda Way
Danville, CA 94526

From: jonpat@sbcglobal.net [mailto:jonpat@sbcglobal.net]
Sent: Thursday, November 18, 2010 7:34 PM
To: Planning
Subject: Magee Ranch Comment

)ata from form "Comments for the Public Record" was received on 11/18/2010 7:33:32 PM.

Magee Ranch - Comments for the Public Record

Field	Value
FirstName	Pat
LastName	Isom
Address	310 Matadera Ct
City	Danville
State	CA
Zip	94526
Organization	CCA
Title	
Email	jonpat@sbcglobal.net
Phone	925-820-2660
Fax	
Concerns Comments	One of the issues noted in the NOP is confomance with the Town's General Plan. Danville General Plan Policies: Flooding Hazards 22.03 New development

Field	Value
	shall not exceed the Town's primary flood control channel's ability to carry 100-year flood flows. Danville was notifed February 22, 2007 by CCC Flood Control & Water Conservation District that "properties along GVC are subject to flooding during a 25 year event, which is less than the District standard for flood protection of a watershed of this size."

Email "Magee Ranch Comment" originally sent to Planning@danville.ca.gov from jonpat@sbcglobal.net on 11/18/2010 7:33:32 PM.

David Crompton

From: rick@grossrevenues.com
nt: November 20, 2010 1:43 PM
o: David Crompton
Cc: melinda@grossrevenues.com
Subject: LEG10-0004/DEV10-0071/DEV10-0072 - Summerhill Homes Development Application

Dear Mr. Crompton,

We would like to pass on to you our comments re: the application that is being reviewed (Case #'s referenced above).

We do not see the need for any additional housing to be built in this area. Congestion is already bad on Blackhawk/Diablo Rd. This development will only make it worse, based on what we have been shown.

We are concerned re: the development's impact on the scenic corridor.

We believe that rezoning the Agricultural Preserve district violates the spirit and intent of that district.

We believe the number of dwellings in this project should be significantly downsized or stopped completely.

We are surprised that the development is even being contemplated now, with all the foreclosures going on in and around Danville. There would seem to be plenty of available supply.

Tf the town needs more inclusionary housing, it would better serve the community and the environment to ncourage development closer to downtown and/or other high density areas that are close to public transit.

Sincerely,

Richard and Melinda Gross
2366 Fish Creek Place
Danville, CA
831-9014

San Ramon Valley Fire Protection District
1500 Bollinger Canyon Road
San Ramon, CA 94583
Telephone: (925) 838-6600
Fax: (925) 838-6696

11/17/2010

Town of Danville, Planning Division
ATTN: David Crompton
510 La Gonda Way
Danville, CA 94526

Permit No:	PADP20104130
Type of Review:	Development Plan
Business Name and Address:	Magee Ranch-Summerhill Homes Blackhawk/Diablo/McCauley Rd
Applicant Name and Address:	Magee Ranch-Summerhill Homes Blackhawk/Diablo/McCauley Danville, CA

The District has reviewed the subject planning application and based upon the information provided we would like to offer the following comments and recommendations for conditions of approval.

Conditions

1 Fire hydrants are required. All hydrants shall be wet barrel, standard steamer type (1-4 ½" and 1 – 2 ½") outlet.

2 Identify fire hydrant locations by installing reflective "blue dot" markers adjacent

3 Fire apparatus roadways (public, private streets, roads and in some instances driveways used for vehicle access) shall extend to within 150 feet of any portion of an exterior wall of the first story of any building.

4 Fire apparatus roadways in excess of 150 feet in length shall make provisions for approved fire apparatus turnarounds.

5 Fire apparatus roadways serving up to 2 dwelling units shall have a minimum unobstructed width of 16 feet and a minimum unobstructed vertical clearance of not less than 13 feet 6 inches.

6 Fire apparatus roadways shall have a minimum unobstructed width of 20 feet and an unobstructed vertical clearance of not less than 13 feet 6 inches.

7 Fire apparatus roadways less than 36 feet in width, but more than 28 feet shall be marked as a fire lane on one side only. Fire apparatus roadways less than 28 feet in width shall be marked as fire lanes on both sides of the street.

8 Fire apparatus roadways with restricted parking designated as fire lanes shall be marked with red curbs and fire lane signs or red curbs and face-of curb stenciling stating: "NO STOPPING FIRE LANE – CVC 22500.1"

9 Other

The maximum grade for a fire apparatus roadway is 20%. Roadways with grades of 16-20 % shall either be grooved concrete or rough asphalt. Grooved concrete shall be 1/2" wide, 1/2" deep, and spaced 1 1/2' on center.

10 Fire apparatus roadways shall be capable of supporting the imposed weight of fire apparatus (40,000 pounds) and shall be provided with a paved or concrete surface.

11 Fire apparatus roadways (public or private streets or roads used for vehicle access) shall be installed and fire hydrants in service prior to commencement of framing: Compliance with this requirement shall be verified by inspection by the fire district

12 Any/all gates across Fire District access ways shall have a minimum 12 foot clear, unobstructed linear width and a clear vertical height of 13 feet 6 inches. All locking devices shall provide for Fire District emergency

access.

Proposeed bollards shall be of the collapsable bollard type.

13 Provide a weed abatement program before, during and after construction. Maintain grass or brush clearance of 100 feet from combustible construction and 30 feet from street and property lines.

14 Other

Residential Automatic Fire Extinguishing Sprinkler Systems shall be required in all residential occupancies 3,600 sqft and greater and for all residencees for which receive a building permit after 1/1/2011.

15 Approved numbers or addresses shall be placed on all new and existing buildings in such a position as to be plainly visible and legible from the street or road fronting the property. Said numbers shall contrast with their background.

16 Other

Fire flow shall be per California Fire Code. Provide flow data from EBMUD to demonstrate that the fire flow is adequate.

Submittal Requirements

1 Submit (2) full sets of building architectural plans to the San Ramon Valley Fire Protection District for review and approval.

2 Other

Provide flow data from EBMUD to demonstrate that the fire flow is adequate.

If during the course of the entitlement process the project changes addional requirements may apply. Thank you for the opportunity to comment on this proposed project. If you have any questions please contact the undersigned at (925) 838-6600.

Ian Hardage
Plans Examiner

David Crompton

From: Ron Elsdon [renewal@elsdon.com]
Sent: November 18, 2010 8:03 PM
To: David Crompton
Subject: FW: Opposition to Rezoning Proposal

Dear Mr. Crompton:

We are forwarding this again as we did not receive an acknowledgment that the earlier e-mail was received.

Sincerely Ron and Linda Elsdon.

From: Ron Elsdon [mailto:renewal@elsdon.com]
Sent: Monday, November 08, 2010 7:24 PM
To: 'dcrompton@danville.ca.gov'
Subject: Opposition to Rezoning Proposal

To the Attention of David Crompton: Project Planner

Dear Mr. Crompton:

We are responding to the information sent on November 5 about Rezoning request LEG10-0004, Major Subdivision request DEV10-0071 and Development Plan request DEV10-0072 concerning the Magee Ranch property. As residents in the neighboring Hidden Valley subdivision we strongly oppose these proposals on the basis that they will create significant additional traffic congestion at what is already one of the most congested locations in Danville, and they will materially detract from the natural beauty of the surroundings.

Sincerely, Ron and Linda Elsdon.

Ron Elsdon
Elsdon, Inc., Elsdon Organizational Renewal and New Beginnings Career and College Guidance
Revitalizing Workforce Relationships
www.elsdon.com
61 Milano Court
Danville, CA 94526
Tel: 925 838 2362
Fax: 775 860 8613
Mobile: 925 586 9039

David Crompton

From: Chris Eidler [chris@eidler.us]
nt: November 22, 2010 12:29 PM
To: David Crompton
Cc: 'Sharon Eidler'
Subject: Magee Ranch Summerhill Project

Hello Mr. Crompton,

Thank you for the NOP for this project. We have a question -- will the traffic analysis include peak periods? Of particular concern are the morning and afternoon school periods -- traffic is routinely congested from the Green Valley / Diablo Road intersection all the way past Athenian and past Still Creek. We presume this development will worsen that situation.

Sincerely,

Chris and Sharon Eidler
262 Arency Ct., Danville

David Crompton

From: Planning
nt: November 22, 2010 1:25 PM
o: David Crompton
Subject: FW: Magee Ranch Comment

Sincerely,

David Casteel
Planning Division – Code Enforcement Officer
(925) 314-3335
dcasteel@danville.ca.gov

Town of Danville
510 La Gonda Way
Danville, CA 94526

From: pedersonpr@yahoo.com [mailto:pedersonpr@yahoo.com]
Sent: Monday, November 22, 2010 12:31 PM
To: Planning
Subject: Magee Ranch Comment

ata from form "Comments for the Public Record" was received on 11/22/2010 12:31:10 PM.

Magee Ranch - Comments for the Public Record

Field	Value
FirstName	linda
LastName	pederson
Address	127 merano street
City	danville
State	ca
Zip	94526
Organization	
Title	
Email	pedersonpr@yahoo.com
Phone	925-855-1127
Fax	
Concerns Comments	I'm very concerned about this project from a traffic and school impact perspective. The traffic down Diablo Road is already horrible and this will

Field	Value
	only add to it. In addition, until the housing market comes back, I don't think adding to the depreciated market makes sense. My main is concern is any discussion about potentially linking McCauley Road or Merano Street to the project in any way. We absolutely do not want McCauley or Merano to be anything but dead ends. Any change to these streets would greatly impact our home values and have a devastating impact on our quiet neighborhood.

Email "Magee Ranch Comment" originally sent to Planning@danville.ca.gov from pedersonpr@yahoo.com on 11/22/2010 12:31:10 PM.

David Crompton

From: Planning
nt: November 22, 2010 1:25 PM
.o: David Crompton
Subject: FW: Magee Ranch Comment

Sincerely,

David Casteel
Planning Division – Code Enforcement Officer
(925) 314-3335
dcasteel@danville.ca.gov

Town of Danville
510 La Gonda Way
Danville, CA 94526

From: Planning@danville.ca.gov [mailto:Planning@danville.ca.gov]
Sent: Monday, November 22, 2010 12:28 PM
To: Planning
Subject: Magee Ranch Comment

ata from form "Comments for the Public Record" was received on 11/22/2010 12:27:31 PM.

Magee Ranch - Comments for the Public Record

Field	Value
FirstName	Robert
LastName	Watson
Address	123 Windover Dr
City	Danville
State	ca
Zip	94506
Organization	
Title	
Email	
Phone	
Fax	
Concerns Comments	SummerHill Homes development is inappropriate. This development will exacerbate and already bad traffic problem during peak times on Diablo and

Field	Value
	Blackhawk Road. It currently takes 30 mins to drive the 4 miles from MaGee Ranch to Green Valley Road at 8 am on weekdays. Adding another 80+ homes, and 200+ cars to these roads is very bad planning. Further, the reduction in open space will impact the wild life of the area. One of the special qualities of this area is the wildlife: coyote, eagles, pheasents, deer, bluebirds, mountain lion. Stop the over development. Danville should not follow the path of San Ramon. Please protect our quality of life in east Danville.

Email "Magee Ranch Comment" originally sent to Planning@danville.ca.gov from Planning@danville.ca.gov on 11/22/2010 12:27:31 PM.

David Crompton

From: Tom Parker [tparker@parkertechnicalsales.com]
Sent: November 22, 2010 5:11 PM
To: David Crompton
Subject: Summerhill Home Magee Ranch

Importance: High

Dear Mr. Crompton,

I strongly urge you to reject the development of Magee Ranch East and West! Traffic along the Diablo Road corridor between Blackhawk and the intersection of Diablo Road and Green Valley Road has become horrendous. There are times where you cannot get out of Diablo via Avenida Nueva due to the long lines of cars. In addition, I am very concerned about water run off and the drainage concerns that already affect Diablo.

In addition, we are losing the greatest asset of the Danville area which is the feel of being in the country due to the rolling hills on the south side of Diablo Road and Mt. Diablo to the north. Instead we are starting to look like L.A. with the open spaces being covered by tract homes that all look the same and traffic on what used to be bucolic country roads. All you have to do is look at Dougherty Valley to see how Danville will start to change for the worse.

Please do not allow the environment that we all enjoy be destroyed by more and more homes.

Tom Parker
Phone: 925.362.9450
Fax: 925.955.9520
Cell: 925.413.6017

David Crompton

From: javier chapa [javandmarn@sbcglobal.net]
Sent: November 23, 2010 1:18 PM
To: David Crompton
Subject: SummerHill Homes

Dear Mr. Crompton,

I am writing in regards to the SummerHill Homes development. I have, as many in my neighborhood and Danville do, great concerns. This project is not good for our town. I urge you to please reconsider moving forward.

Traffic is a major issue on Diablo Road, McCauley Road, and Green Valley Road, especially during times when parents are dropping off or picking up their children at Green Valley School and the other schools in the area or during school functions and regular commuting hours. I am in the Hidden Valley development off of McCauley Road and traffic is a great problem here. I leave for work in the morning as Green Valley parents are dropping off their children. Children walk and ride their bikes to school, poor and hurried drivers cut others off, and traffic can get congested. Parents park their cars along the side of McCauley past the red zone. It can create blind spots and on many occasions I have had these parents pull out in front of me. I have also seen children step off the sidewalk and children on their bikes roll off the curb unaware of oncoming cars. Just last month, I came very close to hitting a child on his bike who did not see me and rolled off the curb in front of me. We don't need any more traffic on McCauley. Because people in Hidden Valley are going to work and parents are dropping off their children in the morning McCauley can get very congested as well as Green Valley Road and Diablo Road. I've been on Diablo Road where I was backed up a couple of miles from Green Valley School and it took me 35 minutes just to get to the light. My mother had to take my father to John Muir emergency room coming from near Blackhawk one morning during school drop off time. It took her 40 minutes from Still Creek Road to get to the light. How long would it have taken an ambulance? I've been in directly front of Green Valley School coming home and it took me 20 minutes to get to the light. I leave for work in the morning as Green Valley parents are dropping off their children. The light may change several times before I can get through it. We don't need additional traffic making it even worse. Traffic is a big problem already. It is not safe as it stands and adding additional traffic with the addition of a new development will only make it worse. This makes already unsafe areas even more dangerous.

Next, our schools are already impacted. As a teacher in the area I can tell you that we cannot take the weight of the many children this new development will bring here. I know families who are on the waiting list for one school and families who have to take one child to one school and their other child to another. This development will no doubt make this problem worse.

I've been in Danville for 23 years. What attracted me to Danville was that I felt safe here and it is beautiful. I used to love driving down CaminoTassajara as well as Dougherty road observing the rolling hills. That's almost all gone now. We don't have many areas like that now. This area is one of the last areas where we can see country and the vast wildlife that lives there. There are turkeys, rabbits, deer, quail, owls, and coyotes. This development threatens that wildlife and takes the yet another area with natural beauty from Danville. It is becoming a less desirable place to live. In Sections 32-69 in the Danville Municipal Code's zoning regulations clearly state that open space and scenic hillsides will be preserved. I ask then why are they not being preserved?

Danville residents do not want this. I ask that you please consider our town and its safety and stop this development.

Sincerely,

Marnie Chapa

David Crompton

From: Lynne Southard [cklsouthard@sbcglobal.net]
nt: November 24, 2010 8:47 AM
o: David Crompton
Subject: Magee Ranch - SummerHill Develoment

David,

Thank you for providing a forum to discuss the EIR for the Magee Ranch - SummerHill project. The following are my comments, for your consideration, related to this project:

Aesthetics

The drive up Diablo Road gives me the feeling of leaving the City and going into the Country. This feeling comes from the charm of a narrow winding road together with the open space of the land and the creek. Modifications of this road ie: widening will lessen this country road feeling and will allow for more traffic volume. Widening the road would involve rerouting the creek into culverts.

Traffic

We have a existing problem of traffic delays caused by funneling of school traffic (Athenian, Monte Vista, Los Cerros, Green Valley, and Vista Grande) into two intersections: Green Valley/Diablo Road and Mt. Diablo Scenic Road/Blackhawk Road. In addition, there is an ongoing problem with bicycles and cars using the narrow lanes of Diablo Road. The addition of new project access road onto Diablo/Blackhawk Roads will increase the ossibility of more traffic accidents.

Engineering

The soil on the south side of the Diablo Road's curvy section is unstable. The existing retaining wall, built approximately five years ago, is leaning and soil is still moving over the top of the wall during heavy rains. Any road widening/creek modifications will require a massive earth removal and a soil stabilization project.

Utilities

Existing utilities are maxed out. A check with PGE, water, sewer... will uncover current problems (carpole/tree outages and water supply deficiencies). For example, it has recently taken two and a half years to EBMUD to increase our water pressure in our Arency Court tract. We, at times, were experiencing zero water pressure in the mornings.

If you require any additional information related to the above, please do not hesitate to call me.

Chris Southard
Registered Civil Engineer
238 Arency Ct.
Danville, CA 94506
phone: 925-831-9340

David Crompton

From: Mary Krouse [diablokr@gmail.com]
Sent: November 29, 2010 9:23 AM
To: David Crompton
Subject: Summerhill Homes

I want to voice my concerns over the proposed Summerhill homes project on Diablo road. I reside in Diablo.

I am strongly against the project on many grounds. The traffic impact would be huge. Currently, to leave the area on school mornings, one has to be aware of school hours in order to avoid long backups in getting past the intersection of Diablo Road and Green Valley/McCauley Roads. It can be equally difficult to exit Diablo going toward Athenian school, and there are long backups in the afternoons near Mt Diablo Senic.

My main concern is to the destruction of the beautiful, rural atmosphere along Diablo Road. Allowing this project to go forward would forever alter the landscape and remove one of the few remaining open spaces in the area. Tassajara Road used to be a beautiful, rural area that is no longer recognizable. I would hate to see Diablo Road become another area such as that.

Thank you for your consideration.

--
Mary Krouse

David Crompton

From: Erin Kuptz [emkuptz@hotmail.com]
ent: November 28, 2010 4:01 PM
. o: David Crompton
Subject: SUMMERHILL HOMES APPLICATION for MAGEE RANCH PROPERTY

Mr. Crompton,

We are writing with regard to the proposal by SummerHill Homes to develop the Magee Ranch Property as specified in your 11/5/2010 "Request for Comments" mailed to property owners along Blackhawk Road.

We have been residents of Danville for 17 years. For 12 of these years we have resided on Still Creek Place. We have experienced first hand the increase in traffic along Blackhawk Road and the increase in student population at Green Valley Elementary, Los Cerros Middle School and Monte Vista High School since moving to this property. We have also experienced a degradation in water and communication resources over that time.

The proposed development extending two miles east from the intersection of Diablo Road/Green Valley Road/McCauley Road including the proposed addition of 85 single family homes and 21 additional dwelling units on these lots would put additional strain on already taxed infrastructure. Blackhawk Road does not have the capacity to absorb 100 to 300 additional cars during commute hours, nor do the local schools have the capacity to absorb the increase in student population. We are very concerned about the impact on all of the above resources, as well as, the impact on the following 4 items: the impact of this development on our property values in which we have already experienced a significant decline; the impact on the air and water quality in the area; the aesthetics of an area identified as being a scenic corridor and of importance to the town's rural past, and; the impact on the wildlife and vegetation in the area.

We strongly encourage the Town of Danville to reconsider the scope of this project. We would also like to be informed of the assumptions being used to calculate the proposed number of residents, students and vehicles associated with this roject. It has been brought to our attention that there is enormous subjectivity in these assumptions and the ones utilized in some of the Dougherty Valley developments underestimated the increase in population and the demands on community services. We would also ask to be reassured that the powers of eminent domain will not be invoked as the town looks for methods to mitigate the impact of the proposed development on the surrounding area.

We appreciate your consideration in this matter.

MICHAEL and ERIN KUPTZ
1304 STILL CREEK PLACE
DANVILLE, CA 94506

Erin Kuptz

David Crompton

From: Ursula Abella [usachecchi@yahoo.com]
Sent: November 28, 2010 10:02 AM
To: David Crompton
Subject: Summerhill homes

Dear Mr. Crompton:

We have lived in the Hidden Valley development for almost 18 years. One of the reasons we moved to Danville was the feel of country around us. The animals, elbow room, organization of the community were all very appealing.

Slowly over the years, Danville is becoming a jammed packed sardine can of a mess. We know progress is inevitable, but you can help control this. Money isn't everything in life. We all talk about the quality of our lives but yet people don't do anything about it because jobs are on the line. There are ways to go about balancing all this. I hope you will help create the balance so that everyone benefits.

The traffic coming out of our neighborhood, as you have heard, is packed. The traffic survey done last month does not account for all the U-turns that are made all day! It only counted Hidden Valley residents. It's not an accurate count.

We ultimately are against the Summer Hill homes building. The animals around us will be seriously impacted. They are slowly disappearing or they are right on top of us trying to survive.

I'm not a person of money like some of the Danville residents who can buy there way to the top of the hill, but I am someone who does care and like most people feels that my voice is never heard and that no one really cares. Even still, I took the time to send a note during my hectic seasonal work schedule to let you know that I did attend the Summer Hill meeting and am writing you to let you know that this whole plan is too much for the area to handle. Please don't let our area become more crowded. There are so many foreclosed homes on the market available to people! Low income too! We don't need more homes to be sold on the market.

I will probably continue to live in my house for another 30 years till I die, so I'm sure I will continue to experience what may come.

Thanks you for listening and considering a balance and quality of life for all of us affected by the almighty dollar.

Ursula Abella
Mark Checchi
29 Bormio Court, Danville, CA 94526
Hidden Valley

DANVILLE

"Small Town Atmosphere
Outstanding Quality of Life"

November 24, 2010

Maryann Cella
P.O. Box 88
Diablo, CA 94528

Dear Maryann,

Enclosed are the "existing zoning base plans" that show how many legal conforming lots could be created under the existing five acre zoning. There is also the small area across from Belgian Drive that allows up to three units per acre.

As you will see, the total lots for the Magee East and Magee West sections totals 78 lots. Unless the base plan can be modified to find additional legal conforming lots, this is the maximum number of allowable lots that can be clustered under the proposed P-1; Planned Unit Development District rezoning approach. As you know, the applicant's plans show a total of 85 lots. The applicant has stated that the purpose of showing the additional lots is to allow for an analysis of the pluses and minuses of the subdivision design and to determine which lots should be eliminated. As we work through the process, the number of lots will be reduced so as not to exceed base plan number.

If you have any further questions, feel free to contact me.

Sincerely,

David Crompton
Principal Planner

510 LA GONDA WAY, DANVILLE, CALIFORNIA 94526

Administration (925) 314-3388 | Building (925) 314-3330 | Engineering & Planning (925) 314-3310 | Transportation (925) 314-3320 | Maintenance (925) 314-3450 | Police (925) 314-3700 | Parks and Recreation (925) 314-3400

David Crompton

From: Dkhlvsvah@aol.com
Sent: November 24, 2010 10:11 AM
To: David Crompton
Subject: PROPOSED DEVELOPMENT IN DANVILLE - Comment

November 24, 2010

Dear Mr. Crompton:

(It is with regret that we didn't get this email out to you sooner - we recently lost a member of our family and have been dealing accordingly.)

As residents of Magee Ranch for over 15 years, my husband and I are very concerned about the proposed Summerhill development. This development would greatly impact the already steady stream of heavy traffic along the surrounding corridors. We both work in Danville and have seen a growing traffic problem. Many times throughout the day there is a stand still of cars - yes, we have grid-lock in Danville! Also, when moving to Danville over 15 years ago, we were struck with how wonderful it was to live in a community that still retained "that open country feel". We love our open hills, views, trees, wildlife - cows, deer, turkeys, etc., and do not wish to see any further development in the proposed location - thus taking away our country environment.

We are both for progress, but feel that this proposed development in its proposed location is a wrong move for our community.

Perhaps the Town of Danville might look into purchasing the property and keep it in its natural state for all to enjoy - future generations.

Thank you for the opportunity to express our thoughts.

Sincerely,

Doug & Vicki Hogendorn
3 Crownridge Drive
Danville, CA 94506

David Crompton

From: Planning
Sent: November 29, 2010 8:41 AM
To: David Crompton
Subject: FW: Magee Ranch Comment

Sincerely,

David Casteel
Planning Division – Code Enforcement Officer
(925) 314-3335
dcasteel@danville.ca.gov

Town of Danville
510 La Gonda Way
Danville, CA 94526

From: cmarshall14@yahoo.com [mailto:cmarshall14@yahoo.com]
Sent: Saturday, November 27, 2010 9:14 AM
To: Planning
Subject: Magee Ranch Comment

Data from form "Comments for the Public Record" was received on 11/27/2010 9:14:04 AM.

Magee Ranch - Comments for the Public Record

Field	Value
FirstName	Christopher
LastName	Marshall
Address	2065 Diablo Road
City	Diablo
State	CA
Zip	94528
Organization	
Title	Homeowner
Email	cmarshall14@yahoo.com
Phone	925-784-3829
Fax	
Concerns Comments	I respect the right of a landowner to develop their property but the proposed development is of a significantly higher density (median lot size)

Field	Value
	than the surrounding community. The homes in the immediately adjacent subdivisions of Danville and Diablo are zoned 20,000 sq. ft. per lot or larger generally. The homesites proposed on the southeast site plan are proposed to be P-1(R-10) minimum. I am respectfully requesting that the Danville planning consider limiting the density of development to P-1(R-20)zoning or larger lots. There is also nothing in the development plan that precludes the four large lots in the planned developement from being further subdivded. This should be rectified in the Danville zoning designations for these lots as well in my opinion. I am concerned about the minimum lot size from the point of view of additional traffic and congenstion on an already burdened road system. Most times of the day and week the traffic flows well, but during morning school rush hours there is a significant backup on Diablo Road. As a resident that lives on that road on the road the situation is clear. Diablo Road cannot support more traffic at peak hours. Traffic mitigation measures such as traffic lights or additional traffic intersections will only make the problem worse in my opinion. The 10 homesites in the nothwest site plan of the propsed developement in Court "H" immediately adjacent to Diablo Road are integral to what is now designated a "scenic corridor" by Danville planning's own documentation that has been in place for over a decade. I do not support defacing this "scenic corridor" with additional developement. Thank you for your consideration of my concerns in the planning process.

Email "Magee Ranch Comment" originally sent to Planning@danville.ca.gov from cmarshall14@yahoo.com on 11/27/2010 9:14:04 AM.

David Crompton

From: Louis Leone [leonel@stubbsleone.com]
nt: November 29, 2010 2:35 PM
o: David Crompton
Subject: Magee Ranch Project

Sir: Just to point out the traffic concerns regarding the construction of 85 homes along Diablo Road. and the increase traffic during peak hours of those additional 100 net additional vehicles, please consider that, for example, today, traffic was backed up from the Stop Sign at Mt. Diablo Scenic Blvd past the intersection of Blackhawk Rd and Magee Ranch Road, which is about 3,000 feet. Traffic was also backed up from the intersection of Green Valley Rd past Clydesdale Rd. This is a common occurrence in the morning when school is in session. How can the addition of 100 cars be mitigated to an already bad situation?

Please add this email to the other concerns voiced for this project.

Louis Leone Esq.
Stubbs & Leone
2175 North California Blvd.
Suite 900
Walnut Creek, Ca. 94596
925-974-8600 x105
925-974-8601 (fax)
www.stubbsleone.com

This electronic message is intended only for the addressee(s), and may contain information that is both privileged and confidential under federal and state law, including the attorney client privilege. If the recipient of this message is not an appropriate addressee, please cease reading this message, notify us immediately and destroy both hard and electronic versions of this communication.

Stop Sommerville!

I live in Hidden Valley at 154 Merano St. and must travel the corner of McCauley Road and Diablo Road several times a day. Because of the school situation in the area, at some hours it is nearly a 5 min. waiting period before the light changes to enable me to move forward.

How could you possibly allow a future development in this area? These three schools - grade, middle and high school must already be at capacity. It would be madness to allow a new street and project at the lower block area of McCauley. The traffic there bringing and picking up children behind the fire station is hectic and annoying to all present residents.

My grandchildren also must travel by car past the present Magee Ranch

Project, traveling Blackhawk Road to reach Monte Vista High School. This curvie, winding road does not conform well to safe traffic.

This whole Summerville project is impossible to imagine as being fair to all of us already owning homes in the area and maintaining the landscape of McCauley Road.

Please turn down their development applications.

Sincerely,
Shirlee M. Holland

Mrs. John Holland
154 Merano St.
Danville, CA 94526-1969

NOV. 29, 2010

TO DAVID CROMPTON, PRINCIPAL PLANNER
RE: ENVIRONMENTAL IMPACT FOR
SUMMERHILL PROJECT

THE PURPOSE OF THIS LETTER IS TO POINT OUT THE IMPENDING IMPACT OF SUMMERHILL DEVELOPMENT PROJECT IN RELATION TO THE RESIDENCE AT 2280 BLACKHAWK RD..

THIS HOUSE IS 40' ADJACENT TO PROPOSED MAIN ENTRANCE ROAD.

CONCERNS ARE AS FOLLOWS:

1. NOISE + EXHAUST FROM CARS + TRUCKS
2. TRAFFIC BACKING UP AS IT IS NOW, LONG BACKUPS ESPECIALLY DURING MORNING + AFTERNOONS MANY VEHICLES ON BLACKHAWK ROAD GOING TO AND FROM WORK + SEVERAL SCHOOLS LOCATED IN AREA.
3. BLACKHAWK ROAD AS IT IS NOW, IS NOT ADAQUATE TO HANDLE THIS TRAFFIC. ADDING ADDITIONAL STOP SIGNS / LIGHTS WOULD ONLY CREATE MORE BACKUP + POLLUTION.
4. WHILE THIS PROJECT WILL BE ONGOING FOR MONTHS / YEARS THIS PROPERTY WILL BE

EXPOSED TO MORE NOISE & DUST AT THE FRONT ENTRANCE OF HOUSE. ACCORDING TO THE DRAWING, THIS RESIDENCE IS CLOSEST TO MAIN ENTRANCE. I PROPOSE A 6' MASONARY WALL BE CONSTRUCTED FROM BLACKHAWK ROAD TO ARENCY CT.

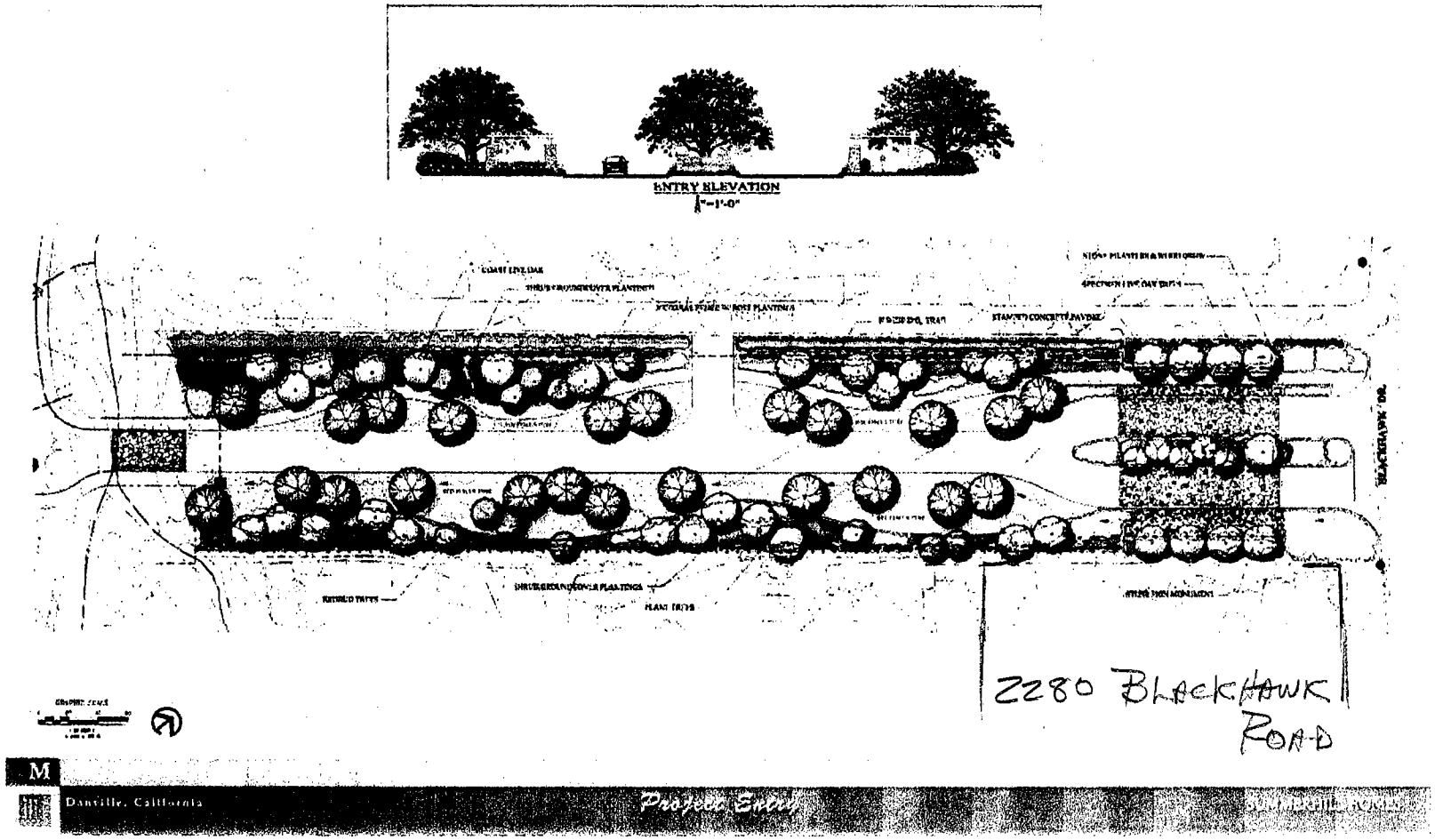
5. THE ABOVE ALL AFFECTS THE VALUE OF THE PROPERTY.

SUGGESTION WOULD BE TO CREATE ANOTHER ROAD IN THE MCCAULEY / CLYDESDALE AREA.

RESPECTFULLY,

DON MINEAR
2280 BLACKHAWK RD
DANVILLE
837-0888

Magee East Entrance



- Project entrance would be off Blackhawk Road, where the property panhandle is (East of Jillian Way)
- SummerHill is NOT proposing any homes on this panhandle
- Heavily landscaped entrance with a pedestrian walkway / trail that would link to a creekside trail on the property
- SummerHill will work with the property owners on Jillian as these homes will have future access through the panhandle entrance

Beth and Steve TOPOR
101 Shadewell Drive
Danville, CA 94506

November 21, 2010

David Crompton
Principal Planner
Town of Danville
510 La Gonda Way
Danville, CA 94526

Dear Mr. Crompton,

We want to express our concerns with the plans to develop 3 new neighborhoods in the Magee Ranch hills off of Diablo Road. We feel the infrastructure cannot support this construction in terms of additional traffic on Diablo Road, and additional stress to utilities services to the area.

Diablo Road cannot support the traffic already traveling each day, specifically during the hours 7:00 – 9:00 am and 3:00 – 4:00 pm. Already we experience traffic back up to the current Magee Ranch due to the stop sign at Athenian and traffic backed up to St. Timothy's church due to congestion at Green Valley Road. From what we read, the measures to allow flow of the new neighborhood does nothing but exacerbate the problems we have at both these intersections.

Additionally, we currently experience electrical surges and water pressure issues in our home in Magee Ranch and are concerned that these will increase with additional homes added to the main power and water lines.

Sincerely,

Steve & Beth Topor

Steve Topor
Beth Topor

David Crompton

From: Susan Woodhams [susanwoodhams@yahoo.com]
Sent: November 30, 2010 2:55 PM
To: David Crompton
Subject: SummerHill Plan

Dear Mr. Crompton:

My writing is in regard to the plan for SummerHill Homes to build homes on the Magee Ranch property off of Diablo Road.

I am a thirty year resident of Hidden Oaks at Blackhawk and am extremely concerned about the additional traffic that these homes will generate on Diablo Road. I currently work in downtown Danville and use Diablo Road to commute to my office less than five miles away. When I leave my home for the office, I encounter vehicles backed up past my guard gate due to the heavy volume of traffic. It can take me as long as 20 minutes or LONGER to get to the office!! I encounter the same issue when I return home depending upon the time of day I utilize Diablo Road.

Diablo Road and Blackhawk Road are utilized extensively by bicycles riders. When you encounter a bicycle on Diablo Road it can get very challenging with the heavy vehicle traffic that is also sharing the roadway. The potential for a major accident involving a bicycle already exists and the addition of more traffic due to more homes is just plain poor judgment on the part of Danville.

The road from Danville to Blackhawk via Diablo Road is already overwhelmed with traffic and traffic jams. To add additional homes which will generate several cars per household should not be approved. Two laned Diablo Road is not adequate nor would it be prudent from a safety standpoint to add more homes that would generate more cars and traffic.

Please consider my objection to the approval of this project based on my experience as a resident who drives Diablo Road everyday and can see the negative impact and potential loss of life this approval would have.

Sincerely,
Susan Woodhams
2012 Pin Oak Place
Danville, CA 94506
925-683-3733

David Crompton

From: Todd & Heather [capocoz@sbcglobal.net]
nt: November 30, 2010 8:28 AM
To: David Crompton
Subject: The Project

Mr. Crompton,

My husband, myself, our daughter, our neighborhood (one of the many effected) and a vast majority of residents of Danville are opposed to this project. The reasons? Too many to count. Hand signed petitions, an overwhelming majority of our neighborhood's residents, will be shown to our HOA and the town.

I have heard from you and all about town that it is the town's duty to accept all proposed developmental applications. We want this one stopped!

If this goes forward, you will need to change the town motto from, "Small town atmosphere, outstanding quality of life" to "Come to Danville, the next San Ramon".

This project is bloody awful. The town will feel the backlash from it's effected citizenry. The outcry is just beginning.

No need to reply. I've heard all I need to hear.

Sincerely,

A disgusted resident and parent

David Crompton

From: bob francis [bobfrancis24@gmail.com]
Sent: November 29, 2010 5:24 PM
To: sjmenichelli@cs.com; vince.chow@me.com; David Crompton; KathUrb@aol.com
Subject: Fwd: Danville zoning change proposal

---------- Forwarded message ----------
From: **bob francis** <bobfrancis24@gmail.com>
Date: Mon, Nov 29, 2010 at 5:08 PM
Subject: Danville zoning change proposal
To: ccnletters@bayareanewsgroup.com

Today's Times contained an article regarding a Danville zoning change request by a commercial homebuilder to subdivide agricultural land for housing.
Development of the property will be a nightmare for existing residents in many ways. Simple math shows the proposed 85 plus homes and accompanying "casitas" generate over 1000 additional autos per day on what is essentially a one lane country road. (This is a conservative estimate: 2.5 cars per residence, 2.0 per casitas times 3 trips in and out per day).

There are 4 schools within a 1.5 mile radius of the proposed development Presently school dropoff/pickup traffic in mornings and afternoons render local traffic simply horrific at these times. Note also that some of the proposed homes are directly across the street from the existing Green Valley School dropoff/pickup/turnaround area. Danville schools are already near capacity- in fact some grades are turning away local students. What needs to be noted is that parents of children whose class levels are at capacity will need to "bus" their children several miles to a school that, for the moment, has room for the overflow.

Changing existing zoning alters the character and dynamics of a residential area. Local residents all too often find themselves at the "receiving" end of these profit proposals. "Parcels for Profit" benefits only one party on a short term basis. The residents live with the repercussions.

Bob Francis
45 Rovigo Ct. Danville, Ca. 94526 (925) 838-9639

DIABLO COMMUNITY SERVICE DISTRICT
DIABLO MUNICIPAL ADVISORY COUNCIL

P.O. Box 321
Diablo CA 94528
(925) 838 0353
(925 838 8439 (fax)

November 26, 2010

David Crompton, Planner
Town of Danville
510 La Gonda Way
Danville CA 94526

Re: Summer Hill Homes Application

Dear Mr. Crompton

The Summerhill development may have an impact on the roads within Diablo and I request that the EIR address these issues.

As you know, the roads in Diablo are private roads, are narrow, have narrow or now shoulders, and serve pedestrian traffic as well as vehicular traffic. At times of high traffic volume, usually in the mornings, Diablo traffic, is delayed in exiting on to Diablo road. Also, when there is an accident on Diablo Road, Diablo Road traffic frequently uses Diablo Roads to circumvent the accident site. Because of the narrow Diablo roads, lack of sidewalks, and lack of adequate shoulders, the additional traffic generated by the Summerhill development may create additional safety hazards to vehicular traffic in Diablo and especially to pedestrians on the Diablo Road.

For these reasons, we request that the EIR for the Summerhill project address these issues.

Please call me if you have any questions

Very truly yours,

Diablo Community Service District
by

Richard J. Breitwieser
General Manager

Jeff Haug - President Tom Wander - Vice President, Security Commissioner
Marilee Headen - Roads Commissioner Ray Brant Kathy Torru
Richard J. Breitwieser - Secretary, General Manager, Legal Counsel

November 26, 2010

Mr. David Crompton, Project Planner
510 La Gonda Way
Danville. CA 94526

Dear Mr. Crompton:

We are writing to express our concerns about the Summer Hill Homes project, case numbers LEG10-0004, DEV10-0071, and DEV10-0072, which affects our community of Hidden Valley, Danville CA. 94526.

First of all, more traffic on McCauley, Diablo, and Green Valley Roads would cause a serious problem. These roads are main arteries to four local public schools. Due to backed-up traffic on McCauley Road, we have had to wait as long as four stoplights when wanting to cross Diablo Road to continue onto Green Valley Road. Also, Diablo Road is a main access to and from the 680 freeway, via El Cerro Road. Combining school traffic with commuter traffic makes the situation worse.

In addition, we are concerned about slope slippage in this area. Our homeowners have already had problems in the area of Savona and Torino Courts, off McCauley Road, which required costly regarding of the hills in that area.

Also, local families are concerned about the impact of more students attending the local schools. There are already waiting lists to enter the elementary schools.

Thank you for taking these issues into consideration.

Sincerely,

Antoinette Thomas
Jay D. Thomas

Antoinette and Jay Thomas
23 Volterra Court
Danville, CA 94526
925-831-1454

David Crompton

From: Lynne Southard [cklsouthard@sbcglobal.net]
ent: December 01, 2010 4:09 PM
o: David Crompton
Cc: John Place; Bill Ingham; smdinfo@savemountdiablo.org
Subject: Magee/Summerhill development

David,

After attending the Nov. 30 City of Danville EIR Scoping Session for Magee/Summerhill property, my engineering background pushed me to consider a "do nothing" proposal. I am submitting this approach for inclusion in the EIR.

This alternative proposal would take the form of buying the Magee Property at a fair price and turning it into open space. The property could in turn be rented out to a cattle farmer and also be used by the public for trails. Many details would have to be worked out: what government agency would own the property, who would maintain it, where would the funding to purchase the property come from...

This proposal could meet the property owner's needs and, at the same time, mitigate the adverse impacts of the proposed project.

Sincerely,

Chris Southard, Registered Civil Engineer
238 Arency Ct.
Danville, CA 94506
925-831-9340

David Crompton

From: Ellen [ellenfred@aol.com]
nt: December 04, 2010 10:27 AM
.o: David Crompton
Cc: EllenFred@aol.com
Subject: SUMMERHILL HOMES--BAD TRAFFIC!

Dear Mr. Crompton,

We live on Diablo Road between Avenida Nueva and Mt. Diablo Scenic. Even now, with the tenuously funded school buses in effect, the traffic --particularly at Monte Vista times-- is terrible. We cannot exit our driveway.

The beauty of this valley is being eroded by traffic, exhaust, and a constant building up of the ranch land. Many of us are finding that the suburban oasis is no longer. It is more a traffic-hassled city and it's not a far cry until we end up like a suburb of L.A.

We strongly oppose the addition of so many new homes along this corridor. Everyone will suffer.

Sincerely,
Mark & Ellen Whitfield
2019 Diablo Rd.
Diablo, CA 94528

David Crompton

From: Marcia Davis [mdavis@apr.com]
Sent: December 04, 2010 12:49 PM
To: David Crompton
Subject: Diablo Road new subdivision

I am shocked and disappointed that the town of Danville is considering a subdivision in this area with huge houses, tiny lots, and casitas to increase congestion further. The traffic on Diablo Road heading west on school days is horrendous already; the area from Green Valley Rd. to Blackhawk is known for the charm of it's rural setting and this subdivision with turn the south side into another Windemere. I figured there would eventually be development on these hills, but assumed it would be in keeping with the area - i.e. large (1/2 acre or more) lots and controlled numbers as well as density. Additionally, I can imagine the developer carving down the hills in order to create even more lots in the future, especially with these first 85 as a precedent. How is it possible for the town to change the zoning so dramatically and negatively for the surrounding homeowners. I am a Diablo property owner, and a Danville property owner/resident.

David Crompton

From: Planning
nt: December 06, 2010 8:53 AM
o: David Crompton
Subject: FW: Magee Ranch Comment

Sincerely,

David Casteel
Planning Division – Code Enforcement Officer
(925) 314-3335
dcasteel@danville.ca.gov

Town of Danville
510 La Gonda Way
Danville, CA 94526

From: outdoor4@pacbell.net [mailto:outdoor4@pacbell.net]
Sent: Saturday, December 04, 2010 6:30 AM
To: Planning
Subject: Magee Ranch Comment

ata from form "Comments for the Public Record" was received on 12/4/2010 6:30:19 AM.

Magee Ranch - Comments for the Public Record

Field	Value
FirstName	Fred
LastName	Doolittle
Address	244 Clydesdale Drive
City	Danville
State	CA
Zip	94526-1907
Organization	
Title	
Email	outdoor4@pacbell.net
Phone	9258319887
Fax	
Concerns Comments	As a citizen of the Town of Danville, I do not think the best interests of Danville are served by the Magee / Summerhill project, as it's currently

Field	Value
	cast. The main problems I see are as follows: 1) One of the most scenic and best pieces of potential open-space will remain closed to the public, namely the section along the south side of Diablo Road toward the west end of this project. The people of Town of Danville would be much better served if, as part of the plan, this section along the south side of Diablo Road were included in the open space plan. I'm referring to the section of wooded and hilly land, including the creek, south side of Diablo Road from McCauley Road on the west end and connecting at the east end to the open space in the currently proposed plan. Both the currently proposed open space section and the section proposed above should be open space, in a contiguous section. If this were open, access should be allowed across from the current Fairway Drive, among other possible places. 2) The proposed development across from the current Fairway Drive would wipe out all of the creek and valley habitat in that area. It would be appropriate to retain some of this valley habitat in it's native state. 3) Increasing the housing in this area in general will ultimately create pressure on future generations to pay for a Diablo Road expansion, thereby saddling future taxpayers (not the current builder) with the financial cost and this project would spoil the existing aesthetics and character of this country road that is lined with remnants of native oak forest. I also share others' concerns that the traffic studies need to be properly done and account for typical peak periods. Perhaps there is a way to arrange a project like this, while enabling public access to some of the most scenic sections of this land, and preserving the quality of life for Danville residents. Thank you. Fred

Email "Magee Ranch Comment" originally sent to Planning@danville.ca.gov from outdoor4@pacbell.net on 12/4/2010 6:30:19 AM.

David Crompton

From: Jill Thomas [jill_jtt@sbcglobal.net]
Sent: December 01, 2010 7:14 PM
To: David Crompton
Subject: Sasve Our Creek

Dear Mr. Crompton:

Development of Magee Ranch will cause many serious problems:
1) Traffic. An immediate increase in congestion to an already problematic situation. Future mitigation of this problem, i.e., addition of more stop lights or changing Diablo Rd., is not feasible.
2) Schools. Crowded enrollment & bussing.
3) Loss of endangered species, trees, cows & creeks for which the area of scenic Mt. Diablo is famous. Danville is a small country town with so much natural beauty which offers attractions for its residents and tourists as well. This is the reason we're living here. Enforce existing zoning laws & stop development that is ruining our special town.
4) Environmental impact including flood, fire, erosion issues; safety for hikers & cyclists; noise, smog & water pollution. A qualified independent consultant should perform an extensive environmental investigation which follows the guidelines of the C.E.Q.A.

The above items summarize our concerns. Please keep us informed.

Sincerely,
Jill Thomas
Environmental Chemist, retired

Hand Delivered

December 1, 2010

Lee Schneider
Barbara Nisbet
24 Sierra Vista Place
Danville, CA 94526

David Crompton
Town of Danville
Danville Planning Commission
510 La Gonda Way
Danville, CA 94526

Dear Mr. Crompton:

Recently we became aware of Sommerhill Homes desire to build 85 new homes on a portion of Magee Ranch.

While we have no outward objection to development in this area or any other area within the Town of Danville, we do feel that for the Town of Danville to approve a subdivision of this size in this location that the Town will need to make substantial changes to the roadways and schools to accommodate the additional traffic and children of school age.

As a Town Planner I am sure that you are aware that currently traffic is intolerable in the mornings and evenings on Diablo Road from the freeway east to where Camino Tassajara joins Diablo Road, along Diablo Road where it passes two grammar schools and again in the area where Green Valley Road intersects Diablo Road. In the mornings the traffic situation is further compounded by all the parents delivering their children to the schools in the area.

We would assume that the Town of Danville has some type of plan to mitigate the current traffic situations we have described above in order for the Town to be considering a development of this size that will bring more traffic to these roads and more children to the local school's, some of which are already impacted with too many children.

Would you please be so kind as to advise us as to what tentative plans the Town of Danville has to deal with the traffic and school situations if this subdivision is approved?

Sincerely,
Lee Schneider
Barbara Nisbet
Lee Schneider
Barbara Nisbet

David Crompton

From: Planning
nt: December 01, 2010 8:59 AM
o: David Crompton
Subject: FW: Magee Ranch Comment

Magee Ranch comment below.

Corinne Horn

Town of Danville - Assistant Planner
Phone: 925-314-3395
Fax: 925-838-0360
Email: CHorn@danville.ca.gov

Town of Danville
510 La Gonda Way
Danville, CA 94526
www.danville.ca.gov

From: pdmsem@aol.com [mailto:pdmsem@aol.com]
Sent: Wednesday, December 01, 2010 8:19 AM
To: Planning
ubject: Magee Ranch Comment

Data from form "Comments for the Public Record" was received on 12/1/2010 8:18:42 AM.

Magee Ranch - Comments for the Public Record

Field	Value
FirstName	Patrick
LastName	Mullin
Address	118 Leafield Road
City	Danville
State	CA
Zip	94506
Organization	
Title	
Email	pdmsem@aol.com
Phone	925 8559110

Field	Value
Fax	925 8559110
Concerns Comments	It is now nearly impossible to leave Magee Ranch at 8am. Blackhawk road is a parking lot. When testing or finals occur the congestion is doubled. It can take 30 minutes to go 7 miles to the freeway. The busses have helped a little however most of the traffic is High School drivers. Adding any more to this would make the residents captive for 1.5 hours every morning during school sessions. Traffic lights would make this area very unappealing. We live here for the quiet and 2 lane streets. I can't imagine any more cars here. It truly would impact the quality of our lives here in the Magee Ranch/Diablo/Blackhawk roads. We also get traffic from the east Tassajara area.

Email "Magee Ranch Comment" originally sent to Planning@danville.ca.gov from pdmsem@aol.com on 12/1/2010 8:18:42 AM.

Statement of Maryann Cella regarding scope of EIR for Summerhill Homes Magee East and West projects

Mayor Doyle, distinguished council members and planning commission members, thank you for the opportunity to speak tonight. I am Maryann Cella. My husband and I and our three children have lived in Diablo for nineteen years in one of the oldest homes in Diablo. I am an attorney and the former chairperson of the Diablo Municipal Advisory Council.

I have attended three of the meetings conducted by Summerhill Homes to familiarize local residents with the proposed development. The most recent of those meetings was held in Diablo and over a hundred residents turned out despite it being only days before Thanksgiving Day.

The proposal raises many grave concerns that the EIR needs to address. Perhaps the most potentially devastating is flooding and erosion in Green Valley Creek. According to the Contra Costa County Flood Control District, properties along

Green Valley Creek, to which the proposed homes would drain, are subject to flooding during a "twenty- five- year event", in other words during the biggest storm that would be expected to occur in a typical twenty- five- year period of time. In contrast, the Flood Control District's standard for waterways it maintains (and I trust Danville's standard is no less protective!) is to keep sufficient creekbed capacity to protect against 100-year storms, in other words the kind of storm that would occur only once in one hundred years. Clearly, there is no capacity in Green Valley Creek to absorb ANY additional water during large storms.

Summerhill's proposal shows a holding pond intended to reduce flow into Green Valley Creek during storms. It's going to have to be a huge holding pond to avoid serious flooding! It must contain an amount of water equal to the difference between what the creek can reasonably absorb without flooding, and the amount of flow expected to happen only once every one hundred years. But serious flooding over the creekbanks and damage attendant thereto isn't the only drainage concern. Even without an actual flood spilling over the creek banks, there will be damage from the project. In Diablo, for example, there are numerous foot and car bridges

that lie just at the top of the banks, and most of those structures have their supports IN the creek bed. Sewer, water, and gas lines hang down below into the creekbed below those bridges. During the years I have lived in Diablo, some of those lines have been ripped off during storms. Luckily, there were no explosions. In the past, whole bridges have been destroyed. There's also the problem of erosion. When the holding pond releases water after a storm, the higher than normal continuous flow for hours storm creates a significant amount of erosion in the creek beds. That erosion undermines structures within the bed, and also undermines homes many feet back from the top of the creek bank. That erosion can also over time topple the huge oak trees that line the banks of the creek, further destabilizing the stream bed. At least one such oak has been undermined and toppled by excessive water flow in the last few years. *The EIR needs to address the possible effect of additional waterflows on homes, structures, utility lines, and trees downstream from the proposed development.*

There's also the problem of maintaining and administering water flow from the holding pond. Will Danville be in charge of the pond? Will there be a special

assessment district created to be in charge of it? Will an HOA be in charge? *Most importantly, who will assume liability for the damage downstream caused by failure to maintain the holding pond, or if a flow exceeds the holding pond's capacity and damage occurs to downstream properties? Will it be Danville, the Magee East HOA, Summerhill Homes? Also, who will be liable for damage occurring from increased flows during storms and from the increased erosion caused by release of water from the holding pond?*

The proposal does not include a holding pond for Magee West water. The same concerns apply for additional water flows created by the building of those homes. *The EIR needs to address those concerns for Magee West.*

Like flooding, traffic is also a grave concern. Just for starters, the EIR needs to measure the traffic that exists without the TRAFFIX bus. The bus is funded primarily with Measure J funds. Measure J expires in a couple of decades. Magee East and West are forever. Moreover, TRAFFIX is reviewed for funding every few years. It is NOT guaranteed to receive funds as long as Measure J is in effect. Only if funding is provided by Danville or the developers to ensure the

continuance of the TRAFFIX bus is it appropriate to judge the traffic that exists with the buses in place. Secondly, the EIR needs to address the level of back-up at the Green Valley/Diablo Road intersection, not just the number of cars that go through the intersection. Just a few weeks ago, traffic was backed up *over one mile* east of that intersection. Counting the number of cars at an intersection can provide only part of the story. Another concern is the windy nature of Diablo Road and what amount of traffic can be safely accommodated by it and at what speeds. The approximately one-mile stretch contiguous to Diablo is particularly windy and hilly. There have been many accidents along that stretch. How will people safely enter Diablo Road from their homes and from the exits out of Diablo and out of the St. Timothy's area with an additional 700-1000 car-trips per day added to Diablo Road? Will traffic lights be placed at the major intersections with Diablo Road --- Mt. Diablo Scenic, Avenida Nueva, Alameda Diablo, Calle Arroyo, Fairway Drive, and Clydesdale? How about the new intersection that would be created by the Magee West clustered homes across from St. Timothy's Church? How about the homes that need to exit directly onto Diablo Road? How

much additional time will be added to local residents' trips down Diablo Road? Who will assume liability for accidents created by the additional traffic? *The EIR needs to address those questions.*

Another matter that needs to be addressed in the EIR is consistency with the General Plan. The plan states that the "Town strongly supports retention of [the] … character" of Diablo Road as "an ambling country road." That character would be destroyed by the additional traffic that Summerhill plans to add. Who ever heard of a country road with routine bumper to bumper traffic??

Another concern is wildlife, particularly in the riparian areas. The EIR needs to address not only the effect of the proposal on wildlife in the area to be developed, *but also the effect of additional waterflows on wildlife in the downstream areas and in other drainage areas, such as the culvert along Diablo Road south of Diablo* .

A final concern that *the EIR needs to address is the cumulative impact on drainage, traffic, wildlife, and protection of the scenic corridor that could be*

expected if additional properties are developed along Diablo Road. Athenian School has acres of land it could develop. Several years ago Blackhawk Country Club was considering selling property at its Tennis complex just east of Hidden Oaks. A huge parcel adjacent to the proposed Magee West currently has one home but could be much further developed. There are undoubtedly more parcels.

Thank you for your consideration.

Maryann Cella, Esq.

1896 Alameda Diablo

Diablo, CA 94528

cellamfc@aol.com

925-980-6170

DIABLO COMMUNITY SERVICE DISTRICT
DIABLO MUNICIPAL ADVISORY COUNCIL

P.O. Box 321
Diablo CA 94528
(925) 838 0353
(925 838 8439 (fax)

November 26, 2010

David Crompton, Planner
Town of Danville
510 La Gonda Way
Danville CA 94526

Re: Summer Hill Homes Application

Dear Mr. Crompton

The Summerhill development may have an impact on the roads within Diablo and I request that the EIR address these issues.

As you know, the roads in Diablo are private roads, are narrow, have narrow or now shoulders, and serve pedestrian traffic as well as vehicular traffic. At times of high traffic volume, usually in the mornings, Diablo traffic, is delayed in exiting on to Diablo road. Also, when there is an accident on Diablo Road, Diablo Road traffic frequently uses Diablo Roads to circumvent the accident site. Because of the narrow Diablo roads, lack of sidewalks, and lack of adequate shoulders, the additional traffic generated by the Summerhill development may create additional safety hazards to vehicular traffic in Diablo and especially to pedestrians on the Diablo Road.

For these reasons, we request that the EIR for the Summerhill project address these issues.

Please call me if you have any questions

Very truly yours,

Diablo Community Service District
by

Richard J. Breitwieser
General Manager

Jeff Haug - President Tom Wander - Vice President, Security Commissioner
Marilee Headen - Roads Commissioner Ray Brant Kathy Torru
Richard J. Breitwieser - Secretary, General Manager, Legal Counsel

David Crompton

From: Mike Willard [mwillard@betahg.com]
Sent: December 06, 2010 10:58 AM
To: David Crompton
Subject: Case LEG10-0004

As a resident of Magee Ranch, I would like you to know that my wife and I are totally against the proposed residential project by Summer Hill Homes. This project will continue to keep existing housing pricing at low market levels because of increased inventories, which will continue to keep property taxes at lower levels than need to support the community and displace wildlife in the area.

Please do not approve this project.

Thank you for your consideration.

Michael Willard

David Crompton

From: Planning
nt: December 08, 2010 8:44 AM
o: David Crompton
Subject: FW: Magee Ranch Comment

Magee Ranch comment below.

Corinne Horn

Town of Danville - Assistant Planner
Phone: 925-314-3395
Fax: 925-838-0360
Email: CHorn@danville.ca.gov

Town of Danville
510 La Gonda Way
Danville, CA 94526
www.danville.ca.gov

From: petercowing@yahoo.com [mailto:petercowing@yahoo.com]
Sent: Tuesday, December 07, 2010 11:12 PM
To: Planning
ubject: Magee Ranch Comment

Data from form "Comments for the Public Record" was received on 12/7/2010 11:11:38 PM.

Magee Ranch - Comments for the Public Record

Field	Value
FirstName	Pete
LastName	Cowing
Address	103 Sunhaven Rd.
City	Danville
State	CA
Zip	94506
Organization	
Title	
Email	petercowing@yahoo.com
Phone	

Field	Value
Fax	
Concerns Comments	Wanted to register my opposition to the project as it currently stands for the following reasons: 1. 4 houses (many with casitas) to 1 acre is not in line with the character of Danville. As the land is currently zoned rural/agricultural, it would seem that 1/2 acre lots are much more in keeping with the feel of Mt. Diablo, the surrounding neighborhoods, and Danville. 2. The water pressure in my neighborhood barely meets minimum standards as things currently stand. Adding additional homes concerns me. Not only for the increased potential of decreased water pressure but also as it relates to fire safety. 3. Traffic. Diablo Road is over capacity currently. The busing program has made things somewhat better, but there is no guarantee the program will continue. Additionally, the proposed development does not allow for a bus turn-around, which means the children will have to be driven to school adding add'l car trips during peak hours. I would request that the EIR consider most heavily the traffic studies that necessitated the Traffix program. The new homes could generate up to an add'l 1000 car trips per day on Diablo Rd. according to my research which would be a lifestyle, safety and fire risk.

Email "Magee Ranch Comment" originally sent to Planning@danville.ca.gov from petercowing@yahoo.com on 12/7/2010 11:11:38 PM.

David Crompton

From: Paul Nielan [paulnielan@mac.com]
Sent: December 10, 2010 10:27 AM
To: David Crompton
Subject: Summerhill development

Dear Sir:

We write to lend our voice against this development. The traffic load on Diablo Road is too high already and current residents face inconvenience and safety issues constantly.

Paul Nielan
5 Crownridge Drive

------x------

Paul Nielan
paulnielan@mac.com

David Crompton

From: Birnbaum, Jeff @ Pleasanton [Jeff.Birnbaum@cbre.com]
nt: December 08, 2010 3:03 PM
o: David Crompton
Subject: New Magee Proposed Development

David: I'm a resident of Magee Ranch, located on Leafield Road. No question about it, without widening the Diablo Road corridor, additional housing stock should not be built. It is wildly insane, that on any given weekday, from the corner of Magee Ranch Road and Blackhawk Road, to get passed Green Valley school, takes a minimum of 15-20 minutes to travel less than 2 miles on narrow curvy road with very little in the way of sidewalks, etc.

Adding additional vehicles to this well traveled corridor would be negligent on the City's part.

Best - Jeff

Jeff Birnbaum | First Vice President | Lic. 1185268
CB Richard Ellis | Broker Lic. 00409987 | Office Properties
5000 Hopyard Road, Suite 180 | Pleasanton, CA 94588
T 925 251 4601 | F 925 251 4699
jeff.birnbaum@cbre.com | www.cbre.com

David Crompton

From: Larry Kupeli [lkupeli@hotmail.com]
nt: December 13, 2010 10:29 AM
To: David Crompton
Subject: Magee Ranch Summerhill Project
Attachments: homes for sale in Danville.jpg

Dear Mr. Crompton,

Thank you for giving me the opportunity to respond to the EIR for the Summerhill Project.

I would like the following taken under consideration:

1. Regarding the proposed homes on McCauley Road:
    a. They will have access directly opposite to the exit for pick-up and drop-off of students at the Green Valley school. The traffic situation is already very bad at that location. Any additional cars will simply worsen the traffic conditions. This will be further exacerbated by any school events that take place.
    b. Please contact the Tuscany of Danville Homeowner's Association. Several years ago, there was a slide that required significant mitigation. It is difficult to imagine building homes in that area without some significant grading. With the area's history of instability, there is no reason to put the area's residents at risk for the expense and difficulty of dealing with another slide.
    c. Aesthetically, the area will become an eyesore. The natural beauty of the area will forever be harmed by the addition of the four homes. There will be fences or walls and structures that disrupt the natural look and feel of the area. Another visual break from overdevelopment will be eliminated with more development.

2. Regarding the other developments along Diablo Road:
    a. The addition of those homes will create significant traffic burden at the intersection of Green Valley and Diablo. With Green Valley School, Los Cerros, and access to Monte Vista, the traffic is extremely difficult already. Not only will it get significantly worse, the chances of an accident occurring with children as they go to school will be increased. The probability of accidents during off-hours will also increase.
    b. The area is not the same style and standard as Camino Tassajara, which is essentially a major throughway. How much more traffic can the residents and current users of Diablo Road and El Cerro need to endure?
    c. It is uncertain if the local schools have the capacity to handle the extra students. Students now attend school where there is capacity, not necessarily where it is logical – parents need to put their children on a list to attend a local school and wait for an opening. In the meantime, they must drive their kids to the school they've been assigned, worsening the traffic problem.
    d. Some consideration must be given to the living standards and conditions of the area. How will the local residents benefit by this new construction? Will there be environmental improvement? Will there be cultural improvement? As of this writing, there are close to 600 homes for sale in Danville, half of which are foreclosures (or on the way – see attached). How does the construction of new homes benefit the town? What additional resources will be needed to support this development (police, city services, school, fire protection, etc.) that the town residents will have to shoulder long after the developers have left?

While I am not unsympathetic to the land owner's and developer's financial interests, there are long term costs (quantitative and qualitative) that will be endured by the local residents, and the town overall, that the EIR must reflect. Danville is not an under-developed town needing additional construction. Much thought has been given in the past to ensure that development planning has been done in a thoughtful, logical manner. Given the proposed location of this project, the EIR must present the long term impact of such a project.

Thank you for your consideration.

Best regards,

Larry Kupeli
925-984-9647

New User? Register Sign In Help

Make Y! Your Homepage

Yahoo! Mail

YAHOO! REAL ESTATE

Web Search

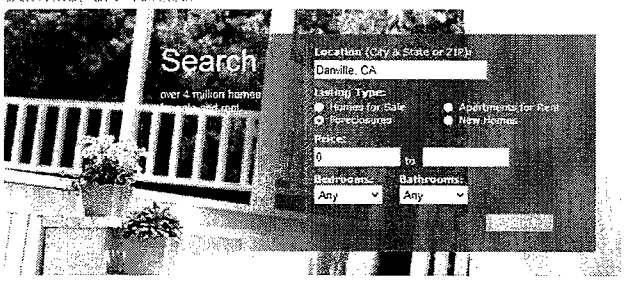
Home | Prices and Mortgage | Neighborhood Info | Guides and Advice | My Real Estate | Resources

Home Values | Home Values | Home Values | Home Values | Home Values

Preview local listings from the Yahoo! homepage.

Add to YAHOO!

Danville, CA Real Estate



New Home Loans
Rates Low as:
3.12%APR
Choose From A Variey of Home Values
Start Now
1-800-529-0362
lendingtree

Visit our Partners' Sites

Bank of America Home Loans

If you're looking to buy, now is a great time

Quicken Loans

Rates Near Historic Lows!

lendingtree

Low Home Loan Rates, quality factory

Research

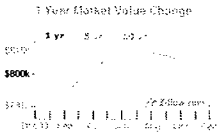
Danville market conditions and mortgage rates

Danville, CA Real Estate Market Snapshot

California Median Sale Price | Dec 1st, 2010

Listing Type	Number	Median Price	Price Change from Nov
Homes for Sale	257	$639,000	0.0%
New Homes	2	$434,000	0.0%
Foreclosures	010	$429,000	0.0%

1 Year Market Value Change



See more city graphs & data at Zillow.com

Latest Real Estate Headlines

In the news:

December Cyber Week
Dec 13, 2010 | Daily Times

Real Estate Outlook: Employment Key To Recovery
Dec 13, 2010 | Daily Times

Gift guide for warm-she do-it-yourselfers
Dec 13, 2010 | [illegible]

Believe in Your Value: Educate and Educate
Dec 8, 2010 | Daily Times

» See all Recent News

National Rates

California Mortgage Rates & Payment Calculator

Source: California Research for Real Estate Pricing, Sunday, Jan 10, 2010 [illegible]

Mortgage Type	Today	Last Week	Change	Graph
15 Year Fixed	4.229 %	3.920%	▲ 0.037%	graph
30 Year Fixed	4.527%	4.439%	▲ 0.072%	graph
1 Year ARM	3.095%	3.080%	▲ 0.015%	graph
3/1 Year ARM	3.151%	3.103%	▲ 0.015%	graph
5/1 Year ARM	3.230%	3.215%	▲ 0.195%	graph

Mortgage Payment Calculator

Loan Amount

Term (mths) | Table Display
360 | Yearly

Interest %
4.827 | Calculate

See more calculators

Be a winner in the credit game

Search Danville Mortgage Rates

Location: Danville, CA

Loan Amount: $

Loan Purpose: Purchase

Loan Type: Fixed

Financial Resources & Tools

FEATURED RESOURCE CENTER

Refinance Mortgage Center

What you need to know about refinancing your current loan. Calculate your potential cost savings and learn the risks

» Learn more

Other Resource Centers

- Home Loans
- Home Buyer Center

Sponsored Links

Danville Real Estate
Free CA MLS Search: Homes, Condos for Sale. 1.4M Photos, Maps, More!
www.cirealty.com

Danville Homes For Sale
See current home listings & MLS in Danville, CA. Free
homegain.com

RE/MAX Real Estate
Search through Real Estate Listings in California by Price & Location
www.REMAX.com

Danville CA Real Estate
See Danville CA Real Estate View Maps, Photos & Detailed info!
www.HomeListingsFinder.com/CA

RE/MAX Real Estate
Find agents, offices who lead in experience, real estate sales
www.illinoisproperty.com/remax

Danville Real Estate
View Danville homes NOT found on other sites. Detailed info w photos
www.zillow.com/CA/Danville

Top Cities:

Top States:

Related Yahoo! Services

Yahoo! Yahoo! Real Estate information is provided by our trusted partners.
Yahoo! Yahoo! does not guarantee the accuracy of homes, or any other real estate.
Properties in Florida are not available at this time.

YAHOO! REAL ESTATE

Copyright © 2010 Yahoo! Inc. All rights reserved.
Privacy Policy - About our Ads - Terms of Service - Copyright Policy - Yahoo! Zillow Real Estate Network

David Crompton

From: Barbra Nystrom [bnystrom@sbcglobal.net]
nt: December 13, 2010 9:05 PM
o: David Crompton
Subject: Magee Ranch-SummerHill Development Application NOP meeting
Attachments: pat1186559108

Dear Mr. David Crompton,

At the Monday, November 30, 2010, Danville Town NOP Meeting regarding Magee Ranch-SummerHill Development application, I "heard" myself in every speaker expressing concerns about the development.

Regarding the proposed area in question:

For future generations:

I want more migratory songbirds than existed this year.
I want more heritage oaks than existed this year.
I want more lighted creeks than existed this year.
I want cleaner healthier breathable air than existed this year.
I want a more clean abundant supply of water than existed this year.

Why? Because the world is a better place when you leave the world a better place.

Please make public the process by which Denise Duffy and Associates was chosen to do the EIR.

n the EIR please conduct an Indirect Source Review
(ISR) measuring indirect pollution in the area that would be caused by SummerHill development.

Thank you for the opportunity to make comments.

Sincerely,

Barbra Nystrom
PO Box 709
Diablo, CA. 94528

Barbra Nystrom
Landmark Travel, Ltd - Virtuoso
335 Village Square
Orinda, CA 94563-2505
PH(925)253-2600;FAX(925)254-8130
bnystrom@sbcglobal.net
www.landmarktravel.com
CST #2014050-10
IATA #05511693

David Crompton

From: Pena, Philomel C [Philomel.Pena@goAAA.com]
Sent: December 14, 2010 4:01 PM
To: David Crompton
Subject: Danville Summerhill Development

Dear Doug Crompton,

My family and I recently moved into the Woodcreek area specifically to enjoy the quiet country-like setting provided by the land that is currently proposed for development. All of the homes in the area have a beautiful, well-established feel about it. New homes on small lots do not fit the "look and feel" of what this community has represented. Coming from Lafayette, a city that values current residents' opinions, I would be very disappointed in Danville if this project is allowed to continue.

I have 4 young kids (all in elementary school) who enjoy seeing the cows, wild turkeys and open land as we drive to and from school every day. Not only will the view of our area change, but also the commute. Approving the build of new homes will simply add congestion to the already busy roads we have currently. And, to be quite frank, I doubt there are any neighbors east of Green Valley who will embrace the changes proposed. This neighborhood is special, not only in its external appearances but also are its residents - how we feel about our environment and the country-like surroundings we enjoy daily.

Please do not allow the path to our beautiful homes to be interrupted by a development like Summerhill. Danville, as my family and neighbors know it, would not be the same.

Sincerely,

Philomel Pena
A Woodcreek Resident

148 Clydesdale Drive
Danville, California 94526
December 11, 2010

David Crompton, Principal Planner
Town of Danville
510 La Gonda Way
Danville, California 94526

Dear Mr. Crompton:

Please consider inclusion of the following comments in the Environmental Impact Report for the Magee Ranch – SummerHill development application.

Diablo Road between Green Valley Road and Avenida Nueva is a two-lane country road. There have been no significant improvements to this road, other than repaving, since its initial installation. It was not designed for nor expected to carry the current traffic load. Without significant improvements, additional traffic added by the proposed Magee Ranch – Summerhill development, will further jeopardize the lives and safety of all residents along this corridor.

To adequately and safely handle current and anticipated traffic, this section of Diablo Road needs to be a four lane divided road similar to Sycamore Valley Road. Such an improvement will be very expensive and result in complete loss of the current rural character of the region. Below are some details:

> **From Green Valley Road to Clydesdale Drive:** Eliminate the blind curve east of the Diablo Rd – Green Valley intersection by cutting into the hillside south of Diablo Rd. Construct a large retaining wall to hold back the hill. Reroute Green Valley Creek into a buried culvert and pave it over. Remove approximately 39 oak trees.
> **From Clydesdale Drive to Fairway Drive:** Reroute Green Valley Creek and pave it over. Remove approximately 21 mature oak trees. The visual impact of this beautiful section of Diablo Road would be destroyed.
> **From Fairway Drive to Avenida Nueva:** Eliminate the three blind curves by extensive regrading and constructing large retaining walls. Remove approximately 34 oak trees. This portion of Diablo Road is currently very dangerous with private properties on the north side well below road grade.

Diablo Road cannot safely accommodate even existing traffic. Bicycles refuse to use the bike path and drivers, in their haste, have no problem crossing double yellow lines to get around them. Oncoming cars have had to run off the road to avoid head-on collisions. In addition, during peak hours, traffic can back up from Green Valley to Fairway Drive. The lack of adequate shoulders prevents cars from quickly making way for emergency vehicles. Remember that the loss of life and property during the 1991 Oakland hills firestorm resulted in part from inadequate roads.

Allowing further residential development along this existing Diablo Road corridor is extremely shortsighted and very irresponsible.

Sincerely,

Thomas R. Dittrich

David Crompton

From: Planning
Sent: December 15, 2010 10:56 AM
To: David Crompton
Subject: FW: Magee Ranch Comment

Corinne Horn

Town of Danville - Assistant Planner
Phone: 925-314-3395
Fax: 925-838-0360
Email: CHorn@danville.ca.gov

Town of Danville
510 La Gonda Way
Danville, CA 94526
www.danville.ca.gov

From: paulkuelz@sbcglobal.net [mailto:paulkuelz@sbcglobal.net]
Sent: Tuesday, December 14, 2010 6:23 PM
To: Planning
Subject: Magee Ranch Comment

Data from form "Comments for the Public Record" was received on 12/14/2010 6:22:33 PM.

Magee Ranch - Comments for the Public Record

Field	Value
FirstName	Paul
LastName	Kuelz
Address	2715 Mossy Oak Drive
City	Danville
State	CA
Zip	94506
Organization	
Title	
Email	paulkuelz@sbcglobal.net
Phone	925-831-3128

Field	Value
Fax	
Concerns Comments	My points are aesthetics, consistancy, hydrology, and drainage. Aesthetics and town consistancy go hand in hand. When the home at 1400 Diablo Road was built several years ago, very special care and committment was done to keep the home and most importantly the driveway hidden from view while travelling on Diablo Road. The town of Danville had done their due diligence and did a very fine job in keeping that area of Diablo Road rural and scenic (no trees cut down, no lights lining the driveway, etc.). The Northwest Site Plan of lot numbers 65 through 85 is completely inconsistant with this plan. All of the care and attention to the rural and scenic beauty of the area gets thrown out. Hydrology and drainage is also in issue at both sites. As mentioned at the meeting, the creek carries a tremendous amount of water during large rain events. Living in Hidden Oaks, we have several winter creeks and water retention basins. Since Hidden Oaks is not part of Danville, we are under the jurisdiction of Contra Costa County. We cannot do any type of cleanup unless we get the okay from California Fish and Game. I want to stress to the town and the EIR committee that when large rainfall events occur, a tremendous amount of water from Hidden Oaks gets sent into the creek at the Southeast Site. We have two winter creeks that covers the southwestern watershed of Mt Diablo. Both of the creeks flow into 42" storm drains and daylight at Diablo Road and Jillian. They then run behind the homes on Jillian and dumps into Green Valley Creek at the development site. In the past 10 years we have had two rain events where the 42" storm drains were unable to handle the rainfall amount and the creek banks overflowed. Thank you.

Email "Magee Ranch Comment" originally sent to Planning@danville.ca.gov from paulkuelz@sbcglobal.net on 12/14/2010 6:22:33 PM.

Memo

To: David Crompton, Principal Planner

From: Sandra J. Menichelli

Date: December 15, 2010

Re: Comments on Scope of Analysis in EIR for the Magee Ranch – SummerHill Development Application

---

The purpose of this memo is to reiterate and expand on comments I made at the November 30 Planning Commission meeting on the scope of the above referenced EIR.

- Selection of EIR Consultant: As the November 30 meeting indicated, there is a significant amount of opposition to the proposed project for a wide number of reasons. Most of the reasons raised dovetailed with the subject areas outlined in your November 16 Notice of Preparation memo to be explored by the EIR consultant. The EIR consultant will therefore play a critical role in the how this project will progress. As many individuals opposed to the project are suspicious of the approval process for it, the public interest will be best served by an open and transparent process starting with the detailed disclosure of the process employed by the Town of Danville to select the EIR consultant. The public has been informed of who the consultant is, that it is engaged by the Town and not SummerHill and that SummerHill will be paying for the EIR. But we have received no information on the selection process. I am asking for full disclosure on this subject. What was the selection process? Which Town employees and elected or appointed representatives took part in the process and how? How many firms received a request for a proposal (RFP)? How many firms submitted RFPs? How were those RFPs evaluated and by whom? What criteria were used to make the selection? What were the qualifications of the firm selected and how did they compare to the other firms submitting RFPs? Has the selected firm worked previously for SummerHill directly or indirectly? For the Town of Danville? Does the selected firm have previous experience with EIR work in and around Danville? What is the nearest town or area for which the firm has done work of this nature? Were references obtained on the firm selected? I request that this information be made public as early as possible and distributed to those parties who have indicated their interest in this project.

- Methods of evaluation: Your November 16 Notice of Preparation memo covered a great many subject areas of potential impact of the project. It was fairly comprehensive on what would be studied but did not give any insight into how and by what methods these subject areas would be studied. There was no mention of standards to be used in the study of these areas of impact. I request that the public be given more information in this regard prior to the issuance of the EIR so that further input from the public can enhance the studies being conducted. I ask for this in the interest of openness and transparency.

- Cost/benefit analysis: An area of analysis not mentioned in your November 16 Notice of Preparation memo was cost/benefit analysis of the impact of the project on the Town's budget. If the cost of Town services resulting from the population and residence increase associated with the project increase, will the incremental tax revenues from the

project be sufficient to cover them? While I understand your explanation that the Town has a duty to Mr. Magee to examine this project fairly so as not to unreasonable diminish the value of his property, I expect that all residents, property owners and taxpayers in Danville deserve the same fair treatment and thus a cost/benefit analysis should be conducted to insure that equal fair treatment. The remaining residents, property owners and taxpayers in Danville should not have to pay for one property owner's windfall and a developer's profit. Therefore, I request that a thorough analysis of the incremental revenue and costs to the Town arising from this project be analyzed. I would further ask that an analysis be done of the impact of the project on home values in the neighboring area by adding the proposed project. Given the current economy and inventory of homes on the market, how will adding more homes to the mix impact existing values? How will the destruction of the area aesthetics (as described below) impact the value of existing homes in the area? Again, I emphasize that the Town needs to assess this situation to apply the fairness standard to all property owners. A group of property owners should not be harmed so that one property owner receives a windfall and a developer earns profits. The financial impact on existing residents, taxpayers and property owners needs to be studied to insure that fairness is applied to all.

- Aesthetics: Much mention by the public was made at the November 30 Planning Commission meeting of the negative impact of the project on the aesthetics of the Diablo Road corridor. Many of us in the areas neighboring the project bought our homes in this area because of the current aesthetics – a tranquil, rural and open environment. It is that aesthetic that the Town itself professes to embrace and put forth as its image. Those opposed to the project want to see that aesthetic preserved and do not believe clustering of homes along Diablo Road or on McCauley Road is consistent with its preservation. In addition, many of us bought our homes relying on the current zoning which would preclude clustering of homes on the road level such that all that will be seen as one walks, bikes or drives along the road is these proposed clustered homes. As I mentioned above, the destruction of the area aesthetics should also be studied to evaluate the potential financial impact on existing property owners.

- Traffic: Traffic in the area of the project has already been identified in a number of forums as problematic. Those living in the Hidden Valley subdivision on and around McCauley Road have only one means of egress. Residents along Diablo Road are similarly limited in their means of egress. Therefore the traffic congestion at peak times of the day poses a difficult problem. I am requesting that the traffic study not only look at the number of cars that travel these two roads in total daily but that measurements be taken throughout the day. Also, in addition to the number of cars, the traffic study should also cover the length of backups and times to clear. This data will not only measure the nuisance factor that currently exists and how the addition of the homes and drivers associated with the project will further increase the problem but will also have relevance to my next point – safety.

- Safety: Given the limited means of egress from the Hidden Valley subdivision and the residential areas along Diablo Road and Green Valley Road, the addition of more homes in this corridor will further increase the safety risk associated with evacuation in an emergency situation. I ask that the lessons learned from the Oakland Hills fire be studied and applied to the impact of the project on existing homes in the area. I ask that the EIR consider a significant fire event and how the roads in this area would handle a large scale evacuation including the proposed cluster homes, the existing homes and residential areas along Diablo Road, the existing homes on and around McCauley Road and the existing homes and residential areas along Green Valley Road.

David Crompton

From: CHARLES S WAITMAN [cgwaitman@sbcglobal.net]
Sent: December 15, 2010 10:13 PM
To: David Crompton
Subject: Magee Ranch-SummerHill Development EIR Scope

Mr. Compton,

Thank you for the opportunity to comment.

In reviewing the scope of analysis for the EIR for the Magee Ranch SummerHill project I note several important issues deserving consideration:

1. Temporary Land Use. There is no assurance that the project will be completed as planned in any given time period or restored to its original condition if the timetable isn't met. The developer is proposing a project in a setting of a high quality mature community with abundant open space and a pleasing mixture of open space, parks, schools, residential developments and agricultural land. Forecasts for rebound of the Real Estate market couldn't be more uncertain. Destroying a large section of agricultural land while failing to develop a potentially satisfactory residential development and leaving vacant lots, decaying roads and infrastructure would be a tragedy. I propose that the project be bonded sufficiently to return the land to its original use until a critical mass of approximately 50% of the approved structures are owner occupied within a predetermined time of perhaps 3 years from the start of rough grading. It should be noted that a similar project was proposed in the past, in a far more positive market, and failed to materialize due to economic considerations not community opposition.

2. Cultural Resources. The intrinsic value of both well planned and continued agricultural use of any open space is essential to preserving one of the few remaining properties remeniscent of the ranching heritage of the community. Additionally, relics of this ranching heritage, such as corrals, water tanks and the like should be preserved.

3. Light Pollution. Mount Diablo provides an important venue for astronomers. The Athenian athletic fields are an attractive and convenient site as are venues such as the camp grounds and parking lots within the Park. Light pollution should be minimized. No street lights should be allowed. Outdoor lighting should absolutely minimize light pollution. North facing windows should be covered at night.

4. Density. The developer has been ambiguous in terms of the "Casitas" to be constructed as part of the subdivision. These, apparently, are structures that could potentially rented to provide low income housing. On the one hand, the developer wants to count these structures as low income housing units. On the other hand he seems reluctant to include these in the count of residences per acre. The prospect of these units meeting to intent of low income housing is remote. They are far more likely to be use as pool houses, guest houses, rec rooms, mother-in-law rooms, or housing for live-in maids or aupairs Obviously they represent additional hardscaped square footage adding to hydrological concerns as well as increasing the number of residents that will tax the existing infrastructure.

5. Preservation of scenic corridor along Diablo Road is essential. Perhaps through geological good luck, the character of the creek to the southwest of Blackhawk Road a mile or so north of the main Blackhawk entrance preserved a beautiful section of land. The proposed Court H shown on the Northwest Site Plan represent a very high level of sacrifice for very limited benefit.

6. I presently enjoy a view of the land proposed to be sacrificed for the development of Courts C, D, E, and F. The proposed development will deminish my quality of life and the value of my property. Lower density, moving structures farther from the creek, keeping them lower on the hills, and preserving corridors for livestock d the abundant wildlife will reduce but not eliminate the negative impact.

7. Community Values. Voters response to San Ramon's proposition W has expressed the basic fact that residents of this area value preservation vs continued growth. This sentiment should be considered and honored as the details of this project and its impacts are developed and analyzed.

Chuck Waitman
51 Diablo Creek Place
Danville, Ca 94506

David Crompton

From: Planning
Sent: December 16, 2010 5:07 PM
To: David Crompton
Subject: FW: Magee Ranch Comment

Corinne Horn

Town of Danville - Assistant Planner
Phone: 925-314-3395
Fax: 925-838-0360
Email: CHorn@danville.ca.gov

Town of Danville
510 La Gonda Way
Danville, CA 94526
www.danville.ca.gov

From: dnesbit@sbcglobal.net [mailto:dnesbit@sbcglobal.net]
Sent: Thursday, December 16, 2010 3:54 PM
To: Planning
Subject: Magee Ranch Comment

Data from form "Comments for the Public Record" was received on 12/16/2010 3:54:22 PM.

Magee Ranch - Comments for the Public Record

Field	Value
FirstName	Doug
LastName	Nesbit
Address	25 Gelding ct
City	Danville
State	CA
Zip	94526
Organization	
Title	
Email	dnesbit@sbcglobal.net
Phone	
Fax	

Field	Value
oncerns Comments	Traffic along Diablo Rd is already horrific in the mornings and evenings and adding additional homes would absolutely make it worse. Morning backups already extend from Green Valley to Magee ranch. And this would make it worse. This is not what Danville is supposed to be about! It would significantly affect the quality of life in the area and it would reduce values in the area as a result. If I wanted traffic I'd live in Oakland. Please don't allow a developer to ruin our town this way.

Email "Magee Ranch Comment" originally sent to Planning@danville.ca.gov from dnesbit@sbcglobal.net on 12/16/2010 3:54:22 PM.

David Crompton

From: Bill Hooper [blhooper@pacbell.net]
ent: December 16, 2010 9:14 PM
o: David Crompton
Subject: Magee Ranch – Summer Hill Development Project (alternate form with text of letter in e-mail)

Dear David,

here is the alternate version where the letter is in this e-mail rather than an attachment

William Hooper

David Crompton, Principal Planner

Dear David

Re: Magee Ranch – Summer Hill Development Project

Thank you for speaking to me on the phone earlier this month regarding the Magee Ranch – Summer Hill Development Project. I appreciate you openness of my comments and hope this letter will be considered. I hope to have summarized here in a way that will follow the Notice of Preparation Letter.

Introduction

For the last 14 years I have lived in Danville and enjoyed so much the Diablo Creek Community. I am sure that Summer Hill is a fine builder and look to do their best of making this project successful to them and their client. At the same time, the communities around the area and along Diablo Road have many concerns. My concerns are noted here.

Project Location

The project location covers multiple areas where the clustered homes are located right near an existing community, The existing community sits below the rolling hills with protected trees (by size

and species), and land used for agriculture and working ranch. Another location is along Diablo Road across from a local church where the development would actually cover a historical creek and a alley and other creek feeders from the adjacent hills. In addition, the access to the planned location would entail removal of protected trees, as well as other environmental impacts regarding Diablo Road. The last cluster is right across the street from the San Ramon Fire Station and school. Existing homes in the area were designed and located to take advantage of the vistas surrounding these communities. The proposed project will encroach on these vistas.

Project Description

The planned subdivision entails a rezoning of the clustered home area. In my opinion, this is inconsistent to the environment surrounding the planned development. The existing communities are zoned R20 with no less than ½ acre lots and a minimum 35 foot setback, with at least 15 feet on one side and 20 feet on the other. All the homes are custom homes, not one looks the same or is built the same way or floor plan. Mix of homes consists of both single and two level homes. There is no secondary home or "casitas". The proposed project only provides two or at most four (as presented at other community meetings), along with a casitas option that could allow for multi-family homes to reside rather than single family homes. The proposed project also calls out for 10K or at most 12K ost sizes with no defined clearly setback requirements. All floor plans in the proposed project are two levels, not one is single level.

The rezoning proposal is greatly inconstant with the surrounding areas, and will significantly impact the value of homes in the existing communities. Summer Hill claims to reference examples in other communities, like Los Altos, where larger homes on a small lot size are actually more valuable. That comparison does not hold, because the communities in Danville and the homeowners (by survey) desire the large lot size and larger setbacks and live in the communities for that reason. The Los Altos communities are not comparable to Danville along or adjacent to Blackhawk Road and Diablo Road, or in the communities of Diablo Country Club and Diablo Creek Tennis Association.

Probable Description

The planned subdivision will have negative impacts on short-term (construction)) and long-term (operation).

Aesthetics: The area is considered a scenic and historical area lined with protected trees, creeks, and other important environmental factors. The proposed home plans do not fit within the existing community and will negatively impact all communities in the area. Although the proposal tries to find

flat areas to build, along Diablo Road the proposed cluster is not on a flat area, and will eliminate or cover an important "eco" area used by wildlife and populated by protected trees, and will negatively impact the scenic beauty of Diablo Road as defined and planned to preserve as outlined in the general plan.

Air Quality: Based on the proposal, if these homes are built with a casitas that means multiple families will most likely move in. This will add to the air quality with more cars, residence and use of fireplaces. Existing residences like mine and others along the creek in Diablo Creek Tennis Association, to get the resulting impacts of surrounding areas that provide emissions.

Cultural Resources: An inconsistent building plan and one cluster along Diablo Road will significantly impact the cultural impact of Diablo Road Scenic Drive and the historical beauty that leads into the area. Mt. Diablo is known and sought after State Park, where visitors come and visit for its historical significance.

Geology and Soils: The entire area of existing homes prior to its build was a flood control area many years ago. Consist of high water tables and expansive clay soil all contributing to constant and significant movement. There is also an earthquake fault in the area. After moving into our home and working on a remodel, we found the water table at 6 feet depth when drilling friction peers. The soil moves so much, that when replacing the driveway, we had to have a soils engineer evaluate the ground for movement and type of soil, where we had to incur additional planning and building cost to appropriately build the new driveway and our addition, because of the soil. We had to install French drains, and we chose to do it around the whole house and not just the addition. At the same, we installed a vapor barrier all due to the expansive clay soil and high water tables. By building on the existing hills and even below at the foot of the hills in the flat areas, the soil must be addressed and analyzed at various and significant depths. Samples should be taken and many more locations than a few.

Greenhouse Gas Emissions: Increased traffic, homes with fireplaces will negatively impact the Greenhouse emissions. With not "single" family homes but multi-family homes (with the casitas), there will be an exponential potential of additional cars not perhaps currently planned.

Hazardous Materials/Health and Safety: We must think about the impacts on the creek and where those creeks lead to outside of Danville. With more homes and perhaps new families that may not appreciate the existing culture and environment of the existing community area, may pollute the creeks. Along with that, construction will have impacts on the environment, because large machinery

and equipment must be located and will change the landscape and natural drainage paths. Sewage and other drainage must be considered as to the incremental impacts on the existing infrastructure

. *Hydrology, Drainage and Water Quality:* The impacts of the proposed project are all potentially negative to the natural drainage paths of the hills and creeks that all work together in the existing environment. Many of these hills have existing branch drainage into the creeks. Our home has a private drainage that services many homes, as well as a public drain. Any increase to that load will negatively impact the private drainage that runs along the west side of our property.

Land Use and Planning: As previously stated, the proposed plan is inconsistent with the existing and surrounding Land Use and Planning (and/or Zoning) plans. The proposed building plans do not fit consistent with the existing R20 Custom Single family homes, where the proposed is 10K lots with all two level multi-family homes with no defined setback and limited proposed floor plans that are more cookie cutter in nature and not consistent with existing communities.

Noise: Both sound and light noise will be created. One of the key environment factors in the existing is low noise levels and low street lighting or light noise. The existing community does not want to be negatively impacted by more noise (sound) and more Lights at night.

Population & Housing: Building proposal calls out for casitas or used to meet low income housing objectives. Basically, without directly stating it, these are really multi-family homes, with no clear or defined limitation to eventually convert them to more multi-family dwellings. Existing homes in the community are all single family homes, with clear restrictions on building additional buildings for residency on the properties. More homes, and homes with possible multi-families equates to exponentially more cars and traffic.

Public Services and Utilities: The new homes as outlined in the proposal will get access to the entire land area, including the land placed in a land trust. What about the existing communities that are losing their vistas and benefits, which property taxes are paid. Perhaps the existing communities should get compensated with access to such land open space at the cost of the new community. Current utilities in the area are limited. Arial cable services both electricity and telecommunications along Diablo Road, up to Diablo Scenic Drive. These services are not at the most current technologies and could be at their maximum limits.

Traffic and Circulation: As mentioned in many forums the increase on traffic. The impacts are huge. The existing traffic problems are well known, as coming out of Diablo Creek Place to Diablo Road / Blackhawk Road making a left hand turn is very difficult even with a designated intersection non-

blocking signage. The 100 net new peak-hours vehicular trips, is much underestimated and does not clearly measure the real or practical impacts of increased traffic. Bicycle riding is very popular on iablo Road, and currently very dangerous with or without heavy vehicular traffic. Construction and movement of heavy equipment will have a significant impact on the area for at least two or three years, followed by increased residence traffic.

Growth Inducement: Must consider the regional population growth and possible types of various or possible characteristics of population actually occurred after development. Examples are San Ramon and Dublin in their plans missed on estimating the real or practical population growth, because their plans were based on certain parameters that excluded characteristics of new population along with the impacts. In this case, expecting single family homes to have one family residing, there are multi-family situations residing in a single home. This has caused an increase in negative impacts unforeseen, like traffic and additional cars constantly parked on the streets, as compared to the existing environment where parking on the streets are minimal and few multi-families living in a single residence. Casitas may appear to be a viable alternative to meeting low cost or affordable housing measurements required, but they need to have specific limitations that are currently experienced by zoning of the existing and surrounding areas.

Cumulative Impacts: Must consider all regional impacts as resulting from previous development projects, as any plan or proposal will miss important aspects that could have undetermined impacts.

Alternatives: Please accept no less then 15k or better R20 zoned homes, with single story on the higher elevations and larger setbacks. This will positively contribute to resolving the negative impacts that may come from the existing building proposal.

I will be happy to make myself available to any committee or group to discuss and/or negotiate alternative solutions.

Thank you again for this opportunity of expressing these concerns.

Best Regards,
a/s/a Bill Hooper

William Hooper

Resident

15 Diablo Creek Court

Danville, CA

David Crompton

From: Planning
nt: December 17, 2010 9:32 AM
o: David Crompton
Subject: FW: Magee Ranch Comment

Sincerely,

David Casteel
Planning Division – Code Enforcement Officer
(925) 314-3335
dcasteel@danville.ca.gov

Town of Danville
510 La Gonda Way
Danville, CA 94526

From: iamakey@pacbell.net [mailto:iamakey@pacbell.net]
Sent: Thursday, December 16, 2010 7:47 PM
To: Planning
Subject: Magee Ranch Comment

ata from form "Comments for the Public Record" was received on 12/16/2010 7:46:54 PM.

Magee Ranch - Comments for the Public Record

Field	Value
FirstName	Dean
LastName	Akey
Address	200 Fairway Dr.
City	Danville
State	Ca
Zip	94526
Organization	
Title	
Email	iamakey@pacbell.net
Phone	925 820-5191
Fax	925 837-0933
Concerns Comments	Traffic on Diablo Rd. is already strained. The wildlife in this area is amazing and a real asset to Danville. The ambience of Danville's rual nature

Field	Value
	will be forever changed. Other problems: When St. Timothys built their new parking lot and admin building, dozens of moles, voles and gophers migrated accross the streets to residential properties. If the Magee Ranch development goes forward, hundreds of moles, voles and gophers will migrate away from the developements. They will undermine Green Valley creek banks, adjacent roads and adjacent residential properties. This can and will cause additonal maintenance problems even after the construction of the proposed project is completed.

Email "Magee Ranch Comment" originally sent to Planning@danville.ca.gov from iamakey@pacbell.net on 12/16/2010 7:46:54 PM.

APPENDIX B

AIR QUALITY & GREENHOUSE GAS ANALYSIS

ILLINGWORTH & RODKIN, INC.
Acoustics • Air Quality

505 Petaluma Boulevard South
Petaluma, California 94952

Tel: 707-766-7700 *Fax: 707-766-7790*
www.illingworthrodkin.com *illro@illingworthrodkin.com*

November 27, 2012

Leianne Humble
Denise Duffy & Associates, Inc.
947 Cass Street, Suite 5
Monterey, CA 93940

VIA email: lhumble@DDAPlanning.com

SUBJECT: Magee Ranch Project in Danville, CA – Operational GHG Modeling Results

Dear Leianne:

The purpose of this letter is to summarize operational GHG modeling results for the Magee Ranch Project in Danville. We understand that the proposed project size and project trip generation rates have changed since our report to you, "Magee Ranch Development, Danville, CA – Air Quality and Greenhouse Gas Analysis," revised November 10, 2011. The California Emissions Estimator Model Version 2011.1.1 (CalEEMod) was used to predict GHG emissions from operation of the site in 2020. CalEEMod is the current emissions model recommended by the Bay Area Air Quality Management District (BAAQMD). The model predicts emissions of GHGs in the form of CO_2e (carbon dioxide equivalency). Our modeling accounted for the reduced project size of 70 single-family dwelling units and the adjusted project trip rate of 12.17 (an increase from previously). Default rates for energy consumption were assumed in the model. Emissions rates associated with electricity consumption were adjusted to account for Pacific Gas & Electric utility's (PG&E) projected 2020 CO_2 intensity rate. This 2020 rate is based, in part, on the requirement of a renewable energy portfolio standard of 33 percent by the year 2020. CalEEMod uses a default rate of 641 pounds of CO_2 per megawatt of electricity produced that is based on PG&E's 2008 certified rate. The derived 2020 rate for PG&E was estimated at 289.85 pounds of CO_2 per megawatt of electricity delivered and is based on the California Public Utilities Commission (CPUC) GHG Calculator.[1]

Table 1 presents the results of the CalEEMod model analysis in terms of annual metric tons of equivalent CO_2 emissions (MT of CO_2e/yr). As indicated in Table 1, the GHG emissions resulting from operation of the unmitigated project would not exceed the BAAQMD's threshold of 1,100 MT of CO_2e/yr. Inputs and assumptions are contained in the CalEEMod modeling data provided in Attachment 1.

[1] California Public Utilities Commissions GHG Calculator version 3c, October 7, 2010. Available on-line at: http://ethree.com/public_projects/cpuc2.php. Accessed: November 27, 2012.

Table 1 Annual Project GHG Emissions in Metric Tons

Source Category	2025 Project Emissions
Project	
Area	0
Energy	206
Mobile	689
Solid Waste	37
Water	9
Total	941

* * *

This concludes our summary of the GHG emissions modeling results for this project. If you have any questions or comments, please feel free to contact me at (707) 766-7700 x35. We appreciate the opportunity to assist you.

Sincerely,

Joshua D. Carman
Illingworth & Rodkin

Attachment 1: CalEEMod Input and Output Worksheets

10-138

Magee Ranch, Danville - 2020

Contra Costa County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
Single Family Housing	70	Dwelling Unit

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Utility Company**	Pacific Gas & Electric Company
Climate Zone	4	**Precipitation Freq (Days)**	58		

1.3 User Entered Comments

Project Characteristics - CO2 Intensity Factor (289.85 lb/MWh) for 2020 obtained from CPUC GHG Calculator version 3c.

Land Use - Population: 191

Vehicle Trips - Trip rate from project traffic study.

Woodstoves - No woodstoves, possible gas-powered fireplaces.

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2011	1.02	7.26	4.44	0.01	0.28	0.44	0.72	0.11	0.44	0.55	0.00	682.75	682.75	0.08	0.00	684.49
2012	2.56	3.78	2.59	0.00	0.03	0.26	0.29	0.00	0.26	0.26	0.00	389.41	389.41	0.05	0.00	390.41
Total	**3.58**	**11.04**	**7.03**	**0.01**	**0.31**	**0.70**	**1.01**	**0.11**	**0.70**	**0.81**	**0.00**	**1,072.16**	**1,072.16**	**0.13**	**0.00**	**1,074.90**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2011	1.02	7.26	4.44	0.01	0.24	0.44	0.68	0.11	0.44	0.55	0.00	682.75	682.75	0.08	0.00	684.49
2012	2.56	3.78	2.59	0.00	0.00	0.26	0.26	0.00	0.26	0.26	0.00	389.41	389.41	0.05	0.00	390.41
Total	**3.58**	**11.04**	**7.03**	**0.01**	**0.24**	**0.70**	**0.94**	**0.11**	**0.70**	**0.81**	**0.00**	**1,072.16**	**1,072.16**	**0.13**	**0.00**	**1,074.90**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.71	0.01	0.53	0.00		0.00	0.00		0.00	0.00	0.00	0.86	0.86	0.00	0.00	0.88
Energy	0.01	0.12	0.05	0.00		0.00	0.01		0.00	0.01	0.00	204.36	204.36	0.01	0.00	206.08
Mobile	0.48	0.81	4.13	0.01	0.87	0.04	0.92	0.01	0.04	0.05	0.00	688.11	688.11	0.03	0.00	688.75
Waste						0.00	0.00		0.00	0.00	16.28	0.00	16.28	0.96	0.00	36.49
Water						0.00	0.00		0.00	0.00	0.00	4.62	4.62	0.14	0.00	8.68

Total	**1.20**	**0.94**	**4.71**	**0.01**	**0.87**	**0.04**	**0.93**	**0.01**	**0.04**	**0.06**	**16.28**	**897.95**	**914.23**	**1.14**	**0.00**	**940.88**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.71	0.01	0.53	0.00		0.00	0.00		0.00	0.00	0.00	0.86	0.86	0.00	0.00	0.88
Energy	0.01	0.12	0.05	0.00		0.00	0.01		0.00	0.01	0.00	204.36	204.36	0.01	0.00	206.08
Mobile	0.48	0.81	4.13	0.01	0.87	0.04	0.92	0.01	0.04	0.05	0.00	688.11	688.11	0.03	0.00	688.75
Waste						0.00	0.00		0.00	0.00	16.28	0.00	16.28	0.96	0.00	36.49
Water						0.00	0.00		0.00	0.00	0.00	4.62	4.62	0.14	0.00	8.68
Total	**1.20**	**0.94**	**4.71**	**0.01**	**0.87**	**0.04**	**0.93**	**0.01**	**0.04**	**0.06**	**16.28**	**897.95**	**914.23**	**1.14**	**0.00**	**940.88**

3.0 Construction Detail

3.1 Mitigation Measures Construction

3.2 Demolition - 2011

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.10	0.80	0.46	0.00		0.04	0.04		0.04	0.04	0.00	68.12	68.12	0.01	0.00	68.29
Total	**0.10**	**0.80**	**0.46**	**0.00**		**0.04**	**0.04**		**0.04**	**0.04**	**0.00**	**68.12**	**68.12**	**0.01**	**0.00**	**68.29**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.60	1.60	0.00	0.00	1.61
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.60**	**1.60**	**0.00**	**0.00**	**1.61**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.10	0.80	0.46	0.00		0.04	0.04		0.04	0.04	0.00	68.12	68.12	0.01	0.00	68.29

Total	**0.10**	**0.80**	**0.46**	**0.00**		**0.04**	**0.04**		**0.04**	**0.04**	**0.00**	**68.12**	**68.12**	**0.01**	**0.00**	**68.29**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.60	1.60	0.00	0.00	1.61
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.60**	**1.60**	**0.00**	**0.00**	**1.61**

3.3 Site Preparation - 2011

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.09	0.00	0.09	0.05	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.05	0.45	0.25	0.00		0.02	0.02		0.02	0.02	0.00	36.27	36.27	0.00	0.00	36.36
Total	**0.05**	**0.45**	**0.25**	**0.00**	**0.09**	**0.02**	**0.11**	**0.05**	**0.02**	**0.07**	**0.00**	**36.27**	**36.27**	**0.00**	**0.00**	**36.36**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.96	0.96	0.00	0.00	0.96
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.96**	**0.96**	**0.00**	**0.00**	**0.96**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.09	0.00	0.09	0.05	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.05	0.45	0.25	0.00		0.02	0.02		0.02	0.02	0.00	36.27	36.27	0.00	0.00	36.36
Total	**0.05**	**0.45**	**0.25**	**0.00**	**0.09**	**0.02**	**0.11**	**0.05**	**0.02**	**0.07**	**0.00**	**36.27**	**36.27**	**0.00**	**0.00**	**36.36**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.96	0.96	0.00	0.00	0.96
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.96**	**0.96**	**0.00**	**0.00**	**0.96**

3.4 Grading - 2011

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Fugitive Dust					0.15	0.00	0.15	0.06	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.23	1.94	1.01	0.00		0.10	0.10		0.10	0.10	0.00	172.31	172.31	0.02	0.00	172.70
Total	**0.23**	**1.94**	**1.01**	**0.00**	**0.15**	**0.10**	**0.25**	**0.06**	**0.10**	**0.16**	**0.00**	**172.31**	**172.31**	**0.02**	**0.00**	**172.70**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.74	3.74	0.00	0.00	3.75
Total	**0.00**	**0.00**	**0.03**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**3.74**	**3.74**	**0.00**	**0.00**	**3.75**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.15	0.00	0.15	0.06	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.23	1.94	1.01	0.00		0.10	0.10		0.10	0.10	0.00	172.31	172.31	0.02	0.00	172.70
Total	**0.23**	**1.94**	**1.01**	**0.00**	**0.15**	**0.10**	**0.25**	**0.06**	**0.10**	**0.16**	**0.00**	**172.31**	**172.31**	**0.02**	**0.00**	**172.70**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.74	3.74	0.00	0.00	3.75
Total	**0.00**	**0.00**	**0.03**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**3.74**	**3.74**	**0.00**	**0.00**	**3.75**

3.5 Building Construction - 2011

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.60	3.92	2.34	0.00		0.27	0.27		0.27	0.27	0.00	357.30	357.30	0.05	0.00	358.31
Total	**0.60**	**3.92**	**2.34**	**0.00**		**0.27**	**0.27**		**0.27**	**0.27**	**0.00**	**357.30**	**357.30**	**0.05**	**0.00**	**358.31**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.01	0.13	0.09	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	16.39	16.39	0.00	0.00	16.40
Worker	0.02	0.02	0.23	0.00	0.03	0.00	0.03	0.00	0.00	0.00	0.00	26.06	26.06	0.00	0.00	26.10
Total	**0.03**	**0.15**	**0.32**	**0.00**	**0.04**	**0.00**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**42.45**	**42.45**	**0.00**	**0.00**	**42.50**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.60	3.92	2.34	0.00		0.27	0.27		0.27	0.27	0.00	357.30	357.30	0.05	0.00	358.31
Total	**0.60**	**3.92**	**2.34**	**0.00**		**0.27**	**0.27**		**0.27**	**0.27**	**0.00**	**357.30**	**357.30**	**0.05**	**0.00**	**358.31**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.01	0.13	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.39	16.39	0.00	0.00	16.40
Worker	0.02	0.02	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	26.06	26.06	0.00	0.00	26.10
Total	**0.03**	**0.15**	**0.32**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**42.45**	**42.45**	**0.00**	**0.00**	**42.50**

3.5 Building Construction - 2012

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.49	3.27	2.08	0.00		0.22	0.22		0.22	0.22	0.00	320.65	320.65	0.04	0.00	321.49
Total	**0.49**	**3.27**	**2.08**	**0.00**		**0.22**	**0.22**		**0.22**	**0.22**	**0.00**	**320.65**	**320.65**	**0.04**	**0.00**	**321.49**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.01	0.11	0.08	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	14.75	14.75	0.00	0.00	14.76
Worker	0.02	0.02	0.19	0.00	0.03	0.00	0.03	0.00	0.00	0.00	0.00	22.90	22.90	0.00	0.00	22.94
Total	**0.03**	**0.13**	**0.27**	**0.00**	**0.03**	**0.00**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**37.65**	**37.65**	**0.00**	**0.00**	**37.70**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.49	3.27	2.08	0.00		0.22	0.22		0.22	0.22	0.00	320.65	320.65	0.04	0.00	321.49
Total	**0.49**	**3.27**	**2.08**	**0.00**		**0.22**	**0.22**		**0.22**	**0.22**	**0.00**	**320.65**	**320.65**	**0.04**	**0.00**	**321.49**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.01	0.11	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.75	14.75	0.00	0.00	14.76
Worker	0.02	0.02	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	22.90	22.90	0.00	0.00	22.94
Total	**0.03**	**0.13**	**0.27**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**37.65**	**37.65**	**0.00**	**0.00**	**37.70**

3.6 Paving - 2012

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.06	0.36	0.21	0.00		0.03	0.03		0.03	0.03	0.00	26.46	26.46	0.00	0.00	26.56
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.06**	**0.36**	**0.21**	**0.00**		**0.03**	**0.03**		**0.03**	**0.03**	**0.00**	**26.46**	**26.46**	**0.00**	**0.00**	**26.56**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.57	1.57	0.00	0.00	1.57
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.57**	**1.57**	**0.00**	**0.00**	**1.57**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.06	0.36	0.21	0.00		0.03	0.03		0.03	0.03	0.00	26.46	26.46	0.00	0.00	26.56
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Total	**0.06**	**0.36**	**0.21**	**0.00**		**0.03**	**0.03**		**0.03**	**0.03**	**0.00**	**26.46**	**26.46**	**0.00**	**0.00**	**26.56**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.57	1.57	0.00	0.00	1.57
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.57**	**1.57**	**0.00**	**0.00**	**1.57**

3.7 Architectural Coating - 2012

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.97					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.01	0.03	0.02	0.00		0.00	0.00		0.00	0.00	0.00	2.55	2.55	0.00	0.00	2.56
Total	**1.98**	**0.03**	**0.02**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**2.55**	**2.55**	**0.00**	**0.00**	**2.56**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.52	0.52	0.00	0.00	0.52
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.52**	**0.52**	**0.00**	**0.00**	**0.52**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.97					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.01	0.03	0.02	0.00		0.00	0.00		0.00	0.00	0.00	2.55	2.55	0.00	0.00	2.56
Total	**1.98**	**0.03**	**0.02**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**2.55**	**2.55**	**0.00**	**0.00**	**2.56**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.52	0.52	0.00	0.00	0.52
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.52**	**0.52**	**0.00**	**0.00**	**0.52**

4.0 Mobile Detail

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.48	0.81	4.13	0.01	0.87	0.04	0.92	0.01	0.04	0.05	0.00	688.11	688.11	0.03	0.00	688.75
Unmitigated	0.48	0.81	4.13	0.01	0.87	0.04	0.92	0.01	0.04	0.05	0.00	688.11	688.11	0.03	0.00	688.75
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	851.90	705.60	613.90	1,779,196	1,779,196
Total	851.90	705.60	613.90	1,779,196	1,779,196

4.3 Trip Type Information

	Miles			Trip %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW
Single Family Housing	12.40	4.30	5.40	26.10	29.10	44.80

5.0 Energy Detail

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.00	0.00		0.00	0.00	0.00	60.23	60.23	0.01	0.00	61.06
Electricity Unmitigated						0.00	0.00		0.00	0.00	0.00	60.23	60.23	0.01	0.00	61.06
NaturalGas Mitigated	0.01	0.12	0.05	0.00		0.00	0.01		0.00	0.01	0.00	144.13	144.13	0.00	0.00	145.01
NaturalGas Unmitigated	0.01	0.12	0.05	0.00		0.00	0.01		0.00	0.01	0.00	144.13	144.13	0.00	0.00	145.01
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	tons/yr										MT/yr					
Single Family Housing	2.70098e+006	0.01	0.12	0.05	0.00		0.00	0.01		0.00	0.01	0.00	144.13	144.13	0.00	0.00	145.01
Total		**0.01**	**0.12**	**0.05**	**0.00**		**0.00**	**0.01**		**0.00**	**0.01**	**0.00**	**144.13**	**144.13**	**0.00**	**0.00**	**145.01**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	tons/yr										MT/yr					

Single Family Housing	2.70098e+006	0.01	0.12	0.05	0.00		0.00	0.01		0.00	0.01	0.00	144.13	144.13	0.00	0.00	145.01
Total		**0.01**	**0.12**	**0.05**	**0.00**		**0.00**	**0.01**		**0.00**	**0.01**	**0.00**	**144.13**	**144.13**	**0.00**	**0.00**	**145.01**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
Single Family Housing	458108					60.23	0.01	0.00	61.06
Total						**60.23**	**0.01**	**0.00**	**61.06**

Mitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
Single Family Housing	458108					60.23	0.01	0.00	61.06
Total						**60.23**	**0.01**	**0.00**	**61.06**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.71	0.01	0.53	0.00		0.00	0.00		0.00	0.00	0.00	0.86	0.86	0.00	0.00	0.88
Unmitigated	0.71	0.01	0.53	0.00		0.00	0.00		0.00	0.00	0.00	0.86	0.86	0.00	0.00	0.88
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.20					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.49					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.02	0.01	0.53	0.00		0.00	0.00		0.00	0.00	0.00	0.86	0.86	0.00	0.00	0.88
Total	**0.71**	**0.01**	**0.53**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**0.86**	**0.86**	**0.00**	**0.00**	**0.88**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.20					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.49					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Landscaping	0.02	0.01	0.53	0.00		0.00	0.00		0.00	0.00	0.00	0.86	0.86	0.00	0.00	0.88
Total	**0.71**	**0.01**	**0.53**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**0.86**	**0.86**	**0.00**	**0.00**	**0.88**

7.0 Water Detail

7.1 Mitigation Measures Water

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr				MT/yr			
Mitigated					4.62	0.14	0.00	8.68
Unmitigated					4.62	0.14	0.00	8.68
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
Single Family Housing	4.56078 / 2.87528					4.62	0.14	0.00	8.68
Total						**4.62**	**0.14**	**0.00**	**8.68**

Mitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
Single Family Housing	4.56078 / 2.87528					4.62	0.14	0.00	8.68
Total						**4.62**	**0.14**	**0.00**	**8.68**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
	tons/yr				MT/yr			
Mitigated					16.28	0.96	0.00	36.49
Unmitigated					16.28	0.96	0.00	36.49
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			

Single Family Housing	80.22					16.28	0.96	0.00	36.49
Total						**16.28**	**0.96**	**0.00**	**36.49**

Mitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
Single Family Housing	80.22					16.28	0.96	0.00	36.49
Total						**16.28**	**0.96**	**0.00**	**36.49**

9.0 Vegetation

MAGEE RANCH DEVELOPMENT
DANVILLE, CA
AIR QUALITY AND GREENHOUSE GAS ANALYSIS

May 10, 2011

Revised November 10, 2011

Prepared for:

Leianne Humble
Denise Duffy & Associates, Inc.
947 Cass Street, Suite 5
Monterey, CA 93940

Prepared by:

James A. Reyff

ILLINGWORTH & RODKIN, INC.
Acoustics • Air Quality

505 Petaluma Boulevard South
Petaluma, CA 94952
Telephone: (707) 766-7700 Fax: (707) 766-7790
www.Illingworthrodkin.com
illro@illingworthrodkin.com

Job No.: 10-138

INTRODUCTION

This report presents the results of an assessment of potential air quality impacts and greenhouse gas emission resulting from the development of single-family homes on a portion of the 410 +/- acre Magee Ranch in Danville, California. The Magee Ranch is located south of Diablo Road and Blackhawk Road and is surrounded by single-family residential neighborhoods and public and private open space. The development would include up to 78 single-family homes on minimum 10,000 square foot lots, which would be clustered on the flatter portions of the site. Several larger estate lots are included in the plan. The project site would be accessed by a new driveway from Blackhawk Road just north of Jillian Way, a second driveway from Diablo Road near Fairway Drive, and a third driveway from McCauley Road. Currently, the project site is primarily undeveloped and much of the site would remain undeveloped.

This analysis was conducted following guidance provided by the Bay Area Air Quality Management District (BAAQMD)[1]. Air pollutant and greenhouse gas emissions were computed for the construction and operation of the proposed Magee Ranch project in Danville. Specifically, construction emissions were computed for a 3- to 4-year construction period, operational air quality emissions at the earliest year (assumed to be 2015), and greenhouse gas emissions in 2020. The URBEMIS2007 model was used to compute daily and annual air pollutant emissions. The URBEMIS2007 input files were processed with the BAAQMD's new Bay Area Greenhouse Gas Model (BGM).

EXISTING CONDITIONS

The project site is located in the San Francisco Bay Area Air Basin, which is comprised of the nine-county Bay Area. However, the air basin only includes the southern portion of Sonoma County and the southwestern portion of Solano County. Air quality in the region is affected by natural factors such as proximity to the Bay and ocean, topography, and meteorology as well as proximity to sources of air pollution.

The Bay Area is characterized by its Mediterranean type climate with warm dry summers and cool wet winters. Danville is located in hilly terrain along the San Ramon valley north of the Livermore-Amador Valley. The area is in the climatological subregion referred to as the Diablo and San Ramon Valleys. The Sam Ramon Valley is surrounded on all sides by high hills or mountains. The only significant break in the east bay hills west of the site is Niles Canyon, several miles south of the project site.

The terrain of the project area influences both the climate and air pollution potential. As an inland, protected valley, the project area has generally lighter winds and a higher frequency of calm conditions when compared to the greater Bay Area. The effects of marine air are less than many other portions of the Bay Area.

---

[1] BAAQMD CEQA Guidelines for Assessing Air Quality Impacts from Projects and Plans, 1996, revised 1999. 2010?

The occurrence of episodes of high atmospheric stability, known as inversion conditions, severely limits the ability of the atmosphere to disperse pollutants vertically. Inversions can be found during all seasons in the Bay Area, but are particularly prevalent in the summer months when they are present about 90 percent of the time in both morning and afternoon.

National and State Ambient Air Quality Standards

The ambient air quality in a given area depends on the quantities of pollutants emitted within the area, transport of pollutants to and from surrounding areas, local and regional meteorological conditions, as well as the surrounding topography of the air basin. Air quality is described by the concentration of various pollutants in the atmosphere or the emissions of a pollutant or contaminant. Units of concentration are generally expressed in parts per million (ppm) or micrograms per cubic meter ($\mu g/m^3$). Emissions are typically expressed as grams per mile, pounds per day or tons per year.

As required by the Federal Clean Air Act, National Ambient Air Quality Standards (NAAQS) have been established for six major air pollutants: carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter, including respirable particulate matter (PM_{10}) and fine particulate matter ($PM_{2.5}$), sulfur dioxide (SO_2), and lead. Pursuant to the California Clean Air Act, the State of California has established the California Ambient Air Quality Standards (CAAQS). Both State and Federal standards are summarized in Table 1. The "primary" standards have been established to protect the public health. The "secondary" standards are intended to protect the nation's welfare and account for air pollutant effects on soil, water, visibility, materials, vegetation and other aspects of the general welfare. CAAQS are generally the same or more stringent than NAAQS. Thus, CAAQS are used as the comparative standard in this analysis.

Criteria Air Pollutants and Effects

Air quality studies generally focus on five pollutants that are most commonly measured and regulated: CO, O_3, NO_2, SO_2, and suspended particulate matter, i.e., PM_{10} and $PM_{2.5}$, as listed in Table 2. In Contra Costa County, ozone and particulate matter are the pollutants of greatest concern, as measured air pollutant levels exceed these concentrations at times.

Table 2 Criteria Pollutants

Pollutant	Characteristics	Health Effects	Major Sources
Carbon Monoxide (CO)	Non-reactive, colorless and odorless gas that dissipates relatively quickly; ambient CO concentrations generally located near vehicular traffic Highest CO concentrations measured in the Bay Area are typically recorded during the winter	Interferes with the transfer of oxygen to the brain; causes dizziness and fatigue; can impair central nervous system functions	Automobile exhaust, residential wood burning in fireplaces and woodstoves

Pollutant	Characteristics	Health Effects	Major Sources
Ozone (O_3)	Colorless toxic gas and the chief component of urban smog Present in relatively high concentrations within portions of the Bay Area; highest concentrations occur during summer and early autumn on days with low wind speeds or stagnant air, warm temperatures, and cloudless skies	Irritates eyes; impairs respiratory function; interferes with the transfer of oxygen, depriving sensitive tissues in the heart and brain of oxygen	Although not directly emitted from a particular source, it forms in the atmosphere through a chemical reaction between reactive organic gas (ROG) and nitrogen oxides (NOX) under sunlight; ROG and NOx are primarily emitted from automobiles, and industrial sources
Nitrogen Dioxide (NO_2)	Reddish-brown gas that irritates the lungs; NO and NO_2 are collectively referred to as NO_x and are major contributors to O_3 formation; NO_2 also contributes to the formation of PM_{10} Levels of NO_2 in the Bay Area are relatively low	Irritates lungs; can cause breathing difficulties at high concentrations	Like O_3, NO_2 is not directly emitted, but is formed through a reaction between nitric oxide (NO) and atmospheric oxygen; NO is primarily emitted from automobile and diesel truck exhaust, industrial processes, and fossil-fueled power plants
Sulfur Oxides (SO_x)	Primarily SO_2, sulfur oxides are colorless gases with a pungent, irritating odor. Due to the lack of sources, levels of SO_2 in the Bay Area are relatively low.	Increases risk of acute and chronic respiratory disease; can cause diminished ventilator function in children	Product of high-sulfur fuel combustion from coal and oil used in power stations, industries, and for domestic heating; industrial chemical manufacturing; diesel vehicle exhaust
Suspended Particulate Matter ($PM_{2.5}$ / PM_{10})	Very small liquid and solid particles suspended in the air, which can include smoke, soot, dust, salts, acids, and metals; can produce haze and reduce regional visibility. *PM_{10}:* Particulate matter less than 10 microns in diameter, about one-seventh the thickness of a human hair *$PM_{2.5}$:* Particulate matter 2.5 microns or less in diameter	Damages respiratory tract; increases the number and severity of asthma attacks; causes or aggravates bronchitis and other lung diseases; reduces the body's ability to fight infections	Directly and indirectly emitted. Motor vehicles; wood burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush/waste burning; industrial sources; windblown dust from open lands; atmospheric chemical reactions

Toxic Air Contaminants

Toxic Air Contaminants (TACs) are a broad class of compounds known to cause a wide range of health effects. These include acute effects such as eye or throat irritation or headaches and chronic effects such as morbidity or mortality (usually because they cause cancer). TACs are found in ambient air, especially in urban areas, and are caused by industry, agriculture, fuel combustion, and commercial operations (e.g., dry cleaners). TACs are typically found in low concentrations, even near their source (e.g., diesel particulate matter and benzene near a freeway). Because chronic exposure can result in adverse health effects, TACs are regulated at the regional, State, and federal level. California Air Resources Board (CARB) has identified almost 200 TACs.

Diesel particulate matter is the predominant TAC in urban air, and is estimated to represent over 80 percent of the Bay Area population weighted cancer risk. Diesel exhaust is a complex mixture of gases, vapors, and fine particles, which makes the evaluation of its health effects a complex scientific issue. Due to the complex nature of diesel particulate matter, there are no accepted methods to measure ambient concentrations. CARB previously identified some of the chemicals in diesel exhaust (e.g., benzene, formaldehyde) as TACs; they are listed as carcinogens either under the State's Proposition 65 or under the federal Hazardous Air Pollutants program. California has adopted a comprehensive diesel risk-reduction program. U.S. EPA has

adopted low-sulfur diesel fuel standards that will reduce diesel particulate matter substantially; these standards went into effect in late 2006. Other common TACs in urban environments include benzene present in gasoline vapors and vehicle exhaust, and 1,3 butadiene in vehicle exhaust.

In cooler weather, smoke from residential wood combustion can be a source of TACs. Localized high TAC concentrations can result when cold stagnant air traps smoke near the ground and, with no wind, the pollution can persist for many hours. This occurs in sheltered valleys during the winter. Wood smoke also contains a significant amount of PM_{10} and $PM_{2.5}$. Wood smoke is an irritant and is implicated in worsening asthma and other chronic lung problems.

BAAQMD 2005 data indicate that the cancer health risk from air toxic contaminants in Danville is about 300 in 1 million, while the risk in the most urbanized areas of the Bay Area exceeds 1,000 in 1 million. Population weighted cancer risk in the Bay Area is just under 500 in 1 million. This risk is expected to decrease substantially in the future.

Air Pollution Potential

Danville's typical summer weather conditions (clear skies with relatively warm temperatures) combine with localized air pollutant emissions to elevate O_3 levels. Air quality standards for O_3 traditionally are exceeded when relatively stagnant conditions occur for periods of several days during the warmer months of the year. Weak wind flow patterns combined with strong inversions substantially reduce normal atmospheric mixing. Key components of ground-level O_3 formation are sunlight and heat; thus, significant O_3 formation only occurs from late spring through early fall. Air pollution potential in the project area is higher than other parts of the Bay Area because winds generally transport O_3 precursor pollutants into the area. Highest concentrations of O_3 occur at monitoring stations in the eastern and southern portions of the Bay Area, because they are usually downwind of the major urban areas.

Particulate matter is both directly emitted, as well as formed indirectly from precursor chemicals, such as ROG, NOx, and ammonia (NH_3). Like ozone, particulate matter air pollution, especially $PM_{2.5}$, shows a regional effect that is seasonal. Analysis conducted by BAAQMD found that highest $PM_{2.5}$ levels in the Bay Area are closely associated with stagnant weather conditions that develop in winter. Levels are typically highest after $PM_{2.5}$ levels have built up for 2 to 4 consecutive days where a wintertime high pressure system results in clear cold nights with very light winds. The dense cold air converging in the Central and San Joaquin Valleys then flows through the Carquinez Strait into the Bay Area. In addition, ammonium nitrate, a key component in forming secondary $PM_{2.5}$ or PM_{10}, is also transported from the inland valleys. Ammonium nitrates combine with emitted or formed particulate matter levels to result in elevated PM_{10} and $PM_{2.5}$ levels in the Bay Area.

Light winds that are common in winter combine with strong surface-based inversions caused by cold air trapped near the surface, to trap locally emitted pollutants such as particulates (e.g., wood smoke) and CO. This can lead to localized high concentrations of these pollutants.

Air Quality Monitoring Data

The significance of a pollutant concentration is determined by comparing the concentration to an appropriate ambient air quality standard. The standards represent the allowable pollutant concentrations designed to ensure that the public health and welfare are protected, while including a reasonable margin of safety to protect the more sensitive individuals in the population. The San Francisco Bay Area is considered to be one of the cleanest metropolitan areas in the country with respect to air quality. BAAQMD monitors air quality conditions at more than 30 locations throughout the Bay Area. The closest monitoring station to the project site is in Concord, approximately 8 miles to the northwest. Summarized air pollutant data for this station is provided in Table 3. This table shows the highest air pollutant concentrations measured at the station over the last five years.

Attainment Status for State and Federal Ambient Air Quality Standards

Measured levels of O_3 and particulate matter (i.e., PM_{10} and $PM_{2.5}$) exceed ambient air quality standards in the Bay Area. In Concord, O_3 standards are exceeded on about 4 to 8 days per year, while the Bay Area as a whole exceeds an O_3 standard on 9 to 20 days per year. PM_{10} levels exceed standards on 0 to 2 measurement days in Concord and 1 to 5 days in the Bay Area. $PM_{2.5}$ levels exceed standards on 1 to 7 measurement days in Concord and 11 to 14 days throughout the Bay Area. PM_{10} and $PM_{2.5}$ are only measured once every six days, in accordance with a national sampling schedule set by U.S. EPA.

Areas that do not violate ambient air quality standards are considered to have attained the standard. Violations of ambient air quality standards are based on air pollutant monitoring data and are judged for each air pollutant. The Bay Area as a whole does not meet either NAAQS or CAAQS for ground level O_3 and $PM_{2.5}$, or CAAQS for PM_{10}. For O_3, the entire Bay Area is designated as non-attainment at both the federal and State levels.

Under the federal Clean Air Act (CAA), the EPA has designated the region as marginally non-attainment for the 8-hour O_3 standard. EPA recently revised the standard slightly. However, EPA is currently reviewing the new standard and is considering a lower O_3 standard. It is likely that the Bay Area will be designated non-attainment for the new 8-hour standard.

The Bay Area does attain the annual NAAQS for $PM_{2.5}$ EPA recently designated the Bay Area Air Basin as “nonattainment” for the 2006 24-hour $PM_{2.5}$ standard, as recent monitoring data indicate levels slightly above the standard. Most $PM_{2.5}$ nonattainment areas would have until 2015 to attain the standards, with some extensions to 2020 if necessary.

The Bay Area has met the CO NAAQS for over a decade and is classified as attainment by the EPA. The EPA grades the region as attainment or unclassified for all other air pollutants, which include PM_{10}, NO_2, SO_2, and lead. An unclassified designation means that there is not enough data to designate an area as “nonattainment,” but the area likely is in attainment of the standard. There have not been any recorded violations of these standards.

At the State level, the region is considered serious non-attainment for ground level O_3, because monitoring stations in the region exceeds the 1-hour and 8-hour CAAQS. The region is required to adopt plans on a triennial basis that show progress towards meeting the State O_3 standard (see

Air Quality plans, discussed under Regulatory Setting). The region is also designated non-attainment for PM_{10} and $PM_{2.5}$ by the State. Although the region is designated nonattainment for $PM_{2.5}$ under the CAAQS, recent monitoring data indicate that the standard is met. Note that the CAAQS only address annual concentrations of $PM_{2.5}$. However, most monitoring stations in the region exceed the annual and 24-hour PM_{10} CAAQS. The area is considered attainment or unclassified for all other pollutants regulated under the CAAQS.

Sensitive Receptors

There are groups of people more affected by air pollution than others. CARB has identified the following persons who are most likely to be affected by air pollution: children under 14, the elderly over 65, athletes, and people with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive receptors. Locations that may contain a high concentration of these sensitive population groups include residential areas, hospitals, daycare facilities, elder care facilities, elementary schools, and parks. The sensitive receptors close to project development include single-family homes opposite Diablo Road from the project site along Belgian, Clydesdale, and Fairway Drives, single-family homes between the east branch of Green Valley Creek and Blackhawk Drive along Jillian Way, San Andreas Dr, Cameron Ct, Diablo Creek Pl., and Creekedge Ct., and the single-family homes, elementary school, and assisted living center across McCauley Road from the project site. The closest sensitive receptors to portions of the project site that would be developed are in a residential area located about 100 to 200 feet north of the site. The closest school is about 450 feet west of the project site.

Regulatory Setting

Bay Area Air Quality Management District

BAAQMD is primarily responsible for assuring that the national and State ambient air quality standards are attained and maintained in the Bay Area.

Air Quality Plans

BAAQMD, along with other regional agencies (e.g., ABAG and MTC) develop plans to reduce air pollutant emissions. EPA requires plans to address attainment of the NAAQS for O_3 and $PM_{2.5}$. State law requires a plan to show progress in reducing O_3 levels.

The latest plan to directly address the NAAQS of O_3 was the 2001 Ozone Attainment Plan. This plan was a proposed revision to the Bay Area part of California's plan (State Implementation Plan, or SIP) to achieve the 1-hour O_3 NAAQS. The plan was prepared in response to EPA's partial approval and partial disapproval of the Bay Area's 1999 Ozone Attainment Plan. The plan will be updated after EPA makes final designation ruling for the new 8-hour O_3 NAAQS. BAAQMD must develop a plan as part of the State Implementation Plan (SIP) for the 2006 $PM_{2.5}$ NAAQS. The plan must be adopted by BAAQMD, approved by CARB and submitted to the EPA by December 14, 2012.

Air quality plans addressing the California Clean Air Act with respect to O_3 were developed in 1991 and updated about every three years to demonstrate progress toward meeting the more stringent 1- and 8-hour O_3 CAAQS, which the Bay Area is designated nonattainment. In

addition, emissions of ozone precursors (NOx and ROG) contribute to higher ozone levels in neighboring air basins. State law requires ozone nonattainment areas to include all feasible measures to reduce O_3 precursors and reduce transport of O_3 and it's precursors to neighboring air basins.

In September 2010, BAAQMD adopted the Bay Area 2010 Clean Air Plan (CAP). This CAP updates the most recent ozone plan, the 2005 Ozone Strategy. Unlike previous Bay Area CAPs, the 2010 CAP is a multi-pollutant air quality plan addressing four categories of air pollutants:

- Ground-level ozone and the key ozone precursor pollutants (reactive organic gases and NOx), as required by State law;
- Particulate matter, primarily $PM_{2.5}$, as well as the precursors to secondary $PM_{2.5}$;
- Toxic air contaminants; and
- Greenhouse gases.

While the CAP addresses State requirements, it will also provide the basis for developing future control plans to meet federal requirements (NAAQS) for ozone and $PM_{2.5}$. The region is required to prepare (by December 2012) a federally enforceable plan to meet the NAAQS for $PM_{2.5}$. In addition, U.S. EPA is likely to adopt a more stringent NAAQS for ozone. These new standards will likely trigger new planning requirements for the Bay Area and more stringent federally enforceable control measures.

While previous CAPs have relied upon a combination of stationary and transportation control measures, the 2010 CAP adds two new types of control measures: (1) Land Use and Local Impact Measures and (2) Energy and Climate Measures. These types of measures would indirectly reduce air pollutant and greenhouse gas emissions through reductions in vehicle use and energy usage. In addition, the plan includes Further Study Measures, which will be evaluated as potential control measures.

BAAQMD Regulations

The Bay Area 2010 CAP proposes expanded implementation of transportation control measures (TCMs) and include public outreach programs designed to educate the public about air pollution in the Bay Area and promote individual behavior changes that improve air quality. New measures in the CAP are aimed at helping guide land use policies that would indirectly reduce air pollutant emissions. Some of these measures or programs rely on local governments for implementation. The clean air planning efforts for O_3 also will reduce PM_{10} and $PM_{2.5}$, as a substantial amount of particulate matter comes from combustion emissions such as vehicle exhaust. Conversely, strategies to reduce O_3 precursor emissions will reduce secondary formation of $PM_{2.5}$ and PM_{10}.

BAAQMD adopts and enforces rules to reduce particulate matter emissions and develops public outreach programs to educate the public to reduce PM_{10} and $PM_{2.5}$ emissions (e.g., Spare the Air Program). California Senate Bill 656 (SB 656) requires further action by CARB and air districts

to reduce public exposure to PM_{10} and $PM_{2.5}$. Efforts identified by BAAQMD in response to SB656 are primarily targeting reductions in wood smoke emissions and adoption of new rules to further reduce NOx and particulate matter from internal combustion engines and reduce particulate matter from commercial charbroiling activities. The Bay Area experiences the highest PM_{10} and $PM_{2.5}$ in winter when wood smoke and ammonium nitrate contributions to particulate matter are highest. BAAQMD rules restrict operation of any indoor or outdoor fireplace, fire pit, wood or pellet stove, masonry heater or fireplace insert on specific days during the winter when air quality conditions are forecasted to exceed the NAAQS for $PM_{2.5}$. When meteorological conditions are conducive to high levels of O_3 or $PM_{2.5}$, BAAQMD declares a Spare the Air day. Uncontrolled wood burning is prohibited in winter during Spare the Air days. The rule also limits excess visible emissions from wood burning devices and require clean burning technology for wood burning devices sold (or resold) or installed in the Bay Area. NOx emissions contribute to ammonium nitrate formation that resides in the atmosphere as particulate matter, so a reduction in NOx emissions reduces wintertime $PM_{2.5}$ levels.

Table 1 Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards	National Standards [a]	
			Primary [b,c]	Secondary [b,d]
Ozone (O_3)	8-hour	0.070 ppm (137 µg/m^3)	0.075 ppm (147 µg/m^3)	—
	1-hour	0.09 ppm (180 µg/m^3)	—[e]	Same as primary
Carbon Monoxide (CO)	8-hour	9.0 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	—
	1-hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	—
Nitrogen Dioxide (NO_2)	Annual	0.030 ppm (57 µg/m^3)	0.053 ppm (100 µg/m^3)	Same as primary
	1-hour	0.18 ppm (339 µg/m^3)	0.100 ppm[f] (189 µg/m^3)	—
Sulfur Dioxide (SO_2)	Annual	—	—[g]	—
	24-hour	0.04 ppm (105 µg/m^3)	—[g]	—
	3-hour	—	—	0.5 ppm (1300 µg/m^3)
	1-hour	0.25 ppm (655 µg/m^3)	0.075 ppm[g] (196 µg/m^3)	—
PM_{10}	Annual	20 µg/m^3	—	Same as primary
	24-hour	50 µg/m^3	150 µg/m^3	Same as primary
$PM_{2.5}$	Annual	12 µg/m^3	15 µg/m^3	
	24-hour	No Separate State Standard	35 µg/m^3	
Lead	Calendar quarter	—	1.5 µg/m^3	Same as primary
	30-day average	1.5 µg/m^3	—	—

Notes: ppm = parts per million
µg/m^3 = micrograms per cubic meter
mg/m^3 = milligrams per cubic meter

(a) Standards, other than for ozone and those based on annual averages, are not to be exceeded more than once a year. The ozone standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above the standard is equal to or less than one.

(b) Concentrations are expressed first in units in which they were promulgated. Equivalent units given in parenthesis.

(c) Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health. Each state must attain the primary standards no later than 3 years after that state's implementation plan is approved by the EPA.

(d) Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

(e) The national 1-hour ozone standard was revoked by U.S. EPA on June 15, 2005. A new 8-hour standard was established in May 2008.

(f) The form of the 1-hour NO_2 standard is the 3-year average of the 98th percentile of the daily maximum 1-hour average concentration.

(g) On June 2, 2010 the U.S. EPA established a new 1-hour SO_2 standard, effective August 23, 2010, which is based on the 3-year average of the annual 99th percentile of the 1-hour daily maximum. The EPA also revoked both the existing 24-hour and annual average SO_2 standards.

Table 3 Highest Measured Air Pollutant Concentrations in Concord

Pollutant	Average Time	Measured Air Pollutant Levels				
		2005	2006	2007	2008	2009
Concord						
Ozone (O_3)	1-Hour	**0.098 ppm**	**0.117 ppm**	**0.105 ppm**	**0.119 ppm**	**0.106 ppm**
	8-Hour	**0.08 ppm**	**0.092 ppm**	**0.081 ppm**	**0.088 ppm**	**0.088 ppm**
Carbon Monoxide (CO)	1-Hour	2.2 ppm	1.7 ppm	2.2 ppm	1.6 ppm	1.8 ppm
	8-Hour	1.5 ppm	1.3 ppm	1.4 ppm	1.1 ppm	1.1 ppm
Nitrogen Dioxide (NO_2)[a]	1-Hour	0.055 ppm	0.047 ppm	0.049 ppm	0.050 ppm	0.040 ppm
	Annual	0.001 ppm	0.001 ppm	0.001 ppm	0.001 ppm	0.009 ppm
Respirable Particulate Matter (PM_{10})	24-Hour	42 ug/m^3	**81 ug/m^3**	**52 ug/m^3**	**51 ug/m^3**	33 ug/m^3
	Annual	16.4 ug/m^3	18.5 ug/m^3	16.8 ug/m^3	17.5 ug/m^3	14.7 ug/m^3
Fine Particulate Matter ($PM_{2.5}$)	24-Hour	**48.9 ug/m^3**	**62.1 ug/m^3**	**46.2 ug/m^3**	**60.3 ug/m^3**	**39.0 ug/m^3**
	Annual	9.0 ug/m^3	9.3 ug/m^3	8.4 ug/m^3	9.3 ug/m^3	8.3 ug/m^3

Source: BAAQMD Air Quality Summaries for 2005, 2006, 2007, 2008, and 2009. Treat Boulevard monitoring station in Concord.

Note: ppm = parts per million and ug/m^3 = micrograms per cubic meter
Values reported in bold exceed ambient air quality standard

AIR QUALITY IMPACTS AND MITIGATIONS

Thresholds of Significance

CEQA Guidelines prepared by BAAQMD are used to establish the significance criteria to judge the impacts caused by the project[2]. The recently adopted BAAQMD CEQA Air Quality Thresholds for projects were used to evaluate air quality impacts from the project[3]. The following are the significance criteria that are used to judge project impacts:

- A cumulatively considerable net increase of any criteria pollutant or a precursor to that pollutant for which the project region is non-attainment under an applicable national or State ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors). This is judged by comparing direct and indirect project emissions to the BAAQMD significance thresholds of 54 pounds per day for ROG, NOx, or $PM_{2.5}$, and 82 pounds per day for PM_{10}. Annual significance thresholds are 10 tons per year for ROG, NOx, or $PM_{2.5}$, and 15 tons per year for PM_{10}.
- A substantial contribution to an existing or projected violation of an ambient air quality standard would result if the project would cause an exceedance of an ambient air quality standard.
- Expose sensitive receptors or the general public to substantial pollutant concentrations. This is evaluated by assessing the health risk in terms of cancer risk or hazards posed by the placement of new sources of air pollutant emissions near existing sensitive receptors or placement of new sensitive receptors near existing sources.
- Create or expose a substantial number of people to objectionable odors. This is evaluated based on the potential for the project to generate odors that could affect nearby sensitive receptors in a manner that would cause frequent complaints. The project is not anticipated to be a source of objectionable odors that would affect sensitive receptors.
- Conflict with or obstruct implementation of the applicable air quality plan. This is evaluated by comparing the project effects on projections used in the latest Bay Area Clean Air Plan and evaluating the plan features that would implement Clean Air Plan Transportation Control Measures. The project would not affect population of vehicle miles traveled forecasts used for Clean Air Plan projections.

Impact 1: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable national or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

The Bay Area is considered a non-attainment area for ground-level ozone and $PM_{2.5}$ under both the Federal Clean Air Act and the California Clean Air Act. The area is also considered non-attainment for PM_{10} under the California Clean Air Act, but not the Federal Act. The area has attained both State and Federal ambient air quality standards for carbon monoxide. As part of an

[2] BAAQMD. 2010. California Environmental Quality Act, Air Quality Guidelines. June.
[3] The BAAQMD thresholds of significance were adopted June 2, 2010.

effort to attain and maintain ambient air quality standards for ozone, $PM_{2.5}$ and PM_{10}, BAAQMD has established thresholds of significance for air pollutants. These thresholds are for ozone precursor pollutants (reactive organic gases and nitrogen oxides), $PM_{2.5}$ and PM_{10}.

Construction and operational emissions (area and mobile source) associated with the proposed project were estimated using the URBEMIS2007 (version 9.2.4) model, which is designed to model emissions from development projects and recommended for use by the BAAQMD. The model predicts daily and annual emissions associated with land use developments. For mobile source emissions the model combines daily traffic activity with emission factors from the State's mobile source emission factor model (EMFAC2007).

Temporary Construction Emissions

Construction of the proposed project would generate temporary pollutant emissions, especially during the grading phases. BAAQMD has established thresholds of significance for construction-related emissions. These thresholds are 54 pounds per day for NOx, ROG, and $PM_{2.5}$, and 82 pounds per day for PM_{10}. The PM_{10} and $PM_{2.5}$ thresholds are for exhaust emissions only. The thresholds are compared against average daily construction emissions. There are no specific significance thresholds for fugitive dust since the BAAQMD relies on use of Best Management Practices to mitigate potential dust impacts.

Detailed construction plans have not been developed at this time, so the URBEMIS2007 modeling relied upon model defaults for the proposed project. This is based on a project size of 78 single-family residences. An aggressive two-year construction schedule was assumed in the modeling. A less aggressive schedule would likely result in lower daily emissions. The following phases and schedule were assumed in the URBEMIS2007 modeling:

- Grading lasting almost one year that would occur in 2013. In this phase, the model defaults were used with the addition of 2 scrapers that would be used for grading. This would yield higher emissions than the model default conditions. A balanced fill was assumed where substantial amounts of soil material are not imported or exported.
- Trenching for utilities in early 2014 that would last one month. The model default values were assumed.
- Paving was assumed in 2014 and would last one month.
- Building construction was assumed to occur in 2014. The model defaults were used, except a crane contained in the model default assumptions would not be necessary since this project would involve the construction of single-family residences. Typically, diesel forklifts and truck deliveries are the source of the majority of exhaust emissions. A diesel powered generator was also assumed to operate each day; although, contractors typically use line power once the infrastructure is developed.
- Architectural coating, or painting, was assumed to last over a 6-month period in 2014. The emissions in the model are based on 250 gram per liter volatile organic compound paint content. The modeled emissions were reduced by 30-percent to reflect BAAQMD rules and regulations regarding architectural coatings (Regulation 8, Rule 3). The BAAQMD regulations that pertain to architectural coatings are more stringent for typical home construction paints than the URBEMIS2007 default values.

Daily construction emissions for the proposed project were calculated with the URBEMIS2007 model assuming the one phase for construction that included demolition, grading, building construction, paving and applications of architectural coatings. The predicted average daily emissions from construction activities are shown in Table 4. These represent the average daily emissions associated with the phase of the project that had the highest emissions in that year.

Table 4 Project Construction Emissions (pounds per day)

Scenario	ROG	NOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust
Year 2013 Construction Emissions	7	**56**	3	2
Year 2014 Building and Coating Emissions	33	13	1	1
BAAQMD Thresholds	*54*	*54*	*82*	*54*
Significant?	*NO*	*YES*	*NO*	*NO*

Emissions of NOx would exceed the BAAQMD significance thresholds during the grading phase. These emissions would be associated with use of heavy equipment necessary for grading of the site. The NOx emissions during the grading phase would exceed BAAQMD thresholds are considered to cause a *significant impact*.

Mitigation Measure 1: The following measures to control diesel exhaust emissions associated with grading and new construction shall be implemented:

1. During the grading phase, the developer or contractor shall provide a plan for approval by the Town or BAAQMD demonstrating that the heavy-duty (>50 horsepower) off-road vehicles to be used in the construction project, including owned, leased and subcontractor vehicles, will achieve a project wide fleet-average 20 percent NOx reduction and 45 percent particulate reduction compared to the most recent CARB fleet average for the year 2010; This plan should address all equipment that will be on site for more than 2 working days,

2. During the building construction phase, establish on-site electric power to reduce the use of diesel-powered generators and where feasible, on-site generators with internal combustion engines shall utilize alternative fuels such as bio-diesel blended fuels;

3. If acceptable to the Town and neighbors, arrange for service to provide on-site meals for construction workers to avoid travel to off-site locations;

4. Stage construction equipment at least 200 feet from existing or new habitable residences;

5. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes in accordance with the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations. Clear signage shall be provided for truck operators and construction workers at all access points.

6. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.

7. Encourage use of alternative fuels for construction equipment.

8. Recycle construction waste generated on site to the greatest extent feasible that doesn't create new air quality impacts.

9. Require an on-site disturbance coordinator to ensure that the construction period mitigation measures are enforced. This coordinator shall respond to complaints regarding construction activities and construction caused nuisances. The phone number of this disturbance coordinator shall be clearly posted at the construction site and provided to nearby residences. A log documenting any complaints and the timely remedy or outcome of such complaints shall be kept.

Significance after mitigation: Construction period NOx emissions would be reduced by 10 to 20 percent with this measure. Therefore, NOx emission with the mitigation measures in place would be reduce to 51 pounds per day or less. This would be below the BAAQMD emissions threshold for average daily NOx emissions. The impact would be reduced to *less-than-significant* with this mitigation measure.

Operational Project Emissions

Emission sources associated with the proposed project would mostly be from vehicle travel. There would also be emissions from areas sources that mostly include natural gas combustion for space and water heating and use of consumer products. Operational emissions for the project were computed using the URBEMIS2007 model with adjustments. As discussed above, the maximum project size in terms of the number of single-family dwelling units was input to the model. Unless otherwise noted below, the model defaults for the San Francisco Bay Area were used.

Model Year

The model uses mobile emission factors from the California Air Resources Board's EMFAC2007 model. This model is sensitive to the year selected, since vehicle emissions have and continue to be reduced through emission controls installed on new vehicles. The older vehicles that emit much higher rates of air pollution are being replaced each year by the lower emitting vehicles through attrition. The EMFAC2007 model predicts the effects of adopted vehicle emission standards and fleet turnover on future emissions (i.e., standards adopted

through 2006). Year 2015 was selected for operational air pollutant emissions, since this would be about the earliest conceived year that the project could possibly be fully occupied. Later years would have lower emissions.

Traffic

Trip generation rates provided by Hexagon Transportation Consultants were used. These included the base rate of 9.57 trips per single family residence. Although the project would include sidewalks, trails and bike paths/lanes, no adjustments to the number of daily trips were made for these features. The traffic report indicates that, given the project setting, pedestrian and bike trips would likely make up less than 1 percent of all trips.

Entrained Roadway Dust

In addition, modifications to the road dust model default settings for PM_{10} and $PM_{2.5}$ emissions were made by adjusting the silt loading on roadways to 0.035 grams per square meter. This is the value used by BAAQMD for inventorying PM_{10} emissions from entrained roadway dust on arterial and collector roadways.

Area Sources

Several adjustments to the model were made to account for area sources. These include:

- Energy efficiency would be 20 percent greater than current Title 24 standards (prior to the 2008 Title 24 amendments). This should be achievable, because the project would be subject to the new amendments to the State Building code;
- All residential units were assumed to have natural gas hookups (model defaults to 60%);
- All units would be equipped with natural gas fireplaces or equivalent;
- At least 20 percent of landscape equipment would be electric powered since the project would include exterior electrical outlets;
- Architectural coatings used would have VOC content of 30% lower than assumed in the model, which would be consistent with Regulation 8, Rule 3 limits.

Daily operational emissions from the proposed project are shown in Table 5. These emissions represent the net increase in emissions from the proposed project site in 2015 when the project could be fully operational. The total increase in average daily emissions from operation of the project is estimated to be below the significance thresholds established by the BAAQMD. Since the average daily emissions from the project would be less than the emission thresholds for all pollutants, this would be considered a *less-than-significant* impact**.**

Table 5 Project Operational Emissions (pounds per day)

Scenario	ROG	NOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust
Area Sources	6	2	<1	<1
Operational Sources	4	5	6	1
Total	10	7	6	1
BAAQMD Thresholds	*54*	*54*	*82*	*54*
Significant?	*NO*	*NO*	*NO*	*NO*

Impact 2: Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

This impact was evaluated in terms of project emissions that affect local air quality. Project impacts to regional air quality (i.e., ozone, PM_{10} and $PM_{2.5}$) were addressed under Impact 1.

Carbon monoxide emissions from traffic generated by operation of the project would be the pollutant of greatest concern at the local level. Congested intersections with a large volume of traffic have the greatest potential to cause high-localized concentrations of carbon monoxide. Air pollutant monitoring data indicate that carbon monoxide levels have been at healthy levels (i.e., below State and federal standards) in the Bay Area since the early 1990s. As a result, the region has been designated as attainment for the standard. There is an ambient air quality monitoring station in Concord that measures carbon monoxide concentrations. The highest measured levels during the last 3 years are 2.2 ppm for 1-hour averaging periods and 1.4 ppm during 8-hour averaging periods. These levels are well below ambient air quality standards.

The new BAAQMD CEQA Air Quality Guidelines include criteria to determine if analysis of carbon monoxide impacts is necessary. Under the screening criteria, dispersion modeling of carbon monoxide emissions is only necessary in this situation if the total hourly volume of an intersection affected by the proposed project exceeds 44,000 vehicles per hour. Intersections affected by the project would have volumes that would be less than 10 percent of the screening level volume. Therefore, it is concluded that the proposed project would not cause or contribute to a violation of an ambient air quality standard and the impact is considered *less-than-significant.*

Impact 3: Expose sensitive receptors to substantial pollutant concentrations?

Dust from Temporary Construction

Dust would be generated during grading, and construction activities. The amount of dust generated would be highly variable and is dependent on the size of the area disturbed, amount of activity, soil conditions and meteorological conditions. Typical winds during late spring through summer are from the west. Nearby sensitive land uses are residences that are separated by roadways or open space. Closest residences would be about 150 feet from residential development and about 100 feet from new roadways. Most construction activity would occur at distances of 200 to 300 feet and further away. However, these nearby residences could be adversely affected by dust if appropriate control measures are not employed during project construction. In addition, construction dust emissions can contribute to regional PM_{10} emissions.

Although these construction activities would be temporary, they would have the potential to cause both nuisance and health air quality impacts. PM_{10} is the pollutant of greatest concern associated with dust. If uncontrolled, PM_{10} levels downwind of actively disturbed areas could possibly exceed State standards. In addition, dust fall on adjacent properties could be a nuisance. If uncontrolled, dust generated by grading and construction activities represents a *significant impact*.

Mitigation Measure AQ-2: Include measures to control construction dust emissions.

Implementation of the measures recommended by BAAQMD and listed below would reduce the air quality impacts associated with grading and new construction to *less- than-significant*. The contractor shall implement the following Best Management Practices that are required of all projects:

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.

2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.

3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.

4. All vehicle speeds on unpaved roads shall be limited to 15 mph.

5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.

6. Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

Significance after mitigation: These mitigation measures would be considered best management practices for controlling dust (PM_{10} and $PM_{2.5}$) emissions. The impact would be reduced to *less-than-significant* with this mitigation measure.

TAC Exposure

Operation of the project is not expected to cause any localized emissions that could expose existing residences (i.e., sensitive receptors) to unhealthy air pollutant levels. The proposed project is not located near sources of toxic air contaminants or large air pollution sources that could result in community risk impacts.

Temporary construction activities would result in localized emissions of dust and diesel exhaust that could result in temporary impacts to adjacent land uses. Construction equipment and truck trips would be a temporary source of diesel particulate matter emissions. Existing residences would be located near some of the construction areas. At some construction areas, residential dwelling units would be located within 100 to 200 feet of the edge of construction areas. However, much of the construction area would be more than 300 feet away from residential dwelling units. An air quality concern from construction activity is excess lifetime cancer risk from diesel particulate matter exposure. However, this activity would occur over a relatively short time, so that overall exposure would be low in terms of causing an increase in cancer risk, non-cancer risk or $PM_{2.5}$ exposure. Even taking into account the increased sensitivity of fetuses or infants to effects of TAC exposure, excess cancer risks would not be significant if appropriate mitigation measures are included to reduce exposures at residences. Without proper measures to reduce emissions, significant exposures could occur. As a result, this is considered a *potentially significant* impact.

Mitigation Measure: Implement **Mitigation Measure AQ-1**.

Significance after mitigation: Construction period diesel particulate matter emissions would be reduced by 35 to 45 percent with this measure. In addition, exposures would be reduced by staging equipment away from residences and limiting idle times. As a result, exposures would be reduced to ensure that residences would not be exposed to substantial pollutant concentrations in the form of diesel particulate matter. The impact would be reduced to a *less-than-significant* level with this mitigation measure.

Impact 4: Create objectionable odors affecting a substantial number of people?

During construction, the various diesel powered vehicles and equipment in use onsite would create localized odors. These odors would not likely be noticeable for extended periods of time nor extend much beyond the project's site boundaries. The proposed project is not near

identified sources or odors that are likely to cause complaints. The potential for odors is, therefore, *less-than-significant*.

Impact 5: Conflict with or obstruct implementation of the applicable air quality plan?

The Bay Area Air Quality Management District (BAAQMD) is the regional agency responsible for overseeing compliance with State and Federal laws, regulations, and programs within the San Francisco Bay Area Air Basin. The BAAQMD, with assistance from the Association of Bay Area Governments and the Metropolitan Transportation Commission has prepared and implements specific plans to meet the applicable laws, regulations, and programs. Among them are the *Carbon Monoxide Maintenance Plan* (1994), the *2001 Ozone Attainment Plan*, and the *Bay Area 2010 Clean Air Plan*. The BAAQMD has also developed CEQA guidelines to assist lead agencies in evaluating the significance of air quality impacts. In formulating compliance strategies, the BAAQMD relies on planned land uses established by local general plans. When a project proposes to change planned uses, by requesting a general plan amendment, the project may depart from the assumptions used to formulate BAAQMD in such a way that the cumulative result of incremental changes may hamper or prevent the BAAQMD from achieving its goals. This is because land use patterns influence transportation needs, and motor vehicles are the primary source of air pollution. The proposed project would not require a General Plan amendment that would result in greater population growth in Danville than currently projected. The proposed project would not conflict with implementation of control measures contained in the Bay Area 2010 Clean Air Plan. As a result, the proposed project would not conflict with the clean air planning efforts and the impact would be *less-than-significant*.

GHGs and Global Warming

Global temperatures are affected by naturally occurring and anthropogenic-generated (generated by mankind) atmospheric gases, such as water vapor, carbon dioxide, methane, and nitrous oxide[4]. Gases that trap heat in the atmosphere are called greenhouse gases (GHG). Solar radiation enters the earth's atmosphere from space, and a portion of the radiation is absorbed at the surface. The earth emits this radiation back toward space as infrared radiation. Greenhouse gases, which are mostly transparent to incoming solar radiation, are effective in absorbing infrared radiation and redirecting some of this back to the earth's surface. As a result, this radiation that otherwise would have escaped back into space is now retained, resulting in a warming of the atmosphere. This is known as the greenhouse effect. The greenhouse effect maintains a habitable climate. Natural processes and human activities emit GHGs. Emissions from human activities, such as electricity production, motor vehicle use and agriculture are elevating the concentration of GHGs in the atmosphere, and are reported to have led to a trend of unnatural warming of the earth's natural climate, known as global warming or climate change. Other than water vapor, the GHGs contributing to global warming include the following gases:

[4] IPCC, 2007: Summary for Policymakers. In: Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate

- Carbon dioxide, primarily a byproduct of fuel combustion.
- Nitrous oxide is a byproduct of fuel combustion and also associated with agricultural operations such as fertilization of crops.
- Methane is commonly created by off-gassing from agricultural practices (e.g. keeping livestock) and landfill operation.
- Chlorofluorocarbons that were widely used as refrigerants, propellants and cleaning solvents but their production has been mostly reduced by international treaty.
- Hydrofluorocarbons are now used as a substitute for chlorofluorocarbons in refrigeration and cooling.
- Perfluorocarbons and sulfur hexafluoride emissions are commonly created by industries such as aluminum production and semiconductor manufacturing.

Gases in the atmosphere can contribute to the greenhouse effect both directly and indirectly. Direct effects occur when the gas itself absorbs outgoing radiation. Indirect effects occur when gases cause chemical reactions that produce other GHGs or prolong the existence of other GHGs. The Global Warming Potential concept is used to compare the ability of each GHG to trap heat in the atmosphere relative to carbon dioxide (CO_2), which is the most abundant GHG. CO_2 has a GWP of 1, expressed as CO_2e. Other GHGs, such as methane and nitrous oxide are commonly found in the atmosphere but at much lower concentrations. However, the GWP for methane is 21, while nitrous oxide has a GWP of 310. Other trace gases, such as chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs), which are halocarbons that contain chlorine, have much greater GWPs. Fortunately these gases are found at much lower concentrations and many are being phased out as a result of global efforts to reduce destruction of stratospheric ozone. In the United States, CO_2 emissions account for about 85 percent of the CO_2e emissions, followed by methane at about eight percent and nitrous oxide at about five percent.

Thresholds of Significance

Appendix G of the CEQA Guidelines (Environmental Checklist) contains a list of air quality effects that may be considered significant. The proposed project would have a significant effect on the environment if it were to:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment or
- Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

The BAAQMD recently adopted thresholds for evaluating GHG emissions from projects and plans and developed guidelines for assessing these impacts[5,6]. The thresholds include a bright line emissions threshold of 1,100 metric tons of CO_2 equivalent (CO_2e) per year or an emission efficiency metric of 4.6 tons of CO_2e per year per service population. Service population is the sum of new residents and full time workers.

[5] BAAQMD 2010. BAAQMD CEQA Thresholds of Significance. June.
[6] BAAQMD. 2010. California Environmental Quality Act Air Quality Guidelines. May.

Impact 6: Create greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment, based on any applicable threshold of significance?

GHG Emissions Analysis Methodology

Greenhouse gas emissions associated with the development of the proposed project were calculated. The California Air Pollution Control Officers Association (CAPCOA) and BAAQMD CEQA Air Quality Guidelines provide guidance for calculating project emissions[7]. Emissions from area sources, mobile sources and electricity usage are recommended by CAPCOA and BAAQMD. Area and mobile source emissions were calculated using the URBEMIS2007 model, as recommended by BAAQMD and CAPCOA. BAAQMD developed the BAAQMD Greenhouse Gas Model (BGM) that post processes the URBEMIS2007 output to provide CO_2 equivalent (or CO_2e) emissions for projects.

URBEMIS2007 is a computer model developed by the California Air Resources Board (CARB) to estimate air pollutant emissions from land use developments. The model predicts emissions for construction activities, area sources, and traffic associated with the project. The model uses the latest statewide emission inventory models for mobiles sources (i.e., EMFAC2007) and construction equipment (i.e., OFFROAD2007). The model is periodically updated to reflect most recent emissions estimates for source types and incorporate accuracies in estimating emission from land use activities. The latest version of this model (i.e., Version 9.2.4) was used in this analysis. BGM is then used with the URBEMIS2007 modeling to provide operational GHG emissions.

Construction Period

The BAAQMD does not have an adopted Threshold of Significance for construction-related GHG emissions. The District recommends calculating the emissions and disclosure that GHG emissions would occur during construction. BAAQMD also encourages the incorporation of best management practices to reduce GHG emissions during construction where feasible and applicable. Best management practices may include, but are not limited to: using alternative fueled (e.g., biodiesel, electric) construction vehicles/equipment; using local building materials; and recycling or reusing at least 50 percent of construction waste or demolition materials.

The URBEMIS2007 modeling conducted for the air quality analysis provided the estimate of construction GHG emissions in the form of CO_2. Emissions associated with construction were assumed to all occur over two years: 2013 and 2014. Under this scenario, construction of the project would emit 267 to 575 metric tons of CO_2 annually. This would be the emissions from construction equipment, truck traffic and associated construction worker traffic.

These emissions, of up to 575 metric tons of CO_2 annually, were conservatively compared to the BAAQMD operational threshold of 1,100 annual metric tons and determined to be a *less-than-significant impact* for the construction period if appropriate best available control measures are implemented. Mitigation measures for construction period impacts are identified in Mitigation

[7] California Air Pollution Control Officers Association, 2008, *CEQA & Climate Change*, January.

Measure 1, which are considered consistent with BAAQMD CEQA Air Quality Guidelines Best management practices for reducing construction period GHG emissions.

Operation Period Greenhouse Gas Emissions

The URBEMIS2007 modeling file for the Year 2020 was used in the BGM model. This is the same model input file used to compute project air quality impacts, with the only difference being that GHG emissions were modeled for year 2020 to be consistent with AB 32 targets used by BAAQMD to develop GHG significance thresholds. BGM is an Excel workbook tool that uses the URBEMIS2007 file to provide GHG emissions in the form of equivalent CO_2 emissions (CO_2e) in metric tons per year. BGM provides emissions for transportation, areas sources, electricity consumption, natural gas combustion, electricity usage associated with water usage and wastewater discharge, and solid waste land filling and transport. Annual unmitigated and mitigated emissions in term of metric tons per year are provided in Table 6 for existing uses projected in 2020, proposed project full operation in 2020 and the increase caused by the proposed project.

The proposed project would include features to that increase energy efficiency and reduce the annual energy consumption of the project either directly or indirectly. These features include:

- Solar Compatibility
- Designed to be GreenPoint rated
- Tankless hot water heaters
- 15% plus over T-24
- High Efficiency irrigation systems
- Low emitting insulation at walls and ceilings
- Insulation on all hot water pipes
- Energy Star appliances
- Low VOC paints, caulking and construction adhesives
- Energy Star bath fans
- Low flow toilets
- HVAC filter MERV 8+
- High efficiency air conditioner with environmentally responsible refrigerants

At a minimum, the project would provide the option for upgrades to include solar panels on individual residences.

Adjustments were made either in the BGM model or to the model output. These include:

- Emissions associated with electricity consumption output by BGM were adjusted to account for Pacific Gas & Electric utility's (PG&E) lower emission rate. BGM uses a statewide rate of 805 pounds of CO_2 per megawatt of electricity produced, while the rate for PG&E is much lower. The PG&E reports a certified rate of 559 metric tons of CO_2 for 2010. PG&E reports that emissions with compliance under AB 32 would reduce PG&E's 2020 emission rate to 290 metric tons per year.[8]. The derived 2020 rate for PG&E was was applied to expected project electricity usage.
- A waste diversion rate of 50% was assumed.

The per capita rate is the total annual GHG emissions expressed in metric tons divided by the population (i.e., number of residences). The number of persons that would be living at the project was calculated assuming that there would be 2.78 persons per single-family unit. This equates to 217 new residents.

Table 6 presents a summary of the results of the URBEMIS and BGM model analysis (model output contained in Attachment 2) in terms of annual metric tons of equivalent CO_2 emissions (MT of CO_2e/yr). The unmitigated project emissions of 1,108 MT of CO_2e/yr would exceed the BAAQMD threshold of 1,100 MT of CO_2e/yr. Therefore, the rate of project GHG emissions (in terms of annual emissions per person) was compared to the GHG significance threshold of 4.6 MT CO_2e/year established by BAAQMD. The project per capita emissions would be 5.1 MT CO_2e/year, which would exceed the BAAQMD significance. As a result, the project's GHG emissions could be considered to have a cumulatively considerable contribution to a significant impact and would be considered *significant*.

Mitigation Measure AQ-6: Recognizing that developing verifiable measures to reduce vehicle travel are not practical, mitigation measures are aimed at reducing emissions associated with energy usage. The project shall include the following features to reduce energy consumption that could reduce the significant GHG emissions associated with the proposed project.

- Energy Efficient Buildings. During final design, the applicant shall develop Green Building standards that would reduce energy-related GHG emissions beyond 20 percent from those that would occur under Year 2005 Title 24 Building Code requirements. The applicant shall present these to the Town prior the issuance of a building permit;
- Generate Solar Power. A minimum of 30% of the homes shall include solar power, which would generate at least 100,000 kilowatt hours of electricity per year. A 200-watt panel would produce about 365 kilowatt hours per year in the Danville area. It is expected that a typical single family home in the project would include up to 8 panels per home that provides 2,600 kilowatt hours. This equates to electricity generation of over 60,000 kilowatt hours per year for the project that was input to the BGM model.
- Reduce Water Consumption. The developer shall include drought tolerant landscaping in all new homes to reduce water consumption;

[8] PG&E's Greenhouse Gas Emission Factors Info Sheet .

Significance after mitigation: By implementing the mitigation measures listed above, annual GHG emissions would be reduced below the 1,100 MT of CO_2e BAAQMD threshold. Technically, this would be considered less-than-significant. The impact would be reduced to *less-than-significant* with this mitigation.

Table 5. GHG Annual Emissions in Metric Tons

Project Name:	**Magee Ranch Danville**				
Project Years:	**2020**				
	Emissions of CO2e in Metric Tons Per Year				
Source Category	**Unmitigated Emissions**	**Emissions with Project and City Conditions**	**Unmitigated Emissions with PG&E rates adjusted for RPS**	**Mitigated Emissions with PG&E rates adjusted for RPS**	**BAAQMD Threshold of Significance**
Transportation:	717.3	717.3	717	717	
Area Source:	1.0	1.0	1	1	
Electricity:	172.5	120.0	62	43	
Natural Gas:	205.4	164.3	205	164	
Water & Wastewater:	14.9	14.5	10	9	
Solid Waste:	112.2	56.1	112	56	
Total:			**1108**	**991**	1,100
New Population	78 Single Family units =	217 persons			
	based on 2.78 persons per dwelling				
	Emissions per capita		**5.1**	**4.6**	4.6
Model Adjustments:	1) Used URBEMIS2007 trip generation rate for single-family uses				
	2) Used PG&E emission rates and adjusted for 2020 RPS target				
	3) Adjusted electricity usage for installation of solar panels				
	4) Assumed 20% redcution in energy usage due to Build it Green rating				
	5) Assumed 50% waste diversion through recycling programs				

Impacts of Global Climate Change on the Project.

Global climate change (GCC) is expected to affect water resources in California overall, and in particular, areas that rely upon the Sierra Nevada snowfall and snow pack. Because this project is in an area that does not rely on this source of water, it would experience less of an impact due to this phenomenon. In addition, GCC is expected to influence many interconnected phenomena, which will in turn affect the rate of climate change itself. Besides effects on water supply for areas served by Sierra Nevada precipitation, the following are other global climate change issues that may adversely impact the project:

- Water supplies available in surface reservoirs
- Water demand
- Surface water quality
- Groundwater quality or recharge characteristics
- Fisheries and aquatic resources
- Sea levels

- Flooding/flood control
- Sudden temperature and other climatic changes

It can be assumed that under a long-term cumulative condition, one or more of the above significant adverse impacts may occur. For this EIR, a quantitative determination of which and how the above indirect effects of climate change would affect the project occupants is considered speculative and, therefore, is not provided.

ATTACHMENT 1

URBEMIS2007 MODELING OUTPUT

Project Name: **Magee Ranch**

Construction Period Emissions 2013 and 2014

Source	**ROG**	**NOx**	**PM10**	**PM2.5**	CO2	CO2
Emissions from Existing Uses in pounds per day					tons/year	MT tons/year
2013 Construction	6.8	56.4	2.5	2.3	634.2	575.3
2014 Construction	24.1	13.4	1.1	1.0	293.6	266.4
	-30% applied to 2014 ROG architectual coatings = -9.2					
BAAQMD Thresholds	54	54	82	54		--

Note that ROG emissions from architectual coatings reduced by 30 percent
to account for BAAQMD Reg. 8, Rule 3.

Project Name: **Magee Ranch**

Operational Period Emissions 2015

Source	**ROG**	**NOx**	**PM10**	**PM2.5**
urbemis Output - Emissions in pounds per day				
Area(mitigated)	5.2	1.7	<1.0	<1.0
Operational	3.9	4.0	5.1	1.1
Total	9.1	5.7	5.1	1.1
BAAQMD Thresholds	54	54	82	54

ATTACHMENT 2

Summary of Emissions with Post Processing

Project Name: **Magee Ranch Danville**
Project Years: **2020**
Emissions of CO2e in Metric Tons Per Year

Source Category	Unmitigated Emissions	Emissions with Project and City Conditions	Unmitigated Emissions with PG&E rates adjusted for RPS	Mitigated Emissions with PG&E rates adjusted for RPS	BAAQMD Threshold of Significance
Transportation:	717.3	717.3	717	717	
Area Source:	1.0	1.0	1	1	
Electricity:	172.5	120.0	62	43	
Natural Gas:	205.4	164.3	205	164	
Water & Wastewater:	14.9	14.5	10	9	
Solid Waste:	112.2	56.1	112	56	
Total:			**1108**	**991**	1,100
New Population	78 Single Family units = based on 2.78 persons per dwelling	217 persons			
	Emissions per capita		**5.1**	**4.6**	4.6

Model Adjustments:
1) Used URBEMIS2007 trip generation rate for single-family uses
2) Used PG&E emission rates and adjusted for 2020 RPS target
3) Adjusted electricity usage for installation of solar panels
4) Assumed 20% redcution in energy usage due to Build it Green rating
5) Assumed 50% waste diversion through recycling programs

Results from The Bay Area Air Quality Management District Greenhouse Gas Model (BGM)

Summary Results

Project Name:	Magee Ranch Subdivision	
Project and Baseline Years:	2020	N/A

Results	Unmitigated Project-Baseline CO2e (metric tons/year)	Mitigated Project-Baseline CO2e (metric tons/year)
Transportation:	717.29	717.29
Area Source:	1.03	1.03
Electricity:	172.45	119.97
Natural Gas:	205.43	164.34
Water & Wastewater:	14.92	14.50
Solid Waste:	112.20	56.10
Agriculture:	0.00	0.00
Off-Road Equipment:	0.00	0.00
Refrigerants:	0.00	0.00
Sequestration:	N/A	0.00
Purchase of Offsets:	N/A	0.00
Total:	1,223.32	1,073.23

Baseline is currently: **OFF**

Baseline Project Name:

Go to Settings Tab to Turn On Baseline

Detailed Results

Unmitigated	CO2 (metric tpy)	CH4 (metric tpy)	N2O (metric tpy)	CO2e (metric tpy)	% of Total
Transportation*:				717.29	58.63%
Area Source:	0.83	0.00	0.00	1.03	0.08%
Electricity:	172.18	0.00	0.00	172.45	14.10%
Natural Gas:	204.91	0.02	0.00	205.43	16.79%
Water & Wastewater:	14.90	0.00	0.00	14.92	1.22%
Solid Waste:	0.78	5.31	N/A	112.20	9.17%
Agriculture:	0.00	0.00	0.00	0.00	0.00%
Off-Road Equipment:	0.00	0.00	0.00	0.00	0.00%
Refrigerants:	N/A	N/A	N/A	0.00	0.00%
Sequestration:	N/A	N/A	N/A	N/A	N/A
Purchase of Offsets:	N/A	N/A	N/A	N/A	N/A
Total:				1,223.32	100.00%

* Several adjustments were made to transportation emissions after they have been imported from URBEMIS.
After importing from URBEMIS, CO2 emissions are converted to metric tons and then adjusted to account for the "Pavley"
regulation. Then, CO2 is converted to CO2e by multiplying by 100/95 to account for the contribution of other GHGs (CH4, N2O, and HFCs [from leaking air cond
Finally, CO2e is adjusted to account for th low carbon fuels rule.

Mitigated	CO2 (metric tpy)	CH4 (metric tpy)	N2O (metric tpy)	CO2e (metric tpy)	% of Total
Transportation*:				717.29	66.83%
Area Source:	0.83	0.00	0.00	1.03	0.10%
Electricity:	119.78	0.00	0.00	119.97	11.18%
Natural Gas:	163.92	0.02	0.00	164.34	15.31%
Water & Wastewater:	14.48	0.00	0.00	14.50	1.35%
Solid Waste:	0.39	2.65	N/A	56.10	5.23%
Agriculture:	0.00	0.00	0.00	0.00	0.00%
Off-Road Equipment:	0.00	0.00	0.00	0.00	0.00%
Refrigerants:	N/A	N/A	N/A	0.00	0.00%
Sequestration:	N/A	N/A	N/A	0.00	0.00%
Purchase of Offsets:	N/A	N/A	N/A	0.00	0.00%
Total:				1,073.23	100.00%

Mitigation Measures Selected:

Transportation: Go to the following tab: Transp. Detail Mit for a list of the transportation mitigation measures selected (in URBE

Electricity: The following mitigation measure(s) have been selected to reduce electricity emissions.

Onsite Renewable Energy Systems - Solar 61500 kwh/year generated

Natural Gas: The following mitigation measure(s) have been selected to reduce natural gas emissions.

Water and Wastewater: The following mitigation measure(s) have been selected to reduce water and wastewater emissions.

Drought Tolerant Landscaping 10 % Reduction Outdoor Use

Solid Waste: The following mitigation measure has been selected to reduce solid waste related GHG emissions.

Reduce Solid Waste by the Following Percentage 50 Solid Waste Reduction %

FOR INFORMATIONAL PURPOSES ONLY

Greenhouse Gas Emission Factors Info Sheet

Are you putting together a greenhouse gas (GHG) inventory or climate action plan for a business, city, or county? Do you want to estimate the GHG savings associated with a lighting retrofit? Are you reducing your "carbon footprint" through the ClimateSmart™ program[1] and want to estimate the emissions you balanced out? This document is intended to help customers understand the various emission factors available to estimate GHG emissions for purposes such as voluntary GHG emissions reporting and climate action planning. It should not, however, be used for mandatory GHG reporting, financial analysis, or regulatory compliance, and does not necessarily reflect the approaches taken by PG&E for regulatory compliance purposes.

What Is A GHG Emission Factor?

With regard to the energy provided by PG&E, a GHG emission factor[2] is a measure of the amount of carbon dioxide (CO_2) emitted per kilowatt-hour of electricity or per therm of natural gas.[3]

- Electricity generated from fossil fuels such as natural gas and coal produces CO_2 emissions, while some other sources of electricity (such as hydropower, wind, and nuclear power) do not generate CO_2 emissions. The electricity that PG&E delivers to customers comes from a variety of generation sources in any given year. Since PG&E's electricity sources vary, the GHG emission factor for its electricity varies too.[4]
- For natural gas, there is only one factor needed to estimate the GHG emissions from the use or avoided use of PG&E's natural gas, since the composition of PG&E's natural gas does not change significantly over time.

Electricity Emission Factors

If you are estimating the GHG emissions generated by the use of electricity by a business, city, county, etc. over the course of a year, you can use the average emission factor for the PG&E electricity delivered during that specific year.

---

[1] The ClimateSmart program helps PG&E customers balance out their GHG emissions through investments in environmental conservation, restoration and protection projects that reduce or prevent GHG emissions. By adding a voluntary, tax-deductible donation to customers' monthly PG&E bill, customers can reduce their carbon footprint and join the fight against climate change.

[2] An emission factor is also known as an emission rate or emission coefficient.

[3] There are also many other types of GHG emission factors. For example, there are emission factors for diesel, coal, and other fuels, as well as estimated emission factors for vehicles, landfills, and other products and processes. See the ICLEI Local Government Operations Protocol for some examples.

[4] PG&E and other utilities purchase some of their electricity from a power pool for re-sale to customers. It is not possible to trace that electricity back to a specific generator, for the same reason that a share of stock purchased through a stock exchange cannot be traced back to a specific seller. An emission factor for such purchases is therefore estimated.

and natural gas delivery systems, separately from the emissions generated by the generation or use of the energy itself.

15. Q: How can I estimate the emissions avoided from using electric or natural gas vehicles instead of conventionally-fueled vehicles?
    A: The California Energy Commission (CEC) has modeled full well-to-wheel (WTW) carbon intensities for transportation fuel pathways using Argonne National Labs' GREET model, modified to California inputs.[23] The California Air Resources Board (CARB) has continued to refine and expand fuel pathways defined by this approach in the Low Carbon Fuel Standard (LCFS) regulation.[24] In transportation, a full WTW approach becomes necessary, otherwise full battery electric vehicles, lacking a tailpipe, will have zero emissions. Both natural gas and electric vehicles provide CO_2 and criteria emission benefits over conventional gasoline- and diesel-fueled vehicles. The documents and links footnoted above provide access to the most up-to-date information about this topic.

16. Q: Who can I contact at PG&E to ask questions about emission factors?
    A: Email GHGEmissionFactors@pge.com and a PG&E employee will get back to you shortly.

[23] CEC. Full Fuel Cycle Assessment: Tank To Wheels Emissions And Energy Consumption. Consultant Report (Draft). CEC-600-2007-003-D, February 2007.

[24] ARB LCFS website: http://www.arb.ca.gov/fuels/lcfs/lcfs.htm. For specific fuel pathway carbon intensities including indirect land use impacts and energy economy ratios (drivetrain efficiency adjustments for electricity and fuel cells), see the LCFS Initial Statement of Reasons (ISOR), page ES-19 - ES-21: http://www.arb.ca.gov/regact/2009/lcfs09/lcfsisor1.pdf. Other resources include specific fuel pathway studies for electricity at http://www.arb.ca.gov/fuels/lcfs/022709lcfs_elec.pdf and for natural gas at http://www.arb.ca.gov/fuels/lcfs/022709lcfs_cng.pdf.

Historical emission factors: Historical average emission factors take into account all of the sources of electricity that PG&E delivered to customers during a specific year. As a founding member of the California Climate Action Registry (CCAR), PG&E has calculated emission factors for each year starting in 2003, which have been third-party verified. For factors prior to 2003, please see FAQ #2.

Current emission factors: Because of the rigorous process PG&E follows to calculate and have its emission factors independently verified by a third party, the most recent year's GHG emission factor is not available until late in the following year. For example, the 2010 emission factor will not complete third-party verification until December 2011. If you want to estimate GHG emissions in a recent year for which an emission factor is not yet available, we advise you to use the average of the emission factors for the PG&E electricity delivered to customers based on the preceding five years of available data, because PG&E's electricity mix varies from year to year.

Future emission factors: If you want to estimate your GHG emissions in the future, you can use the emission factors that are forecast for PG&E's electricity in the CPUC GHG Calculator, which is a publicly-available document that provides emission factor forecasts from 2012-2020.[5]

ClimateSmart: If you are a ClimateSmart customer and want to estimate the GHG emissions you balanced out through the program, you should use the CPUC-approved emission factor for the emission reductions achieved through the program. This factor is an estimated average emission factor for PG&E electricity delivered to customers over several years, and was developed in 2005, prior to the program's approval in late 2006. As such, it includes some of the emissions associated with the delivery of electricity, as that was the methodology developed for the program at that time. Emission factor methodologies have since been standardized and do not include emissions associated with delivery.

Avoided emissions: When you implement an energy efficiency project or install a zero-emissions generator (e.g. a solar photovoltaic system), you are avoiding the use of PG&E electricity, and therefore reducing GHG emissions. Determining the emissions avoided by such projects is complicated. In particular, it depends on the season and time of day that electric generation was reduced. For simplicity, you can use the relevant historical, current, or future emission factor to estimate the GHGs avoided from these projects. See FAQ #5 for more information.

[5] E3, GHG Calculator version 3c, worksheet tab "CO_2 Allocations," cells AH35 - AH44.

FOR INFORMATIONAL PURPOSES ONLY

Emission Type	Emission Factor			Source
	Year	*Lbs CO_2 /MWh*	*Metric tons CO_2/MWh*	
Historical Emissions	2003	620	0.281	PG&E's third-party-verified GHG inventory submitted to the California Climate Action Registry (CCAR)[6] (2003-2008) or The Climate Registry (TCR) (2009)
	2004	566	0.257	
	2005	489	0.222	
	2006	456	0.207	
	2007	636	0.288	
	2008	641	0.291	
	2009	575	0.261	
Current Emissions	2010, 2011[7]	559	0.254	Average of PG&E's 2005 to 2009 GHG emission factors
Future Emissions (estimated)	2012	453	0.205	CPUC GHG Calculator, which provides an independent forecast of PG&E's emission factors as part of a model on how the electricity sector would reduce emissions under AB 32[8]
	2013	431	0.196	
	2014	412	0.187	
	2015	391	0.177	
	2016	370	0.168	
	2017	349	0.158	
	2018	328	0.149	
	2019	307	0.139	
	2020	290	0.131	
ClimateSmart Program Emission Reductions[9]	2007-2011	-524	-0.238	CPUC ClimateSmart Decision (06-12-032)
Note: The ClimateSmart program reduces emissions. Therefore, for net GHG reporting, emissions reductions from accounts participating in the program can be subtracted from an entity's total emissions.				

[6] The 2003-2008 factors are in the Power/Utility Protocol (PUP) spreadsheet of PG&E's CCAR reports. The 2009 factor is in the Additional Optional Information tab of the Electric Power Sector (EPS) Report spreadsheet of PG&E's TCR report.

[7] PG&E's 2010 emission factor will be available in late December 2011. As the CPUC GHG Calculator does not include a 2011 emission factor, we recommend using the "current" emission factor for 2011. These factors will be reviewed and updated annually.

[8] E3, GHG Calculator version 3c, worksheet tab "CO_2 Allocations," cells AH35 - AH44.

[9] The ClimateSmart program electricity emission factor is in lbs CO_2e. CO_2e (or CO_2 equivalent) is a measure used to compare the emissions from various GHGs based upon their global warming potential (GWP). The CO_2e for a GHG is derived by multiplying the amount of the GHG by the GWP of the GHG. The ClimateSmart program electricity emission factor is in lbs CO_2e because it includes both the emissions from customers' use of PG&E electricity as well as an estimate of some of the emissions associated with electricity delivery. This factor was put forth by PG&E in CPUC Application 06-01-012 on 1/26/2006, approved in Decision 06-12-032, and extended through 2011 in Decision 10-10-025.

ClimateSmart emission factor for customer use of electricity	520 lbs CO_2/MWh
ClimateSmart emission factor for delivery of electricity	4 lbs CO_2e/MWh
Total ClimateSmart emission factor for electricity	524 lbs CO_2e/MWh

APPENDIX C

BIOLOGICAL EVALUATION

LIVE OAK ASSOCIATES, INC.
an Ecological Consulting Firm

August 2, 2012

Wendi E. Baker
SummerHill Homes
3000 Executive Parkway, Suite 450
San Ramon, CA 94583

Subject: Addendum to the biological evaluation prepared for Magee Ranch in Danville, California (PN 1385-05)

Dear Wendi:

At your request, Live Oak Associates, Inc. (LOA), has prepared this addendum to the biological evaluation (LOA 2012) dated July 31, 2012, for the Magee Ranch project in Danville, California. This addendum addresses revised impacts resulting from a change to the proposed project described in the July 2012 biological evaluation report.

The project originally proposed 78 residential units, including 10 custom lots, on the 410-acre Magee Ranch property. The project now proposes 70 residential units, including 7 custom lots, on the same 410 acres (Ruggeri Jensen Azar & Associates 2012). No changes are proposed for Magee East. Five production lots and three custom lots have been eliminated from the project design for Magee West. Magee West is now proposed to have three production lots off of McCauley Road and three custom lots. A new access road from Diablo Road that would have crossed East Branch Green Valley Creek and two storm drain outfalls have also been eliminated from the project design for Magee West.

The revised project proposes to locate the subdivision on approximately 128.4 acres on the flatter portions of the northern part of the site, avoiding steeper slopes and ridgelines. The 63 single-family production lots and associated infrastructure (e.g., access roads) would be clustered on approximately 33.2 acres; the 7 custom home sites would be located on 95.2 acres, approximately 26.4 acres of which will be placed under a deed restriction (Table 1). In total, up to approximately 102 acres of the site will be developed.

The biological evaluation report (LOA 2012) identified the following potentially significant impacts to biological resources:

- Loss of California red-legged frog habitat and potential injury or mortality of individual California red-legged frogs;
- Potential injury or mortality of individual western pond turtles;

San Jose: 6840 Via del Oro, Suite 220 • San Jose, CA 95119 • Phone: (408) 224-8300 • Fax: (408) 224-1411
Oakhurst: P.O. Box 2697 • 39930 Sierra Way, Suite B • Oakhurst, CA 93644 • Phone: (559) 642-4880 • Fax: (559) 642-4883
Bakersfield: 8200 Stockdale Highway, M10-293 • Bakersfield, CA 93311

- Disturbance to active raptor and migratory bird nests;
- Disturbance to burrowing owls and active burrowing owl nests;
- Potential injury or mortality of American badgers;
- Loss of riparian habitat and fill of jurisdictional waters; and
- Removal of trees, including northern California black walnuts.

Table 1. Magee Ranch impact and preserved land acreages.

	Magee East (acres)	Magee West (acres)	Total (acres)
Total area	335	75	410
Permanent impacts (excluding custom lots)	31.4	1.8	33.2
Custom lots	22.0	73.2	95.2
Preserved lands (total)	287.8	20.3	308
Preserved lands (custom lots under deed restriction)	6.1	20.3	26.4

The reduced number of lots would reduce total permanent impacts to upland habitat, riparian habitat, and jurisdictional waters from 35.4 acres to 33.2 acres, a decrease of 2.2 acres. When considered against the total permanent habitat impacts, this decrease would not reduce impacts to a less than significant level.

The original project was determined to result in approximately 0.3 acres of permanent and temporary impacts to riparian habitat along East Branch Green Valley Creek and the fill of approximately 0.5 acres of jurisdictional waters. The revised project has eliminated a creek crossing and two storm drain outfalls from Magee West. Because the elimination of these features would reduce impacts to riparian habitat and jurisdictional waters by a small amount (i.e., several hundred square feet), the estimated extent of overall impacts remains the same. As discussed in the biological report, the final mitigation amounts will be determined by the actual impacts, which will be calculated during the design phase.

Impacts to California red-legged frogs, western pond turtles, active raptor and migratory bird nests, burrowing owls and active burrowing owl nests, and American badgers would still be considered significant.

The project as described in the biological evaluation report (LOA 2012) would have resulted in the removal of 55 trees. The revised project would result in the removal of 38 trees (HortScience 2012). Of the trees recommended for removal, four have protected status, and none have heritage status. Five of the trees that are likely to be removed are northern California black walnuts, a CRPR 1B species. The removal of trees regardless of size would constitute a significant impact.

All of the respective mitigation measures described in the biological evaluation report (LOA 2012) would adequately reduce the above impacts to a less than significant level.

In summary, the revised project would result in a slight decrease in permanent impacts but would not reduce any impacts to biological resources described in the biological evaluation report (LOA 2012) to a less than significant level. Mitigation measures described in the report would adequately offset all impacts resulting from the revised project plans. No new impacts would result from the revised plans.

If you have any questions regarding our conclusions, please contact me at dohlson@loainc.com or (408) 281-5886 at your earliest convenience.

Sincerely,

Davinna Ohlson, M.S.
Senior Project Manager
Plant/Wildlife Ecologist

References

HortScience, Inc. 2012. Tree preservation, Magee Ranch, Danville, CA. HortScience. Pleasanton, CA.

Live Oak Associates, Inc. 2012. Magee Ranch biological evaluation, Town of Danville, California. San Jose, CA.

Ruggeri Jensen Azar & Associates. 2012. Subdivision 9291 – Magee Ranches. Ruggeri Jensen Azar & Associates. Pleasanton, CA.

LIVE OAK ASSOCIATES, INC.

an Ecological Consulting Firm

MAGEE RANCH
BIOLOGICAL EVALUATION
TOWN OF DANVILLE, CALIFORNIA

Prepared by

LIVE OAK ASSOCIATES, INC.

Rick Hopkins, Ph.D., Principal and Senior Wildlife Ecologist
Davinna Ohlson, M.S., Senior Project Manager and Plant/Wildlife Ecologist
Melissa Denena, M.S. Plant/Wetland/Wildlife Ecologist
Nathan Hale, M.S. (Candidate), Staff Ecologist
Neal Kramer, M.S., Associate Botanist
Mark Jennings, Ph.D., Associate Herpetologist

Prepared for

Denise Duffy & Associates, Inc.
Attn: Leianne Humble
947 Cass Street, Suite 5
Monterey, CA 93940

September 27, 2012 PN 1385-03

San Jose: 6840 Via del Oro, Suite 220 • San Jose, CA 95119 • Phone: (408) 224-8300 • Fax: (408) 224-1411
Oakhurst: P.O. Box 2697 • 49430 Road 426, Suite C • Oakhurst, CA 93644 • Phone: (559) 642-4880 • Fax: (559) 642-4883
Bakersfield: 8200 Stockdale Highway, M10-293 • Bakersfield, CA 93311

EXECUTIVE SUMMARY

Live Oak Associates, Inc., conducted an investigation of the biological resources of the approximately 410-acre Magee Ranch property located off of Diablo Road and Blackhawk Road in the Town of Danville, Contra Costa County, California.

The proposed project consists of the development of approximately 68 single-family production lots and ten custom lots on approximately 128 acres on the flatter portions of the northern part of the site, along East Branch Green Valley Creek. A minimum of 25% of the lots would incorporate second dwelling units in order to comply with the Town's inclusionary housing requirements. Associated elements include two access roads crossing the creek, several outfalls along the creek, and a recreational trail. Approximately 308 acres of the site will be preserved as open space, including placement of approximately 28% of the total area of the custom lots under a deed restriction.

The site consists of rangelands used for cattle grazing as well as horse corrals. East Branch Green Valley Creek runs along the site's northern perimeter. The site also supports a number of unnamed seasonal drainages and impoundments, including a borrow pit and stock pond.

Protocol surveys were completed for the site in 2011 and 2012 for California red-legged frogs (CRLF). Adult and juvenile CRLF were detected in East Branch Green Valley Creek, which functions as a movement corridor for the species but does not provide suitable breeding habitat. CRLF were also detected breeding in an offsite detention basin. Avoidance and minimization measures have been provided. The creation and enhancement of riparian and aquatic habitat within the 308 acres of the site to be preserved as open space, as well as management of the upland habitats in the preserved lands, would compensate for impacts to riparian and upland habitat for the California red-legged frog. Consultation with the U.S. Fish and Wildlife Service regarding this species may be required prior to site disturbance.

Western pond turtles may also use aquatic habitats on the site. Mitigation measures implemented for the California red-legged frog would accommodate impacts to this species as well.

Larval surveys were completed in 2011 for California tiger salamanders, considered a very good year for breeding for the species given the nearly 200% of normal rainfall. No California tiger salamanders were detected in the onsite stock pond and the offsite detention basin immediately adjacent to the site. While these surveys alone are typically not considered adequate by the resource agencies to conclude the species is absent, they do provide a basis to estimate the probability of occurrence onsite. Therefore, it is unlikely that this species breeds or aestivates within the adjacent upland habitat on the site. Impacts to individual CTS and their habitat are considered less than significant given the negative results of the larval surveys and the fact that the closest project element is situated more than 1500 ft. to the north of the onsite pond.

Other California species of special concern that may occur on the site include the western burrowing owl, yellow warbler, and American badger. These species were not detected and

therefore, the project will result in a less than significant impact to loss of habitat for them. To accommodate unforeseen future colonization by any of these species, mitigation measures have been included to ensure individuals are not harmed, injured or killed, particular individual burrowing owl and badger.

While no nests were observed, the timing of site development could also result in harm or injury to tree-nesting raptors (both special status raptor and non-special status raptor species), should they occur on the site in the future prior to development. Preconstruction surveys have been proposed as mitigation to ensure the project would not harm, injure or kill any tree nesting raptors and any dependent young.

Jurisdictional waters are present on the site in the form of East Branch Green Valley Creek, an unnamed seasonal drainage in the south half of the site, various smaller seasonal drainages, and impoundments, including the stock pond, borrow pit, and a small erosional pit. The U.S. Army Corps of Engineers and the Regional Water Quality Control Board regulate these features. The creek and drainages are also regulated by the California Department of Fish and Game. Permits would be required from all three agencies for placement of fill in jurisdictional waters/drainages. These permits are usually issued after the certification of the CEQA document and they require the preparation of a mitigation plan that outlines how the project will replace any lost functions or values of jurisdictional habitats. Typical mitigation measures include the creation of replacement habitat, habitat enhancement, and/or the preservation of existing habitat via a deed restriction at a replacement-to-disturbance ratio that accommodates the lost functions and values of the habitat being replaced..

Northern California black walnuts and a small population of Congdon's tarplant, both of which are CRPR 1B species, are present within the development footprint. Mitigation measures to offset impacts to the walnuts and other trees are provided. The onsite area where Congdon's tarplant was found is heavily used by humans and is subjected to ongoing anthropogenic disturbances. Given the numerous and far larger populations of Congdon's tarplant in the region, impacts to Congdon's tarplant on Magee Ranch would be considered less than significant. Focused rare plant surveys did not detect the presence of any other special status plant species within the development footprint.

The removal of trees should be mitigated for according to the formula provided in the Town's tree ordinance. Trees to be retained onsite should be protected pursuant to the consulting arborist's tree preservation guidelines.

Impacts to habitat for native wildlife, wildlife movements, and degradation of water quality in seasonal creeks, reservoirs, and downstream waters would be considered less-than-significant.

A future public trail network is being considered on lands to be preserved as open space on Magee East and while noted in this document, analysis of impacts for this trail will be left to the entity that chooses to design and construct the trail. This entity would need to prepare a separate CEQA analysis that analyzes potential impacts and provide for suitable mitigations to reduce any identified impacts to a less than significant level. Therefore, the trail network is only conceptually discussed and its alignment is expected to occur along existing roads that connect

the existing Sycamore Valley Open Space trail on lands immediately east of the site. The trail connection point and any deviations from the existing road alignments could impact special status plants and animals, waters of the U.S. and sensitive habitats, and trees. Any future analysis would need to ascertain if impacts occur to rare plants, special status animals, waters of the U.S. and sensitive habitats, and trees.

TABLE OF CONTENTS

EXECUTIVE SUMMARY I
TABLE OF CONTENTS IV
1.0 INTRODUCTION 1
1.1 PROJECT DESCRIPTION 3
2.0 EXISTING CONDITIONS 7
2.1 BIOTIC HABITATS 9
2.1.1 Valley Oak Savannah 9
2.1.2 Annual Grassland 12
2.1.3 Mixed Oak Woodland 12
2.1.4 Riparian Woodland and Seasonal Drainage 13
2.1.5 Impoundments 15
2.1.6 Developed/Ruderal 15
2.2 MOVEMENT CORRIDORS 15
2.3 SPECIAL STATUS PLANTS AND ANIMALS 16
2.4 ENDANGERED, THREATENED, OR SPECIAL STATUS PLANT AND ANIMAL SPECIES MERITING FURTHER DISCUSSION 34
2.4.1 California Tiger Salamander (*Ambystoma californiense*). Federal Listing Status: Threatened; State Listing Status: Threatened. 34
2.4.2 California Red-Legged Frog (*Rana draytonii*). Federal Listing Status: Threatened; State Listing Status: Species of Special Concern. 35
2.4.3 Western Pond Turtle (*Actinemys marmorata*). Federal Listing Status: None; State Listing Status: Species of Special Concern. 36
2.5 JURISDICTIONAL WATERS 37
3.0 IMPACTS AND MITIGATIONS 39
3.1 SIGNIFICANCE CRITERIA 39
3.2 RELEVANT GOALS, POLICIES, AND LAWS 40
3.2.1 Threatened and Endangered Species 40
3.2.2 Migratory Birds 41
3.2.3 Birds of Prey 41
3.2.4 Wetlands and Other Jurisdictional Waters 41
3.2.5 Local Ordinances, Policies, and Habitat Conservation Plans 43
3.3 IMPACTS AND MITIGATIONS SPECIFIC TO THE PROJECT SITE 44
3.3.1 Loss of Habitat for Special Status Plants 44
3.3.2 Loss of Habitat for Special Status Animals 47
3.3.3 Impacts to California Red-Legged Frogs 48
3.3.4 Impacts to California Tiger Salamanders 55
3.3.5 Impacts to Western Pond Turtles 55
3.3.6 Disturbance to Nesting Raptors and Migratory Birds 56
3.3.7 Impacts to Burrowing Owls 57
3.3.8 Impacts to American Badgers 59
3.3.9 Potential Impacts to Golden Eagles 59
3.3.10 Disturbance to Waters of the United States or Riparian Habitats 60
3.3.11 Tree Removal Impacts 64
3.3.12 Loss of Habitat for Native Wildlife 66

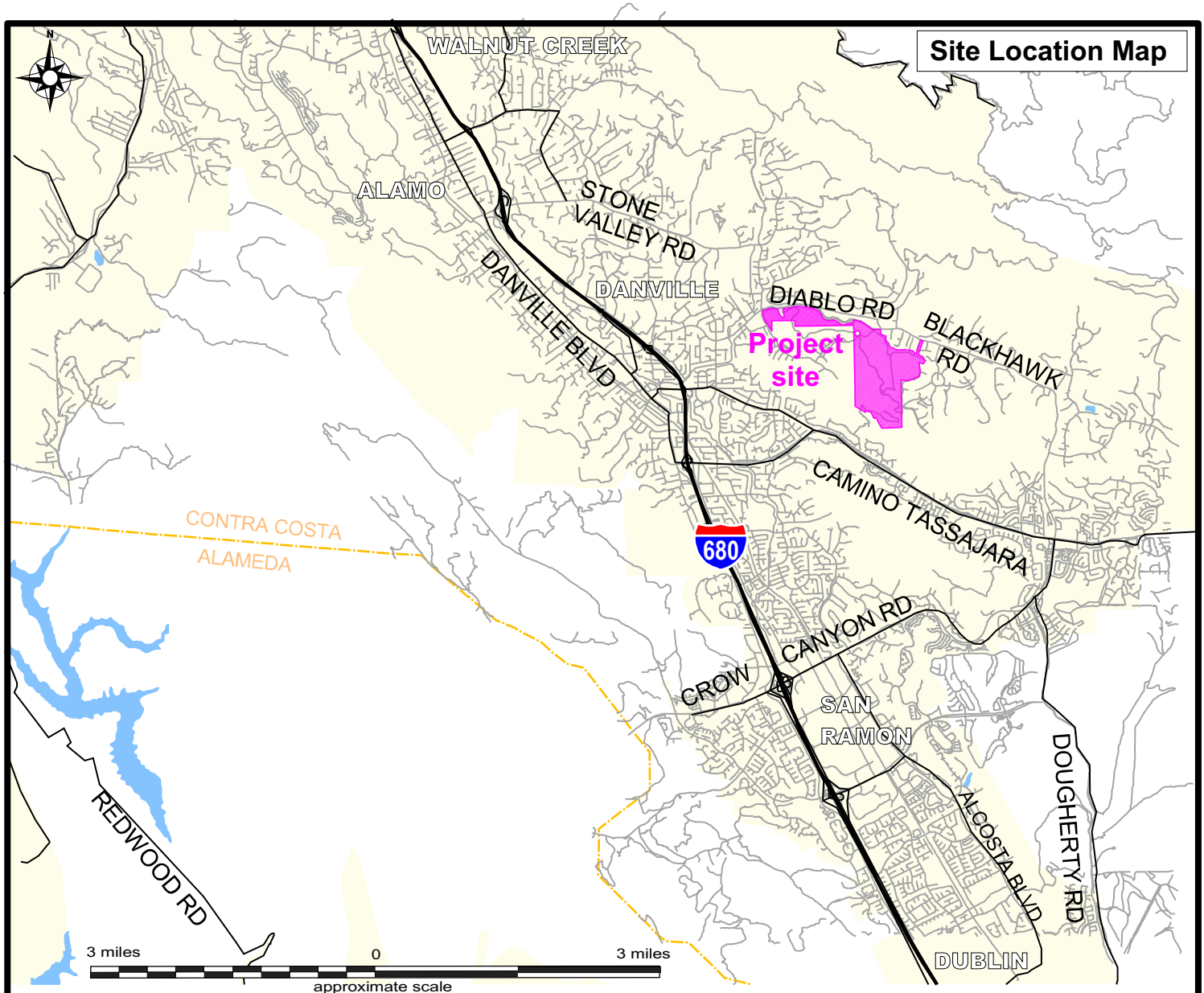
3.3.13 Interference with the Movement of Native Wildlife 67
3.3.14 Degradation of Water Quality in Seasonal Drainages, Stock Ponds, and Downstream Waters 68
3.3.15 Local Ordinances or Habitat Conservation Plans 68
3.3.16 Impacts from the Public Trail Network 69
LITERATURE CITED 71
APPENDIX A: VASCULAR PLANTS OF THE STUDY AREA 74
APPENDIX B: TERRESTRIAL VERTEBRATE SPECIES THAT POTENTIALLY OCCUR ON THE STUDY AREA 81
APPENDIX C: LIFE HISTORY AND ECOLOGY OF SPECIAL STATUS SPECIES MERITING FURTHER DISCUSSION 86
California Tiger Salamander (*Ambystoma californiense*). Federal Listing Status: Threatened; State Listing Status: Threatened. 86
California Red-Legged Frog (*Rana draytonii*). Federal Listing Status: Threatened; State Listing Status: Species of Special Concern. 87
Western Pond Turtle (*Actinemys marmorata*). Federal Listing Status: None; State Listing Status: Species of Special Concern. 89
APPENDIX D: MINIMIZATION MEASURES FOR CALIFORNIA RED-LEGGED FROGS 91

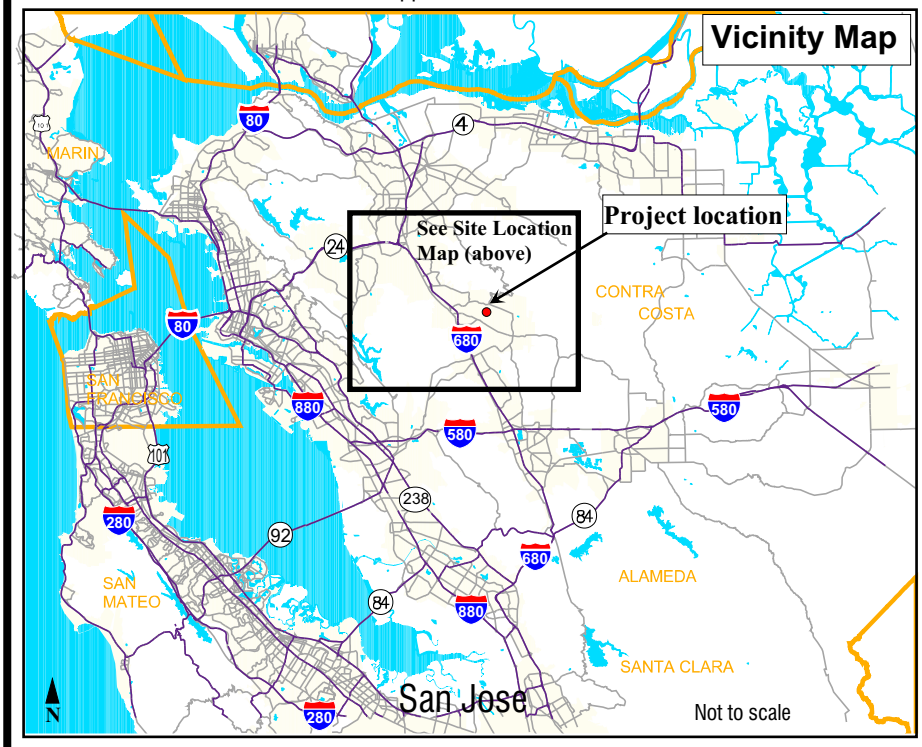
1.0 INTRODUCTION

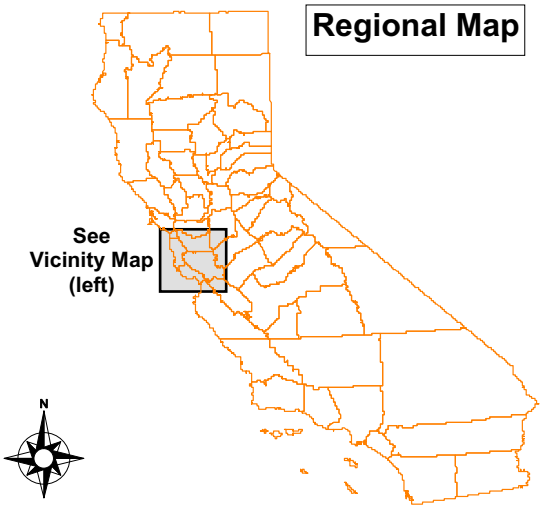
Live Oak Associates, Inc. (LOA), has prepared the following report, which describes the biotic resources of the approximately 410-acre Magee Ranch property located off of Diablo Road and Blackhawk Road in the Town of Danville, Contra Costa County, California, and evaluates likely impacts to these resources resulting from build-out of a residential subdivision and custom residential lots. The project site is located in the Diablo 7.5" U.S. Geological Survey (USGS) quadrangle in sections 21, 22, 23, 26, and 27 of township 1 south, range 1 west.

Development projects can damage or modify biotic habitats used by sensitive plant and wildlife species. In such cases, these activities may be regulated by state or federal agencies, subject to provisions of the California Environmental Quality Act (CEQA), and/or covered by policies and ordinances of the Town of Danville. This report addresses issues related to: 1) sensitive biotic resources occurring on the site; 2) the federal, state, and local laws regulating such resources, and 3) mitigation measures which may be required to reduce the magnitude of anticipated impacts. As such, the objectives of this report are to:

- Summarize all site-specific information related to existing biological resources;
- Make reasonable inferences about the biological resources that could occur onsite based on habitat suitability and the proximity of the site to a species' known range;
- Summarize all state and federal natural resource protection laws that may be relevant to possible future site development;
- Identify and discuss project impacts to biological resources likely to occur on the site within the context of CEQA or any state or federal laws; and
- Identify avoidance and mitigation measures that would reduce impacts to a less-than-significant level as identified by CEQA and that are generally consistent with recommendations of the resource agencies for affected biological resources.







Live Oak Associates, Inc.

Magee Ranch BE
Site / Vicinity Map

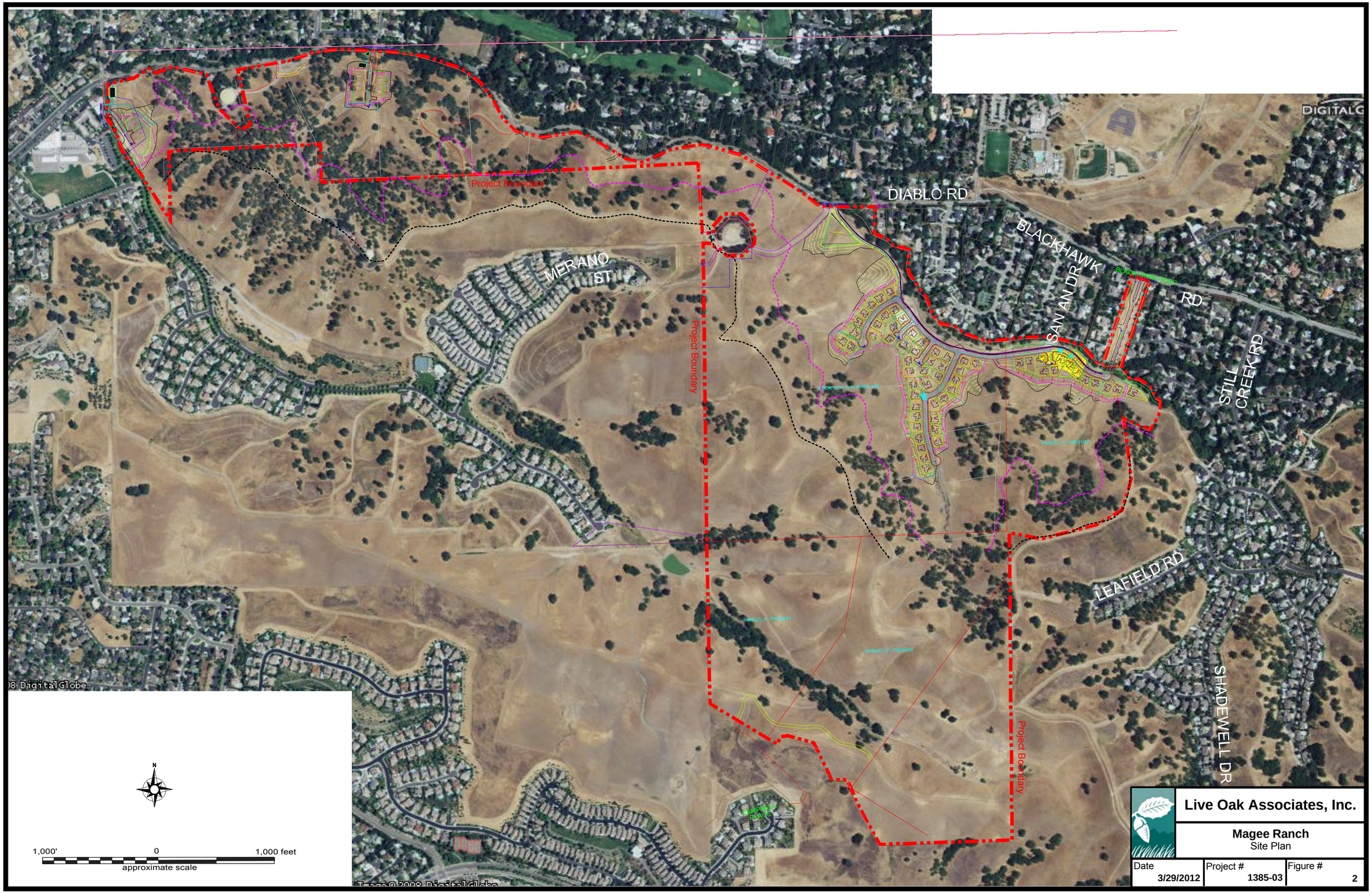
Date	Project #	Figure #
4/20/2011	1385-03	1

The analysis of impacts, as discussed in Section 3.0 of this report, is based on the known and potential biotic resources of the site, discussed in Section 2.0. Sources of information used in the preparation of this analysis included: 1) the *California Natural Diversity Data Base* (CDFG 2011), 2) the *Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2011), and 3) manuals and references related to plants and animals of the East Bay. A reconnaissance-level field survey of the study area was conducted on January 6, 2010, by LOA ecologists Davinna Ohlson and Melissa Denena and on April 7, 2010, by Ms. Ohlson and LOA ecologist Nathan Hale, at which time the principal biotic habitats and land uses of the site were identified, and the constituent plants and animals of each were noted.

A formal wetland delineation of the site was completed on April 16, 2010, and August 23, 2010. Focused rare plant surveys were completed on March 16, April 22, June 9, and August 24, 2011. Larval surveys for California tiger salamanders were completed on March 23, April 14, and May 11, 2011. California red-legged frog (CRLF) surveys were completed from February through June 2011. Supplemental CRLF surveys were conducted from March through July 2012.

1.1 PROJECT DESCRIPTION

Magee Ranch comprises the approximately 335-acre Magee East site and approximately 75-acre Magee West site. The project proposes approximately 68 single-family, residential lots with a minimum 10,000 sq. ft. lot and ten custom lots from 5 to 18.4 acres in area (Figure 2). The project proposes to locate the subdivision on approximately 128 acres on the flatter portions of the northern part of the site, avoiding steeper slopes and ridgelines. The 68 single-family production lots and associated infrastructure (e.g., access roads) would be clustered on approximately 35.3 acres; the 10 custom home sites would be located on 93 acres, approximately 26.4 acres of which will be placed under a deed restriction. In total, up to approximately 102 acres of the site will be developed.



Live Oak Associates, Inc.

Magee Ranch
Site Plan

Date	Project #	Figure #
3/29/2012	1385-03	2

Approximately 60 production lots and 4 custom lots would be developed on Magee East, primarily along East Branch Green Valley Creek. These homes would be accessed via a new road off of Blackhawk Road. Three production lots off of McCauley Road, five production lots off of a new entrance from Diablo Road, and six custom lots are proposed for Magee West. A minimum of 25% of the lots would be required to incorporate second dwelling units in order to comply with the Town's inclusionary housing requirements.

Associated infrastructure would include the aforementioned access road from Diablo Road and an access road from Blackhawk Road in the panhandle east of Jillian Way. These access roads would cross East Branch Green Valley Creek. The access road from Blackhawk Road to the Magee East portion of the site would follow the general path of the existing ranch road. The existing access to Magee East via San Andreas Drive would be discontinued.

Six storm-drain system outfalls, four on Magee East and two on Magee West, are proposed to feed water into East Branch Green Valley Creek. These outfalls are part of a public dual storm drain system that collects and conveys storm water runoff from hillsides and open space areas to the creek and also collects and conveys storm water runoff from impervious surfaces to onsite bioretention basins. Approximately five geotechnical subdrain outfalls across both properties will also convey water into the creek. The locations of the subdrain outfalls had not been finalized at the time this report was prepared.

Improvements to existing culverts along the creek are also proposed. These include removal and replacement of a cattle gate and the clearing of sediment debris at the Clydesdale Drive culvert and removal and replacement of the cattle gate at the Avenida Nueva culvert.

A recreational trail is proposed to begin at the Blackhawk Road entrance and generally parallel the proposed access road from this location to the point that the proposed EVA intersects Diablo Road.

A future public trail network is also being considered on lands to be preserved as open space on Magee East. The trail network is conceptually proposed for alignment along existing fire and

private service roads. The applicant would dedicate one or more easements for another agency to construct and maintain the public trail network. This network would connect to the existing Sycamore Valley Open Space trail on lands immediately east of the site.

Approximately 308 acres of the site will be preserved as open space (Table 1). This includes placement of approximately 28% of the total area of the custom lots, or approximately 26.4 acres, under a deed restriction. Approximately 281.6 acres on Magee East will be retained as open space.

Table 1. Magee Ranch impact and preserved land acreages.

	Magee East (acres)	Magee West (acres)	Total (acres)
Total area	335	75	410
Permanent impacts (excluding custom lots)	31.4	4	35.3
Custom lots	22.0	71.0	93.0
Preserved lands (total)	287.8	20.2	308
Preserved lands (custom lots under deed restriction)	6.2	20.2	26.4

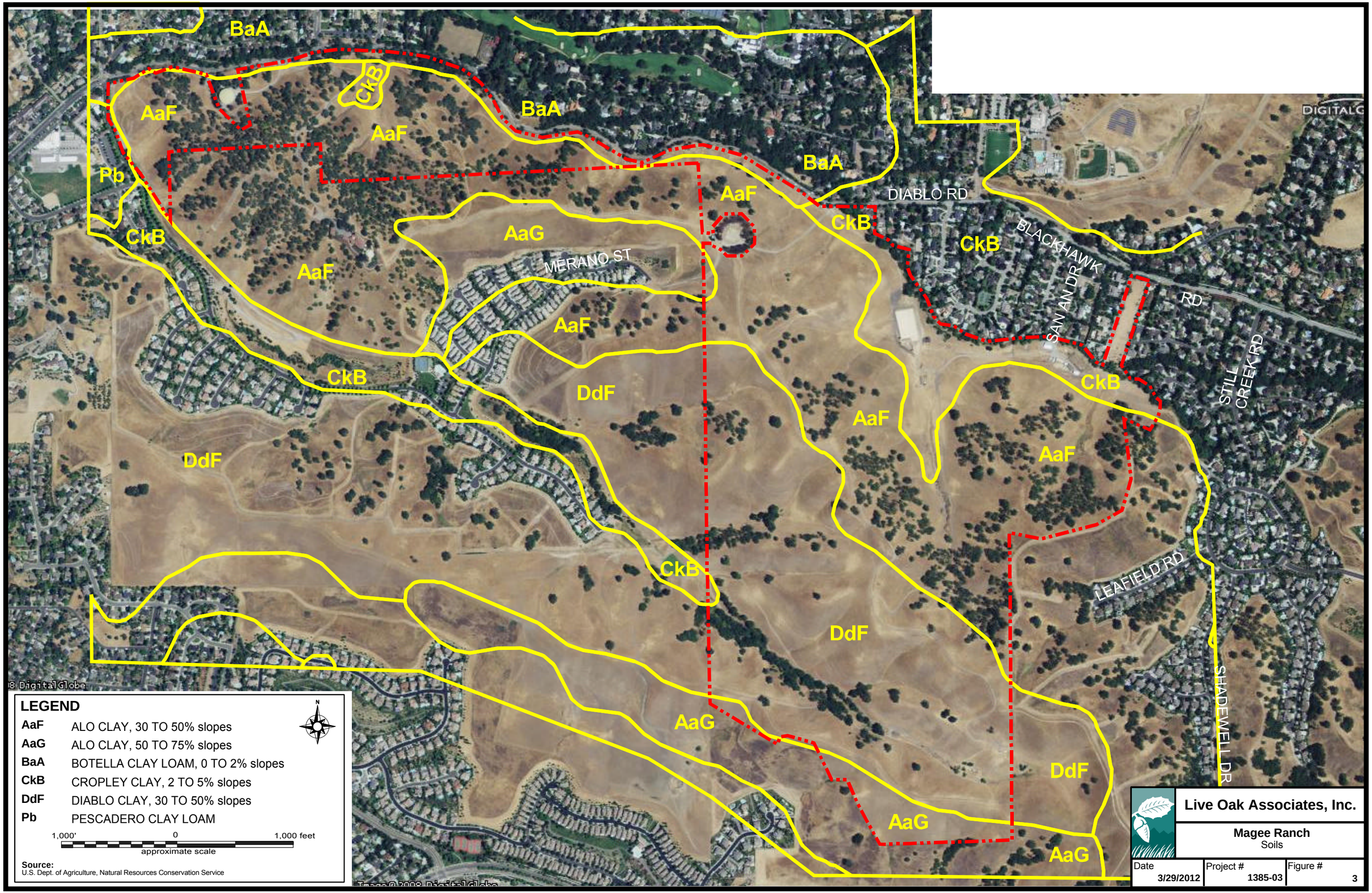
2.0 EXISTING CONDITIONS

The approximately 410-acre site is located in Danville, California, and is bounded by single-family residences, Blackhawk Road, and Diablo Road to the north; by rangelands and McCauley Road to the west; and by rangelands or open space to the south and east. The site ranges in elevation from approximately 430 ft. (131 m) National Geodetic Vertical Datum (NGVD) in the northwestern corner to approximately 955 ft. (290 m) NGVD in the southern half of the site. Surrounding land uses include residential and open space. Mt. Diablo State Park is located approximately one mile northeast of the site. The site itself consists of rangelands, municipal water storage, cell sites and several small structures (e.g., horse corrals, small equipment storage buildings, parking areas, access roads, etc.; see Figures 3 and 4) that supported the on-going ranching operation.

Five soil types from five soil series—Alo, Botella, Cropley, Diablo, and Pescadero—were identified on the project site (Figure 3; Table 2; NRCS 2007). Of the five soils series, Botella, Cropley, and Pescadero soils are considered hydric. Hydric soils are soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part. Under sufficiently wet conditions, they support the growth and regeneration of hydrophytic vegetation. The other soil types are not considered hydric, although hydric inclusions may occur. Alo and Diablo soils are mildly alkaline; as such, they may support special status plant species that are adapted to these soil conditions. Serpentine soils are absent from the site.

The East Bay has a Mediterranean climate with warm to hot dry summers and cool winters. Annual precipitation in the general vicinity of the site is highly variable from year to year. Average annual rainfall is approximately 16 inches, most of which falls between October and April. Stormwater runoff readily infiltrates the site's soils; when field capacity has been reached, gravitational water drains into the seasonal tributaries on the site as shallow groundwater or as surface sheet flow.

Lands surrounding the site have been modestly developed with roads and residences. Some lands immediately west of the site and south of East Branch Green Valley Creek remain as opens


BaA
CkB
AaF
BaA
AaF
Pb
CkB
AaF
AaG
MERANO ST
AaF
CkB
DdF
DdF
AaF
CkB
AaF
DIABLO RD
CkB
CkB
BLACKHAWK
SAN AN DR
RD
STILL CREEK RD
CkB
LEAFIELD RD
DdF
AaG
SHADEWELL DR
DdF
AaG
AaG
LEGEND
AaF ALO CLAY, 30 TO 50% slopes
AaG ALO CLAY, 50 TO 75% slopes
BaA BOTELLA CLAY LOAM, 0 TO 2% slopes
CkB CROPLEY CLAY, 2 TO 5% slopes
DdF DIABLO CLAY, 30 TO 50% slopes
Pb PESCADERO CLAY LOAM
1,000' 0 1,000 feet
approximate scale
Source:
U.S. Dept. of Agriculture, Natural Resources Conservation Service
Live Oak Associates, Inc.
Magee Ranch
Soils
Date 3/29/2012
Project # 1385-03
Figure # 3

space rangelands. To the north of the site, the residential landscape gives way to the significant open space areas that make up Mt. Diablo State Park. The intervening residential habitats and roads constrain, but do not eliminate access of the site for wildlife from these more substantial open space regions.

Table 2: Soils occurring on Magee Ranch (NRCS 2007).

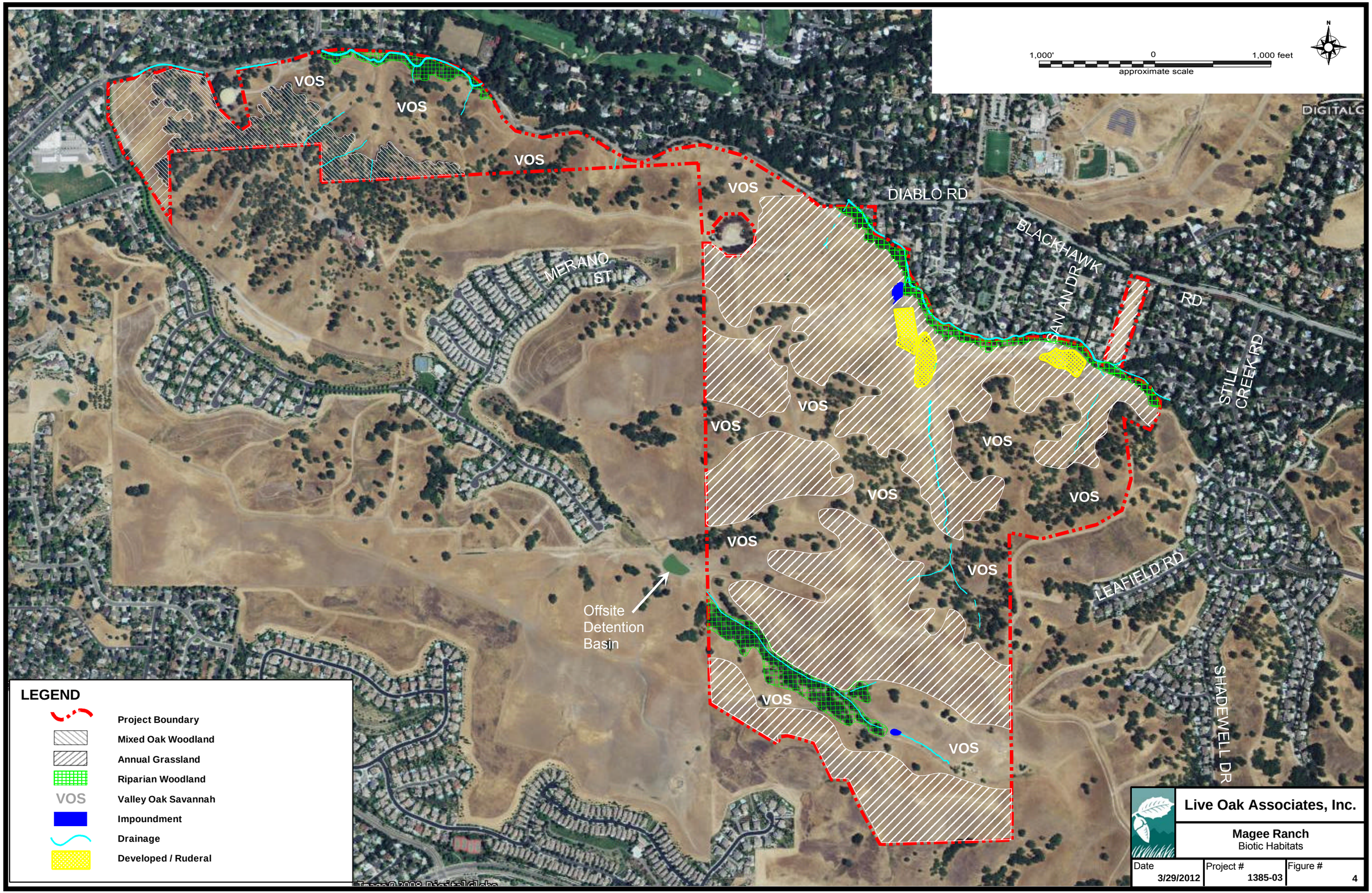
Soil Series/Soil	Map Symbol	Parent Material	Surface Permeability	Hardpan/ Duripan	Hydric
ALO SERIES Alo clay, 30 to 50% slopes Alo clay, 50 to 75% slopes	AaF AaG	Material weathered from shale or sandstone on mountains	Slow	No	No
BOTELLA SERIES Botella clay loam, 0 to 2% slopes	BaA	Alluvial material from sedimentary rocks	Moderately slow	No	Yes
CROPLEY SERIES Cropley clay, 2 to 5% slopes	CkB	Alluvium from mixed rock sources	Slow	No	Yes
DIABLO SERIES Diablo clay, 30 to 50% slopes	DdF	Residuum weathered from shale, sandstone, and consolidated sediments with minor areas of tuffaceous material.	Slow	No	No
PESCADERO SERIES Pescadero clay loam	Pb	Alluvium from sedimentary rocks. Poorly drained. Mild to moderately alkaline.	Very Slow	No	Yes

2.1 BIOTIC HABITATS

Five biotic habitats and one land use were identified on the project site (Figure 4). For the purposes of this report, the habitats were classified as “valley oak savannah,” “annual grassland,” “mixed oak woodland,” “riparian woodland/seasonal drainage,” and “wetland/stock pond.” The land use was classified as “developed/ruderal.” A list of the vascular plant species observed on the project site and the terrestrial vertebrates using, or potentially using, the site are provided in Appendices A and B, respectively.

2.1.1 Valley Oak Savannah

The site primarily consists of valley oak savannah and annual grassland (section 2.1.2). Some small, moderately dense stands of trees occur near the seasonal drainage channels, while individual trees are scattered through the remainder of this habitat. Valley oaks (*Quercus lobata*)


1,000'
0
1,000 feet
approximate scale
N
DIGITALG
VOS
DIABLO RD
BLACKHAWK
SAN AN DR
RD
STILL CREEK RD
MERANO ST
LEAFIELD RD
SHADEWELL DR
Offsite Detention Basin
LEGEND
Project Boundary
Mixed Oak Woodland
Annual Grassland
Riparian Woodland
VOS
Valley Oak Savannah
Impoundment
Drainage
Developed / Ruderal
Live Oak Associates, Inc.
Magee Ranch
Biotic Habitats
Date
3/29/2012
Project #
1385-03
Figure #
4

are the dominant trees in this habitat with some coast live oaks interspersed throughout. Grasslands constitute the oak savannah understory and are dominated by annual grasses and forbs of European origin. Non-native annual grasses common to this habitat include soft chess (*Bromus hordeaceus*), ripgut brome (*Bromus diandrus*), oats (*Avena* sp.), Italian ryegrass (*Lolium multiflorum*), Mediterranean barley (*Hordeum marinum* ssp. *gussoneanum*) and annual bluegrass (*Poa annua*). Common non-native forbs include redstem filaree (*Erodium cicutarium*), burclover (*Medicago polymorpha*), curly dock, yellow star thistle (*Centauria solstitialis*), and rose clover (*Trifolium hirtum*).

This habitat and the site's grasslands provide important habitat to many terrestrial vertebrates. The presence of oaks scattered within the grassland habitat supports a high diversity of wildlife. A number of these species are expected to utilize grasslands occurring in the valley oak savannah habitat occurring on the site throughout all or part of the year as breeding and foraging habitat.

Rotting tree debris, thatch, leaf litter, and small mammal burrows provide cover for several reptile species that forage in grasslands for small mammals and birds. These include the western fence lizard (*Sceloporus occidentalis*) and California alligator lizard (*Elgaria multicarinata*), both of which were observed during field surveys, and gopher snake (*Pituophis catenifer*). They may also provide suitable cover and aestivation habitat for amphibians.

Numerous resident and migratory birds breed and forage in oak savannah habitats. Raptors observed in these areas of the site include the turkey vulture (*Cathartes aura*), white-tailed kite (*Elanus leucurus*), and red-tailed hawk (*Buteo jamaicensis*). Other birds observed in this habitat include the northern flicker (*Colaptes auratus*), Say's phoebe (*Sayornis saya*), western scrub-jay (*Aphelocoma californica*), violet green swallow (*Tachycineta thalassina*), cliff swallow (*Petrochelidon pyrrhonota*), European starling (*Sturnus vulgaris*), dark-eyed junco (*Junco hyemalis*), and Brewer's blackbird (*Euphagus cyanocephalus*).

Mammals are common to this habitat. California ground squirrels (*Spermophilus beecheyi*) and their burrows were observed throughout the site, and Botta's pocket gopher (*Thomonys bottae*) burrows were also present on the site. Other small mammals likely to occur in this habitat

include the western harvest mouse (*Reithrodontomys megalotis*) and California meadow vole (*Microtus californicus*). Small mammals often attract predators, including reptiles and birds previously discussed. The abundance of small mammals also attracts larger mammalian predators known to occur in the region, including coyotes (*Canis latrans*), gray foxes (*Urocyon cinereoargenteus*), and bobcats (*Lynx rufus*). Black-tailed deer (*Odocoileus hemionus columbianus*) were also present on the site. Bat species such as the Mexican free-tailed bat (*Tadarida brasiliensis*) may forage over this habitat for insects.

2.1.2 Annual Grassland

Annual grassland habitat is also prevalent throughout the site and is dominated by the same constituent grass and forb species making up the grassland matrix within the valley oak savannah habitat (section 2.1.1). As with floral species, amphibians, reptiles, birds, and mammals found utilizing the grassland understory of the valley oak savannah habitat would also be expected to occur in this habitat. Particularly dense areas of ground squirrel burrow complexes were present on the hillsides near the borrow pit along East Branch Green Valley Creek and near the stock pond at the southern end of the site.

2.1.3 Mixed Oak Woodland

Vegetation in the western portion of the site is dominated by a fairly dense, naturally occurring stand of mature oak trees consisting of coast live oak (*Quercus agrifolia*), blue oak (*Quercus douglasii*), and valley oak, along with some California buckeye (*Aesculus californicus*) trees. Within this habitat type, the understory vegetation is a mix of shade-tolerant woodland shrubs and forbs and annual grasses and forbs typical of annual grasslands. Some of the woodland understory sub-shrub and forb species observed include yarrow (*Achilla millefolium*), shepherd's purse (*Capsella bursa-pastoris*), valley tassels (*Castillega attenuata*), redstem filaree, wild geranium (*Geranium dissectum*), shining peppergrass (*Lepidium nitidum*), miniature lupine (*Lupinus bicolor*), purple sanicle (*Sanicula bipinnatifida*), poison oak (*Toxicodendron diversilobum*), and purple vetch (*Vicia sativa* ssp. *sativa*). Non-native annual grasses occurring in the valley oak savannah and annual grassland habitats were also present.

Logs, fallen branches, leaf litter, tree cavities, and small burrows provide cover for several reptile and amphibian species that forage in the woodland habitats of the site, including the slender salamander (*Batrachoseps attenuatus*), western fence lizard, southern alligator lizard, gopher snake, and western terrestrial garter snake (*Thamnophis elegans*).

Numerous resident and migratory birds breed, roost, and forage in woodland habitats. Raptors observed in these areas of the site include the northern harrier (*Circus cyaneus*), red-shouldered hawk (*Buteo lineatus*), and red-tailed hawk. Other birds observed in this habitat include the wild turkey (*Meleagris gallopavo*), Anna's hummingbird (*Calypte anna*), acorn woodpecker (*Melanerpes formicivorus*), black phoebe (*Sayornis nigricans*), American crow (*Corvus branchyrhynchos*), western scrub-jay, Steller's jay (*Cyanocitta stelleri*), dark-eyed junco, white-breasted nuthatch (*Sitta carolinensis*), and western bluebird (*Sialia mexicana*).

Mammal species occurring in the adjacent valley oak savannah and annual grasslands would also be expected to occur within this habitat.

2.1.4 Riparian Woodland and Seasonal Drainage

East Branch Green Valley Creek generally flows in a northwesterly direction along portions of the northern perimeter of the site and conveys water perennially. A number of lesser order seasonal tributary channels and channel fragments are also present on the site but were dry at the time of the field surveys (Figure 4).

Riparian habitat having a relatively dense, closed canopy is associated with East Branch Green Valley Creek and a well-defined, unnamed channel in the south half of the site. The overstory vegetation was dominated by valley oaks, coast live oaks, California buckeye, northern California black walnut (*Juglans hindsii*), and willows (*Salix* spp.). A shrub layer was largely absent, while the herbaceous understory consisted of such species as mugwort (*Artemisia douglasiana*), poison hemlock (*Conium maculatum*), curly dock (*Rumex crispus*), milk thistle (*Silybum marianum*), bristly ox-tongue (*Picris echioides*), and Baltic rush (*Juncus balticus*). Along East Branch Green Valley Creek, cattails (*Typha* sp.) and watercress (*Nasturtium officinale*) were present in the channel itself, although the channel was mostly devoid of

vegetation. The seasonal drainage channels lacking associated riparian habitat supported upland herbaceous species similar to that of the surrounding upland habitat (section 2.1.2).

Native California roach (*Lavinia symmetricus*) and introduced western mosquitofish (*Gambusia affinis*) were observed in East Branch Green Valley Creek. The creek and the various other drainages provide a seasonal source of drinking water for species occurring in the surrounding habitats and, when wet, also provide breeding habitat for pacific treefrogs (*Hyla regilla*).

Riparian systems serve as dispersal corridors and islands of habitat for an estimated 83% of amphibians and 40% of reptiles in California (Brode and Bury 1984). Leaf litter and decaying logs provide a moist microclimate suitable for amphibians such as the pacific treefrog. Reptiles that may utilize riparian systems include the western fence lizard, skilton skink (*Eumeces skiltonianus skiltonianus*), southern alligator lizard, gopher snake, and common kingsnake (*Lampropeltis getulus*).

Many resident and migratory bird species depend on riparian and aquatic habitats. Birds observed in the riparian woodland include the house wren (*Troglodytes aedon*) and dark-eyed junco. Resident species that may be found in this habitat include the red-shouldered hawk, great horned owl (*Bubo virginianus*), Hutton's vireo (*Vireo huttoni*), western scrub-jay, Steller's jay (*Cyanocitta stelleri*), bushtit (*Psaltriparus minimus*), and downy woodpecker (*Picoides pubescens*). Winter migrants may include the sharp-shinned hawk (*Accipiter striatus*) and ruby-crowned kinglet (*Regulus calendula*). Summer migrants may include the ash-throated flycatcher (*Myiarchus cinerascens*) and yellow warbler (*Dendroica petechia*).

The structural and faunal diversity of riparian zones provide an abundant food source for and attract a variety of mammalian species. For example, the deer mouse (*Peromyscus maniculatus*) feeds on soil-dwelling larvae as well as a variety of seeds and leaves. A muskrat (*Ondatra zibethicus*) was observed along East Branch Green Valley Creek. Other constituent mammals of riparian woodlands include the brush rabbit (*Sylvilagus bachmani*), western gray squirrel (*Sciurus griseus*), and raccoon (*Procyon lotor*), whose tracks were observed along the creek.

2.1.5 Impoundments

A borrow pit for an adjacent horse corral is located along East Branch Green Valley Creek. Vegetation occurring in this feature includes soft chess, burclover, dwarf peppergrass (*Lepidium latipes* var. *latipes*), and adobe popcornflower (*Plagiobothrys acanthocarpus*). Cattle have been observed in the borrow pit, and wildlife species expected to occur in the surrounding habitats could occasionally pass through this feature as well.

A stock pond is located along the unnamed drainage in the southern portion of the site and remains inundated for much of the year. Vegetation was largely absent from this feature. Pacific treefrogs were observed in the stock pond. Wildlife from the surrounding habitats could use this feature as a seasonal drinking source.

2.1.6 Developed/Ruderal

A handful of small structures, including horse corrals and a small equipment storage building, are present in the northern part of the site near East Branch Green Valley Creek and support associated ruderal vegetation. The term "ruderal" refers to habitats that have been heavily disturbed by human factors and that support vegetation that is adapted to such disturbed conditions. Vegetation observed in ruderal areas of the site includes such non-native forbs as common groundsel (*Senecio vulgaris*), wild radish (*Raphanus sativus*), redstem filaree, wild geranium (*Geranium dissectum*), and cheeseweed mallow (*Malva parviflora*).

Wildlife species expected to occur in the surrounding habitats could occasionally pass through these areas as well.

2.2 MOVEMENT CORRIDORS

Many terrestrial animals need more than one biotic habitat in order to perform all of their biological activities. With increasing encroachment of humans on wildlife habitats, it has become important to establish and maintain linkages, or movement corridors, for animals to be able to access locations containing different biotic resources that are essential to maintaining their life cycles. Terrestrial animals use ridges, canyons, riparian areas, and open spaces to travel between their required habitats.

The importance of an area as a movement corridor depends on the species in question and its consistent use patterns. Animal movements generally can be divided into three major behavioral categories:

- Movements within a home range or territory;
- Movements during migration; and
- Movements during dispersal.

While no detailed study of animal movements has been conducted for the study area, knowledge of the site, its habitats, and the ecology of the species potentially occurring onsite permits sufficient predictions about the types of movements occurring in the region and whether or not proposed development would constitute a significant impact to animal movements.

Lands surrounding the site have been modestly developed with roads and residences, which constrain, but do not completely impede, the movement of wildlife between the site and more open lands further to the north, east, and south. Because of this constraint, East Branch Green Valley Creek and the various seasonal drainages on the site are regionally important in facilitating the movement of amphibians, reptiles, birds, and mammals through the site to these more open lands. Within the site itself, a number of reptiles, birds, and mammals may use the upland habitats of the site as part of their home range and dispersal movements.

2.3 SPECIAL STATUS PLANTS AND ANIMALS

Several species of plants and animals within the state of California have low populations and/or limited distributions. Such species may be considered “rare” and are vulnerable to extirpation as the state’s human population grows and the habitats these species occupy are converted to agricultural, urban, and other uses. As described more fully in Section 3.2, state and federal laws have provided the California Department of Fish and Game (CDFG) and the U.S. Fish and Wildlife Service (USFWS) with a mechanism for conserving and protecting the diversity of plant and animal species native to the state. A sizable number of native plants and animals have been formally designated as “threatened” or “endangered” under state and federal endangered species

legislation. Others have been designated as candidates for such listing. Still others have been designated as "species of special concern" by the CDFG. The CDFG and California Native Plant Society (CNPS) have developed their own set of lists (i.e., California Rare Plant Ranks, or CRPR) of native plants considered rare, threatened, or endangered. Collectively, these plants and animals are referred to as "special status species."

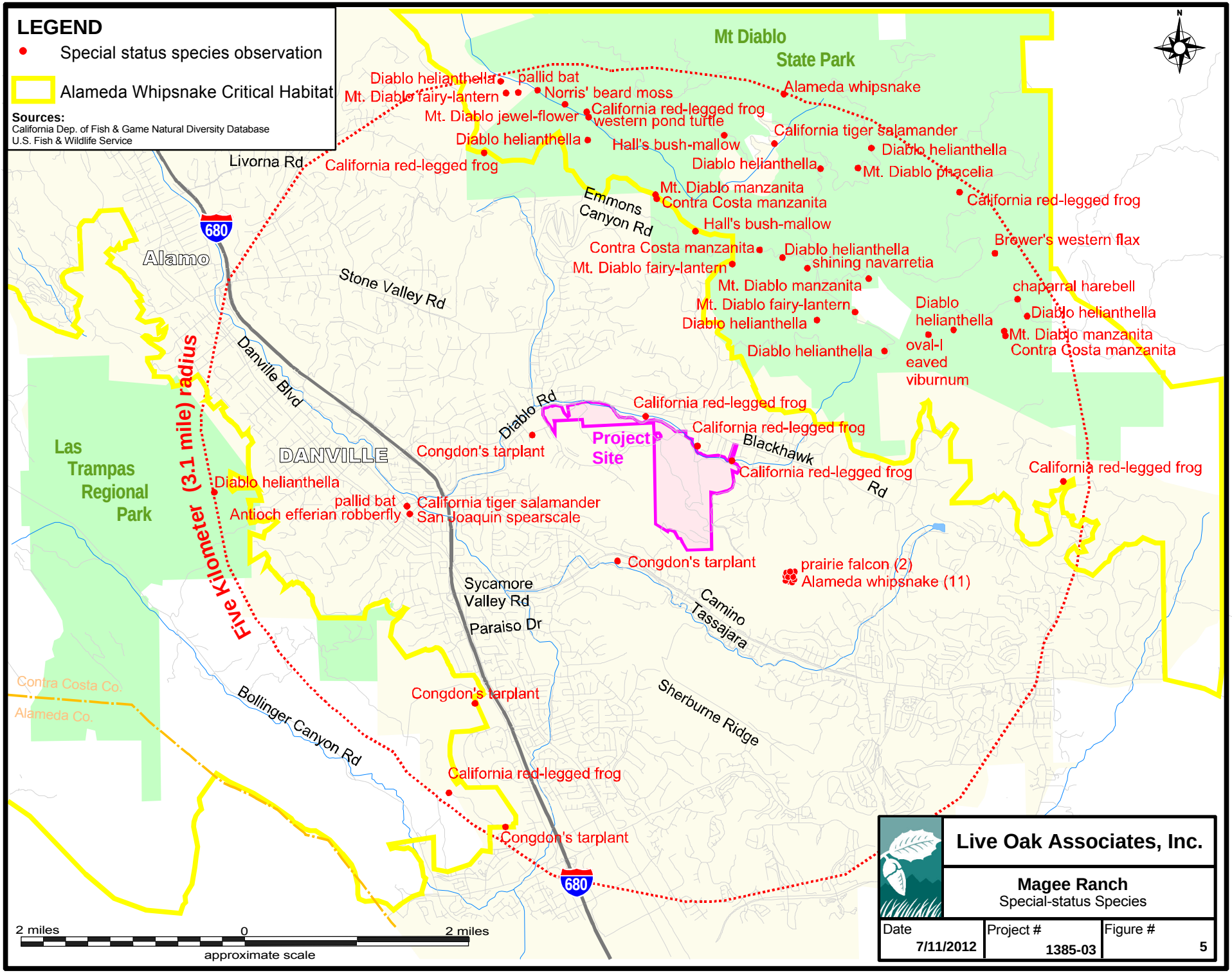
A number of special status plants and animals occur in the site's vicinity (Figures 5 and 6). These species and their potential to occur in the study area are listed in Table 3 on the following pages. Sources of information for this table included *California's Wildlife, Volumes I, II, and III* (Zeiner et. al 1988), *California Natural Diversity Data Base* (CDFG 2011), *Endangered and Threatened Wildlife and Plants* (USFWS 2011), *State and Federally Listed Endangered and Threatened Animals of California* (CDFG 2011), and *The California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2011). This information was used to evaluate the potential for special status plant and animal species to occur on the site. Figures 5 and 6 depict the location of special status species reported in the California Natural Diversity Data Base (CNDDB). It is important to note that the CNDDB is a volunteer database; therefore, it may not contain all known or gray literature records.

A search of published accounts for all relevant special status plant and animal species was conducted for the Diablo USGS 7.5" quadrangle in which the project site occurs and for the eight surrounding quadrangles (Walnut Creek, Clayton, Antioch South, Tassajara, Livermore, Dublin, Hayward, and Las Trampas Ridge) using the California Natural Diversity Data Base Rarefind (CDFG 2011). All species listed as occurring in these quadrangles on CRPR Lists 1A, 1B, 2, 3, or 4 were also reviewed.

Serpentine soils are absent from the site; as such, those plant species that are uniquely adapted to serpentine conditions, such as the pink creamsacs (*Castilleja rubicundula* ssp. *rubicundula*), Mt. Diablo bird's-beak (*Cordylanthus nidularius*), phlox-leaf serpentine bedstraw (*Galium andrewsii*), woodland woollythreads (*Monolopia gracilens*), and most beautiful jewel-flower (*Streptanthus albidus* ssp. *peramoenus*), are considered absent from the site. Other plant species occur in habitats not present in the study area (e.g., chaparral, brackish and freshwater marshes,

coastal scrub, etc.) and, therefore, are also considered absent from the site. These species include the coast rock cress (*Arabis blepharophylla*), Mt. Diablo manzanita (*Arctostaphylos auriculata*), Contra Costa manzanita (*Arctostaphylos manzanita* ssp. *laevigata*), Brewer's calandrinia (*Calandrinia breweri*), chaparral harebell (*Campanula exigua*), Hospital Canyon larkspur (*Delphinium californicum* ssp. *interius*), Brandegee's eriastrum (*Eriastrum brandegeeae*), Kings River buckwheat (*Eriogonum nudum* var. *regirivum*), Hall's bush mallow (*Malacothamnus hallii*), San Antonio Hills monardella (*Monardella antonina* ssp. *antonina*), Lime Ridge navarretia (*Navarretia gowenii*), Mt. Diablo phacelia (*Phacelia phacelioides*), hairless popcorn-flower (*Plagiobothrys glaber*), Oregon polemonium (*Polemonium carneum*), slender-leaved pondweed (*Potamogeton filiformis*), chaparral ragwort (*Senecio aphanactis*), and oval-leaved viburnum (*Viburnum ellipticum*).

It should be noted that because the public trail alignment is conceptual in nature, species addressed in Table 3 only refer to the known development footprint. For a discussion of special status plants and animals that may occur along the public trail alignment, please refer to section 3.3.16.



Live Oak Associates, Inc.

Magee Ranch
Special-status Species

Date	Project #	Figure #
7/11/2012	1385-03	5

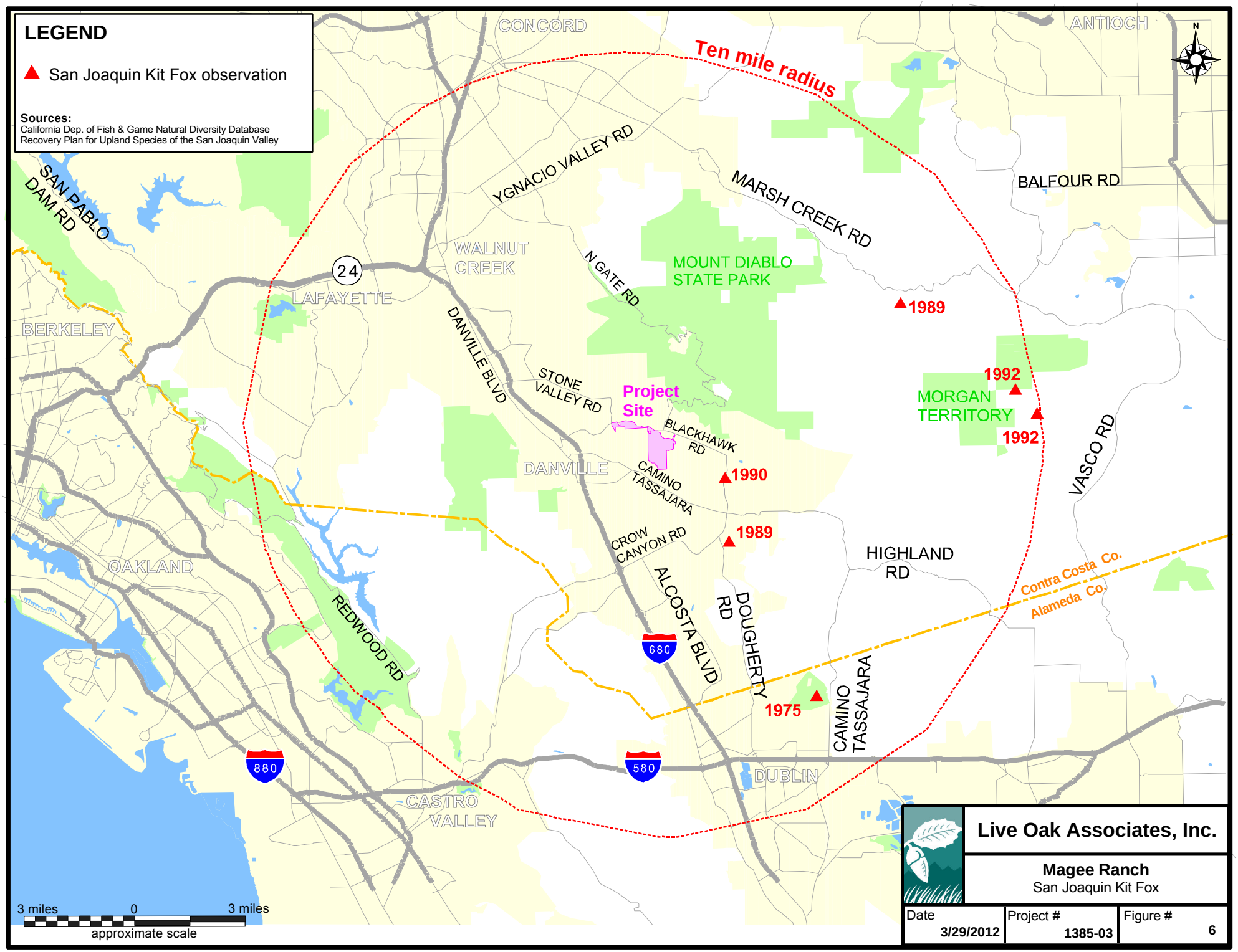

LEGEND
San Joaquin Kit Fox observation
Sources:
California Dep. of Fish & Game Natural Diversity Database
Recovery Plan for Upland Species of the San Joaquin Valley
Ten mile radius
CONCORD
ANTIOCH
N
YGNACIO VALLEY RD
MARSH CREEK RD
BALFOUR RD
SAN PABLO DAM RD
WALNUT CREEK
N GATE RD
MOUNT DIABLO STATE PARK
24
LAFAYETTE
BERKELEY
DANVILLE BLVD
STONE VALLEY RD
Project Site
BLACKHAWK RD
CAMINO TASSAJARA
DANVILLE
1989
1992
1992
MORGAN TERRITORY
VASCO RD
1990
1989
CROW CANYON RD
HIGHLAND RD
OAKLAND
Contra Costa Co.
Alameda Co.
REDWOOD RD
ALCOSTA BLVD
DOUGHERTY RD
680
1975
CAMINO TASSAJARA
880
580
DUBLIN
CASTRO VALLEY
3 miles
0
3 miles
approximate scale
Live Oak Associates, Inc.
Magee Ranch
San Joaquin Kit Fox
Date
3/29/2012
Project #
1385-03
Figure #
6

Table 3: Special status species that could occur in the project vicinity.

PLANTS (adapted from CDFG 2012 and CNPS 2012)

Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Acts

Common and scientific names	Status	General habitat description	*Occurrence in the project site
Large-flowered fiddleneck *Amsinckia grandiflora*	FE, CE, CRPR 1B	Habitat: Cismontane woodland and valley and foothill grasslands. Elevation: 275-550 meters. Blooms: April–May.	**Absent.** While suitable habitat is present, focused surveys did not detect this species within the proposed development area. The nearest documented occurrences of this species are more than ten miles from the site.
Palmate-bracted bird's-beak *Chloropyron palmatum*	FE, CE, CRPR 1B	Habitat: Alkaline soils of chenopod scrub and valley and foothill grasslands. Elevation: 5-155 meters. Blooms: May–October.	**Absent.** Focused surveys did not detect this species within the proposed development area. Soils on the site are not alkaline enough to support this species.
Santa Cruz tarplant *Holocarpha macradenia*	FT, CE, CRPR 1B	Habitat: Coastal prairie, coastal scrub, and valley and foothill grasslands, often on clay or sandy soils. Elevation: 10-220 meters. Blooms: June–October.	**Absent.** Focused surveys did not detect this species within the proposed development area. The site occurs much farther inland (i.e., more than ten miles) than the known range of this species.
Contra Costa goldfields *Lasthenia conjugens*	FE, CRPR 1B	Habitat: Alkaline soils in mesic valley and foothill grasslands and vernal pools. Elevation: 0-470 meters. Blooms: March–June.	**Absent.** Focused surveys did not detect this species within the proposed development area. Soils on the site are not alkaline enough to support this species. Vernal pools are absent from the site.
Rock sanicle *Sanicula saxatilis*	CR, CRPR 1B	Habitat: Rocky soils of broadleafed upland forest, chaparral, and valley and foothill grasslands. Elevation: 620-1175 meters. Blooms: April–May.	**Absent.** Focused surveys did not detect this species within the proposed development area. The site occurs at an elevation well below the known range for this species, and the site lacks rocky soils.

Table 3: Special status species that could occur in the project vicinity. (Cont'd.)

PLANTS (adapted from CDFG 2012 and CNPS 2012)

Other special status plants listed by the CDFG and CNPS

Common and scientific names	Status	General habitat description	*Occurrence in the project site
Bent-flowered fiddleneck *Amsinckia lunaris*	CRPR 1B	Habitat: Coastal bluff scrub, cismontane woodland, and valley and foothill grasslands. Elevation: 3-500 meters. Blooms: March–June.	**Absent.** Focused surveys did not detect this species within the proposed development area.

Table 3: Special status species that could occur in the project vicinity. (Cont'd.)

PLANTS (adapted from CDFG 2012 and CNPS 2012)

Other special status plants listed by the CDFG and CNPS

Common and scientific names	Status	General habitat description	*Occurrence in the project site
California androsace *Androsace elongate* ssp. *acuta*	CRPR 2	Habitat: Chaparral, cismontane woodland, coastal scrub, meadows and seeps, pinyon and juniper woodland, and valley and foothill grasslands. Elevation: 150-1200 meters. Blooms: March–June.	**Absent.** Focused surveys did not detect this species within the proposed development area.
Alkali milk vetch *Astragalus tener* var. *tener*	CRPR 1B	Habitat: Coastal bluff scrub, dunes, coastal prairies, and valley and foothill grasslands on adobe clay. Elevation: 1-60 meters. Blooms: March–June.	**Absent.** Focused surveys did not detect this species within the proposed development area.
Heartscale *Atriplex cordulata*	CRPR 1B	Habitat: Alkali grassland, alkali meadow, and chenopod scrub. Elevation: 0-375 meters. Blooms: April–October.	**Absent.** Focused surveys did not detect this species within the proposed development area.
Crownscale *Atriplex coronata* var. *coronata*	CRPR 4	Habitat: Chenopod scrub, valley and foothill grassland, and vernal pools on alkaline, clay soils. Elevation: 1-590 meters. Blooms: March–October.	**Absent.** Focused surveys did not detect this species within the proposed development area.
Brittlescale *Atriplex depressa*	CRPR 1B	Habitat: Playas, valley and foothill grasslands, and vernal pools on alkaline soils. Elevation: 0-60 meters. Blooms: May–October.	**Absent.** Focused surveys did not detect this species within the proposed development area.
San Joaquin spearscale *Atriplex joaquiniana*	CRPR 1B	Habitat: Chenopod scrub, meadows and seeps, playas, and valley and foothill grasslands on alkaline soils. Elevation: 0-835 meters. Blooms: April–October.	**Absent.** Focused surveys did not detect this species within the proposed development area.
Lesser saltscale *Atriplex minuscula*	CRPR 1B	Habitat: Chenopod scrub, playas, and valley and foothill grasslands on alkaline, sandy soils. Elevation: 15-200 meters. Blooms: May–October.	**Absent.** Focused surveys did not detect this species within the proposed development area.
Big-scale balsamroot *Balsamorhiza macrolepis* var. *macrolepis*	CRPR 1B	Habitat: Chaparral, cismontane woodland, and valley and foothill grassland, sometimes on serpentine. Elevation: 90-1555 meters. Blooms: April–October.	**Absent.** While potentially suitable habitat is present on the site, focused surveys did not detect this species within the proposed development area. The nearest documented occurrences of this species are more than ten miles from the site.

Table 3: Special status species that could occur in the project vicinity. (Cont'd.)

PLANTS (adapted from CDFG 2012 and CNPS 2012)

Other special status plants listed by the CDFG and CNPS

Common and scientific names	Status	General habitat description	*Occurrence in the project site
Big tarplant *Blepharizonia plumosa*	CRPR 1B	Habitat: Valley and foothill grassland. Elevation: 30-505 meters. Blooms: July–October.	**Absent.** While potentially suitable habitat for this species is present on the site, focused surveys did not detect this species within the proposed development area. The nearest documented occurrence of this species is approximately seven miles north of the site.
Round-leaved filaree *California macrophylla*	CRPR 1B	Habitat: Cismontane woodlands and valley and foothill grasslands on clay soils. Elevation: 15-1200 meters. Blooms: March–May.	**Absent.** Focused surveys did not detect this species within the proposed development area.
Mt. Diablo fairy lantern *Calochortus pulchellus*	CRPR 1B	Habitat: Chaparral, cismontane woodland, riparian woodland, and valley and foothill grassland. Elevation: 30-840 meters. Blooms: April–June.	**Absent.** Focused surveys did not detect this species within the proposed development area.
Oakland star-tulip *Calochortus umbellatus*	CRPR 4	Habitat: Broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, and valley and foothill grassland, often on serpentinite. Elevation: 100-700 meters. Blooms: March–May.	**Absent.** Focused surveys did not detect this species within the proposed development area.
Congdon's tarplant *Centromadia parryi* ssp. *congdonii*	CRPR 1B	Habitat: Valley and foothill grassland on alkaline soils. Elevation: 1-230 meters. Blooms: May–October.	**Present.** Focused surveys detected a population of 30 individuals of this species at the existing entrance to the Magee East portion of the site from San Andreas Drive, in an area that is highly disturbed by vehicular use (i.e., parking), foot traffic, and other activities associated with site uses (i.e., stabling of horses, maintenance of horse corrals, etc.; see Figure 7). This species was collected near Diablo Road less than 0.2 miles west of the site in 1934.
Hoover's cryptantha *Cryptantha hooveri*	CRPR 1A	Habitat: Inland dunes and valley and foothill grasslands on sandy soils. Elevation: 9-150 meters. Blooms: April–May.	**Absent.** Focused surveys did not detect this species within the proposed development area. The nearest documented occurrence of this species is from 1908, approximately fifteen miles from the site.

Table 3: Special status species that could occur in the project vicinity. (Cont'd.)

PLANTS (adapted from CDFG 2012 and CNPS 2012)

Other special status plants listed by the CDFG and CNPS

Common and scientific names	Status	General habitat description	*Occurrence in the project site
Western leatherwood *Dirca occidentalis*	CRPR 1B	Habitat: Broadleafed upland forest, closed-cone coniferous forest, chaparral, cismontane woodland, North Coast coniferous forest, riparian forest, and mesic riparian woodlands. Elevation: 50-395 meters. Blooms: January–March.	**Absent.** Focused surveys did not detect this species within the proposed development area.
Mt. Diablo buckwheat *Eriogonum truncatum*	CRPR 1A	Habitat: Sandy soils of chaparral, coastal scrub, valley and foothill grassland. Elevation: 3-350 meters. Blooms: April–September.	**Absent.** Focused surveys did not detect this species within the proposed development area. Although this species has been documented within five miles of the site, the most recent documented occurrence of this species near the site was in 1933.
Diamond-petaled California poppy *Eschscholzia rhombipetala*	CRPR 1B	Habitat: Valley and foothill grassland on alkaline, clay soils. Elevation: 0-975 meters. Blooms: March-April.	**Absent.** Alkaline soils are absent from the site. The nearest and most recent documented occurrence of this species was from 1889, more than fifteen miles from the site.
Fragrant fritillary *Fritillaria liliacea*	CRPR 1B	Habitat: Cismontane woodland, coastal prairie, coastal scrub, and valley and foothill grasslands. Often occurs on serpentinite. Elevation: 3-410 meters. Blooms: February–April.	**Absent.** Focused surveys did not detect this species within the proposed development area.
Diablo helianthella *Helianthella castanea*	CRPR 1B	Habitat: Broadleaved upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland. Elevation: 60-1300 meters. Blooms: March–June.	**Absent.** Focused surveys did not detect this species within the proposed development area.
Brewer's western flax *Hesperolinon breweri*	CRPR 1B	Habitat: Usually occurs on serpentine soils of chaparral, cismontane woodland, and valley and foothill grassland. Elevation: 30-900 meters. Blooms: May–July.	**Absent.** Serpentine soils are absent from the site. Focused surveys did not detect this species within the proposed development area.
Coast iris *Iris longipetala*	CRPR 4	Habitat: Coastal prairie, lower montane coniferous forest, and meadows and seeps in mesic areas. Elevation: 0-600 meters. Blooms: March–May.	**Absent.** Focused surveys did not detect this species within the proposed development area.

Table 3: Special status species that could occur in the project vicinity. (Cont'd.)

PLANTS (adapted from CDFG 2012 and CNPS 2012)

Other special status plants listed by the CDFG and CNPS

Common and scientific names	Status	General habitat description	*Occurrence in the project site
Northern California black walnut *Juglans hindsii*	CRPR 1B	Habitat: Riparian forests and riparian woodlands. Elevation: 0-440 meters. Blooms: April–May.	**Present.** This species is present along the East Branch Green Valley Creek riparian corridor and in the narrow field fronting Blackhawk Road.
Bristly leptosiphon *Linanthus acicularis*	CRPR 4	Habitat: Chaparral, cismontane woodland, coastal prairie, and valley and foothill grassland. Elevation: 55-1500 meters. Blooms: April–July.	**Absent.** Focused surveys did not detect this species within the proposed development area.
Showy golden madia *Madia radiata*	CRPR 1B	Habitat: Cismontane woodland and valley and foothill grassland. Elevation: 25-900 meters. Blooms: March–May.	**Absent.** Focused surveys did not detect this species within the proposed development area. The last known occurrence of this species in the region was from 1941.
Mt. Diablo cottonweed *Micropus amphibolus*	CRPR 3	Habitat: Broadleafed upland forest, chaparral, cismontane woodland, and valley and foothill grassland. Occurs on rocky soils. Elevation: 45-825 meters. Blooms: March–May.	**Absent.** Focused surveys did not detect this species within the proposed development area. Rocky soils do not occur on the site.
Robust monardella *Monardella villosa* ssp. *globosa*	CRPR 1B	Habitat: Broadleafed upland forest openings, chaparral openings, cismontane woodland, coastal scrub, and valley and foothill grasslands. Elevation: 100-915 meters. Blooms: June–July.	**Absent.** Focused surveys did not detect this species within the proposed development area.
Adobe navarretia *Navarretia nigelliformis* ssp. *nigelliformis*	CRPR 4	Habitat: Occurs on clay or serpentinite in vernal pools and vernally mesic valley and foothill grassland. Elevation: 100-1000 meters. Blooms: April–June.	**Absent.** Focused surveys did not detect this species within the proposed development area. Serpentine soils are absent from the site.
Mt. Diablo jewel-flower *Streptanthus hispidus*	CRPR 1B	Habitat: Chaparral and valley and foothill grassland on rocky soils. Elevation: 365-1200 meters. Blooms: March–June.	**Absent.** Focused surveys did not detect this species within the proposed development area. Rocky soils are absent from the site. The site is situated at an elevation below that at which this species is known to occur.
Saline clover *Trifolium depauperatum* var. *hydrophilum*	CRPR 1B	Habitat: Marshes and swamps, valley and foothill grasslands on mesic or alkaline soils, and vernal pools. Elevation: 0-300 meters. Blooms: April–June.	**Absent.** Focused surveys did not detect this species within the proposed development area. Strongly alkaline soils are absent from the site.

Table 3: Special status species that could occur in the project vicinity. (Cont'd.)

PLANTS (adapted from CDFG 2012 and CNPS 2012)

Other special status plants listed by the CDFG and CNPS

Common and scientific names	Status	General habitat description	*Occurrence in the project site
Caper-fruit tropidocarpum (*Tropidocarpum capparideum*)	CRPR 1B	Habitat: Alkaline soils of valley and foothill grasslands. Elevation: 1-455 meters. Blooms March-April.	**Absent.** Focused surveys did not detect this species within the proposed development area. Strongly alkaline soils are absent from the site.

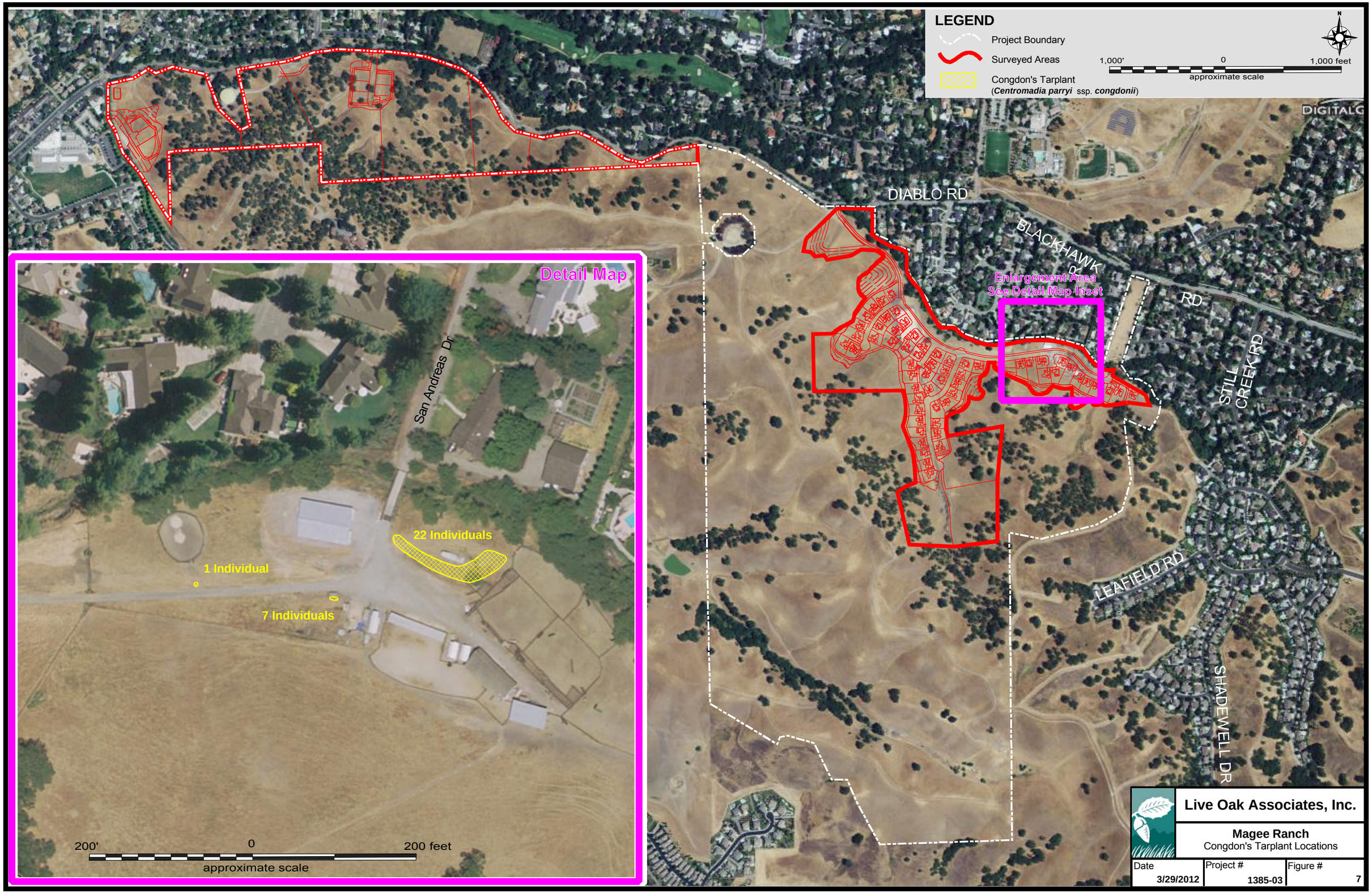

LEGEND
Project Boundary
Surveyed Areas
Congdon's Tarplant
(Centromadia parryi ssp. congdonii)
1,000'
0
1,000 feet
approximate scale
N
DIGITALG
DIABLO RD
BLACKHAWK
&
RD
Enlargement Area
See Detail Map Inset
STILL
CREEK RD
LEAFIELD RD
SHADEWELL DR
Detail Map
San Andreas Dr
22 Individuals
1 Individual
7 Individuals
200'
0
200 feet
approximate scale
Live Oak Associates, Inc.
Magee Ranch
Congdon's Tarplant Locations
Date
3/29/2012
Project #
1385-03
Figure #
7

Table 3: Special status species that could occur in the project vicinity.

ANIMALS (adapted from CDFG 2012 and USFWS 2012)

Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Acts

Common and scientific names	Status	General habitat description	*Occurrence in the study area
Vernal pool fairy shrimp *Branchinecta lynchi*	FT	Vernal pools of California's Central Valley.	**Absent**. Vernal pools are absent from the site. The onsite stock pond is inundated for a duration longer than what is suitable for this species. The nearest documented occurrences of this species are more than ten miles east of the site.
Vernal pool tadpole shrimp *Lepidurus packardi*	FE	Deep vernal pools containing clear to highly turbid water in unplowed grasslands of the Central Valley.	**Absent**. Vernal pools are absent from the site. The onsite stock pond is inundated for a duration longer than what is suitable for this species. The nearest documented occurrence of this species is more than ten miles northeast of the site.
San Bruno elfin butterfly *Callophrys mossii bayensis*	FE	Coastal mountainous areas with grassy ground cover, mainly in the area of San Bruno Mountain in San Mateo county.	**Absent.** Suitable habitat for this species is absent from the site.
California tiger salamander (*Ambystoma californiense*)	FT, CT	Breeds in vernal pools and stock ponds of central California. Adults aestivate in grassland habitats adjacent to the breeding sites.	**Unlikely.** The stock pond along the creek in the southern portion of the site and a detention basin at the end of McCauley Road near the site's western boundary are inundated for a duration suitable for this species, and aestivation habitat in the form of small mammal burrows is present on the site. However, CTS larval surveys of the two aquatic habitats conducted in the spring of 2011 did not detect any CTS larvae (LOA 2011a). Based on aerial imagery, there are no known or other potential CTS breeding sites adjacent to or in close proximity of this site. The nearest documented occurrence of this species was from 1952, approximately two miles west of the site. The project site is not located within critical habitat designated by the USFWS for CTS.

Table 3: Special status species that could occur in the project vicinity.

ANIMALS (adapted from CDFG 2012 and USFWS 2012)

Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Acts

Common and scientific names	Status	General habitat description	*Occurrence in the study area
California red-legged frog *Rana draytonii*	FT, CSC	Rivers, creeks and stock ponds of the Sierra foothills and coast range, preferring pools with overhanging vegetation.	**Present.** During protocol-level surveys conducted by LOA in 2011 and 2012, two CRLF egg masses and one juvenile and two adult CRLF were found in the offsite detention reservoir at the end of McCauley Road, immediately west of the site (LOA 2011a). A CNDDB occurrence record of CRLF larvae in East Branch Green Valley Creek across from the site in 2004 exists. Two CNDDB occurrence records from April and May 2011 reported finding egg masses and frogs in an adjacent neighborhood Koi pond and swimming pool. Frogs were apparently released into creek adjacent to 199 Arends Drive. Dr. Mark Jennings, noted authority on the CRLF, did not detect any CRLF eggs, larvae, juveniles, or adults in East Branch Green Valley Creek or the stock pond onsite during the 2011 surveys. However, four adult and six juvenile CRLF were detected in the East Branch of Green Valley Creek west of the existing entrance to Magee East during the 2012 surveys. East Branch Green Valley serves as a movement corridor for CRLF (section 2.4.2). The site does not occur within critical habitat designated by the USFWS for this species.
Alameda whipsnake (*Masticophis lateralis euryxanthus*)	FT, CT	Ranges from the inner coast range in western and central Contra Costa and Alameda counties. Typically occurs in chaparral and scrub habitats with rock outcrops and talus pilings. Also occurs in scrub communities, grasslands, oak, and oak/bay woodlands.	**Absent.** The lack of chaparral onsite coupled with the largely open grassland habitat would not be an attractant for this species. While there is an Alameda whipsnake population on Mt. Diablo, East Branch Green Valley Creek would not be expected to act as a movement corridor because the stream flows directly to the urbanized area of Danville and is crossed several times by culverts on Diablo Road (LOA 2011a). The site does not occur within critical habitat designated by the USFWS for this species.

Table 3: Special status species that could occur in the project vicinity.

ANIMALS (adapted from CDFG 2012 and USFWS 2012)

Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Acts

Common and scientific names	Status	General habitat description	*Occurrence in the study area
San Joaquin kit fox (*Vulpes macrotis mutica*)	FE, CT	Frequents annual grasslands or grassy open stages with scattered shrubby vegetation. Needs loose-textured sandy soils for burrowing and suitable prey base. Utilizes enlarged (4 to 10 inches in diameter) ground squirrel burrows as denning habitat. May forage in adjacent agricultural habitats.	**Unlikely.** Marginal denning and foraging habitat for the San Joaquin kit fox is present on the site. There have been six documented occurrences of this species within ten miles of the site since 1975. The nearest observation of this species was documented approximately two miles southeast of the project site in 1990. While open space is abundant to the east, lands surrounding the site have been modestly developed. The proposed development footprint itself occurs near existing roads and residences. Therefore, it is unlikely that a dispersing individual would traverse the site. It is highly unlikely that kit foxes would occur within the proposed development footprint due to its close proximity to existing development.

Table 3: Special status species that could occur in the project vicinity.

ANIMALS (adapted from CDFG 2012 and USFWS 2012)

Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Acts

Common and scientific names	Status	General habitat description	*Occurrence in the study area
Foothill yellow-legged frog (*Rana boylii*)	CSC	Frequents partly shaded, shallow, swiftly-flowing streams and riffles with rocky substrate in a variety of habitats.	**Unlikely.** East Branch Green Valley Creek and the other drainages on the site provide marginal to poor habitat for this species. The nearest documented occurrences of this species are from the 1970s and are more than twelve miles from the site.
Western pond turtle (*Actinemys marmorata*)	CSC	An aquatic turtle of ponds, marshes, slow-moving rivers, streams and irrigation ditches with aquatic vegetation. Needs basking sites and sandy banks or grassy open fields for egg laying.	**Possible.** East Branch Green Valley Creek, the stock pond in the south half of the site, the detention pond just off the site, and adjacent uplands provide potentially suitable habitat for this species. This species is common within Mt. Diablo State Park.

Table 3: Special status species that could occur in the project vicinity.

ANIMALS (adapted from CDFG 2012 and USFWS 2012)

Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Acts

Common and scientific names	Status	General habitat description	*Occurrence in the study area
Silvery legless lizard (*Anniella pulchra pulchra*)	CSC	Sparsely vegetated areas of beach dunes, chaparral, pine-oak woodlands, desert scrub, sandy washes, and stream terraces with sycamores, cottonwoods, or oaks.	**Unlikely.** Sandy washes preferred by this species are absent from this reach of East Branch Green Valley Creek. The nearest documented occurrence of this species is more than ten miles northeast of the site.
Coast horned lizard (*Phrynosoma blainvillii*)	CSC	Grasslands, scrublands, oak woodlands, etc. of central California. Common in sandy washes with scattered shrubs.	**Unlikely.** The site provides marginal to poor habitat for this species. This species has not been documented within three miles of the site.
White-tailed kite (*Elanus leucurus*)	CP	Open grasslands and agricultural areas throughout central California.	**Present.** This species was observed on the site during the January 2010 field survey.
Northern harrier (*Circus cyaneus*)	CSC	Frequents meadows, grasslands, open rangelands, freshwater emergent wetlands; uncommon in wooded habitats.	**Present.** Potentially suitable breeding and foraging habitat for this species is present on the site. An individual harrier was observed onsite during the April 2010 survey, but nesting was not confirmed at that time.
Golden eagle (*Aquila chrysaetos*)	CP	Typically frequents rolling foothills, mountain areas, woodland areas, sage-juniper flats, and desert habitats.	**Possible.** While large trees on the site provide potential breeding habitat for this species, field surveys conducted in 2010 and 2011 detected no golden eagle nests on the site. Foraging habitat is also present on the site. Golden eagles are known to occupy a nest site in Dublin, approximately seven miles east of the site.
Burrowing owl (*Athene cunicularia*)	CSC	Open, dry grasslands, deserts and ruderal areas. Requires suitable burrows. Often associated with California ground squirrels.	**Possible.** No burrowing owls have been documented within three miles of the site. However, ground squirrel burrows that serve as potential nests for burrowing owls are distributed throughout the grasslands occurring onsite, including within the development footprint. Therefore, the site provides suitable foraging and breeding habitat for this species.
Yellow warbler (*Dendroica petechia brewsteri*)	CSC	Nests in riparian thickets, especially in willows. Also frequents shrubby areas and old fields.	**Possible.** Potentially suitable breeding and foraging habitat for this species is present on the site.
Tricolored blackbird (*Agelaius tricolor*)	CSC	Breeds near fresh water, primarily emergent wetlands, with tall thickets. Forages in grassland and cropland habitats.	**Unlikely.** Breeding habitat is absent from the site. Marginal foraging habitat is present on the site.

Table 3: Special status species that could occur in the project vicinity.

ANIMALS (adapted from CDFG 2012 and USFWS 2012)

Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Acts

Common and scientific names	Status	General habitat description	*Occurrence in the study area
Townsend's big-eared bat (*Plecotus townsendii townsendii*)	CSC	Primarily a cave-dwelling bat that may also roost in buildings. Occurs in a variety of habitats of the state.	**Possible.** Foraging habitat is present on the site. Structures on the site do not provide suitable roosting habitat for this species.
Pallid bat (*Antrozous pallidus*)	CSC	Grasslands, chaparral, woodlands, and forests of California; most common in dry rocky open areas that provide roosting opportunities.	**Possible.** Foraging habitat is present on the site. Suitable roosting habitat is absent.
Western red bat (*Lasiurus blossevillii*)	CSC	Roosts primarily in trees. Prefers habitat edges and mosaics with trees.	**Possible.** Foraging habitat is present on the site. Trees on the site do not comprise a mosaic that would be used by this species for roosting.
Western mastiff bat (*Eumops perotis californicus*)	CSC	Forages over many habitats. Requires tall cliffs or buildings for roosting.	**Possible.** Foraging habitat is present on the site. Structures on the site do not provide suitable roosting habitat for this species.
San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*)	CSC	Hardwood forests, oak riparian and shrub habitats.	**Unlikely.** The narrow riparian corridor along East Branch Green Valley Creek provides only marginal habitat for this species. No woodrat nests were observed along the creek. The nearest documented occurrences of this species are more than nine miles from the site.
American badger (*Taxidea taxus*)	CSC	Found in drier open stages of most shrub, forest and herbaceous habitats with friable soils.	**Possible.** This species may occupy existing burrows or establish new burrows on the site.
Ringtail (*Bassariscus astutus*)	CP	Rocky or talus slopes in semi-arid or riparian habitats.	**Unlikely.** Suitable habitat is restricted to the riparian woodlands onsite, which are of marginal quality for this species.

***Explanation of Occurrence Designations and Status Codes**

Present: Species observed on the sites at time of field surveys or during recent past.
Likely: Species not observed on the site, but it may reasonably be expected to occur there on a regular basis.
Possible: Species not observed on the sites, but it could occur there from time to time.
Unlikely: Species not observed on the sites, and would not be expected to occur there except, perhaps, as a transient.
Absent: Species not observed on the sites, and precluded from occurring there because habitat requirements not met.

STATUS CODES

FE	Federally Endangered	CE	California Endangered
FT	Federally Threatened	CT	California Threatened
FPE	Federally Endangered (Proposed)	CR	California Rare
FC	Federal Candidate	CP	California Protected
		CSC	California Species of Special Concern

CNPS California Rare Plant Rank

1A	Plants Presumed Extinct in California
1B	Plants Rare, Threatened, or Endangered in California and elsewhere
2	Plants Rare, Threatened, or Endangered in California, but more common elsewhere
3	Plants about which we need more information – a review list
4	Plants of limited distribution – a watch list

2.4 ENDANGERED, THREATENED, OR SPECIAL STATUS PLANT AND ANIMAL SPECIES MERITING FURTHER DISCUSSION

Most of the special status plant and animal species that have been documented in the region may occur rarely or occasionally on the site (Table 3). For these species, sufficient information exists to evaluate the potential imposed impacts future development may have on them. A few of the state- or federally-listed species require additional in-depth analysis. Below are detailed discussions addressing the suitability of the site to support them. For information about the life history and ecology of these species, refer to appendix C.

2.4.1 California Tiger Salamander (*Ambystoma californiense*). Federal Listing Status: Threatened; State Listing Status: Threatened.

The USFWS listed the California tiger salamander as threatened on August 4, 2004 (69 Fed. Reg. 47212-47248). The California Department of Fish and Game has designated this species as threatened and as a species of special concern.

Potential to occur on the site. Potentially suitable breeding habitat is present onsite in the form of the stock pond and offsite in the form of the detention reservoir adjacent to the project site (see Figure 4), and suitable aestivation habitat in the form of small burrows is present near both of these features. However, larval surveys for CTS conducted by LOA in the spring of 2011 did not detect CTS breeding in the onsite stock pond or in the offsite detention reservoir. Based on the sampling, it appears that CTS did not reproduce in either pond and are probably not present in the area.

The closest known CNDDB record for CTS is in Danville, approximately two miles west of the project site. The records are two museum specimens (CAS 84944-84945) that were collected on July 8, 1952. There is no more specific locality information, and it would appear that this population is now extinct due to extensive urban development of the San Ramon Valley within the Town of Danville during the past sixty years. The next closest records are more than five miles to the southeast in Dougherty Valley. There are extensive roads and urbanization between these sites and the project site. Thus, there is no chance that CTS could colonize the project site from the Dougherty Valley locations.

In summary, while potentially suitable breeding and aestivation habitat is present on the site, it is unlikely that CTS are present and breeding in the area based on the negative findings of the larval surveys.

2.4.2 California Red-Legged Frog (*Rana draytonii*). Federal Listing Status: Threatened; State Listing Status: Species of Special Concern.

The California red-legged frog (*Rana draytonii*) was listed as threatened by the U.S. Fish and Wildlife Service under the authority of the Federal Endangered Species Act on May 23, 1996. The species had been extirpated from 70 percent of its historic range, and remaining populations are currently threatened by a wide variety of human impacts (66 FR 14626).

Potential to occur on the site. Historically, CRLF larvae were reported in East Branch Green Valley Creek across from the site in 2004 (CNDDB). Two additional CNDDB occurrence records have been reported from April and May 2011. The 2011 records reported finding egg masses and frogs in an adjacent neighborhood Koi pond and swimming pool. Frogs were apparently removed from these residences and released into the creek adjacent to 199 Arends Drive; the precise number of frogs and exact location of the release was not provided in the records.

From February through June 2011, Dr. Mark Jennings, noted authority of the CRLF, conducted protocol-level CRLF surveys along the East Branch of Green Valley Creek (along the northern border of the ranch), the offsite detention reservoir at the end of McCauley Road, the onsite small stock pond, and the unnamed creek upstream of the detention reservoir on Magee East. No CRLF eggs, larvae, juveniles, or adults were found along the East Branch of Green Valley Creek, the unnamed creek in the southern half of the site, or in the small stock pond. However, two CRLF egg masses and one juvenile and four adult CRLF were observed in the offsite detention reservoir. Dr. Jennings conducted supplemental protocol-level CRLF surveys from March through July 2012. Again, frogs were detected breeding in the offsite detention basin. Four adult and six juvenile CRLF were also detected in the East Branch of Green Valley Creek

west of the existing entrance to Magee East. These observations confirm that CRLF are present in the area and are successfully breeding in the offsite detention basin (see Figure 4).

While the onsite stock pond in the southern part of the site remains inundated for much of the year, it does not appear to be of a sufficient depth to support CRLF. Additionally, the complete lack of vegetation in the stock pond makes CRLF vulnerable to predation. The stock pond occurs along a seasonal drainage channel with associated riparian vegetation. Livestock graze regularly along the channel, which has denuded the understory vegetation. The absence of plunge pools along this feature also makes it unfavorable for CRLF.

East Branch Green Valley Creek conveys water perennially and may be used as a movement corridor by CRLF populations upstream on the slopes of Mt. Diablo. However, the East Branch receives scouring flows each winter and spring due to channeled runoff from the surrounding area, which greatly decreases the chance of CRLF successfully reproducing in the stream. Additionally, there is a significant population of raccoons (*Procyon lotor*) on the property due to many trash cans and other food sources in the surrounding residential areas to the north, south, east, and west of the site. Raccoon footprints were regularly observed in the mud along the riparian areas, and it is reasonable to conclude that they forage along these areas on a regular basis. The lack of plunge pools over 3 ft. deep in this part of the East Branch Green Valley Creek, as well as regular livestock grazing that denudes most or all of the riparian vegetation, makes any CRLF using the area vulnerable to predation by raccoons.

2.4.3 Western Pond Turtle (*Actinemys marmorata*). Federal Listing Status: None; State Listing Status: Species of Special Concern.

Potential to occur onsite. Western pond turtles were not observed on the site during any of the field surveys. The closest known CNDDB record is approximately four miles east of the site in Alamo Creek. However, western pond turtles are common in riparian habitats in the overall Danville area and within Mt. Diablo State Park. The aquatic areas and adjacent uplands onsite provide suitable breeding, feeding, nesting, and aestivation habitats for this species. This would include the East Branch of Green Valley Creek riparian corridor as well as the stock pond.

2.5 JURISDICTIONAL WATERS

Jurisdictional waters include rivers, creeks, and drainages that have a defined bed and bank and which, at the very least, carry ephemeral flows. Jurisdictional waters also include lakes, ponds, reservoirs, and wetlands. Such waters may be subject to the regulatory authority of the U.S. Army Corps of Engineers (USACE), the California Department of Fish and Game (CDFG), and the California Regional Water Quality Control Board (RWQCB). See Section 3.2.4 of this report for additional information.

A formal wetland delineation and waters of the U.S. analysis was completed for the site (LOA 2011b; LOA 2011c). A jurisdictional determination for Magee East was issued by the USACE on January 12, 2012. The USACE determined that East Branch Green Valley Creek, the unnamed seasonal drainage in the south half of the site, smaller ephemeral drainages, and various impoundments, including the borrow pit and stock pond, are subject to their regulatory authority. A preliminary field verification by the USACE has also determined that the ephemeral drainages on Magee West are also under their jurisdiction. The jurisdictional determination for Magee West was pending at the time this report was prepared.

East Branch Green Valley Creek conveys water perennially. The creek and the unnamed seasonal drainage in the south half of the site are represented as USGS blue line features, are characterized as having a defined bed and bank, and flow into Green Valley Creek, which is hydrologically connected to Suisun Bay via San Ramon Creek and Walnut Creek. Various smaller seasonal drainages on the site may convey modest amounts of water during storm events but are dry for most of the year. These features have a defined bed and bank that eventually lose channel definition; however, these appear to be hydrologically connected to either East Branch Green Valley Creek or Green Valley Creek.

The limit of USACE jurisdiction over East Branch Green Valley Creek and the other seasonal drainages determined to be jurisdictional tributary waters, as well as that of the RWQCB, is the ordinary high water mark. These features would also likely be subject to the jurisdiction of the CDFG up to the top of bank or the edge of associated riparian vegetation, whichever is greater.

A stock pond is present along the unnamed seasonal drainage in the south half of the site and remains inundated for most of the year. A second impoundment, a borrow pit, is present adjacent to the horse corral along East Branch Green Valley Creek; a culvert drains overflow water from this feature into the creek. Stock ponds are only considered to be jurisdictional by the USACE if they connect to other waters of the United States per the U.S Supreme Court decision *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers* (SWANCC Decision) and *Rapanos v. United States* and *Carabell v. U.S. Army Corps of Engineers* (referred together as the Rapanos decision). Since both of these impoundments have an apparent hydrologic connection to other waters of the U.S., they are regulated by the USACE as well. These features are also regulated by the RWQCB.

3.0 IMPACTS AND MITIGATIONS

3.1 SIGNIFICANCE CRITERIA

Approval of general plans, area plans, and specific projects is subject to the provisions of the California Environmental Quality Act (CEQA). The purpose of CEQA is to assess the impacts of proposed projects on the environment before they are carried out. CEQA is concerned with the significance of a proposed project's impacts. For example, a proposed development project may require the removal of some or all of a site's existing vegetation. Animals associated with this vegetation could be destroyed or displaced. Animals adapted to humans, roads, buildings, pets, etc., may replace those species formerly occurring on the site. Plants and animals that are state and/or federally listed as threatened or endangered may be destroyed or displaced. Sensitive habitats such as wetlands and riparian woodlands may be altered or destroyed.

Whenever possible, public agencies are required to avoid or minimize environmental impacts by implementing practical alternatives or mitigation measures. According to Section 15382 of the CEQA Guidelines, a significant effect on the environment means a "substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic interest."

Specific project impacts to biological resources may be considered "significant" if they would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;

- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;

- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;

- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;

- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or

- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Furthermore, CEQA Guidelines Section 15065(a) states that a project may trigger the requirement to make a "mandatory findings of significance" if the project has the potential to

> Substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of an endangered, rare or threatened species, or eliminate important examples of the major periods of California history or prehistory.

3.2 RELEVANT GOALS, POLICIES, AND LAWS

3.2.1 Threatened and Endangered Species

State and federal "endangered species" legislation has provided the California Department of Fish and Game (CDFG) and the U.S. Fish and Wildlife Service (USFWS) with a mechanism for conserving and protecting plant and animal species of limited distribution and/or low or declining populations. Species listed as threatened or endangered under provisions of the state and federal endangered species acts, candidate species for such listing, state species of special concern, and some plants listed as endangered by the California Native Plant Society are collectively referred to as "species of special status." Permits may be required from both the CDFG and USFWS if activities associated with a proposed project will result in the "take" of a listed species. "Take" is defined by the state of California as "to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture or kill" (California Fish and Game Code, Section 86). "Take" is more broadly defined by the federal Endangered Species Act to include "harm" (16 USC, Section 1532(19), 50 CFR, Section 17.3). Furthermore, the CDFG and the USFWS are responding agencies under the California Environmental Quality Act (CEQA). Both agencies review CEQA documents in order to determine the adequacy of their treatment of endangered species issues and to make project-specific recommendations for their conservation.

3.2.2 Migratory Birds

State and federal laws also protect most birds. The Federal Migratory Bird Treaty Act (16 U.S.C., scc. 703, Supp. I, 1989) prohibits killing, possessing, or trading in migratory birds, except in accordance with regulations prescribed by the Secretary of the Interior. This act encompasses whole birds, parts of birds, and bird nests and eggs.

3.2.3 Birds of Prey

Birds of prey are also protected in California under provisions of the State Fish and Game Code, Section 3503.5, which states that it is "unlawful to take, possess, or destroy any birds in the order *Falconiformes* or *Strigiformes* (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "taking" by the CDFG.

3.2.4 Wetlands and Other Jurisdictional Waters

Natural drainage channels and adjacent wetlands may be considered "Waters of the United States" (hereafter referred to as "jurisdictional waters") subject to the jurisdiction of the U.S. Army Corps of Engineers (USACE). The extent of jurisdiction has been defined in the Code of Federal Regulations but has also been subject to interpretation of the federal courts. Jurisdictional waters generally include:

- All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
- All interstate waters including interstate wetlands:
- All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce;
- All impoundments of waters otherwise defined as waters of the United States under the definition;
- Tributaries of waters identified in paragraphs (a)(1)-(4) (i.e. the bulleted items above).

As recently determined by the United States Supreme Court in *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers* (the SWANCC decision), channels and wetlands isolated from other jurisdictional waters cannot be considered jurisdictional on the basis of their use, hypothetical or observed, by migratory birds. However, the U.S Supreme Court decisions *Rapanos v. United States* and *Carabell v. U.S. Army Corps of Engineers* (referred together as the Rapanos decision) impose a "significant nexus" test for federal jurisdiction over wetlands. In June 2007, the USACE and Environmental Protection Agency (EPA) established guidelines for applying the significant nexus standard. This standard includes 1) a case-by-case analysis of the flow characteristics and functions of the tributary or wetland to determine if they significantly affect the chemical, physical, and biological integrity of downstream navigable waters and 2) consideration of hydrologic and ecologic factors (EPA and USACE 2007).

The USACE regulates the filling or grading of such waters under the authority of Section 404 of the Clean Water Act. The extent of jurisdiction within drainage channels is defined by “ordinary high water marks” on opposing channel banks. Wetlands are habitats with soils that are intermittently or permanently saturated, or inundated. The resulting anaerobic conditions select for plant species known as hydrophytes that show a high degree of fidelity to such soils. Wetlands are identified by the presence of hydrophytic vegetation, hydric soils (soils saturated intermittently or permanently saturated by water), and wetland hydrology according to methodologies outlined in the 1987 Corps of Engineers Wetlands Delineation Manual (USACE 1987).

All activities that involve the discharge of fill into jurisdictional waters are subject to the permit requirements of the USACE (Wetland Training Institute, Inc. 1991). Such permits are typically issued on the condition that the applicant agrees to provide mitigation that result in no net loss of wetland functions or values. No permit can be issued until the Regional Water Quality Control Board (RWQCB) issues a certification (or waiver of such certification) that the proposed activity will meet state water quality standards. The filling of isolated wetlands, over which the USACE has disclaimed jurisdiction under the SWANCC decision, is regulated by the RWQCB. It is unlawful to fill isolated wetlands without filing a Notice of Intent with the RWQCB. The RWQCB is also responsible for enforcing National Pollution Discharge Elimination System

(NPDES) permits, including the General Construction Activity Storm Water Permit. All projects requiring federal money must also comply with Executive Order 11990 (Protection of Wetlands).

The California Department of Fish and Game has jurisdiction over the bed and bank of rivers, lakes and streams according to provisions of Section 1601 and 1602 of the California Fish and Game Code (2003). Activities that would disturb these drainages are regulated by the CDFG via a Streambed Alteration Agreement. Such an agreement typically stipulates that certain measures will be implemented which protects the habitat values of the drainage in question.

3.2.5 Local Ordinances, Policies, and Habitat Conservation Plans

Tree ordinance. The Town of Danville has a tree preservation ordinance (Chapter 32, Section 79 of the Municipal Code) that regulates the removal and preservation of trees. The tree preservation ordinance applies to "protected trees," which include certain types of native trees "having a trunk or main stem which measures ten (10) inches or greater in diameter measured four and one-half (4-1/2) feet above natural grade or, for a multiple trunked tree, a combination of trunks totaling twenty (20) inches or greater in diameter measured four and one-half (4-1/2) feet above natural grade;" heritage trees, which have a trunk diameter of 36" or greater regardless of species; and memorial trees as defined in the municipal code; trees shown to be preserved on an approved development plan or specifically required by the planning commission; and trees planted as mitigation for the removal of a protected tree. Protected trees and heritage trees cannot be removed or destroyed without a Town-approved tree removal permit and are subject to all other provisions of the Town's tree preservation ordinance. Mitigation for removal of trees may be required and may include the on- or off-site planting of replacement trees "which are of a cumulative diameter necessary to equal the diameter of the tree(s) which are approved for removal."

Creek setback. The Town of Danville has an ordinance regulating structure setbacks along major and non-major creek channels (Chapter 31, Section 29 of the Municipal Code). In summary, new structures must be set back from the top of bank of the channel by a required minimum amount based on the channel depth plus an additional amount calculated by the

channel's side slopes and creek depth. The minimum structure setback distance from the top of bank of any unimproved channel is 12 ft.

HCCPs/NCCPs. No known habitat conservation plans are in effect for this property. The property lies outside of the East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan area.

3.3 IMPACTS AND MITIGATIONS SPECIFIC TO THE PROJECT SITE

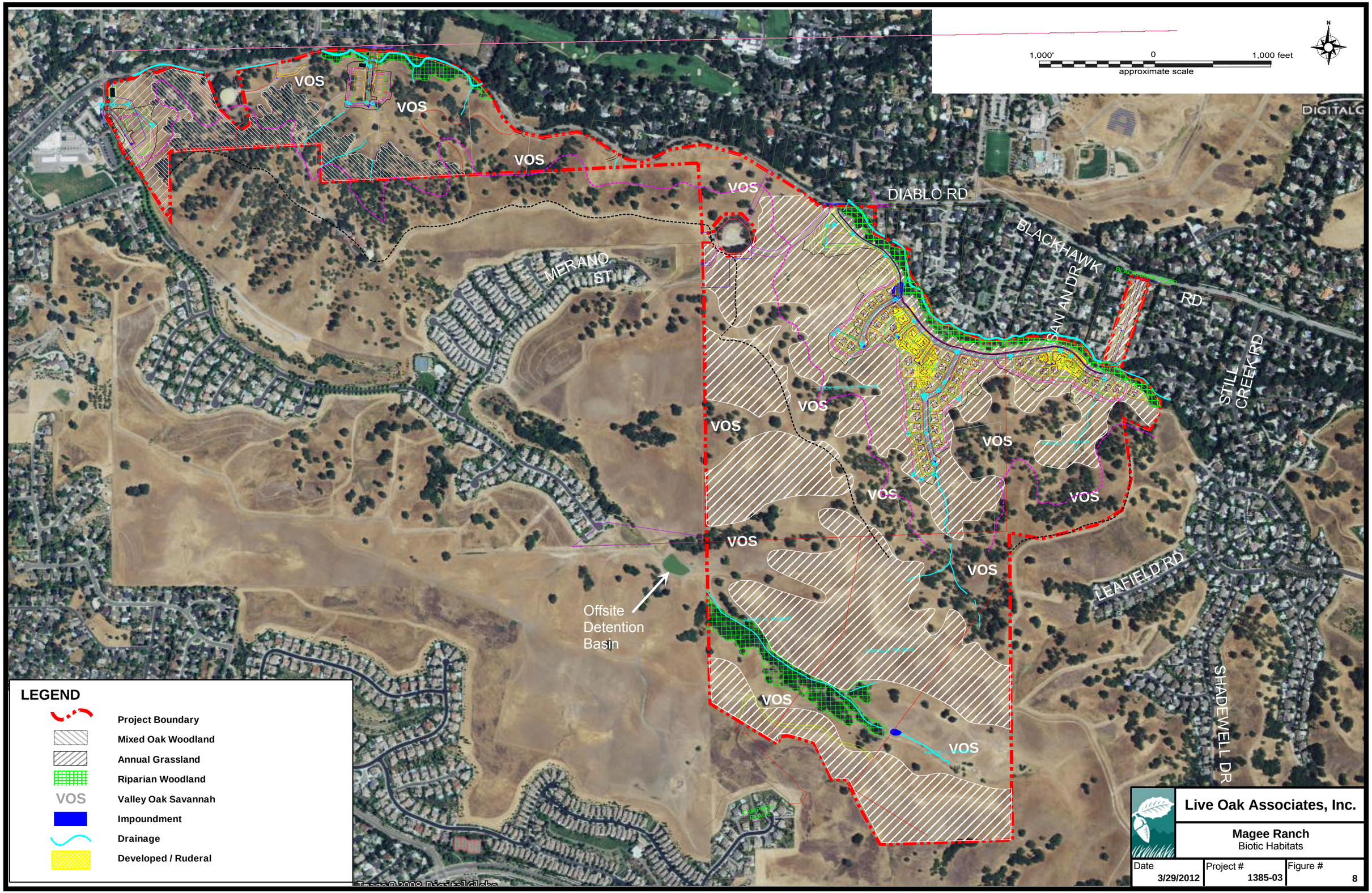
The following analysis assumes that the site would be developed as a residential subdivision, as currently represented in the site plans provided by Ruggeri Jensen Azar & Associates (2011) and shown in Figure 8. Any appreciable difference in either scope or general location of the proposed project would require an additional impact assessment to ensure that unanticipated impacts to biotic resources are not likely to occur.

3.3.1 Loss of Habitat for Special Status Plants

Potential Impacts. Focused surveys for special status plants potentially occurring within the project development footprint detected two species, northern California black walnut and Congdon's tarplant (Table 3). No other special status plant species were detected during any of the surveys. Therefore, these species are presumed to be absent from the development footprint, and proposed project activities would have no impact on them.

Sixteen northern California black walnuts, a CRPR 1B list species ("Plants rare, threatened or endangered in California and elsewhere"), are naturally occurring along the East Branch Green Valley Creek riparian corridor and have been planted in the panhandle fronting Blackhawk Road (HortScience 2011). Some of these trees are likely to be removed as part of project buildout. Impacts to this species, including tree removal, would be considered significant under CEQA (see detailed discussion in section 3.3.11).

The focused rare plant surveys detected a population of thirty individuals of Congdon's tarplant, also a CRPR 1B species (Figure 6); this species does not have federal or state listing status. The


1,000'
0
1,000 feet
approximate scale
N
DIGITALG
VOS
DIABLO RD
BLACKHAWK
SAN AN DR
RD
STILL CREEK RD
MERANO ST
LEAFIELD RD
SHADEWELL DR
Offsite Detention Basin
LEGEND
Project Boundary
Mixed Oak Woodland
Annual Grassland
Riparian Woodland
VOS
Valley Oak Savannah
Impoundment
Drainage
Developed / Ruderal
Live Oak Associates, Inc.
Magee Ranch
Biotic Habitats
Date
3/29/2012
Project #
1385-03
Figure #
8

population of Congdon's tarplant occurring onsite is located at the existing entrance to the Magee East portion of the site from San Andreas Drive, in an area that is highly disturbed by vehicular use (e.g., parking), foot traffic, and other activities associated with site uses (i.e., stabling of horses, maintenance of horse corrals, etc.).

Two CNDDB occurrences of Congdon's tarplant are located within three miles of Magee Ranch. One occurrence was observed near Diablo Road less than 0.2 miles west of the site in 1934 and is presumed to be extirpated due to development at that location. The other occurrence is located approximately 0.5 miles south of the site, along Camino Tassajara in 1998, where approximately 8,800 individuals were observed. Sixteen additional CNDDB occurrences are located within ten miles southeast of the site on private lands, with populations ranging from a few thousand to hundreds of thousands of individuals.

The Congdon's tarplant population mapped onsite occurs in the proposed footprint of the access road and a cul-de-sac (RJA 2011). Therefore, proposed development of the site would result in the loss of approximately 30 individuals occurring within this footprint.

To date, sixteen occurrences of Congdon's tarplant have been reported to the CNDDB within ten miles southeast of the site on private, undeveloped lands. It is expected that unreported populations of Congdon's tarplant have been found in the region as well. These populations range from a few thousand to hundreds of thousands of individuals. The population of Congdon's tarplant occurring onsite represents less than 0.1% of the population known to occur regionally.

The location of the Congdon's tarplant on the project site is heavily used by humans and is subject to ongoing anthropogenic disturbances. Given the disturbance of the tarplant and the existence of numerous and far larger populations of Congdon's tarplant in the region, impacts to Congdon's tarplant on Magee Ranch would be considered less than significant.

Mitigation. Mitigation measures for impacts to Congdon's tarplant are not warranted. For a discussion of mitigation for impacts to northern California black walnuts, see section 3.3.11.

3.3.2 Loss of Habitat for Special Status Animals

Potential Impacts. Twenty-three special status animal species occur, or once occurred, regionally (Table 3). With the exception of the California tiger salamander, California red-legged frog, western pond turtle, white-tailed kite, northern harrier, golden eagle, burrowing owl, yellow warbler, Townsend's big-eared bat, pallid bat, western red bat, western mastiff bat, and American badger, all of these species would be absent from or unlikely to occur on the site due to unsuitable habitat conditions. Proposed development activities would have no effect on these species because there is little or no likelihood that they are present.

While suitable habitat conditions are present on the site, based on existing survey information, the California tiger salamander would also be unlikely to occur on the site. However, in the unlikely event that CTS do occur on the site, impacts to individuals and their habitat would be considered significant (section 3.3.4).

White-tailed kites and northern harriers have been observed foraging over the site. The golden eagle, yellow warbler, Townsend's big-eared bat, pallid bat, western red bat, and western mastiff bat may also occur more frequently as regular foragers or may be resident on the site. These species either occur on the site incidental to home range and migratory movements, thus using the site infrequently, or may forage on the site year-round or during migration. Project buildout would have a minimal effect on the breeding success of these species and would, at most, result in a relatively small reduction of foraging and/or roosting habitat that is abundantly available regionally. Therefore, the loss of habitat for these species would be considered less than significant.

The remaining four species—the California red-legged frog, western pond turtle, burrowing owl, and American badger—may occur on the site more frequently. Construction activities may result in some habitat loss or mortality to individuals of these species, which would be considered significant (sections 3.3.3, 3.3.5, 3.3.7, and 3.3.8).

Mitigation. Mitigation measures for impacts to the California red-legged frog, California tiger salamander, western pond turtle, burrowing owl, and American badger are discussed in sections 3.3.3, 3.3.4, 3.3.5, 3.3.7, and 3.3.8, respectively. For the remaining species discussed above, mitigation measures are not warranted.

3.3.3 Impacts to California Red-Legged Frogs

Potential Impacts.

Impacts to riparian habitat. Several CRLF were detected along East Branch Green Valley Creek during the focused survey effort. CRLF may use the creek as a movement corridor between areas of more suitable habitat (e.g., Mt. Diablo and the offsite detention reservoir off of McCauley Road). Therefore, construction activities, particularly construction of the two access road creek crossings, occurring in the East Branch Green Valley Creek riparian corridor may result in mortality to individual CRLF. The proposed homes and trail alignment would also increase human access to the creek, which could result in harassment and harm to individual frogs. All of these potential impacts may reduce the use of the site, adversely affect regional movements of the CRLF, or result in actual injury or death of an individual CRLF. The creek crossings would also result in approximately 0.3 acres of temporary and permanent impacts to riparian habitat along the creek that could be used by CRLF. Development in the upland habitats adjoining the creek would result in the loss of potential aestivation habitat. While there is no evidence that CRLF are breeding in the creek, it is reasonable to expect them to disperse through this reach of the creek from time to time. Frogs located in this reach may seek refuge in upland habitats adjacent to the creek during large storm events. These potential impacts to CRLF and their aquatic and aestivation habitat would be considered significant.

Impacts to jurisdictional waters. CRLF are known to breed in the detention reservoir adjacent to the property and were detected along East Branch Green Valley Creek but were not found in the onsite stock pond or the unnamed drainage. The proposed project would result in the permanent loss of approximately 0.5 acres of jurisdictional waters that could be used to facilitate the movement of CRLF through the site. These aquatic features consist of the borrow pit, a small erosional pit, and remnants of ephemeral drainages in the upland habitats of the site. These features are of a degraded quality and have low value as CRLF habitat, as they do not function in

a way that is substantially different from the adjacent upland habitats (i.e., they typically do not contain or convey surface water and are dry for most of the year). Nonetheless, it is possible that these features could facilitate CRLF movements during the wet season.

Impacts to upland habitat. The cluster homes, custom lots, and street rights-of-way would result in the loss of up to 102 acres of upland habitat that could be used by CRLF during the wet season. These impacts to CRLF habitat would be considered significant.

Regulatory issues. In addition to evaluating the potential of the project to affect the CRLF under CEQA, the applicant would need to comply with provisions of the federal Endangered Species Act. This will be accomplished through an ESA Section 7 consultation with the USFWS as part of the Clean Water Act permitting the process through the Army Corps of Engineers.

The following mitigations are expected to reduce impacts to aquatic and upland habitats of the CRLF and avoid and minimize impacts to individuals from construction.

Mitigation. The primary approach to mitigate impacts to CRLF would be based upon 1) avoidance of riparian and aquatic resources to the maximum extent practicable, 2) implementation of minimization measures, 3) compensation for impacts to riparian habitats and other waters and upland habitat; and 4) preservation of open space lands that contain suitable upland characteristics adjacent to the offsite breeding pond, along with opportunities to enhance onsite aquatic features.

Avoidance. Avoidance of a sensitive resource is usually considered the preferred mitigation for any project. Therefore, from a standpoint of avoiding impacts to CRLF, the project should be designed in ways that avoids impacts to riparian, aquatic, and upland habitats to the maximum extent practicable. As the only feasible access to the site would be by crossing East Branch Green Valley Creek, impacts to the riparian corridor, while they have been minimized to two access points, cannot be avoided entirely. Clustering and siting of the project, as well as placing a portion of the custom lots under a deed restriction, has allowed for the preservation of 308

acres of open space. Again, while this has minimized impacts to upland and other aquatic habitats, it is not feasible to avoid potential impacts entirely.

Minimization. The project should be designed, built, and operated in ways that minimize both direct and indirect impacts to the CRLF. Clustering and siting of the project, as well as placing a portion of the custom lots under a deed restriction, has allowed for the preservation of 308 acres of open space and minimized impacts to CRLF habitat. Implementation of the following measures, partially summarized below and described more fully in Appendix D, should be taken during any construction occurring in or along East Branch Green Valley Creek to avoid take of individual CRLF.

- Prior to the start of construction, a qualified biologist should train all construction personnel regarding habitat sensitivity, identification of special status species, and required practices.
- Pre-construction surveys should be conducted to ensure that CRLF are absent from the construction area. If CRLF are present, a qualified biologist possessing all necessary permits should relocate them, or they should be allowed to move out of the construction area on their own.
- Immediately following the pre-construction surveys and a determination that CRLF are not present in the construction zone, the construction zone should be cleared, and silt fencing should be erected and maintained around construction zones to prevent CRLF from moving into these areas.
- A biological monitor should be present onsite during times of construction within the riparian habitat of East Branch Green Valley Creek to ensure no CRLF are harmed, injured, or killed during project buildout.

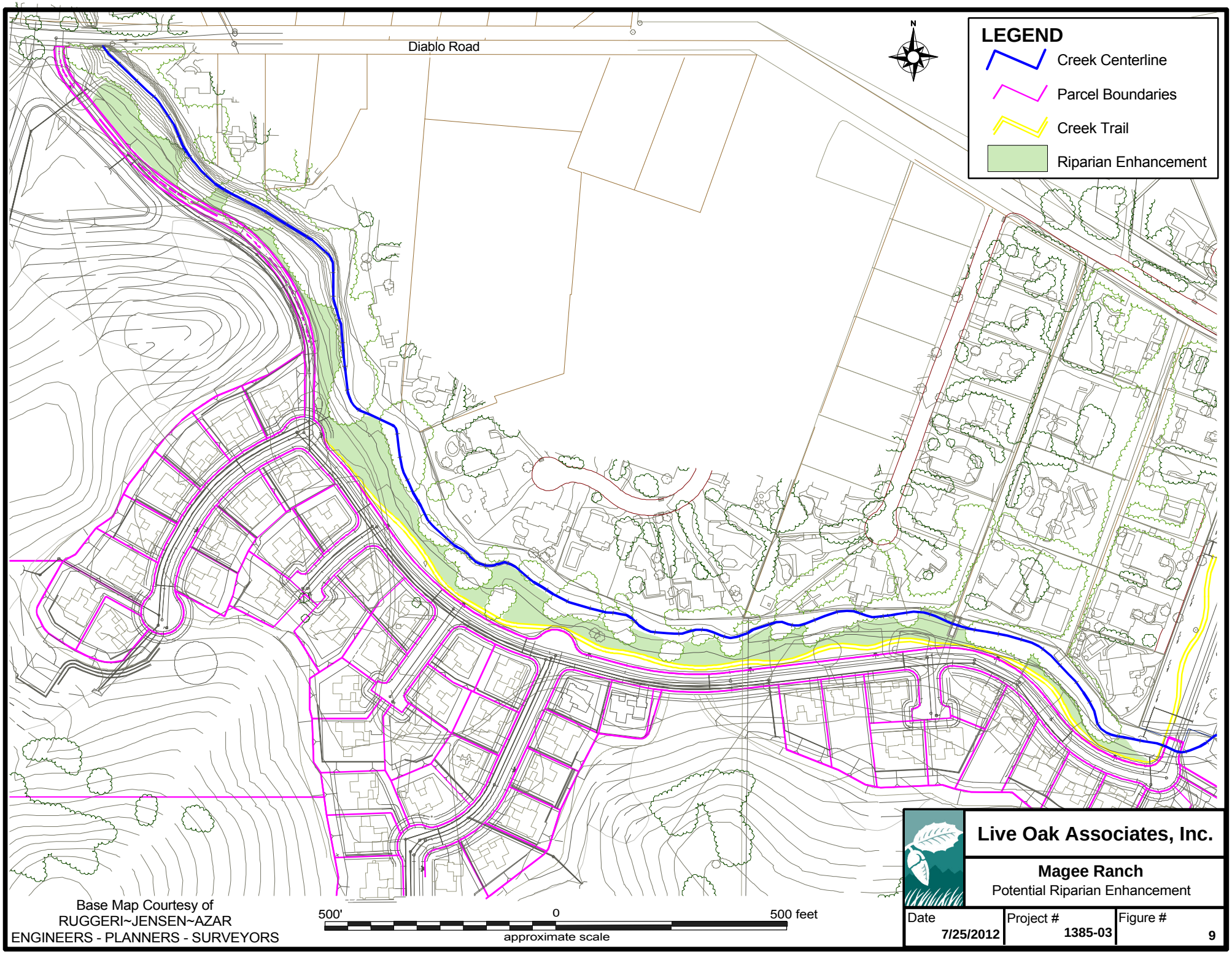
Additionally, typical neighborhood activities and use of the creekside trail could result in an artificial increase in small mammalian predators, particularly the raccoon, along East Branch Green Valley Creek. Signage could be posted along the trail cautioning the public not to feed wildlife.

Compensation: riparian restoration. The project would impact approximately 0.3 acres of moderate-quality riparian habitat resulting from construction of the vehicular bridges across East Branch Green Valley Creek. Therefore, the project should replace the lost value of this impact by restoring the impacted riparian habitat at a minimum of a 1:1 replacement-to-loss ratio. The

final mitigation amounts will be based on actual impacts to be determined during the design phase. If impacts are lessened, then the amount of mitigation will be appropriately reduced.

The implementation of compensation measures for impacts to riparian habitat will sufficiently mitigate for the loss of CRLF habitat in the East Branch Green Valley Creek riparian corridor, reducing impacts to a less-than-significant level (see section 3.3.10 for details related to restoring impacted riparian habitats). The following are various components that will or can be implemented to reduce impacts to a less than significant level:

- The existing wet crossing and asphalt near the panhandle (i.e., where the new bridge is to be constructed) will be removed. The silt and sediment buildup that has occurred behind and adjacent to the wet crossing and asphalt will also be removed, and the creek bed will be lowered to restore the natural flow of this portion of the creek.
- The existing crossing from San Andreas Drive will be removed, and the creek will be restored in this region.
- The two existing cattle grates that are on Magee West near the existing culverts will be removed. One of these, in particular, is causing sediment to build up and is having a significant adverse impact on the creek. The natural flow of this channel will be restored back to its original condition prior to the original installation of the grates.
- The riparian corridor along the East Branch of Green Valley Creek will be enhanced with suitable planting and placement of riparian vegetation along the recreational trail on Magee East (Figure 9). Approximately 2 acres along East Branch Green Valley Creek between the creek and the recreational trail is available to accommodate the minimum 0.3 acres of riparian enhancement plantings. The enhancement area will be planted with native species appropriate for the corridor.


Diablo Road
N
LEGEND
Creek Centerline
Parcel Boundaries
Creek Trail
Riparian Enhancement
Base Map Courtesy of
RUGGERI~JENSEN~AZAR
ENGINEERS - PLANNERS - SURVEYORS
500'
0
500 feet
approximate scale
Live Oak Associates, Inc.
Magee Ranch
Potential Riparian Enhancement
Date
7/25/2012
Project #
1385-03
Figure #
9

Compensation: jurisdictional waters. The project would impact approximately 0.5 acres of jurisdictional waters that are of a degraded quality and marginal value for the CRLF. The project should replace the lost functions and value of this impact to aquatic habitats at a minimum of a 1:1 replacement-to-loss acreage ratio. The final mitigation amounts will be based on actual impacts to be determined during the design phase. If impacts are lessened, then the amount of mitigation will be appropriately reduced.

Habitat replacement via creation of and/or enhancements to existing waters should occur onsite. Onsite lands proposed to be preserved as open space are within the same watershed as the offsite detention basin known to support breeding CRLF and are expected to fully accommodate creation of and/or enhancements to aquatic habitats that would be of substantially higher value to CRLF than the impacted waters. Therefore, compensation for impacts to jurisdictional waters to benefit the CRLF will include all of the aforementioned components discussed under "*Compensation: riparian restoration,*" along with improving the wetland character of the onsite stock pond and enhancing the associated riparian habitat between the stock pond and the detention basin. The implementation of compensation measures for impacts to waters of the U.S. will sufficiently mitigate for the loss of aquatic habitat for CRLF, reducing impacts to a less-than-significant level (see section 3.3.10).

Compensation: upland habitat. The project proposes to preserve approximately 308 acres of the ranch as open space. This amount of open space would sufficiently compensate for any loss of CRLF upland habitat. This open space area should be permanently preserved and managed in perpetuity for CRLF and other suitable species. Areas to be preserved should be placed under a conservation easement or deed restriction to prohibit construction and preserve conservation value. A suitable financial vehicle should be identified and secured to provide suitable funding for management and long-term maintenance of the site.

Areas proposed for preservation include upland habitats adjacent to the offsite detention basin and onsite stock pond. As discussed above, this open space provides opportunities to enhance some of the aquatic features within it that will improve the quality of the habitat for CRLF, by increasing the size and depth of the onsite pond, enhancing riparian habitats associated with the

unnamed creek, and managing livestock grazing to maximize the quality of the habitat for CRLF and reduce impacts to aquatic habitats potentially used by CRLF. Therefore, potential opportunities for enhancement include enlarging and deepening the stock pond so that it retains water for more of the year and enhancing it with wetland vegetation to provide cover from predators. Enhancement of the channel and riparian corridor (e.g., formation of plunge pools) between the stock pond and the detention basin would also maximize opportunities for CRLF to disperse from the higher-quality breeding habitat offsite to the onsite pond. Because most of the proposed open space consists of upland habitats (i.e., grasslands and oak savannah), any aquatic features that are created or enhanced within this area would have sufficient associated uplands. Upland habitats should be managed via a long-term management plan to maintain the quality of the habitat for the movement and dispersal of CRLF.

An open space management plan should be prepared for the explicit purpose of managing the open space area. This plan should be submitted to the Town for review and approval prior to grading. At a minimum, this plan should:

- Identify the location of the restoration efforts for replacing jurisdictional waters and riparian habitats. The replacement ratio for both habitats will be at a minimum of a 1:1 ratio;
- Identify the approaches to be used, including the extent that the onsite stock pond be expanded, reconfiguring of the pond bottom and increase in depth, and providing evidence that a sufficient water budget exists for any proposed enhancement;
- Identify a suitable planting regime for restoring wetland and riparian habitats;
- Identify success criteria for monitoring both the wetland and riparian habitats that are consistent with similar habitats regionally;
- Monitor restored wetland habitats for at least 5 years and restored riparian habitats for 10 years;
- Define and identify maintenance and management activities to manage the open space habitats to meet the stated goals of support habitat characteristics suitable for the CRLF. This would include suitable fencing so as to control access, limited cattle grazing or other

procedures to manage grass height and forage production at levels that benefit the CRLF, removal of trash;

- Define and provide for a financial mechanism such as a non-wasting endowment or an assessment district that funds the management of the open space into perpetuity.

These measures that replace lost wetland and riparian habitats at a minimum of 1:1 ratio, provide for the preservation and management of 308 acres of upland habitat, and provide monitoring of construction activities to avoid harm, injury and death of individual CRLF during construction would reduce impacts to CRLF to a less-than-significant level.

3.3.4 Impacts to California Tiger Salamanders

Potential Impacts. While protocol level surveys as defined by the USFWS and CDFG (e.g., pitfall trapping arrays during the winter rains) were not conducted, larval surveys were conducted in the spring of 2011, a year of over 150% of normal rainfall. These surveys failed to detect any breeding activity in the only potential habitat onsite and offsite, in the detention pond. Other potential breeding habitat does not occur within close proximity to the site, which is surrounded by modest levels of residential development.

While a single set of larval surveys are not sufficient to conclusively determine CTS absence, they are adequate to infer that CTS are unlikely to breed within these two ponds, both on and offsite, and, given the absence of any other potential breeding habitat in the vicinity, that CTS are not expected to occur in adjacent upland habitats on the project site (Figs. 4 and 8).

Mitigation. No mitigation is warranted for impacts associated with CTS.

3.3.5 Impacts to Western Pond Turtles

Potential Impacts. The project will result in minor encroachment into habitat (0.3 acres impact to riparian habitat) that likely supports western pond turtle. The loss of this habitat is considered less than significant, as the amount of habitat affected is quite small.

However, construction activities, particularly construction of the two access road creek crossings, occurring in the East Branch Green Valley Creek riparian corridor could result in mortality to individual western pond turtles. The loss of individual turtles would constitute a significant impact under CEQA.

Mitigation. Implementation of the avoidance, minimization, and compensation measures for the CRLF (see section 3.3.3) would adequately address impacts to western pond turtles.

The project should also implement the following construction-related measures (see Appendix D for a more complete set of minimization measures):

- Prior to the start of construction within the East Branch Green Valley Creek riparian area, a qualified biologist should train all construction personnel regarding habitat sensitivity, identification of special status species, and required practices.
- Pre-construction surveys should be conducted to ensure that western pond turtles (WPT) are absent from the construction area. If WPT are present, a qualified biologist possessing all necessary permits should relocate them.
- Immediately following the pre-construction surveys and a determination that western pond turtles are absent from the construction zone, the construction zone should be cleared, and silt fencing should be erected and maintained around construction zones to prevent WPT from moving into these areas.
- A biological monitor should be present onsite during times of construction within the riparian habitat of East Branch Green Valley Creek to ensure no WPT are harmed, injured, or killed during project buildout.

3.3.6 Disturbance to Nesting Raptors and Migratory Birds

Potential Impacts. The loss of habitat, particularly when taken into context with the 308 acres to be preserved and managed as open space for the CRLF and other regional species, is considered a less than significant impact for nesting raptors and migratory birds. However, construction related activities that result in harm, injury or death of individuals, or abandonment of an active nest would constitute a significant impact.

Although no stick nests have been observed, trees throughout the oak savannah, oak woodland, and riparian woodland habitats of the site provide suitable nesting habitat for tree-nesting raptors and migratory birds. Yellow warblers, a California species of special concern, may also nest in

the riparian habitat along East Branch Green Valley Creek. If a raptor or other migratory bird (including yellow warblers), regardless of its federal or state status, were to nest on or adjacent to the site prior to or during proposed construction activities, such activities could result in the abandonment of active nests or direct mortality to these birds. Construction activities that adversely affect the nesting success of raptors or result in mortality of individual birds constitute a violation of state and federal laws (see section 3.2.3) and would be considered a significant impact under CEQA.

Mitigation. To the maximum extent practicable, trees planned for removal should be removed during the non-breeding season (September 1 through January 31). If it is not possible to avoid tree removal or other disturbances during the breeding season (February 1 through August 31), a qualified biologist should conduct a pre-construction survey for tree-nesting raptors and other tree- or ground-nesting migratory birds in all trees or other areas of potential nesting habitat within the construction footprint and within 250 ft. of the footprint, if such disturbance will occur during the breeding season. This survey should be conducted no more than 14 days prior to the initiation of demolition/construction activities during the early part of the breeding season (February through April) and no more than 30 days prior to the initiation of these activities during the late part of the breeding season (May through August). If nesting raptors or migratory birds are detected on the site during the survey, a suitable construction-free buffer should be established around all active nests. The precise dimension of the buffer (a minimum of 150 ft., up to a maximum of 250 ft.) would be determined at that time and may vary depending on location and species. Buffers should remain in place for the duration of the breeding season or until it has been confirmed by a qualified biologist that all chicks have fledged and are independent of their parents. Pre-construction surveys during the non-breeding season are not necessary, as the birds are expected to abandon their roosts during construction activities. Implementation of the above measures would mitigate impacts to tree-nesting raptors and other migratory birds to a less-than-significant level.

3.3.7 Impacts to Burrowing Owls

Potential Impacts. Although no burrowing owls have been observed on the site, suitable nesting habitat for burrowing owls is present throughout the site in the form of small mammal

burrows. If a burrowing owl were to nest in the proposed development area prior to the start of construction, construction activities could result in the abandonment of active nests or direct mortality to these birds. Construction activities that adversely affect the nesting success or result in mortality of individual owls constitute a violation of state and federal laws (see section 3.2.3) and would be considered a significant impact under CEQA.

The loss of potential foraging habitat for burrowing owls is less than significant due to the onsite preservation of 308 acres of suitable foraging habitat. This land set aside would more than sufficiently accommodate any potential loss of habitat for this species.

Mitigation. In order to avoid impacts to active burrowing owl nests, a qualified biologist should conduct pre-construction surveys for burrowing owls within the construction footprint and within 250 ft. of the footprint no more than 30 days prior to the onset of ground disturbance. These surveys should be conducted in a manner consistent with the CDFG's burrowing owl survey methods (CDFG 2012b). If pre-construction surveys determine that burrowing owls occupy the site during the non-breeding season (September 1 through January 31), then a passive relocation effort (e.g., blocking burrows with one-way doors and leaving them in place for a minimum of three days) may be necessary to ensure that the owls are not harmed or injured during construction. Once it has been determined that owls have vacated the site, the burrows can be collapsed, and ground disturbance can proceed. If burrowing owls are detected within the construction footprint or immediately adjacent lands (i.e., within 250 ft. of the footprint) during the breeding season (February 1 through August 31), a construction-free buffer of 250 ft. should be established around all active owl nests. The buffer area should be enclosed with temporary fencing, and construction equipment and workers should not enter the enclosed setback areas. Buffers should remain in place for the duration of the breeding season or until it has been confirmed by a qualified biologist that all chicks have fledged and are independent of their parents. After the breeding season, passive relocation of any remaining owls may take place as described above.

3.3.8 Impacts to American Badgers

Potential Impacts. Impacts to the American badger would be similar to those for the burrowing owl. Conversion of grasslands to urban development would result in a less-than-significant loss of habitat for the American badger but could result in harm or injury to individuals of this species, which would constitute a significant adverse impact.

The loss of potential habitat for badgers is less than significant due to the onsite preservation of 308 acres of suitable habitat. This land set aside would more than sufficiently accommodate any potential loss of habitat for this species.

Mitigation. Pre-construction surveys conducted for burrowing owls should also be used to determine the presence or absence of badgers in the development footprint. If an active badger den is identified during pre-construction surveys within or immediately adjacent to the construction envelope, a construction-free buffer of up to 300 ft. (or distance specified by the resource agencies, i.e., CDFG) should be established around the den. Because badgers are known to use multiple burrows in a breeding burrow complex, a biological monitor should be present onsite during construction activities to ensure the buffer is adequate to avoid direct impact to individuals or nest abandonment. The monitor would be necessary onsite until it is determined that young are of an independent age and construction activities would not harm individual badgers. Once it has been determined that badgers have vacated the site, the burrows can be collapsed or excavated, and ground disturbance can proceed.

3.3.9 Potential Impacts to Golden Eagles

Potential Impacts. The site supports suitable breeding and foraging habitat for golden eagles. However, golden eagles have not been reported nesting on the site, and surveys conducted by LOA in 2010 and 2011 have not detected any eagle nests on the site. The closest known nests are approximately seven miles away in Dublin. Therefore, the proposed project is not expected to impact golden eagle nests. While eagles have not been reported historically to nest on the site and have not been found recently on the site, they may forage occasionally on the site. The loss of potential foraging habitat is less than significant due to the onsite preservation of 308 acres of suitable foraging habitat.

Mitigation. Mitigation measures are not warranted.

3.3.10 Disturbance to Waters of the United States or Riparian Habitats

Potential Impacts. A formal wetland delineation of Magee Ranch was conducted by LOA in 2010. The USACE has determined that East Branch Green Valley Creek, the unnamed seasonal drainage in the south half of the site, various smaller ephemeral tributaries, the borrow pit, and the stock pond are subject to their regulatory authority. The Regional Water Quality Control Board (RWQCB) will take jurisdiction over these features as well, and the California Department of Fish and Game (CDFG) will exert jurisdiction over the drainages.

Except for the creek crossings, East Branch Green Valley Creek and its riparian corridor will remain essentially intact. The Town of Danville has determined that the proposed project conforms to their creek setback ordinance (see section 3.2.5) to preserve sensitive riparian habitats and maintain watershed health. The emergency vehicle access road passes under the riparian canopy at one location, but this is in the location of the existing ranch road. All other project elements, including homes, the main neighborhood road, the remainder of the emergency vehicle access road, and recreational trail, appear to be sited anywhere from several feet to approximately 50 ft. outside of the riparian corridor.

Approximately 0.5 acres of jurisdictional waters would be filled as a result of proposed project activities. This includes impacts to East Branch Green Valley Creek from the proposed vehicular creek crossings and fill of several ephemeral drainages, the borrow pit, and the erosional pit to accommodate build-out of the clustered and custom lots.

Construction of the creek crossings would also result in permanent and temporary impacts to approximately 0.3 acres of riparian habitat, including the removal of riparian trees, along East Branch Green Valley Creek. Construction of the outfalls would result in additional small permanent impacts to the banks of East Branch Green Valley Creek at each location. The placement of fill within these features and the loss or degradation of associated riparian habitat value would constitute a significant adverse impact under CEQA.

The discharge of water from the proposed outfalls would result in those reaches of the bed and bank of East Branch Green Valley Creek at and immediately downstream of the outfall locations receiving more water for longer durations than before and, therefore, possibly an increase in riparian vegetation along the creek banks at each location. This could result in a net benefit to the riparian habitat along East Branch Green Valley Creek.

Thus, the loss of approximately 0.5 acres of jurisdictional waters and 0.3 acres of riparian habitat constitutes a significant impact of these sensitive habitats. The following mitigations measures would reduce these impacts to a less than significant level.

Mitigation. The project proponent should implement avoidance, minimization, and/or compensation measures to reduce impacts to jurisdictional waters and riparian habitats to a less-than-significant level.

Avoidance. The preferred method of mitigation would be avoidance of all waters of the U.S. and State by designing the project so that it avoids the placement of fill within potential jurisdictional waters and impacts to riparian habitat.

The Town of Danville has determined that the proposed project conforms to their creek setback ordinance (see section 3.2.5) to preserve sensitive riparian habitats and maintain watershed health. However, even with a riparian setback in place, full avoidance of the riparian corridor is not feasible due to the need for culvert repairs and maintenance, a storm drain and subdrain system, and vehicular access to the site across East Branch Green Valley Creek.

Additionally, to avoid the site's steeper slopes and ridgelines, the proposed project is confined to the flatter areas in the northern part of the site, which requires fill of ephemeral drainages in these areas.

Minimization. Because full avoidance is not possible, actions should be taken to minimize impacts to aquatic and riparian habitats. Measures taken during construction activities should

include placing construction fencing around the aquatic features or riparian areas to be preserved to ensure that construction activities do not inadvertently impact these areas.

As part of project build-out, all proposed lighting should be designed to avoid light and glare impacts to the riparian corridor. Light sources should not be visible from riparian areas and should not illuminate riparian areas or cause glare on the opposite side of the creek (e.g., to neighboring properties). Additionally, proposed development activities should be designed and situated to avoid the loss of trees within the riparian area to the maximum extent practicable.

Compensation. The project will result in approximately 0.3 acres of impact to riparian habitat and approximately 0.5 acres of impact to areas under the jurisdiction of the USACE. This includes impacts to East Branch Green Valley Creek and associated riparian trees, impoundments (including the borrow pit), and the ephemeral drainages. The project should replace the lost habitat value of these impacts by restoring the impacted riparian habitat and jurisdictional waters at a minimum of a 1:1 replacement-to-loss ratio. The final mitigation amounts will be based on actual impacts to be determined during the design phase. If impacts are lessened, then the amount of mitigation will be appropriately reduced.

An onsite habitat mitigation and monitoring plan (HMMP) would need to be developed to mitigate for impacts to these features. The HMMP should include both an aquatic habitat restoration plan and a riparian habitat restoration plan. It is expected that all compensation measures can be accommodated within the 308 acres of the site that is proposed for preservation as open space. Other than the limited impacts to jurisdictional waters in East Branch Green Valley Creek, the impacts will occur primarily within relatively low quality features (e.g., ephemeral drainages, borrow pits, etc.). The mitigation ratio for these impacts would result in the creation of riparian and wetland habitats with substantially greater value than what are being lost.

Section 3.3.3 (Impacts to California red-legged frogs) provides a detailed discussion of the various enhancements and restoration measures that will be employed by the project to reduce impacts to a less than significant level. These include: 1) replacing the wet crossing near the

panhandle, removing the sediment build-up, and restoring the creek at that location to its natural grade; 2) removing the existing bridge from San Andreas Drive and restoring the creek at that location; 3) removing cattle grates and the build-up of sediment on Magee West;) enhancing and restoring riparian woodland habitat along East Branch Green Valley Creek; and 5) enhancing and increasing the capacity of the onsite stock pond.

The mitigation goal should be to create and enhance riparian or aquatic habitats with habitat functions and values greater than or equal to those existing in the impact zone. This could include restoring and enhancing the stock pond and associated seasonal drainage and tributaries to increase their wetland and riparian value, which would benefit native wildlife in the region, such as CRLF (section 3.3.3). As such, compensation measures should include:

- Creation and/or enhancement of approximately 0.5 acres of jurisdictional waters. The final mitigation amount will be based on actual impacts to be determined during the design phase;
- Creation and/or enhancement of approximately 0.3 acres of riparian habitat. The final mitigation amount will be based on actual impacts to be determined during the design phase;
- Replacement of all riparian trees (i.e., trees occurring within riparian woodland habitat) at a 5:1 replacement-to-removal ratio. To the maximum extent practicable, removed trees should be replaced with like species or, if such trees are non-native, with species that are known to occur naturally within riparian habitats in the region. These trees should be planted within the East Branch Green Valley Creek riparian corridor or in other areas designated for riparian restoration. For restoration purposes, it is preferable to plant small stock from seed sources collected on or near the site. Therefore, replacement trees in the riparian corridor should be grown from seeds or acorns collected from the site or from nearby creeks within the same watershed.
- Reseeding or replanting of riparian or wetland vegetation (i.e., a combination of trees, shrubs, and herbaceous vegetation) in temporarily impacted areas and designated habitat restoration areas.

At a minimum, the HMMP should:

- Define the location of all restoration/creation activities;
- Provide evidence of a suitable water budget to support any created aquatic and riparian habitats;
- Identify the species, amount, and location of plants to be installed in the aquatic and riparian habitats;
- Identify the time of year for planting and method for supplemental watering during the establishment period;
- Identify the monitoring period. This should be not less than 5 years for aquatic restoration and not less than 10 years for riparian restoration.
- Define success criteria that will be required for restoration efforts to be deemed a success;
- Identify adaptive management procedures that accommodate the uncertainty that comes with restoration projects. These include, but are not limited to, measures to address colonization by invasive species, unexpected lack of water, and excessive foraging of installed plants by native wildlife;
- Define management and maintenance activities (weeding of invasive plants, providing for supplemental water, repair of water delivery systems, etc.); and
- Provide for surety in funding the monitoring and ensuring that the created aquatic and riparian habitats fall within lands to be preserved and managed into perpetuity.

Regulatory issues. The applicant will also need to comply with all state and federal regulations related to construction work that will impact aquatic habitats occurring on the site. The applicant will be required to obtain a Section 404 Clean Water Act permit from the USACE, Section 401 Water Quality Certification from the RWQCB, and/or Section 1600 Streambed Alteration Agreement from the CDFG prior to initiating any construction within these habitats.

3.3.11 Tree Removal Impacts

Potential Impacts. A formal tree survey was conducted by HortScience (2011), at which time the species, location, diameter at 54 inches above grade, health and structural condition, and suitability for preservation of all trees occurring within the proposed development footprint were recorded. In total, three hundred trees representing thirteen species were surveyed. Based on the

Town of Danville's criteria for protected and heritage trees (section 3.2.5), 122 protected trees and 33 heritage trees were present in the surveyed area.

The number of trees to be removed will depend on the final project plans. However, of the three hundred trees surveyed, the project arborist recommended removal of 55 trees. Most of these trees occur in the panhandle and along the East Branch Green Valley Creek riparian corridor and were recommended for removal to accommodate the access road. Of the trees recommended for removal, 13 have protected status (i.e., are at least 10 inches in diameter for single-trunk trees or at least 20 inches in diameter for multi-trunk trees), and 3 have heritage status. As mentioned in section 3.3.1, sixteen northern California black walnuts, a CRPR 1B species, occur in the East Branch Green Valley Creek riparian corridor and in the panhandle fronting Blackhawk Road. Nine of these trees are likely to be removed. The removal of trees regardless of size would constitute a significant impact.

Construction activities that lead to the injury, decline, structural failure, or death of a tree proposed to be retained on the site would also constitute a significant impact.

Mitigation. For mitigation measures related to the removal of trees within the riparian habitat of East Branch Green Valley Creek, refer to section 3.3.10. The following measures are recommended for trees occurring outside of the riparian habitat.

For trees to be retained, a tree preservation plan should be prepared for the project identifying all protection and mitigation measures to be taken and should also include the tree preservation guidelines by HortScience in their report. These measures should remain in place for the duration of construction activities at the project site.

The Town of Danville recommends replacing ordinance-size trees to be removed with approved species "of a cumulative number and diameter necessary to equal the diameter of the tree(s) which are approved for removal." Tree removal should occur pursuant to the Town's tree ordinance, including planting a mixture of small and large box trees to meet the cumulative diameter number of the removed trees. The precise ratio cannot be determined, as the applicant

may choose to plant some large box trees outside the riparian corridor that will alter the number of trees to be replaced.

Non-ordinance-size trees (i.e., trees less than 10 inches in diameter for single-trunk trees or less than 20 inches in diameter for multi-trunk trees) that are removed should be replaced at a replacement-to-removal ratio of 1:1.

To the maximum extent practicable, all native trees that are removed should be replaced with like species. All non-native trees that are removed should be replaced with species that are known to occur naturally within similar habitats in the region.

Replacement of riparian trees will be monitored as part of the riparian habitat restoration plan (section 3.3.10). A monitoring plan for the other replacement trees should be developed and submitted to the Town of Danville during the permit process. The basic components of the monitoring plan should consist of final success criteria, specific performance criteria, monitoring methods, data analysis, monitoring schedule, contingency/remedial measures, and reporting requirements.

Implementation of the above mitigation measures would reduce the loss of trees to a less-than-significant level.

3.3.12 Loss of Habitat for Native Wildlife

Potential Impacts. The habitats of the site are likely to comprise only a portion of most wildlife's entire home range or territory. As such, some species may disperse through the site, but most wildlife presently using the site do so as part of their normal movements for foraging, mating, and caring for young. Wildlife species presently occupying the site would be displaced or lost from the proposed development areas.

Future development could affect up to 102 acres, nearly all of which can currently be used by native wildlife. Future development would primarily result in the loss of non-native grassland habitats (Figure 8). Future development would also impact aquatic features such as East Branch

Green Valley Creek and its associated riparian corridor, several ephemeral drainages, and a borrow pit (see section 3.3.10 regarding disturbance to these habitats).

The 102 acres to be developed are concentrated in the flatter areas along Diablo and Blackhawk Roads at the north end of the property near existing development. Even after this area is developed, large areas of non-native grassland habitats in surrounding lands will remain. This suggests that the proposed project, when considered by itself, will neither result in a wildlife population dropping below self-sustaining levels nor threaten to eliminate an animal community. Furthermore, mitigations have been proposed for a number of species previously discussed to adequately offset grassland and aquatic habitat losses. In particular, the project proposes to preserve 308 acres, primarily concentrated in the southern part of the site, as open space. As habitat for native wildlife, this proposed open space is of higher quality than the area proposed for development because it is contiguous with open space and undeveloped lands to the west, south, and east.

Therefore, impacts to native wildlife due to the loss of habitat resulting from the proposed project are considered less than significant under CEQA.

Mitigation. Mitigation measures are not warranted.

3.3.13 Interference with the Movement of Native Wildlife

Potential Impacts. Lands surrounding the site have been modestly developed with roads and residences, which may impede the movement of wildlife between the site and more open lands to the east. Within the site itself, wildlife uses the upland habitats of the site as part of their home range and dispersal movements. The proposed development footprint occurs in the northern part of the site near existing roads and residences. Following project buildout, the majority of the site will remain as open space for use as home range and dispersal movements. East Branch Green Valley Creek and the various seasonal drainages on the site likely facilitate the movement of amphibians, reptiles, birds, and mammals within and through the site. The vehicular access roads crossing the creek are not expected to reduce the capability of East Branch Green Valley Creek to facilitate the migration and dispersal of wildlife. Wildlife species presently using the

site are expected to continue moving through the open areas of the site and within the East Branch Green Valley Creek riparian corridor after project build-out. Therefore, impacts to wildlife movements would not be considered significant.

Mitigation. Mitigation measures are not warranted.

3.3.14 Degradation of Water Quality in Seasonal Drainages, Stock Ponds, and Downstream Waters

Potential Impacts. Proposed construction activities will result in soils left barren in the development footprint. Additionally, extensive grading often leaves the soils of construction zones barren of vegetation and, therefore, vulnerable to sheet, rill, or gully erosion. Furthermore, runoff is often polluted with grease, oil, pesticide and herbicide residues, heavy metals, etc. These pollutants may eventually be carried to sensitive wetland habitats used by a diversity of native wildlife species.

The applicant is expected to comply with the provisions of a grading permit, including standard erosion control measures that employ best management practices (BMPs). Projects involving the grading of large tracts of land must also be in compliance with provisions of a General Construction permit (a type of NPDES permit) available from the California Regional Water Quality Control Board. Compliance with the above permit(s) should result in no impact to water quality in seasonal creeks, reservoirs, and downstream waters from the proposed project and should not result in the deposition of pollutants and sediments in sensitive riparian and wetland habitats.

Mitigation. Mitigation measures are not warranted.

3.3.15 Local Ordinances or Habitat Conservation Plans

Potential Impacts. With the exception of local ordinances previously discussed, no local ordinances, HCPs, or NCCPs are known to be in effect for this project. Therefore, the proposed project would not be impacted by any local policies related to biological resources.

Mitigation. Mitigation measures are not warranted.

3.4 PUBLIC TRAIL NETWORK

A future public trail network is conceptually proposed for alignment along existing fire and private service roads on lands to be preserved as open space on Magee East. This network would connect to the existing Sycamore Valley Open Space trail on lands immediately east of the site.

This trail is not only conceptual, but any future CEQA analysis will be undertaken at the time the appropriate agency chooses to propose, build and operate the trail system. It is anticipated that most, if not all, of the future trails will occur on existing fire and service roads. Impacts from trails that utilize existing roads are expected to be less than significant.

While the design and eventual construction of any trail system will be analyzed in a future CEQA document, it is possible to outline the likelihood of any impacts for trail segments that might fall outside existing fire or service roads. This is simply a conceptual discussion of what impacts may occur for any future trail alignment, and, therefore, no mitigation is being provided, as that would come at such time a project is proposed. The following potential impacts have been identified for any deviations from the existing road alignments and any future connection points.

Special status plants. None of the 36 special status plant species known to occur in the region would be expected to occur in the existing fire and service roads, as these roads are well-maintained and devoid of vegetation.

Twelve special status plant species known to occur in the region—large-flowered fiddleneck (*Amsinckia grandiflora*), bent-flowered fiddleneck (*Amsinckia lunaris*), big-scale balsamroot (*Balsamorhiza macrolepis* var. *macrolepis*), big tarplant (*Blepharizonia plumosa*), round-leaved filaree (*California macrophylla*), Mt. Diablo fairy lantern (*Calochortus pulchellus*), Congdon's tarplant (*Centromadia parryi* ssp. *congdonii*), Mt. Diablo buckwheat (*Eriogonum truncatum*), fragrant fritillary (*Fritillaria liliacea*), Diablo helianthella (*Helianthella castanea*), Santa Cruz

tarplant (*Holocarpha macradenia*), and robust monardella (*Monardella villosa* ssp. *globosa*)—may occur at the trail connection point to offsite open space lands.

Focused surveys should be conducted to determine the extent to which any of these twelve species occur at the trail connection point, once its location has been identified. These focused special status plant surveys should be conducted prior to ground disturbance and should occur during the appropriate blooming season for the twelve species.

Special status animals. Any portion of the public trail network deviating from the existing roads as well as any trail connection points would impact small areas of upland habitat in the preserved lands and special status animal species that may occur in them in a manner similar to that discussed in sections 3.3.2, 3.3.4, 3.3.6, 3.3.7, and 3.3.8 of this report. This includes impacts to upland habitat that could be used by CRLF during the wet season, migratory birds and tree-nesting raptors, burrowing owls, and American badgers.

Waters of the U.S. and sensitive habitats. At the time this report was prepared, the public trail network, including any trail connection points, is not expected to impact any waters of the U.S. or sensitive habitats. Should a proposed alignment require the fill in waters of the U.S. or sensitive habitats, these impacts would be considered significant under CEQA.

Tree removal. At the time this report was prepared, the public trail network, including any trail connection points, is not expected to require the removal of any trees, as the network would occur along existing roads, and any future connection point is expected to avoid all trees. Should a proposed alignment require the removal of any trees, such removal would be considered significant under CEQA. Additionally, trail construction activities that lead to the injury, decline, structural failure, or death of a tree proposed to be retained on the site would also constitute a significant impact.

LITERATURE CITED

Austin, C. C., and H. B. Shaffer. 1992. Short-, medium-, and long-term repeatability of locomotor performance in the tiger salamander *Ambystoma californiense*. Functional Ecology, 6(2):145-153.

Barry, S. J., and H. B. Shaffer. 1994. The status of the California tiger salamander (*Ambystoma californiense*) at Lagunita: A 50-year update. Journal of Herpetology, 28(2):159-164.

California Department of Fish and Game. 2011. California fish and game code. Gould Publications. Binghamton, NY.

_____. 2012. State and federally listed endangered and threatened animals of California. The Resources Agency, Sacramento, CA.

_____. 2012a. California natural diversity database. The Resources Agency, Sacramento, CA.

_____. 2012b. Staff report on burrowing owl mitigation. Natural Resources Agency, Sacramento, CA.

California Native Plant Society (CNPS). 2011. Inventory of Rare and Endangered Vascular Plants of California (7th Edition). Rare Plant Scientific Advisory Committee, David P. Tibor, Convening Editor. California Native Plant Society. Sacramento, CA.

EPA and USACE. 2007. Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision in *Rapanos v. United States* & *Carabell v. United States*. Environmental Protection Agency and U.S. Army Corps of Engineers. Washington, D.C.

HortScience, Inc. 2011. Preliminary tree report, Magee Ranch, Danville, CA. HortScience. Pleasanton, CA.

Jennings, M. R. 1988. Natural history and decline of native ranids in California. Pages 61-72 In: H. F. De Lisle, P. R. Brown, B. Kaufman, and B. McGurty (editors). Proceedings of the Conference On California Herpetology. Southwestern Herpetologists Society, Special Publication (4):1-143.

_____. 1996. Natural history notes: *Ambystoma californiense* (California tiger salamander). Burrowing ability. Herpetological Review, 27(4):194.

Jennings, M. R. and M. P. Hayes. 1994. Amphibian and Reptile Species of Special Concern in California. California Department of Fish and Game, Final Report.

Live Oak Associates, Inc. (LOA). 2011a. Results of the focused herpetological special status species surveys for Magee Ranch in Danville California.

_____. 2011b. Magee Ranch investigation of potential waters of the United States. LOA. San Jose, CA.

_____. 2011c. Magee West investigation of potential waters of the United States. LOA. San Jose, CA.

Livezey, R. L., and A. H. Wright. 1947. A synoptic key to the salientian eggs of the United States. The American Midland Naturalist, 37(1):179-222.

Loredo, I., D. Van Vuren, and M. L. Morrison. 1961. Habitat use and migration behavior of the California tiger salamander. Journal of Herpetology, 30(2):282-285.

Loredo, I., and D. Van Vuren. 1996. Reproductive ecology of a population of the California tiger salamander. Copeia, 1996(4):895-901.

Natural Resource Conservation Service. 2007. Soil survey of Contra Costa County, California, USDA. http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx.

Petranka, J. W. 1998. Salamanders of the United States and Canada. Smithsonian Institution Press, Washington and London.

Pickwell, G. 1947. Amphibians and reptiles of the Pacific States. Stanford University Press, Stanford, CA.

Ruggeri Jensen Azar & Associates. 2011. Subdivision 9291 – Magee Ranches. Ruggeri Jensen Azar & Associates. Pleasanton, CA.

Shaffer, H. B., R. N. Fisher, and S. E. Stanley. 1993. Status report: the California tiger salamander (*Ambystoma californiense*). Final report to the California Department of Fish and Game, Inland Fisheries Division, Rancho Cordova, California, under contracts (FG 9422 and FG 1383). 93 p.

Stebbins, R. C. 1951. Amphibians of western North America. University of California Presss, Berkeley, California.

_____. 1985. A field guide to western reptiles and amphibians. Second edition, revised. Houghton Mifflin Company, Boston, Massachusetts. xiv+336 p.

Storer, T. I. 1925. A synopsis of the amphibia of California. University of California Publications in Zoology, 27:1-1-342.

Twitty, V. C. 1941. Data on the life history of *Ambystoma californiense* Gray. Copeia, 1941(1):1-4.

U.S. Army Corps of Engineers (USACE). 1987. Corps of Engineers wetlands delineation manual. Department of the Army.

_____. 2001. Minimum standards for acceptance of preliminary wetland delineations. U.S. Army Corps of Engineers Regulatory Branch. November 30.

_____. 2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0). Engineer Research and Development Center.

U. S. Fish and Wildlife Service. 2009. Endangered and threatened wildlife and plants.

Wetland Training Insitute, Inc. 1991. Federal Wetland Regulation Reference Manual. B.N. Goode and R.J. Pierce (eds.) WTI 90-1. 281pp.

Zeiner, David C., William F. Laudenslayer, Kenneth E. Mayer and Marshal White. Ed. 1988. California's wildlife, volume I, amphibians and reptiles. Department of Fish and Game. Sacramento, CA. 272 pp.

_____. 1988. California's wildlife, volume II, birds. Department of Fish and Game. Sacramento, CA. 731 pp.

_____. 1988. California's wildlife, volume III, mammals. Department of Fish and Game. Sacramento, CA. 407 pp.

APPENDIX A: VASCULAR PLANTS OF THE STUDY AREA

The plants species listed below were observed on Magee Ranch during the field surveys conducted by Live Oak Associates, Inc. in January and April 2010, and in March, April, June, and August 2011. The U.S. Fish and Wildlife Service wetland indicator status of each plant has been shown following its common name.

OBL - Obligate
FACW - Facultative Wetland
FAC - Facultative
FACU - Facultative Upland
UPL - Upland
+/- - Higher/lower end of category
NR - No review
NA - No agreement
NI - No investigation

AGAVACEAE – Agave Family		
Chlorogalum pomeridianum var. *pomeridianum*	Soap plant	UPL
ALLIACEAE – Onion Family		
Allium sp.	Onion	-
AMARANTHACEAE – Amaranth Family		
*Amaranthus albus**	Tumbleweed	FACU
Amaranthus blitoides	Prostrate pigweed	FACW
*Amaranthus deflexus**	Low amaranth	UPL
*Amaranthus hybridus**	Smooth pigweed	UPL
ANACARDIACEAE – Sumac Family		
Toxicodendron diversilobum	Poison oak	UPL
APIACEAE – Carrot Family		
*Conium maculatum**	Poison hemlock	FACW
Eryngium aristulatum var. *aristulatum*	California coyote-thistle	OBL
Perideridia kelloggii	Kellogg's yampah	UPL
Sanicula bipinnatifida	Purple sanicle	UPL
Sanicula crassicaulis	Pacific sanicle	UPL
*Torilis arvensis**	Hedge parsley	UPL
*Torilis nodosa**	Knotted hedge parsley	UPL
APOCYNACEAE - Dogbane Family		
*Nerium oleander**	Oleander	UPL
*Vinca major**	Greater periwinkle	UPL
ARALIACEAE – Ginseng Family		
*Hedera helix**	English ivy	UPL
ASCLEPIADACEAE – Milkweed Family		
Asclepias fascicularis	Narrowleaf milkweed	FAC
ASTERACEAE - Sunflower Family		
Achillea millefolium	Common yarrow	FACU
Achyrachaena mollis	Blow-wives	FAC*

Artemisia douglasiana	Mugwort	FACW
Baccharis pilularis	Coyote brush	UPL
*Carduus pycnocephalus**	Italian thistle	UPL
*Carduus tenuiflorus**	Slender-flowered thistle	UPL
*Centaurea calciptrapa**	Purple star thistle	UPL
*Centaurea solstitialis**	Yellow star thistle	UPL
Centromadia parryi ssp. *congdonii*	Congdon's tarplant	FAC
*Cirsium vulgare**	Bull thistle	FACU
Conyza canadensis	Canada horseweed	FAC
*Cynara cardunculus**	Artichoke thistle	UPL
*Cynara scolymus**	Artichoke	UPL
Gnaphalium californicum	California cudweed	UPL
Helenium puberulum	Sneezeweed	FACW
*Helminthotheca echioides**	Bristly ox-tongue	FAC*
Hemizonia congesta ssp. *luzulifolia*	Hayfield tarweed	UPL
Hesperevax sparsiflora var. *sparsiflora*	few-flowered evax	UPL
Holocarpha heermannii	Heermann's tarweed	UPL
*Hypochaeris glabra**	Smooth cat's-ear	UPL
*Hypochaeris radicata**	Rouch cat's-ear	UPL
*Lactuca saligna**	Willow lettuce	NI*
*Lactuca serriola**	Prickly lettuce	FAC
Lagophylla ramosissima	Common hareleaf	UPL
*Matricaria matricarioides**	Pineapple weed	FACU
Microseris douglasii ssp. *douglasii*	Douglas' microseris	UPL
*Picris echioides**	Bristly ox-tongue	FAC*
Psilocarphus tenellus	Slender woolly-heads	FAC
*Senecio vulgaris**	Common groundsel	NI*
*Silybum marianum**	Milk thistle	UPL
Sonchus asper ssp. *asper**	Prickly sow thistle	FAC
*Sonchus oleraceus**	Common sowthistle	NI*
*Taraxacum officinale**	Dandelion	FACU
*Tragopogon porrifolius**	Purple salsify	UPL
Xanthium spinosum	Spiny cocklebur	FAC+
BORAGINACEAE – Borage Family		
Amsinckia menziesii var. *intermedia*	Common fiddleneck	UPL
Plagiobothrys acanthocarpus	Adobe popcornflower	OBL
Plagiobothrys canescens	Valley popcornflower	UPL
Plagiobothrys trachycarpum	Roughfruit popcornflower	FACW
BRASSICACEAE – Mustard Family		
*Brassica nigra**	Black mustard	UPL
*Capsella bursa-pastoris**	Shepherd's purse	FAC-
Cardamine oligosperma	Bitter cress	FACW
*Hirschfeldia incana**	Summer mustard	UPL
*Lepidium didymum**	Lesser wortcress	UPL
Lepidium latipes var. *latipes*	Dwarf peppergrass	OBL
Lepidium nitidum var. *nitidum*	Shining peppergrass	UPL

*Lepidium squamatum**	Swine cress	UPL
Lepidium strictum	Wayside peppergrass	UPL
Nasturtium officinale	Water cress	OBL
*Raphanus sativus**	Wild radish	UPL
*Sisymbrium officinale**	Hedge mustard	UPL
CAPRIFOLIACEAE – Honeysuckle Family		
Sambucus nigra ssp. *caerulea*	Mexican elderberry	FAC
Symphoricarpos albus var. *laevigatus*	Common snowberry	FACU
Symphoricarpos mollis	Creeping snowberry	UPL
CARYOPHYLLACEAE – Pink Family		
*Cerastium glomeratum**	Mouse-eared chickweed	UPL
*Silene gallica**	Common catchfly	UPL
*Spergularia rubra**	Purple sand spurry	FAC-
*Stellaria media**	Chickweed	FACU
CHENOPODIACEAE – Goosefoot Family		
*Chenopodium murale**	Wall goosefoot	UPL
CONVOLVULACEAE – Morning-Glory Family		
*Convolvulus arvensis**	Field bindweed	UPL
CUCURBITACEAE – Gourd Family		
Marah fabaceus	California manroot	UPL
CYPERACEAE -- Sedge Family		
Cyperus eragrostis	Tall flatsedge	FACW
Eleocharis macrostachya	Common spikerush	OBL
EUPHORBIACEAE – Spurge Family		
*Chamaesyce serpens**	Serpent spurge	FAC*
*Euphorbia peplus**	Petty spurge	UPL
FABACEAE – Legume Family		
Glycyrrhiza lepidota	Wild licorice	FAC+
Lathyrus sp.	Pea	-
*Lotus corniculatus**	Bird's foot trefoil	FAC
Lupinus bicolor	Miniature lupine	UPL
Lupinus succulentus	Succulent lupine	UPL
*Medicago polymorpha**	Burclover	UPL
*Trifolium angustifolium**	Narrow-leaved clover	UPL
*Trifolium campestre**	Hop clover	UPL
*Trifolium dubium**	Shamrock	FACU*
*Trifolium fragiferum**	Strawberry clover	NI*
*Trifolium glomeratum**	Clustered clover	UPL
*Trifolium hirtum**	Rose clover	UPL
*Trifolium incarnatum**	Crimson clover	UPL
*Trifolium repens**	White clover	FACU+
*Trifolium resupinatum**	Persian clover	UPL
*Trifolium subterraneum**	Subterranean clover	UPL
*Trifolium tomentosum**	Woolly clover	NI*
Vicia sativa ssp. *nigra**	Common vetch	FACU
Vicia sativa ssp. *sativa**	Spring vetch	FACU

Vicia villosa ssp. *varia**	Hairy vetch	UPL
FAGACEAE – Oak Family		
Quercus agrifolia	Coast live oak	UPL
Quercus douglasii	Blue oak	UPL
*Quercus ilex**	Holly oak	UPL
Quercus lobata	Valley oak	FAC*
GENTIANACEAE – Gentian Family		
Zeltnera muehlenbergii	Muehlenberg's centaury	FAC
GERANIACEAE – Geranium Family		
*Erodium botrys**	Broadleaf filaree	UPL
*Erodium cicutarium**	Redstem filaree	UPL
*Erodium moschatum**	Whitestem filaree	UPL
*Geranium dissectum**	Wild geranium	UPL
*Geranium molle**	Dove's foot geranium	UPL
HIPPOCASTANACEAE – Buckeye Family		
Aesculus californica	California buckeye	UPL
IRIDACEAE – Iris Family		
Sisyrinchium bellum	Blue-eyed grass	FAC
JUGLANDACEAE – Walnut Family		
Juglans hindsii	No. California black walnut	FAC
JUNCACEAE – Rush Family		
Juncus balticus	Baltic rush	OBL
Juncus bufonius var. *bufonius*	Toad rush	FACW+
Juncus mexicanus	Mexican rush	FACW
Juncus xiphioides	Iris-leaved rush	OBL
LAMIACEAE – Mint Family		
Mentha spicata var. *spicata**	Spearmint	OBL
*Rosmarinus officinalis**	Rosemary	UPL
Stachys sp.	Hedge nettle	-
LEMNACEAE – Duckweed Family		
Lemna sp.	Duckweed	OBL
LILIACEAE – Lily Family		
Calochortus argillosus	Clay mariposa lily	UPL
LYTHRACEAE – Loosestrife Family		
*Lythrum hyssopifolium**	Hyssop loosestrife	FACW
MALVACEAE – Mallow Family		
*Malva neglecta**	Dwarf mallow	UPL
*Malva parviflora**	Cheeseweed mallow	UPL
Malvella leprosa	Alkali mallow	FAC*
MORACEAE – Mulberry Family		
*Ficus carica**	Edible fig	UPL
MYRSINACEAE – Primrose Family		
*Anagallis arvensis**	Scarlet pimpernel	FAC
MYRTACEAE – Myrtle Family		
*Eucalyptus sideroxylon**	Red iron bark	UPL
OLEACEAE – Olive Family		

*Ligustrum lucidum**	Privit	UPL
Olea europaea	Olive	UPL
ONAGRACEAE – Evening Primrose Family		
Clarkia affinis	Chaparral clarkia	UPL
Epilobium brachycarpum	Panicled willowherb	UPL
Epilobium ciliatum	Fringed willowherb	FACW
OXALIDACEAE – Oxalis Family		
*Oxalis pes-caprae**	Bermuda buttercup	UPL
PINACEAE – Pine Family		
*Pinus halepensis**	Aleppo pine	UPL
*Pinus radiata**	Monterey pine	UPL
PLANTAGINACEAE – Plantain Family		
*Kickxia elatine**	Sharp-leaved fluellin	NI
Plantago erecta	California plantain	UPL
*Plantago major**	Common plantain	FACW-
*Veronica persica**	Bird's-eye speedwell	UPL
*Veronica anagallis-aquatica**	Water speedwell	OBL
POACEAE - Grass Family		
*Agrostis semiverticillata**	Water bent grass	OBL
*Aira caryophyllea**	Silver hairgrass	UPL
*Avena barbata**	Oat	UPL
Bromus carinatus	California brome grass	UPL
*Bromus diandrus**	Ripgut brome	UPL
*Bromus hordeaceus**	Soft chess	FACU-
*Chloris virgata**	Feather fingergrass	UPL
*Cortaderia jubata**	Pampas grass	UPL
*Cynodon dactylon**	Bermuda grass	FAC
*Cynosurus echinatus**	Dogtail grass	UPL
Festuca idahoensis	Idaho/Blue fescue	NO
*Gastridium ventricosum**	Nit grass	FACU
Hordeum marinum ssp. *gussoneanum**	Mediterranean barley	FAC
*Hordeum murinum**	Foxtail barley	NI
Leymus triticoides	Beardless wildrye	FAC+
*Lolium multiflorum**	Italian ryegrass	UPL
*Phalaris paradoxa**	Paradox canary grass	UPL
*Poa annua**	Annual bluegrass	FACW-
*Polypogon monspeliensis**	Rabbitsfoot grass	FACW
*Taeniatherum caput-medusae**	Medusahead	UPL
Vulpia microstachys	Small fescue	UPL
Vulpia myuros var. *myuros**	Rattail fescue	FACU*
POLYGONACEAE – Buckwheat Family		
Polygonum aviculre ssp. *depressum**	Common knotweed	UPL
*Rumex crispus**	Curly dock	FACW-
*Rumex pulcher**	Fiddle dock	FAC+
PORTULACACEAE – Purslane Family		
Claytonia perfoliata ssp. *perfoliata*	Miner's lettuce	FAC

RANUNCULACEAE – Buttercup Family		
Ranunculus californicus	California buttercup	FAC
*Ranunculus muricatus**	Prickle fruited buttercup	FACW+
ROSACEAE – Rose Family		
Aphanes occidentalis	Lady's mantle	UPL
Oemleria cerasiformis	Oso berry	UPL
*Prunus cerasifera**	Cherry plum	UPL
*Prunus dulcis**	Almond	UPL
*Pyracantha angustifolia**	Firethorn	UPL
Rosa californica	California wild rose	FAC+
Rosa gymnocarpa	Wood rose	NI
*Rubus armeniacus**	Himalayan blackberry	FACW*
RUBIACEAE – Madder Family		
Galium aparine	Common bedstraw	FACU
*Galium murale**	Tiny bedstraw	-
*Sherardia arvensis**	Field madder	UPL
SALICACEAE – Willow Family		
Populus fremontii ssp. *fremontii*	Fremont cottonwood	FACW
Salix laevigata	Red willow	UPL
Salix lasiolepis	Arroyo willow	FACW
SAXIFRAGACEAE – Saxifrage Family		
Lithophragma affine	Woodland star	UPL
SCROPHULARIACEAE – Figwort Family		
*Bellardia trixago**	Bellardia	UPL
Castilleja attenuata	Valley tassels	UPL
Castilleja exserta ssp. *exserta*	Purple owl's clover	UPL
Castilleja rubicundula ssp. *lithospermoides*	Yellow cream sacs	UPL
Castilleja subinclusa ssp. *subinclusa*	Longleaf Indian paintbrush	UPL
Collinsia sparsiflora	Few flowered collinsia	UPL
Triphysaria pusilla	Dwarf owl's clover	UPL
SIMAROUBACEAE – Quassia or Simarouba Family		
*Ailanthus altissima**	Tree-of-Heaven	FACU
THEMIDACEAE – Cluster Lily Family		
Brodiaea elegans ssp. *elegans*	Harvest brodiaea	UPL
Dichelostemma capitatum	Blue dicks	UPL
Triteleia laxa	Ithuriel's spear	UPL
TYPHACEAE – Cattail Family		
Typha angustifolia	Narrow-leaved cattail	OBL
Typha domingensis	Southern cattail	OBL
Typha latifolia	Broadleaf cattail	OBL
ULMACEAE – Elm Family		
Ulmus x *hollandica**	Dutch elm	-
*Ulmus parvifolia**	Chinese elm	UPL
URTICACEAE – Nettle Family		
Urtica dioica ssp. *holosericea*	Hoary stinging nettle	FACW
*Urtica urens**	Dwarf nettle	UPL

VALERIANACEAE – Valerian Family		
Plectritis ciliosa ssp. *ciliosa*	Long-spurred plectritis	UPL
VERBENACEAE – Vervain Family		
Phyla nodiflora var. *nodiflora*	Garden lippia	FACW
VISCACEAE – Mistletoe Family		
Phoradendron serotinum ssp. *macrophllum*	Bigleaf mistletoe	UPL

* Introduced non-native species

APPENDIX B: TERRESTRIAL VERTEBRATE SPECIES THAT POTENTIALLY OCCUR ON THE STUDY AREA

The species listed below are those that may reasonably be expected to use the habitats Magee Ranch routinely or from time to time. The list was not intended to include birds that are vagrants or occasional transients. Terrestrial vertebrate species observed in or adjacent to the study area in January and April 2010 have been noted with an asterisk.

CLASS AMPHIBIA (Amphibians)
- **ORDER CAUDATA (Salamanders)**
  - **FAMILY SALAMANDRIDAE (Newts)**
    - California newt — *Taricha torosa*
  - **FAMILY PLETHODONTIDAE (Lungless Salamanders)**
    - Ensatina — *Ensatina eschscholtzii*
    - Black salamander — *Aneides flavipunctatus*
    - California slender salamander — *Batrachoseps attenuatus*
    - Pacific slender salamander — *Batrachoseps pacificus*
- **ORDER ANURA (Frogs and Toads)**
  - **FAMILY BUFONIDAE (True Toads)**
    - Western toad — *Bufo boreas*
  - **FAMILY HYLIDAE (Tree Frogs and Relatives)**
    - Pacific treefrog — *Hyla regilla*

CLASS REPTILIA (Reptiles)
- **ORDER SQUAMATA (Lizards and Snakes)**
  - **SUBORDER SAURIA (Lizards)**
    - **FAMILY PHRYNOSOMATIDAE**
      - *Western fence lizard — *Sceloporus occidentalis*
    - **FAMILY SCINCIDAE (Skinks)**
      - Skilton skink — *Eumeces skiltonianus skiltonianus*
    - **FAMILY ANGUIDAE (Alligator Lizards and Relatives)**
      - *California alligator lizard — *Elgaria multicarinata*
  - **SUBORDER SERPENTES (Snakes)**
    - **FAMILY COLUBRIDAE (Colubrids)**
      - Sharp-tailed snake — *Contia tenuis*
      - Coachwhip — *Masticophis flagellum*
      - Gopher snake — *Pituophis catenifer*
      - Common kingsnake — *Lampropeltis getula*
      - California black-headed snake — *Tantilla planiceps*
      - Night snake — *Hypsiglena torquata*
      - Western terrestrial garter snake — *Thamnophis elegans*

CLASS AVES (Birds)
- **ORDER CICONIIFORMES (Herons, Storks, Ibises and Relatives)**
  - **FAMILY CATHARTIDAE (New World Vultures)**
    - *Turkey vulture — *Cathartes aura*

ORDER ANSERIFORMES (Screamers, Ducks and Relatives)
FAMILY ANATIDAE (Swans, Geese and Ducks)

*Mallard	*Anas platyrhynchos*
Canada Goose	*Branta canadensis*

ORDER FALCONIFORMES (Vultures, Hawks and Falcons)
FAMILY ACCIPITRIDAE (Hawks, Old World Vultures and Harriers)

*White-tailed kite	*Elanus leucurus*
*Northern harrier	*Circus cyaneus*
Sharp-shinned hawk	*Accipiter striatus*
Cooper's hawk	*Accipiter cooperii*
*Red-shouldered hawk	*Buteo lineatus*
*Red-tailed hawk	*Buteo jamaicensis*
Ferruginous hawk	*Buteo regalis*
Golden eagle	*Aquila chrysaetos*

FAMILY FALCONIDAE (Caracaras and Falcons)

American kestrel	*Falco sparverius*
Merlin	*Falco columbarius*
Prairie falcon	*Falco mexicanus*

ORDER: CHARADRIIFORMES (Shorebirds, Gulls and Relatives)
FAMILY CHARADRIIDAE (Lapwings and Plovers)

Killdeer	*Charadrius vociferus*

ORDER GALLIFORMES (Magapodes, Curassows, Pheasants and Relatives)
FAMILY PHASIANIDAE (Quails, Pheasants and Relatives)

Ring-necked pheasant	*Phasianus colchicus*
*Wild turkey	*Meleagris gallopavo*

FAMILY ODONTOPHORIDAE (New World Quail)

California quail	*Callipepla californica*

ORDER COLUMBIFORMES (Pigeons and Doves)
FAMILY COLUMBIDAE (Pigeons and Doves)

Rock dove	*Columba livia*
*Mourning dove	*Zenaida macroura*

ORDER STRIGIFORMES (Owls)
FAMILY TYTONIDAE (Barn Owls)

Barn owl	*Tyto alba*

FAMILY STRIGIDAE (Typical Owls)

Western screech owl	*Otus kennicottii*
Great horned owl	*Bubo virginianus*
Burrowing owl	*Athene cunicularia*

ORDER APODIFORMES (Swifts and Hummingbirds)
FAMILY TROCHILIDAE (Hummingbirds)

*Anna's hummingbird	*Calypte anna*
Allen's hummingbird	*Selasphorus sasin*

ORDER PICIFORMES (Woodpeckers and Relatives)
FAMILY PICIDAE (Woodpeckers and Wrynecks)

Acorn woodpecker	*Melanerpes formicivorus*
Downy woodpecker	*Picoides pubescens*
*Northern flicker	*Colaptes auratus*

Nuttall's woodpecker	*Picoides nuttallii*
ORDER PASSERIFORMES (Perching Birds)	
FAMILY TYRANNIDAE (Tyrant Flycatchers)	
*Black phoebe	*Sayornis nigricans*
Say's phoebe	*Sayornis saya*
Ash-throated flycatcher	*Myiarchus cinerascens*
FAMILY LANIIDAE (Shrikes)	
Loggerhead shrike	*Lanius ludovicianus*
FAMILY VIREONIDAE (Typical Vireos)	
Cassin's vireo	*Vireo cassinii*
Hutton's vireo	*Vireo huttoni*
FAMILY CORVIDAE (Jays, Magpies and Crows)	
*Steller's jay	*Cyanocitta stelleri*
*Western scrub-jay	*Aphelocoma californica*
*American crow	*Corvus brachyrhynchos*
FAMILY ALAUDIDAE (Larks)	
California horned lark	*Eremophila alpestris actia*
FAMILY HIRUNDINIDAE (Swallows)	
Tree swallow	*Tachycineta bicolor*
*Violet-green swallow	*Tachycineta thalassina*
*Cliff swallow	*Hirundo pyrrhonota*
Barn swallow	*Hirundo rustica*
FAMILY PARIDAE (Titmice and Relatives)	
*Oak titmouse	*Baeolophus inornatus*
FAMILY AEGITHALIDAE (Bushtit)	
Bushtit	*Psaltriparus minimus*
FAMILY SITTIDAE (Nuthatches)	
*White-breasted nuthatch	*Sitta carolinensis*
FAMILY TROGLODYTIDAE (Wrens)	
Bewick's wren	*Thryomanes bewickii*
House wren	*Troglodytes aedon*
Winter wren	*Troglodytes troglodytes*
FAMILY REGULIDAE (Kinglets)	
Ruby-crowned kinglet	*Regulus calendula*
FAMILY SYLVIIDAE (Old World Warblers and Gnatcatchers)	
Blue-gray gnatcatcher	*Polioptila caerulea*
FAMILY TURDIDAE (Thrushes)	
*Western bluebird	*Sialia mexicana*
Hermit thrush	*Catharus guttatus*
American robin	*Turdus migratorius*
FAMILY MIMIDAE (Mockingbirds and Thrashers)	
Northern mockingbird	*Mimus polyglottos*
FAMILY STURNIDAE (Starlings and Allies)	
*European starling	*Sturnus vulgaris*
FAMILY PARULIDAE (Wood Warblers and Relatives)	
Yellow-rumped warbler	*Dendroica coronata*
Yellow warbler	*Dendroica petechia*

FAMILY EMBERIZIDAE (Emberizines)

California towhee	*Pipilo crissalis*
Lark sparrow	*Chondestes grammacus*
Grasshopper sparrow	*Ammodramus savannarum*
Savannah sparrow	*Passerculus sandwichensis*
Fox sparrow	*Passerella iliaca*
White-throated sparrow	*Zonotrichia albicollis*
White-crowned sparrow	*Zonotrichia leucophrys*
*Dark-eyed junco	*Junco hyemalis*

FAMILY ICTERIDAE (Blackbirds, Orioles and Allies)

Red-winged blackbird	*Gelaius phoeniceus*
*Western meadowlark	*Sturnella neglecta*
*Brewer's blackbird	*Euphagus cyanocephalus*
Brown-headed cowbird	*Molothrus ater*

FAMILY FRINGILLIDAE (Finches)

Purple finch	*Carpodacus purpureus*
*House finch	*Carpodacus mexicanus*
Lesser goldfinch	*Carduelis psaltria*
American goldfinch	*Carduelis tristis*

CLASS MAMMALIA (Mammals)

ORDER DIDELPHIMORPHIA (Marsupials)

FAMILY DIDELPHIDAE (Opossums)

Virginia opossum	*Didelphis virginiana*

ORDER CHIROPTERA (Bats)

FAMILY VESPERTILIONIDAE (Evening Bats)

Little brown myotis	*Myotis lucifugus*
Yuma myotis	*Myotis yumanensis*
California myotis	*Myotis californicus*
Western pipistrelle	*Pipistrellus hesperus*
Big brown bat	*Eptesicus fuscus*
Western red bat	*Lasiurus blossevillii*
Hoary bat	*Lasiurus cinereus*
Townsend's big-eared bat	*Corynorhinus townsendii*
Pallid bat	*Antrozous pallidus*

FAMILY MOLOSSIDAE (Free-tailed Bats)

California mastiff bat	*Eumops perotis californicus*
Mexican free-tailed bat	*Tadarida brasiliensis*

ORDER LAGOMORPHA (Rabbits, Hares and Pika)

FAMILY LEPORIDAE (Rabbits and Hares)

Brush rabbit	*Sylvilagus bachmani*
Black-tailed jackrabbit	*Lepus californicus*

ORDER RODENTIA (Rodents)

FAMILY SCIURIDAE (Squirrels, Chipmunks and Marmots)

*California ground squirrel	*Spermophilus beecheyi*
Western gray squirrel	*Sciurus griseus*

FAMILY GEOMYIDAE (Pocket Gophers)	
Botta's pocket gopher	*Thomomys bottae*
FAMILY HETEROMYIDAE (Pocket Mice and Kangaroo Rats)	
California pocket mouse	*Chaetodipus californicus*
FAMILY MURIDAE (Mice, Rats and Voles)	
Deer mouse	*Peromyscus maniculatus*
Parasitic mouse	*Peromyscus californicus*
Western harvest mouse	*Reithrodontomys megalotis*
*Common muskrat	*Ondatra zibethicus*
California meadow vole	*Microtus californicus*
ORDER CARNIVORA (Carnivores)	
FAMILY CANIDAE (Foxes, Wolves and Relatives)	
Coyote	*Canis latrans*
Gray fox	*Urocyon cinereoargenteus*
FAMILY PROCYONIDAE (Raccoons and Relatives)	
Raccoon	*Procyon lotor*
FAMILY MEPHITIDAE (Skunks)	
Striped skunk	*Mephitis mephitis*
FAMILY FELIDAE (Cats)	
Feral cat	*Felis catus*
Mountain lion	*Puma concolor*
Bobcat	*Lynx rufus*
ORDER ARTIODACTYLA (Even-toed Ungulates)	
FAMILY CERVIDAE (Deer, Elk and Relatives)	
*Black-tailed deer	*Odocoileus hemionus columbianus*

APPENDIX C: LIFE HISTORY AND ECOLOGY OF SPECIAL STATUS SPECIES MERITING FURTHER DISCUSSION

California Tiger Salamander (*Ambystoma californiense*). Federal Listing Status: Threatened; State Listing Status: Threatened.

The California tiger salamander is a large terrestrial salamander, with adults attaining a total length of over 8 inches (203 millimeters) [Stebbins 1951]. Dorsally, the background color appears to be jet black--normally with an overlain pattern of white or yellow spots, or bars (Stebbins 1985; Petranka 1998). Adult California tiger salamanders breed from late November through February, following the onset of winter rains (Storer 1925; Barry and Shaffer 1994). Both males and females travel up to 1 mile (1.6 km) or more during nocturnal breeding migrations from subterranean refuge, or aestivation, sites (i.e., small mammal burrows) to egg deposition sites in long-lasting, rain-filled vernal pools (Twitty 1941; Loredo et al. 1961; Austin and Shaffer 1992).

Embryos of California tiger salamanders hatch in approximately 14-28 days after being laid and the resulting gilled, aquatic larvae [0.41-0.43 inches (10.5-11 mm) in length] require a minimum of about 10-12 weeks to complete development through metamorphosis (Storer 1925; Twitty 1941). Following metamorphosis (normally from early May through July), juveniles emigrate en masse at night into small mammal burrows or deep cracks in the soil, which they use as refugia during the hot summer and fall months (Shaffer et al. 1993; Loredo et al. 1996).

Anecdotal evidence indicates that salamanders have a high degree of site fidelity to their breeding ponds and also to the small mammal burrows they use for refugia (Shaffer et al. 1993). Sites used for reproduction are typically natural pools that fill with rainwater and artificial stock ponds; however, salamanders have also been observed to breed in springs, wells, artificial reservoirs, quarry ponds, man-made canals, and rarely, in the slack waters of oxbows in small- to medium-sized streams. Such sites may, or may not contain dense amounts of aquatic and streamside vegetation. The highest numbers of larvae appear to occur in aquatic habitats that are largely devoid of any vegetation and contain very turbid water. Salamanders may also turn up in certain man-made structures (e.g. wet basements, wells, swimming pools, underground pipes, and septic tank drains), sometimes many years after their local breeding site has been destroyed by urbanization (Storer 1925; Pickwell 1947).

Juvenile and adult salamanders typically use the burrows of California ground squirrels and pocket gophers as underground refugia (Storer 1925; Jennings and Hayes 1994; Jennings 1996; Loredo et a1. 1996) but may use a variety of burrows including cracks within the soil that may extend up to 15 feet (4.6 m) deep from the soil surface (Jennings, unpub. data). Juvenile and adult salamanders are especially common in situations where piles of concrete, rock, or other rubble are mixed with dirt and are located near breeding sites (Jennings, unpub. data).

California Red-Legged Frog (*Rana draytonii*). Federal Listing Status: Threatened; State Listing Status: Species of Special Concern.

The California red-legged frog is the largest native frog in California, with adults attaining a length of 3.4-5.4 inches (85-138 mm) snout-to-vent length (SVL) (Jennings and Hayes 1994). On the dorsal surface, the background color varies from brown to gray to reddish-brown, normally with some dark mottling peppered around spots with light-colored centers (Stebbins 1985). The distribution of reddish pigment is highly variable, but is usually restricted to the groin and undersurfaces of the thighs, legs, and feet (Jennings and Hayes 1994). This red coloration is not diagnostic for species identification. Two distinctive, prominent folds of skin ("dorsolateral folds"), run in a complete line from the rear of the eyes to the groin. The groin has a distinctly mottled pattern of black on a light-colored background. Juvenile frogs range from 1.5-3.4 inches (40-84 mm) SVL and have the same coloration as adults except that the dorsolateral folds are normally yellow or orange colored (Stebbins 1985). This coloration is distinct even at a distance. Larval frogs range from 0.6-3.1 inches (14-80 mm).

Adult California red-legged frogs have been observed breeding from late November through early May after the onset of warm rains (Storer 1925, Jennings and Hayes 1994). Male frogs typically attract females by emitting low short calls in small mobile groups of 3-7 individuals (Jennings and Hayes 1994). Females move toward the calling groups and amplex a male. Following amplexus, the females move to chosen oviposition sites where they attach an egg mass of 2,000-6,000 moderate-sized (2.0-2.8 mm diameter) eggs to an emergent vegetation brace such as tule stalks, grasses, or willow roots located just below the water surface (Storer 1925, Livezey and Wright 1947). Once laid, the egg mass will swell with water for about 24 hours,

finally reaching the size of a softball. Males usually remain at the breeding sites for several weeks after reproduction before moving to foraging habitats, while females immediately remove to foraging habitats.

California red-legged frog embryos hatch about 6-14 days following fertilization. The resulting larvae (8.8-10.3 mm) require 14-28 weeks to reach metamorphosis, which usually occurs between July and September, although there are scattered observations of overwintering larvae in perennial ponds such as at the arboretum at Golden Gate Park in San Francisco (Jennings, pers. obs). Tadpoles generally metamorphose at 65-85 mm total length (Storer 1925) and the newly emerged juvenile frogs are generally 25-30 mm SVL. Larvae are thought to graze on algae, but they are rarely observed in the field because they spend most of their time concealed in submergent vegetation, algal mats or detritus (Jennings and Hayes 1994). Post-metamorphic frogs grow rapidly feeding on a wide variety of invertebrates.

Males typically reach sexual maturity at 2 years and females at 3 years; however, frogs of both sexes may reach sexual maturity in a single year if resources are sufficient (Jennings, unpub. data). Conversely, frogs may take 3-4 years to reach maturity during extended periods of drought (Jennings and Hayes 1994). Based on limited field data, California red-legged frogs appear to live up to 10 years in the wild (Jennings, unpub. data). Adult frogs apparently eat a wide variety of animal prey including invertebrates, small fishes, frogs, and small mammals.

California red-legged frogs have been observed in a number of aquatic and terrestrial habitats throughout their historic range. Larvae, juveniles, and adult frogs have been collected from natural lagoons, dune ponds, pools in or next to streams, streams, marshlands, sag ponds, and springs, as well as human-created stock ponds, secondary and tertiary sewage treatment ponds, wells, canals, golf course ponds, irrigation ponds, sand and gravel pits (containing water), and large reservoirs (Jennings 1988). The key to the presence of frogs in these habitats is the presence of perennial (or near perennial) water and the general lack of introduced aquatic predators such as largemouth bass (*Micropterus salmoides*), green sunfish (*Lepomis cyanellus*), and bluegill (*L. macrochirus*), crayfish (*Pacifastacus leniusculus* and *Procambarus clarkii*), and bullfrogs (*Rana catesbeiana*).

The habitats observed to contain the largest densities of red-legged frogs are associated with deep-water pools (27 inches [>0.7 meters] deep) with stands of overhanging willows (*Salix* spp.) and an intermixed fringe of cattails (*Typha* spp.), tule (*Scirpus* spp.), or sedges (*Carex* sp.) (Hayes and Jennings 1988). However, California red-legged frogs have also been observed to inhabit stock ponds, sewage treatment ponds, and artificial (e.g., concrete) pools completely devoid of vegetation (Storer 1925; Jennings, *pers. comm.*). Continued survival of frogs in all aquatic habitats seems to be based on the continued presence of ponds, springs, or pools that are disjunct from perennial streams. Such habitats provide the continued basis for successful reproduction and recruitment year after year into nearby drainages that may lose frog populations due to stochastic events such as extreme flooding or droughts. Juvenile frogs are often observed sunning themselves during the day in the warm, surface-water layer associated with floating and submerged vegetation (Hayes and Tennant 1986). Adult frogs are largely nocturnal and are known to sit on stream banks or on the low-hanging limbs of willow trees over pools of water where they can detect small mammal prey (Hayes and Tennant 1986; Jennings and Hayes 1994). Adult red-legged frogs will move within the riparian zone from well-vegetated areas to pools of water to hydrate during periods of time when many of the streams are dry except for isolated pools (Rathbun et al. 1993). During wet periods (especially in the winter and early spring months), red-legged frogs can move long distances (e.g., 1 mile) between aquatic habitats, often over areas that are considered to be unsuitable for frogs (e.g., roads, open fields, croplands, etc.). Such activities can result in frogs ending up in isolated aquatic habitats well away from the nearest known frog populations.

Western Pond Turtle (*Actinemys marmorata*). Federal Listing Status: None; State Listing Status: Species of Special Concern.

The western pond turtle is the only native aquatic, freshwater turtle in California and normally associates with permanent or nearly permanent aquatic habitats, including streams, lakes, and ponds. Historically, this species occurred in Pacific Coast drainages from Washington to Mexico. This species occurs in aquatic habitats with 1) basking sites such as rocks and logs, 2) dense stands of submergent or emergent vegetation, 3) abundant aquatic invertebrate resources, 4) suitable nearby nesting sites, and 5) the lack of native and exotic predators (Bury 1972;

Jennings and Hayes 1994; Bury and Holland, in press). This species can move along streams up to 3.1 miles (5 kilometers) in a short period of time, and they can tolerate at least 7 days without water (Jennings and Hayes 1994; Bury and Holland, in press).

APPENDIX D: MINIMIZATION MEASURES FOR CALIFORNIA RED-LEGGED FROGS

The following measures will minimize direct and indirect impacts to California red-legged frogs.

1. Prior to the start of construction, a qualified biologist will train all project staff regarding habitat sensitivity, identification of special status species, and required practices. The training shall include the general measures that are being implemented to conserve these species as they relate to the project, the penalties for non-compliance, and the boundaries of the project area. A fact sheet or other supporting materials containing this information should be prepared and distributed. Upon completion of training, employees will sign a form stating that they attended the training and understand all the conservation and protection measures.

2. A qualified biologist will survey the project site prior to, and be present to monitor, construction activities during any initial ground disturbance or vegetation clearing or other periods during construction, as necessary. The biologist will capture and relocate any California red-legged frogs that are discovered during the surveys or construction monitoring. Any individuals that are captured should be held for the minimum amount of time necessary to release them to suitable habitat outside of the work area.

3. A qualified biologist will stake and flag exclusion zones around all known locations of CRLF breeding and upland refugia areas in the construction zone. These areas will be avoided during construction activities to the maximum extent practicable. All construction areas will be flagged, and all activity will be confined to these areas.

4. If a CRLF is encountered during construction work, activities will cease until the animal is removed and relocated by a qualified biologist.

5. Construction activities should be limited to the period from May 1 through October 31.

6. Permanent and temporary construction disturbances and other types of project-related disturbances to CRLF habitat shall be minimized to the maximum extent practicable and confined to the project site. To minimize temporary disturbances, all project-related vehicle traffic shall be restricted to established roads, construction areas, designated cross-country routes, and other designated areas. These areas also should be included in preconstruction surveys and, to the maximum extent possible, should be established in locations disturbed by previous activities to prevent further adverse effects. Sensitive habitat areas shall be delineated with high visibility flagging or fencing to prevent encroachment of construction personnel and equipment into any sensitive areas during project work activities. At no time shall equipment or personnel be allowed to adversely affect areas outside the project site without authorization from the Service.

7. Because dusk and dawn are often the times when CRLF are most actively foraging and dispersing, all construction activities should cease one half hour before sunset and should not begin prior to one half hour before sunrise.

8. No canine or feline pets or firearms (except for federal, state, or local law enforcement officers and security personnel) shall be permitted at the project site to avoid harassment, killing, or injuring of CRLF.

9. A representative shall be appointed by the applicant who will be the contact source for any employee or contractor who might inadvertently kill or injure a CRLF or who finds a dead, injured or entrapped individual. The representative shall be identified during the tailgate/training session. The representative's name and telephone number shall be provided to the Service prior to the initiation of ground disturbance activities.

10. Tightly woven fiber netting or similar material shall be used for erosion control or other purposes at the project site to ensure that CRLF do not get trapped.

11. A litter control program shall be instituted at the entire project site. All construction personnel should ensure that food scraps, paper wrappers, food containers, cans, bottles, and other trash from the project area are deposited in covered or closed trash containers. The trash containers should be removed from the project area at the end of each working day.

APPENDIX D

PRELIMINARY TREE REPORTS

Memorandum

DATE: June 20, 2012

TO: Wendi Baker

FROM: Jim Clark

SUBJECT: Tree preservation
Magee Ranch

Since January 2012, HortScience, Inc. has assessed 300 trees in the area of the Magee Ranch project. The assessed trees were dominated by native species. Along the creek area were thickets of willow (73 trees) interspersed with native oaks. On the hillsides and along Diablo Road, valley (137 trees) blue (13 trees) and coast live (18 trees) oaks were common. Non-native species such as Siberian elm (29 trees) were also present although in smaller numbers. Thirty-three (33) trees met the Town of Danville's criteria for Heritage status.

You provided preliminary project plans for my review (March 2011) which described 78 residential units including 10 custom lots. Sixty lots (1 – 60) would be clustered on the east side of Magee Ranch as would 4 custom lots (61 – 64). On the west side, 8 lots (65 to 67, 71 to 75) and 6 custom lots (68 – 70, 76 – 78) were proposed.

Based on my review of the plans, I estimated that 244 trees would be preserved and 55 removed. Among the 55 trees to be removed would be 3 Heritage trees (#217, 218, 230) and 13 trees with Protected status.

You recently provided me with revised project plans (dated April 2012). The revised plans describe a smaller number of lots. Based on my review of the plans, I recommend preservation of 262 trees and removal of 38. Among trees recommended for preservation are all 33 Heritage trees. Among the 38 trees recommended for removal are four with Protected status: coast live oak #153, valley oak #154 and London planes #258 and 259.

In summary, there are 300 trees within and immediately adjacent to the areas of Magee Ranch proposed for development. Based on my review of the revised plans 262 trees would be preserved and 38 removed.

Please contact me with any questions. Thanks very much

Table 1. Comparison of proposed action: 2011 vs 2012 project plans. Magee Ranch. Danville CA.

Tree No.	Species	Trunk Diameter (in.)	Status ?	Condition 1=poor 5=excell.	2011 plans Proposed Action	2011 plans Notes	2012 plans Proposed Action	2012 plans Notes
1	Siberian elm	8,6,5	--	4	Preserve		Preserve	
2	Siberian elm	6	--	3	Preserve		Preserve	
3	Siberian elm	10	--	4	Preserve		Preserve	
4	Valley oak	15	Protected	4	Preserve		Preserve	
5	Valley oak	10	Protected	3	Preserve		Preserve	
6	Valley oak	38	Heritage	4	Preserve		Preserve	
7	Siberian elm	12	--	3	Remove	Poor suitability; adj. to EVA	Remove	Poor suitability; adj. to EVA
8	Siberian elm	15	--	3	Remove	Poor suitability.	Remove	Poor suitability.
9	Siberian elm	8	--	2	Preserve		Preserve	
10	Siberian elm	7	--	2	Preserve		Preserve	
11	Siberian elm	21	--	3	Preserve		Preserve	
12	Siberian elm	24	--	5	Preserve		Preserve	
13	Siberian elm	12	--	2	Preserve		Preserve	
14	Siberian elm	8	--	2	Preserve		Preserve	
15	Siberian elm	11	--	3	Preserve		Preserve	
16	Siberian elm	10	--	3	Preserve		Preserve	
17	Willow	10,9	--	2	Preserve		Preserve	
18	Siberian elm	12,8	--	3	Preserve		Preserve	
19	Siberian elm	22	--	4	Preserve		Preserve	
20	Siberian elm	9,9,8	--	2	Preserve		Preserve	
21	Siberian elm	24	--	3	Preserve		Preserve	
22	Siberian elm	7	--	3	Preserve		Preserve	
23	Siberian elm	20	--	3	Preserve?	Possible remove due to lean.	**Preserve**	
24	Siberian elm	17	--	2	Preserve?	Possible remove due to lean.	**Preserve**	
25	Valley oak	32	Protected	5	Preserve		Preserve	
26	Valley oak	27	Protected	3	Preserve		Preserve	
27	Valley oak	17	Protected	2	Preserve		Preserve	
28	Valley oak	44	Heritage	5	Preserve		Preserve	
29	Willow	24	--	1	Preserve		Preserve	
30	Valley oak	32	Protected	3	Preserve		Preserve	

Table 1, continued. Comparison of proposed action: 2011 vs 2012 project plans. Magee Ranch. Danville CA.

Tree No.	Species	Trunk Diameter (in.)	Status ?	Condition 1=poor 5=excell.	2011 plans Proposed Action	2011 plans Notes	2012 plans Proposed Action	2012 plans Notes
31	Valley oak	16	Protected	3	Preserve		Preserve	
32	Valley oak	8	--	3	Preserve		Preserve	
33	Valley oak	7	--	2	Preserve		Preserve	
34	Valley oak	11	Protected	3	Preserve		Preserve	
35	Valley oak	13	Protected	3	Preserve		Preserve	
36	Valley oak	35	Protected	4	Preserve		Preserve	
37	Valley oak	13	Protected	3	Preserve		Preserve	
38	Valley oak	14	Protected	3	Preserve		Preserve	
39	Valley oak	14	Protected	3	Preserve		Preserve	
40	Valley oak	11	Protected	2	Preserve		Preserve	
41	Valley oak	16	Protected	3	Preserve		Preserve	
42	Valley oak	20	Protected	3	Preserve		Preserve	
43	Valley oak	17,11	Protected	3	Preserve		Preserve	
44	Coast live oak	28	Protected	2	Preserve		Preserve	
45	Valley oak	36	Heritage	2	Preserve		Preserve	
46	Coast live oak	28	Protected	2	Preserve		Preserve	
47	Coast live oak	14	Protected	4	Preserve		Preserve	
48	Valley oak	7	--	3	Preserve		Preserve	
49	Valley oak	21	Protected	3	Preserve		Preserve	
50	Valley oak	34	Protected	3	Preserve		Preserve	
51	Valley oak	19	Protected	3	Preserve		Preserve	
52	Valley oak	28	Protected	3	Preserve		Preserve	
53	Yellow willow	16	--	4	Preserve		Preserve	
54	Coast live oak	28	Protected	3	Preserve		Preserve	
55	Valley oak	33	Protected	4	Preserve		Preserve	
56	Valley oak	29	Protected	4	Preserve		Preserve	
57	Valley oak	32	Protected	3	Preserve	May require pruning to clear new road.	Preserve	May require pruning to clear new road.
58	Coast live oak	25	Protected	3	Preserve	May require pruning to clear new road.	Preserve	May require pruning to clear new road.

Table 1, continued. Comparison of proposed action: 2011 vs 2012 project plans. Magee Ranch. Danville CA.

Tree No.	Species	Trunk Diameter (in.)	Status ?	Condition 1=poor 5=excell.	2011 plans Proposed Action	2011 plans Notes	2012 plans Proposed Action	2012 plans Notes
59	Willow	32	--	2	Preserve		Preserve	
60	Willow	15,14	--	2	Preserve		Preserve	
61	Calif. black walnut	7,7	--	3	Preserve		Preserve	
62	Calif. black walnut	12,11	--	4	Preserve		Preserve	
63	Willow	24	--	1	Preserve		Preserve	
64	Willow	19	--	3	Preserve		Preserve	
65	Yellow willow	20	--	2	Preserve		Preserve	
66	Yellow willow	18	--	2	Preserve		Preserve	
67	Yellow willow	15	--	2	Preserve		Preserve	
68	Yellow willow	33	--	3	Preserve		Preserve	
69	Calif. black walnut	10	--	4	Preserve		Preserve	
70	Yellow willow	13	--	3	Preserve		Preserve	
71	Valley oak	6,5	--	3	Remove	Lot 18	Remove	Lot 18
72	Valley oak	7,5	--	3	Remove	Lot 18	Remove	Lot 18
73	Yellow willow	33	--	2	Preserve	May require pruning to clear new road & trail.	Preserve	May require pruning to clear new road & trail.
74	Yellow willow	32	--	2	Preserve		Preserve	
75	Calif. buckeye	22	Protected	4	Preserve		Preserve	
76	Calif. black walnut	11	--	4	Preserve		Preserve	
77	Calif. black walnut	7,5	--	3	Preserve		Preserve	
78	Calif. black walnut	8,6	--	3	Preserve		Preserve	
79	Willow	15,12	--	4	Preserve		Preserve	
80	Valley oak	27	Protected	5	Preserve		Preserve	
81	Aleppo pine	13	--	3	Preserve		Preserve	
82	Willow	14	--	3	Preserve		Preserve	

Table 1, continued. Comparison of proposed action: 2011 vs 2012 project plans. Magee Ranch. Danville CA.

Tree No.	Species	Trunk Diameter (in.)	Status ?	Condition 1=poor 5=excell.	2011 plans Proposed Action	2011 plans Notes	2012 plans Proposed Action	2012 plans Notes
83	Willow	36	Heritage	2	Preserve		Preserve	
84	Monterey pine	20	--	4	Preserve		Preserve	
85	Monterey pine	19	--	3	Preserve		Preserve	
86	Willow	18	--	2	Preserve		Preserve	
87	Willow	12	--	3	Preserve		Preserve	
88	Willow	16,14	--	4	Preserve		Preserve	
89	Willow	9	--	3	Preserve		Preserve	
90	Willow	24	--	3	Preserve		Preserve	
91	Willow	18,12	--	2	Preserve		Preserve	
92	Willow	14	--	2	Preserve		Preserve	
93	Willow	9	--	2	Preserve		Preserve	
94	Willow	16,10,8,8	--	3	Preserve		Preserve	
95	Willow	24	--	2	Preserve		Preserve	
96	Willow	7	--	5	Preserve		Preserve	
97	Yellow willow	10,5	--	3	Preserve		Preserve	
98	Yellow willow	8	--	4	Preserve		Preserve	
99	Willow	21	--	2	Preserve		Preserve	
100	Willow	23	--	3	Preserve		Preserve	
101	Willow	15,14	--	4	Preserve		Preserve	
102	Willow	8	--	2	Preserve		Preserve	
103	Willow	10	--	3	Preserve		Preserve	
104	Willow	14,10	--	2	Preserve		Preserve	
105	Willow	19,6	--	3	Preserve		Preserve	
106	Willow	15,9	--	3	Preserve		Preserve	
107	Willow	16,14,14	--	3	Preserve		Preserve	
108	Willow	14,10,10,7	--	3	Preserve		Preserve	
109	Willow	16,15,15,13,12,10	--	2	Preserve		Preserve	

Table 1, continued. Comparison of proposed action: 2011 vs 2012 project plans. Magee Ranch. Danville CA.

Tree No.	Species	Trunk Diameter (in.)	Status ?	Condition 1=poor 5=excell.	2011 plans Proposed Action	2011 plans Notes	2012 plans Proposed Action	2012 plans Notes
110	Yellow willow	13,12,11	--	3	Preserve		Preserve	
111	Yellow willow	9,8,8,7	--	3	Preserve		Preserve	
112	Willow	11	--	1	Preserve		Preserve	
113	Willow	9	--	2	Preserve		Preserve	
114	Willow	15,13,13,11	--	3	Preserve		Preserve	
115	Willow	12,11,9	--	3	Preserve		Preserve	
116	Willow	15,14,10,7	--	3	Preserve		Preserve	
117	Willow	17,15	--	4	Preserve		Preserve	
118	Willow	20,17,16,10,10	--	3	Remove	Access from Diablo Rd.	Remove	Access from Diablo Rd.
119	Willow	7	--	2	Remove	Access from Diablo Rd.	Remove	Access from Diablo Rd.
120	Willow	16	--	2	Remove	Access from Diablo Rd.	Remove	Access from Diablo Rd.
121	Willow	13	--	2	Remove	Access from Diablo Rd.	Remove	Access from Diablo Rd.
122	Willow	14,6	--	2	Remove	Access from Diablo Rd.	Remove	Access from Diablo Rd.
123	Willow	13,11,10	--	3	Remove	Access from Diablo Rd.	Remove	Access from Diablo Rd.
124	Willow	8	--	2	Remove	Access from Diablo Rd.	Remove	Access from Diablo Rd.
125	Willow	17,15	--	2	Remove	Access from Diablo Rd.	Remove	Access from Diablo Rd.
126	Willow	13	--	2	Remove	Access from Diablo Rd.	Remove	Access from Diablo Rd.
127	Willow	15,13	--	2	Remove	Access from Diablo Rd.	Remove	Access from Diablo Rd.
128	Willow	15	--	3	Remove	Access from Diablo Rd.	Remove	Access from Diablo Rd.
129	Willow	16	--	2	Remove	Access from Diablo Rd.	Remove	Access from Diablo Rd.
130	Willow	20	--	2	Remove	Access from Diablo Rd.	Remove	Access from Diablo Rd.
131	Willow	22,12	--	2	Remove	Access from Diablo Rd.	Remove	Access from Diablo Rd.
132	Willow	18,16,8	--	2	Remove	Access from Diablo Rd.	Remove	Access from Diablo Rd.
133	Valley oak	44	Heritage	3	Preserve		Preserve	
134	Willow	32,14,8	--	2	Preserve		Preserve	
135	Willow	18	--	1	Preserve		Preserve	

Table 1, continued. Comparison of proposed action: 2011 vs 2012 project plans. Magee Ranch. Danville CA.

Tree No.	Species	Trunk Diameter (in.)	Status ?	Condition 1=poor 5=excell.	2011 plans Proposed Action	2011 plans Notes	2012 plans Proposed Action	2012 plans Notes
136	Willow	9	--	2	Preserve		Preserve	
137	Willow	28,24,14,12	--	1	Preserve		Preserve	
138	Valley oak	38	Heritage	4	Preserve		Preserve	
139	Valley oak	36	Heritage	4	Preserve		Preserve	
140	Willow	27,24	--	1	Preserve		Preserve	
141	Valley oak	51	Heritage	4	Preserve		Preserve	
142	Willow	40	Heritage	2	Preserve		Preserve	
143	Calif. black walnut	19	--	3	Remove	Access from Diablo Rd.	Remove	Access from Diablo Rd.
144	Willow	12,8,8,8	--	3	Remove	Access from Diablo Rd.	Remove	Access from Diablo Rd.
145	Valley oak	22	Protected	4	Preserve		Preserve	
146	Coast live oak	7,6	--	4	Preserve	Assumes no new fence.	Preserve	Assumes no new fence.
147	Calif. black walnut	14,14,12,12,8	--	1	Remove	Poor suitability.	Remove	Poor suitability.
148	Calif. black walnut	10,10,8,8	--	1	Remove	Poor suitability.	Remove	Poor suitability.
149	Coast live oak	8	--	5	Preserve	Assumes no new fence.	Preserve	Assumes no new fence.
150	Calif. black walnut	17	--	1	Remove	Poor suitability.	Remove	Poor suitability.
151	Valley oak	8	--	3	Remove	Access from Diablo Rd.	Remove	Access from Diablo Rd.
152	Valley oak	9	--	3	Remove	Access from Diablo Rd.	Remove	Access from Diablo Rd.
153	Coast live oak	31	Protected	3	Preserve?	Possible retain in median?	**Remove**	Access from Diablo Rd.
154	Valley oak	16	Protected	3	Remove	Access from Diablo Rd.	Remove	Access from Diablo Rd.
155	Coast live oak	7	--	4	Remove	Access from Diablo Rd.	Remove	Access from Diablo Rd.
156	Coast live oak	6,6	--	4	Remove	Access from Diablo Rd.	Remove	Access from Diablo Rd.
157	Coast live oak	7	--	4	Remove	Access from Diablo Rd.	Remove	Access from Diablo Rd.
158	Valley oak	6,4	--	4	Remove	Access from Diablo Rd.	Remove	Access from Diablo Rd.
159	Coast live oak	10	Protected	4	Preserve		Preserve	

Table 1, continued. Comparison of proposed action: 2011 vs 2012 project plans. Magee Ranch. Danville CA.

Tree No.	Species	Trunk Diameter (in.)	Status ?	Condition 1=poor 5=excell.	2011 plans Proposed Action	2011 plans Notes	2012 plans Proposed Action	2012 plans Notes
160	Calif. black walnut	14,13,12,10,9	--	2	Remove	Poor suitability	Remove	Poor suitability
161	Valley oak	13,10	Protected	3	Preserve?	Possible retain but poor suitability.	**Preserve**	Wire fence embedded in trunk.
162	Calif. black walnut	12,10,10,9,8,7,7,6	--	2	Remove	Poor suitability.	Remove	Poor suitability.
163	Coast live oak	17,10	Protected	4	Preserve	Assumes no new fence.	Preserve	Assumes no new fence.
164	Valley oak	18	Protected	5	Preserve	Locate trail between #164 & 165?	Preserve	Locate trail between #164 & 165?
165	Valley oak	14	Protected	5	Remove	Connector to Jullian Street	**Preserve**	
166	Coast live oak	7	--	4	Preserve	Assumes no new fence.	Preserve	Assumes no new fence.
167	Valley oak	39	Heritage	5	Preserve	Hold grading outside dripline, lot 59	Preserve	Hold grading outside dripline, lot 59
168	Valley oak	23	Protected	3	Preserve	Hold grading outside dripline, lot 59	Preserve	Hold grading outside dripline, lot 59
169	Valley oak	9	--	3	Preserve	Hold grading outside dripline, lot 59	Preserve	Hold grading outside dripline, lot 59
170	Valley oak	14	Protected	4	Preserve	Hold grading outside dripline, lot 59	Preserve	Hold grading outside dripline, lot 59
171	Valley oak	15	Protected	4	Preserve	Hold grading outside dripline, lot 59	Preserve	Hold grading outside dripline, lot 59
172	Valley oak	51	Heritage	5	Preserve		Preserve	
173	Valley oak	51	Heritage	3	Preserve	Hold grading outside dripline, lot 53	Preserve	Hold grading outside dripline, lot 53
174	Valley oak	22	Protected	3	Preserve		Preserve	
175	Valley oak	14	Protected	3	Preserve		Preserve	
176	Valley oak	19	Protected	3	Preserve		Preserve	
177	Valley oak	23	Protected	3	Preserve		Preserve	
178	Valley oak	38,16	Heritage	3	Preserve		Preserve	
179	Valley oak	26	Protected	4	Preserve		Preserve	

Table 1, continued. Comparison of proposed action: 2011 vs 2012 project plans. Magee Ranch. Danville CA.

Tree No.	Species	Trunk Diameter (in.)	Status ?	Condition 1=poor 5=excell.	2011 plans Proposed Action	2011 plans Notes	2012 plans Proposed Action	2012 plans Notes
180	Valley oak	37	Heritage	4	Preserve		Preserve	
181	Valley oak	23	Protected	3	Preserve		Preserve	
182	Valley oak	24	Protected	3	Preserve		Preserve	
183	Valley oak	36	Heritage	3	Preserve	Hold grading outside dripline, lot 42	Preserve	Hold grading outside dripline, lot 42
184	Valley oak	35	Protected	5	Preserve	Hold grading outside dripline, lot 42	Preserve	Hold grading outside dripline, lot 42
185	Valley oak	25	Protected	3	Preserve	Lot 64 (custom)	Preserve	Hold grading outside dripline, lot 42
186	Valley oak	37	Heritage	4	Preserve	Lot 64 (custom)	Preserve	Lot 64 (custom)
187	Valley oak	18	Protected	3	Preserve	Lot 64 (custom)	Preserve	Lot 64 (custom)
188	Valley oak	42	Heritage	4	Preserve	Lot 64 (custom)	Preserve	Lot 64 (custom)
189	Valley oak	18.5	Protected	4	Preserve	Lot 62 (custom)	Preserve	Lot 62 (custom)
190	Valley oak	28	Protected	4	Preserve	Lot 62 (custom)	Preserve	Lot 62 (custom)
191	Valley oak	49	Heritage	4	Preserve	Lot 62 (custom)	Preserve	Lot 62 (custom)
192	Valley oak	44	Heritage	4	Preserve		Preserve	
193	Valley oak	47	Heritage	5	Preserve		Preserve	
194	Valley oak	19	Protected	5	Preserve		Preserve	
195	Valley oak	50	Heritage	5	Preserve	Lot 61 (custom)	Preserve	Lot 61 (custom)
196	Willow	11	--	1	Remove	Lot 15	Remove	Lot 15
197	Willow	11	--	1	Remove	Lot 16	Remove	Lot 16
198	Valley oak	29	Protected	4	Preserve	Lot 61 (custom)	Preserve	Lot 61 (custom)
199	Valley oak	29	Protected	4	Preserve	Lot 61 (custom)	Preserve	Lot 61 (custom)
200	Valley oak	25	Protected	4	Preserve	Lot 61 (custom)	Preserve	Lot 61 (custom)
201	Valley oak	30	Protected	4	Preserve	Lot 61 (custom)	Preserve	Lot 61 (custom)
202	Valley oak	21	Protected	3	Preserve		Preserve	
203	Valley oak	14	Protected	4	Preserve		Preserve	
204	Valley oak	20	Protected	3	Preserve	Hold grading outside dripline; lot 75	Preserve	

Table 1, continued. Comparison of proposed action: 2011 vs 2012 project plans. Magee Ranch. Danville CA.

Tree No.	Species	Trunk Diameter (in.)	Status ?	Condition 1=poor 5=excell.	2011 plans Proposed Action	2011 plans Notes	2012 plans Proposed Action	2012 plans Notes
205	Valley oak	18	Protected	3	Preserve?	Hold grading outside dripline; lot 75	**Preserve**	
206	Valley oak	21	Protected	4	Preserve		Preserve	
207	Valley oak	15	Protected	5	Preserve		Preserve	
208	Valley oak	26	Protected	3	Preserve		Preserve	
209	Valley oak	30	Protected	4	Preserve		Preserve	
210	Valley oak	18	Protected	3	Preserve		Preserve	
211	Valley oak	11	Protected	3	Preserve		Preserve	
212	Valley oak	14	Protected	3	Preserve		Preserve	
213	Valley oak	19	Protected	3	Preserve		Preserve	
214	Valley oak	51	Heritage	1	Preserve		Preserve	
215	Valley oak	36	Heritage	5	Preserve		Preserve	
216	Valley oak	48	Heritage	3	Preserve?	Hold grading outside dripline; lot 75	**Preserve**	
217	Valley oak	50	Heritage	3	Remove	Road; near lot 72	**Preserve**	
218	Valley oak	36	Heritage	3	Remove	Grading within dripline; lot 73	**Preserve**	
219	Valley oak	17,11	Protected	3	Remove	Grading within dripline; lot 72	**Preserve**	
220	Valley oak	29	Protected	4	Remove	Grading within dripline; lot 72	**Preserve**	
221	Valley oak	17	Protected	3	Remove	Grading within dripline; lot 72	**Preserve**	
222	Valley oak	29	Protected	4	Remove	Grading within dripline; lot 72	**Preserve**	
223	Valley oak	10	Protected	1	Remove	Grading within dripline; lot 72	**Preserve**	
224	Valley oak	18	Protected	4	Remove	Grading within dripline; lot 72	**Preserve**	
225	Valley oak	16	Protected	3	Remove	Grading within dripline; lot 71	**Preserve**	
226	Valley oak	10	Protected	3	Preserve		**Preserve**	
227	Valley oak	21	Protected	5	Preserve		**Preserve**	
228	Valley oak	33	Protected	4	Preserve		**Preserve**	
229	Valley oak	32	Protected	3	Remove	Bridge area, road to lots 71 to 75	**Preserve**	

Table 1, continued. Comparison of proposed action: 2011 vs 2012 project plans. Magee Ranch. Danville CA.

Tree No.	Species	Trunk Diameter (in.)	Status ?	Condition 1=poor 5=excell.	2011 plans Proposed Action	2011 plans Notes	2012 plans Proposed Action	2012 plans Notes
230	Valley oak	41	Heritage	4	Remove	Bridge area, road to lots 71 to 75	**Preserve**	
231	Calif. buckeye	11,10	Protected	3	Remove	Bridge area, road to lots 71 to 75	**Preserve**	
232	Coast live oak	26	Protected	4	Preserve?	Diablo Road; opposite Fairway Drive	**Preserve**	
233	Calif. black walnut	7,6,6,6,4,3	--	2	Remove	Poor suitability	**Preserve**	
234	Calif. black walnut	6,6,6,5,5,4,4	--	2	Remove	Poor suitability	**Preserve**	
235	Calif. black walnut	6,6,6,5,4	--	2	Remove	Diablo Road; opposite Fairway Drive	**Preserve**	
236	Valley oak	35	Protected	3	Preserve?	Diablo Road; opposite Fairway Drive	**Preserve**	
237	Coast live oak	6	--	5	Preserve?	Diablo Road; opposite Fairway Drive	**Preserve**	
238	Calif. black walnut	26	--	3	Preserve?	Diablo Road; opposite Fairway Drive	**Preserve**	
239	Valley oak	21	Protected	3	Preserve?	Diablo Road; opposite Fairway Drive	**Preserve**	
240	Calif. buckeye	9,9,8,7,7,6,6.5	Protected	4	Preserve		Preserve	
241	Valley oak	40	Heritage	3	Preserve		Preserve	
242	Valley oak	32	Protected	3	Preserve?	Bridge area, road to lots 71 to 75	**Preserve**	
243	Blue oak	19	Protected	4	Preserve	Near lot 67	Preserve	Near lot 67
244	Valley oak	36	Heritage	3	Preserve	Near lot 67	Preserve	Near lot 67
245	Blue oak	23	Protected	4	Preserve	Near lot 68	Preserve	
246	Valley oak	41	Heritage	4	Preserve	Near lot 68	Preserve	
247	London plane	15	Protected	5	Preserve		Preserve	

Table 1, continued. Comparison of proposed action: 2011 vs 2012 project plans. Magee Ranch. Danville CA.

Tree No.	Species	Trunk Diameter (in.)	Status ?	Condition 1=poor 5=excell.	2011 plans Proposed Action	2011 plans Notes	2012 plans Proposed Action	2012 plans Notes
248	London plane	16	Protected	5	Preserve		Preserve	
249	London plane	14	Protected	5	Preserve		Preserve	
250	London plane	11	Protected	5	Preserve		Preserve	
251	Valley oak	59	Heritage	3	Preserve		Preserve	
252	Coast live oak	16	Protected	5	Preserve		Preserve	
253	London plane	7	--	5	Preserve		Preserve	
254	London plane	7	--	5	Preserve		Preserve	
255	London plane	10	Protected	5	Preserve		Preserve	
256	London plane	12	Protected	5	Preserve		Preserve	
257	London plane	11	Protected	5	Preserve		Preserve	
258	London plane	12	Protected	5	Preserve?	Access to lots 65 to 67	**Remove**	Access to lots 65 to 67
259	London plane	11	Protected	5	Remove	Access to lots 65 to 67	Remove	Access to lots 65 to 67
260	Valley oak	26	Protected	4	Preserve	Lot 68 (custom)	Preserve	
261	Calif. buckeye	13,12,12,11,10,9,9,8	Protected	5	Preserve	Lot 68 (custom)	Preserve	
262	Valley oak	23	Protected	4	Preserve	Lot 68 (custom)	Preserve	
263	Valley oak	8	--	3	Preserve	Lot 68 (custom)	Preserve	
264	Valley oak	7,6	--	4	Preserve	Lot 68 (custom)	Preserve	
265	Valley oak	6,5,5.3	--	4	Remove	Access from Diablo Rd., lot 68	**Preserve**	
266	Valley oak	6,4,3	--	4	Remove	Access from Diablo Rd., lot 68	**Preserve**	
267	Valley oak	9,7,7	Protected	4	Preserve	Lot 68 (custom)	Preserve	
268	Red maple	9,7,6,4	--	4	Preserve	Lot 68 (custom)	Preserve	
269	Coulter pine	25	--	4	Preserve	Lot 68 (custom)	Preserve	
270	Coulter pine	19	--	3	Preserve	Lot 68 (custom)	Preserve	
271	Coulter pine	14	--	3	Preserve	Lot 68 (custom)	Preserve	
272	Coulter pine	18,17	--	4	Preserve	Lot 68 (custom)	Preserve	
273	Blue oak	17,14,5	Protected	4	Preserve	Lot 69 (custom)	Preserve	

Table 1, continued. Comparison of proposed action: 2011 vs 2012 project plans. Magee Ranch. Danville CA.

Tree No.	Species	Trunk Diameter (in.)	Status ?	Condition 1=poor 5=excell.	2011 plans Proposed Action	2011 plans Notes	2012 plans Proposed Action	2012 plans Notes
274	Blue oak	14,10	Protected	3	Preserve	Lot 69 (custom)	Preserve	
275	Blue oak	15	Protected	5	Preserve	Lot 69 (custom)	Preserve	
276	Blue oak	34	Protected	3	Preserve	Lot 69 (custom)	Preserve	
277	Valley oak	20	Protected	4	Preserve	Lot 69 (custom)	Preserve	
278	Valley oak	14	Protected	3	Preserve	Lot 69 (custom)	Preserve	
279	Blue oak	14	Protected	3	Preserve	Lot 69 (custom)	Preserve	
280	Blue oak	26	Protected	5	Preserve	Lot 69 (custom)	Preserve	
281	Blue oak	46	Protected	4	Preserve	Lot 69 (custom)	Preserve	
282	Valley oak	23	Protected	5	Preserve	Lot 69 (custom)	Preserve	
283	Valley oak	6	--	5	Relocate?	Lot 69 (custom)	Relocate?	
284	Valley oak	17	Protected	4	Preserve	Lot 70 (custom)	Preserve	Lot 68 (custom)
285	Valley oak	38	Heritage	3	Preserve	Lot 70 (custom)	Preserve	Lot 68 (custom)
286	Valley oak	27	Protected	4	Preserve	Lot 70 (custom)	Preserve	Lot 68 (custom)
287	Coast live oak	22	Protected	1	Remove	Poor suitability, lot 71	**Preserve**	
288	Valley oak	34	Protected	3	Preserve	Lot 70 (custom)	Preserve	Lot 68 (custom)
289	Valley oak	23	Protected	4	Preserve	Lot 70 (custom)	Preserve	Lot 68 (custom)
290	Valley oak	26	Protected	4	Preserve	Lot 70 (custom)	Preserve	Lot 68 (custom)
291	Blue oak	31	Protected	5	Preserve?	Lot 76, center of building site	**Preserve**	Lot 69, center of building site but outside of proposed house location.
292	Valley oak	20	Protected	2	Preserve	Lot 76, center of building site	Preserve	Lot 69, center of building site
293	Blue oak	26	Protected	3	Preserve	Lot 76, center of building site	Preserve	Lot 69, center of building site
294	Blue oak	25	Protected	4	Preserve	Lot 76, center of building site	Preserve	Lot 69, center of building site
295	Blue oak	31	Protected	3	Preserve	Lot 76, center of building site	Preserve	Lot 69, center of building site
296	Valley oak	27	Protected	4	Preserve	Lot 77 (custom)	Preserve	Lot 69 (custom)
297	Valley oak	28	Protected	3	Preserve	Lot 77 (custom)	Preserve	Lot 69 (custom)
298	Valley oak	25	Protected	4	Preserve	Lot 78 (custom)	Preserve	Lot 70 (custom)
299	Valley oak	22	Protected	4	Preserve	Lot 78 (custom)	Preserve	Lot 70 (custom)
300	Valley oak	24	Protected	5	Preserve	Lot 78 (custom)	Preserve	Lot 70 (custom)

Preliminary Tree Report

Magee Ranch
Danville CA

Prepared for:
SummerHill Homes
5000 Executive Parkway, Suite 150
San Ramon CA 94583

Prepared by:
HortScience, Inc.
2150 Rheem Dr., Suite A
Pleasanton, CA 94588

October 16, 2011

Preliminary Tree Report

Magee Ranch
Danville CA

Table of Contents

	Page
Introduction and Overview	1
Survey Methods	1
Description of Trees	1
Suitability for Preservation	4
Evaluation of Plans and Recommendations for Action	5
Preliminary Tree Preservation Guidelines	16

List of Tables

Table 1. Species present and frequency of occurrence.	2
Table 2. Tree suitability for preservation.	5
Table 3. Proposed action.	7

Attachments

Tree Location Map

Tree Survey Forms

Introduction and Overview

SummerHill Homes is planning to develop a portion of Magee Ranch property located on Diablo Road in Danville CA. The 410 acre site is largely undeveloped with a cattle ranch as the primary use. HortScience, Inc. was asked to prepare a **Tree Report** for the proposed project. This report provides the following information:

1. A survey of trees within and immediately adjacent to the proposed project area.
2. An assessment of the suitability for preservation of each tree.
3. An assessment of proposed plans and recommendations for action.
4. Preliminary guidelines for tree preservation during the design, construction and maintenance phases of development.

Survey Methods

Trees were surveyed in January 2010 and February 2011. The survey included trees greater than 6" in diameter. The survey procedure consisted of the following steps:

1. Identifying the tree as to species.
2. Tagging each tree with a numerically coded metal tag.
3. Recording its location on a map. Base map provided by RJA, project engineers.
4. Measuring the trunk diameter at a point 54" above grade.
5. Evaluating the health and structural condition using a scale of 1 – 5 where 1 = poor and 5 = excellent condition.
6. Rating the suitability for preservation as "good", "moderate" or "poor". Suitability for preservation considers the health, age and structural condition of the tree, and its potential to remain an asset to the site for years to come.

In addition, a census of trees along the proposed trail alignment was undertaken. The number of trees by species was recorded.

Trees were mapped on a topographic plan prepared by RJA, project engineers. The Tree Survey Map included in the Attachments was prepared by RJA using our field information. The maps reference trees by tree tag number.

Description of Trees

Three hundred (300) trees were evaluated (Table 1, following page), representing 13 species. Descriptions of individual trees are found in the ***Tree Survey.***

Trees were not evenly distributed across the site but were concentrated in two areas: along the existing creek and on the hillsides. The creek corridor was dominated by native species of willow and oak. A dense thicket of Siberian elms was present near the intersection with Diablo Road. In contrast, the hills were exclusively composed of single trees and groves dominated by valley oak. Although individual oak trees varied in diameter, they were most likely similar in age.

Valley oak (137 trees) was the most frequently encountered species, present in both the creek corridor and on the hillsides (Photo 1, following). Trees were a mix of young and mature individuals with 14 trees below 10" in diameter and 7 >50". The largest valley oak was #251 with a trunk diameter of 59". Condition of valley oaks ranged from poor (7 trees) to excellent (17) with just over half in fair condition. Trees in poor condition were either suppressed in development or had failed at the base of the trunk. Trees in fair condition were characterized by asymmetric crowns, multiple attachments, leaning trunks or partial failure. In the latter case, trees were located close to the creek bank and soil movement may be the cause of the failure.

Table 1. Tree condition & frequency of occurrence. Magee Ranch. Danville CA.

Common name	Scientific name	Condition				No. of Trees		
		Poor	Fair	Good	Excel-lent	Protected	Heritage	Total
Red maple	*Acer rubrum*	--	--	1	--	--	--	1
Calif. buckeye	*Aesculus californica*	--	1	2	1	4	--	4
Calif. black walnut	*Juglans hindsii*	8	5	3	--	--	--	16
Coulter pine	*Pinus coulteri*	--	2	2	--	--	--	4
Aleppo pine	*Pinus halepensis*	--	1	--	--	--	--	1
Monterey pine	*Pinus radiata*	--	1	1	--	--	--	2
London plane	*Platanus* x *acerifolia*	--	--	--	11	9	--	11
Coast live oak	*Quercus agrifolia*	3	3	9	3	4	--	18
Blue oak	*Quercus douglassii*	--	5	5	3	12	1	13
Valley oak	*Quercus lobata*	7	66	47	17	93	30	137
Yellow willow	*Salix lasiandra*	5	5	2	--	--	--	12
Willow	*Salix* sp.	37	19	4	1	--	2	61
Siberian elm	*Ulmus pumila*	6	10	3	1	--	--	20
Total, all trees surveyed		**66**	**118**	**79**	**37**	**122**	**33**	**300**

Photo 1. Mature valley oaks of heritage status were found both along the creek corridor (left) and on the hillsides (right).

Willows (73 trees) were confined to the creek corridor, often located within the active channel. Both single trees and dense thickets were present (Photo 2, following page)). Willows were generally in poor condition due to extensive decay, trunk failure and poor structure. One willow (#96) was in excellent condition.

Photo 2. Thicket of willow stems growing in and adjacent to the creek corridor in the area where the project's entry road would be constructed.

Twenty (20) Siberian elm trees were located near the existing gate at Diablo Road. Trees were a mix of trunk diameters. Tree condition was generally fair.

Coast live oak (18 trees) was present along the creek corridor, generally on the west side of the site. A mix of young, semi-mature and mature individuals was present. Most trees were in either good or excellent condition. Trees in fair and poor condition had failed at the base of the trunk (#44, 46, 54, 58).

Twelve (12) blue oaks were present on the western side of the project area. Condition ranged from fair (5 trees) to good (5) and excellent (3). Trees were generally mature in development. Blue oak #281 was 46" in diameter.

Eleven (11) London planes had been planted as street trees along McCauley Road, on the west side of the site. Trees were young and semi-mature in development with trunk diameters between 7" and 19". All were in excellent condition.

Four Calif. buckeyes were mature in development. All had multiple stems and form typical of the species.

Also present were 16 Calif. black walnuts, several of which were located in the proposed road access. Walnuts ranged in condition from poor (8 trees) to fair (5) to good (3). Trunk diameters ranged from 7" to 26". Four Coulter pines were present on the west side of the project, near Diablo Road. Two mature Monterey pines (#84, 85) were located just south of the creek area. An Aleppo pine (#81) was nearby.

The Town of Danville designates trees as having either protected or heritage status. Protected status is based on tree species and trunk diameter. A heritage tree has a trunk diameter of 36" or greater regardless of species. Based on these criteria, there were 122 protected trees (93 valley oak, 12 blue oak, 9 London plane, 4 buckeye, and 4 coast live oak) and 33 heritage trees (30 valley oak, 2 willow, 1 blue oak) among the surveyed trees.

Along the proposed trail alignment, trees were noted in three areas running from east to west on the south side of Diablo Road (see ***Tree Location Map***):

1. A mix of approximately 27 valley and coast live oaks was present distributed across small (6" to 18"), medium (19" to 34") and large (>34") trunk diameters. Most trees were between 19" and 34" present as single trees (rather than in groves).

2. A mix of approximately 52 valley and coast live oaks was present with most trees between 19" and 34". Also present were a single Siberian elm and one Calif. black walnut. A significant grove of trees was located in the area proposed for a drainage crossing where a retaining wall would be constructed.

3. A mix of approximately 51 valley and coast live oaks located in small and moderate sized groves. A majority of trees in this area were between 19" and 34" in diameter. Also present were individual Calif. black walnut, Calif. buckeye and other species, totaling 5 trees.

In summary, approximately 137 trees were present along the proposed trail. The dominant species were valley and coast live oaks.

Suitability for Preservation

Before evaluating the impacts that will occur during development, it is important to consider the quality of the tree resource itself, and the potential for individual trees to function well over an extended length of time. Trees that are preserved on development sites must be carefully selected to make sure that they may survive development impacts, adapt to a new environment and perform well in the landscape.

Our goal is to identify trees that have the potential for long-term health, structural stability and longevity. For trees growing in open fields, away from areas where people and property are present, structural defects and/or poor health presents a low risk of damage or injury if they fail. However, we must be concerned about safety in use areas. Therefore, where development encroaches into existing plantings, we must consider their structural stability as well as their potential to grow and thrive in a new environment. Where development will not occur, the normal life cycles of decline, structural failure and death should be allowed to continue.

Evaluation of suitability for preservation considers several factors:

- **Tree health**
  Healthy, vigorous trees are better able to tolerate impacts such as root injury, demolition of existing structures, changes in soil grade and moisture, and soil compaction than are non-vigorous trees.

- **Structural integrity**
  Trees with significant amounts of wood decay and other structural defects that cannot be corrected are likely to fail. Such trees should not be preserved in areas where damage to people or property is likely.

- **Species response**
  There is a wide variation in the response of individual species to construction impacts and changes in the environment. In our experience, for example, Calif. black walnut and Monterey pine are sensitive to construction impacts while coast live oak is more tolerant.

- **Tree age and longevity**
  Old trees, while having significant emotional and aesthetic appeal, have limited physiological capacity to adjust to an altered environment. Young trees are better able to generate new tissue and respond to change.

- **Species invasiveness**
  Species which spread across a site and displace desired vegetation are not always appropriate for retention. This is particularly true when indigenous species are displaced. Siberian elm is considered invasive, spreading by seed and root sprouts.

Each tree was rated for suitability for preservation based upon its age, health, structural condition and ability to safely coexist within a development environment (Table 2).

Table 2. Tree suitability for preservation. Magee Ranch. Danville CA.

Good	Trees with good health and structural stability that have the potential for longevity at the site. Fifty-eight (58) trees were considered to have good suitability for preservation including 33 valley oaks (20 protected,11 heritage), 11 London planes, 7 coast live oaks, 3 blue oaks, a Calif. buckeye, Siberian elm #12 and willows #96 and 101.
Moderate	Trees in fair health and/or possessing structural defects that may be abated with treatment. Trees in this category require more intense management and monitoring, and may have shorter life-spans than those in the "good" category. Eighty-seven (87) trees were rated as having moderate suitability for preservation including 55 valley oaks (37 protected, 12 heritage), 6 blue oaks, and 5 coast live oaks.
Poor	Trees in poor health or possessing significant defects in structure that cannot be abated with treatment. These trees can be expected to decline regardless of management. The species or individual tree may possess either characteristics that are undesirable in landscape settings or be unsuited for use areas. One hundred fifty-five (155) trees were rated as having poor suitability for preservation including 55 willows, 49 valley oaks (35 protected, 7 heritage), 15 Siberian elms, 9 Calif. black walnuts, and 6 coast live oaks.

We consider trees with good suitability for preservation to be the best candidates for preservation. We do not recommend retention of trees with low suitability for preservation in areas where people or property will be present. Retention of trees with moderate suitability for preservation depends upon the intensity of proposed site changes.

Evaluation of Plans and Recommendations for Action

Appropriate tree retention develops a practical match between the location and intensity of construction activities and the quality and health of trees. The ***Tree Survey Form*** was the reference point for tree condition and quality. Potential impacts from construction were evaluated using the revised site plan (dated March 2011) prepared by RJA, project engineers. Site, grading and utility plans depicted the location of the new features. Tree trunk locations were not indicated although the outline of tree canopies was included.

The proposed project would construct 78 residential units including 10 custom lots. The east side of the project would include 60 clustered lots (lots #1 – 60) and 4 custom lots (#61 – 64). Primary access to the project would occur from Blackhawk Road, at a location just west of Jillian Way. The new road will cross the existing creek which will remain intact.

On the west side of the project, 5 lots (71 to 75) would be constructed opposite Fairway Drive with another 3 (65 to 67) on McCauley Road. Also on the west side of the project would be 6 custom lots (68 – 70, 76 – 78). Access to lots 71 to 75 would require a new road and creek crossing.

Impacts to trees would occur in several ways. Although little site demolition will be required, it can injure tree roots. Trees may be located within areas proposed for new landscape features. Excavation and construction may damage both tree roots and crowns. Some slopes will be re-contoured and areas of instability repaired.

Using the proposed plans, I evaluated the impacts to each of the surveyed trees. In general, the project is located in open areas, away from either the creek or hillsides. I recommend preservation of 244 trees, relocation of valley oak #283, and removal of 55 trees (Table 3, following pages). Recommendations for preservation assume no intrusions into the creek area other than to construct the project access road pedestrian trail. Among trees recommended for preservation are 14 noted as “preserve?” including:

- Siberian elms #23 and 24 lean towards the existing ranch road. Were these trees to fail it is possible for them to hit the new road. Until the alignment is staked in the field, a recommendation for preservation must be tentative.

- Coast live oak #153 is located on Blackhawk Road, at the site of the new access road. It may be possible to retain this tree in a pavement cut-out with the travel lanes on either side.

- Valley oak #161 is located in the existing right-of-way corridor. It has poor suitability for preservation but should be considered for retention.

- Coast live oak #232 and valley oaks #236 and 239 are located along Diablo Road, opposite Fairway Drive. Both trees should be considered for preservation.

- Several oaks located adjacent to proposed building sites for custom lots.

Other trees recommended as “preserve?” are located near areas proposed for grading including road access. A final decision about these trees requires more detailed plans, and possible revision of grading limits.

Among the 55 trees recommended for removal, 3 have Heritage status (#217, 218, 230) and 13 Protected status. Tree removal is required to provide access to the site.

A recreational trail is also proposed for the site. The trail would begin at Blackhawk Road and generally parallel Street B, ending at the EVA road near Court C. The trail does not impact trees except for yellow willow #73 (located between Courts E and F). As is typical of mature willows, the main trunk is extensively decayed and has fallen to the ground. Construction of the trail will require pruning sections of the failed tree and associated new sprouts.

The Town of Danville may be interested in connecting a trail to the EVA termination on Blackhawk Road, extending it along Diablo Road in the west section of the project. Trees that may be impacted are included in the tree survey. There are scattered single and small groups of native oaks in this area, approximately 137 in total. Should the Town of Danville propose an alternate location for the trail in the Magee West section of the project, this may or may not impact trees that were surveyed. Further studies will need to be completed if a trail design is finalized.

Table 3. Proposed action. Magee Ranch. San Ramon CA.

Tree No.	Species	Trunk Diameter (in.)	Status ?	Condition 1=poor 5=excell.	Proposed Action	Notes
1	Siberian elm	8,6,5	--	4	Preserve	
2	Siberian elm	6	--	3	Preserve	
3	Siberian elm	10	--	4	Preserve	
4	Valley oak	15	Protected	4	Preserve	
5	Valley oak	10	Protected	3	Preserve	
6	Valley oak	38	Heritage	4	Preserve	
7	Siberian elm	12	--	3	Remove	Poor suitability; adj. to EVA
8	Siberian elm	15	--	3	Remove	Poor suitability.
9	Siberian elm	8	--	2	Preserve	
10	Siberian elm	7	--	2	Preserve	
11	Siberian elm	21	--	3	Preserve	
12	Siberian elm	24	--	5	Preserve	
13	Siberian elm	12	--	2	Preserve	
14	Siberian elm	8	--	2	Preserve	
15	Siberian elm	11	--	3	Preserve	
16	Siberian elm	10	--	3	Preserve	
17	Willow	10,9	--	2	Preserve	
18	Siberian elm	12,8	--	3	Preserve	
19	Siberian elm	22	--	4	Preserve	
20	Siberian elm	9,9,8	--	2	Preserve	
21	Siberian elm	24	--	3	Preserve	
22	Siberian elm	7	--	3	Preserve	
23	Siberian elm	20	--	3	Preserve?	Possible remove due to lean.
24	Siberian elm	17	--	2	Preserve?	Possible remove due to lean.
25	Valley oak	32	Protected	5	Preserve	
26	Valley oak	27	Protected	3	Preserve	
27	Valley oak	17	Protected	2	Preserve	
28	Valley oak	44	Heritage	5	Preserve	
29	Willow	24	--	1	Preserve	
30	Valley oak	32	Protected	3	Preserve	
31	Valley oak	16	Protected	3	Preserve	
32	Valley oak	8	--	3	Preserve	
33	Valley oak	7	--	2	Preserve	
34	Valley oak	11	Protected	3	Preserve	
35	Valley oak	13	Protected	3	Preserve	
36	Valley oak	35	Protected	4	Preserve	
37	Valley oak	13	Protected	3	Preserve	
38	Valley oak	14	Protected	3	Preserve	
39	Valley oak	14	Protected	3	Preserve	
40	Valley oak	11	Protected	2	Preserve	
41	Valley oak	16	Protected	3	Preserve	
42	Valley oak	20	Protected	3	Preserve	

Table 3, continued. Proposed action. Magee Ranch. San Ramon CA.

Tree No.	Species	Trunk Diameter (in.)	Status ?	Condition 1=poor 5=excell.	Proposed Action	Notes
43	Valley oak	17,11	Protected	3	Preserve	
44	Coast live oak	28	Protected	2	Preserve	
45	Valley oak	36	Heritage	2	Preserve	
46	Coast live oak	28	Protected	2	Preserve	
47	Coast live oak	14	Protected	4	Preserve	
48	Valley oak	7	--	3	Preserve	
49	Valley oak	21	Protected	3	Preserve	
50	Valley oak	34	Protected	3	Preserve	
51	Valley oak	19	Protected	3	Preserve	
52	Valley oak	28	Protected	3	Preserve	
53	Yellow willow	16	--	4	Preserve	
54	Coast live oak	28	Protected	3	Preserve	
55	Valley oak	33	Protected	4	Preserve	
56	Valley oak	29	Protected	4	Preserve	
57	Valley oak	32	Protected	3	Preserve	May require pruning to clear new road.
58	Coast live oak	25	Protected	3	Preserve	May require pruning to clear new road.
59	Willow	32	--	2	Preserve	
60	Willow	15,14	--	2	Preserve	
61	Calif. black walnut	7,7	--	3	Preserve	
62	Calif. black walnut	12,11	--	4	Preserve	
63	Willow	24	--	1	Preserve	
64	Willow	19	--	3	Preserve	
65	Yellow willow	20	--	2	Preserve	
66	Yellow willow	18	--	2	Preserve	
67	Yellow willow	15	--	2	Preserve	
68	Yellow willow	33	--	3	Preserve	
69	Calif. black walnut	10	--	4	Preserve	
70	Yellow willow	13	--	3	Preserve	
71	Valley oak	6,5	--	3	Remove	Lot 18
72	Valley oak	7,5	--	3	Remove	Lot 18
73	Yellow willow	33	--	2	Preserve	May require pruning to clear new road & trail.
74	Yellow willow	32	--	2	Preserve	
75	Calif. buckeye	22	Protected	4	Preserve	
76	Calif. black walnut	11	--	4	Preserve	
77	Calif. black walnut	7,5	--	3	Preserve	
78	Calif. black walnut	8,6	--	3	Preserve	
79	Willow	15,12	--	4	Preserve	
80	Valley oak	27	Protected	5	Preserve	
81	Aleppo pine	13	--	3	Preserve	

Table 3, continued. Proposed action. Magee Ranch. San Ramon CA.

Tree No.	Species	Trunk Diameter (in.)	Status ?	Condition 1=poor 5=excell.	Proposed Action	Notes
82	Willow	14	--	3	Preserve	
83	Willow	36	Heritage	2	Preserve	
84	Monterey pine	20	--	4	Preserve	
85	Monterey pine	19	--	3	Preserve	
86	Willow	18	--	2	Preserve	
87	Willow	12	--	3	Preserve	
88	Willow	16,14	--	4	Preserve	
89	Willow	9	--	3	Preserve	
90	Willow	24	--	3	Preserve	
91	Willow	18,12	--	2	Preserve	
92	Willow	14	--	2	Preserve	
93	Willow	9	--	2	Preserve	
94	Willow	16,10,8,8	--	3	Preserve	
95	Willow	24	--	2	Preserve	
96	Willow	7	--	5	Preserve	
97	Yellow willow	10,5	--	3	Preserve	
98	Yellow willow	8	--	4	Preserve	
99	Willow	21	--	2	Preserve	
100	Willow	23	--	3	Preserve	
101	Willow	15,14	--	4	Preserve	
102	Willow	8	--	2	Preserve	
103	Willow	10	--	3	Preserve	
104	Willow	14,10	--	2	Preserve	
105	Willow	19,6	--	3	Preserve	
106	Willow	15,9	--	3	Preserve	
107	Willow	16,14,14	--	3	Preserve	
108	Willow	14,10,10,7	--	3	Preserve	
109	Willow	16,15,15,13,12,10	--	2	Preserve	
110	Yellow willow	13,12,11	--	3	Preserve	
111	Yellow willow	9,8,8,7	--	3	Preserve	
112	Willow	11	--	1	Preserve	
113	Willow	9	--	2	Preserve	
114	Willow	15,13,13,11	--	3	Preserve	
115	Willow	12,11,9	--	3	Preserve	
116	Willow	15,14,10,7	--	3	Preserve	
117	Willow	17,15	--	4	Preserve	
118	Willow	20,17,16,10,10	--	3	Remove	Access from Diablo Rd.
119	Willow	7	--	2	Remove	Access from Diablo Rd.
120	Willow	16	--	2	Remove	Access from Diablo Rd.
121	Willow	13	--	2	Remove	Access from Diablo Rd.

Table 3, continued. Proposed action. Magee Ranch. San Ramon CA.

Tree No.	Species	Trunk Diameter (in.)	Status ?	Condition 1=poor 5=excell.	Proposed Action	Notes
122	Willow	14,6	--	2	Remove	Access from Diablo Rd.
123	Willow	13,11,10	--	3	Remove	Access from Diablo Rd.
124	Willow	8	--	2	Remove	Access from Diablo Rd.
125	Willow	17,15	--	2	Remove	Access from Diablo Rd.
126	Willow	13	--	2	Remove	Access from Diablo Rd.
127	Willow	15,13	--	2	Remove	Access from Diablo Rd.
128	Willow	15	--	3	Remove	Access from Diablo Rd.
129	Willow	16	--	2	Remove	Access from Diablo Rd.
130	Willow	20	--	2	Remove	Access from Diablo Rd.
131	Willow	22,12	--	2	Remove	Access from Diablo Rd.
132	Willow	18,16,8	--	2	Remove	Access from Diablo Rd.
133	Valley oak	44	Heritage	3	Preserve	
134	Willow	32,14,8	--	2	Preserve	
135	Willow	18	--	1	Preserve	
136	Willow	9	--	2	Preserve	
137	Willow	28,24,14,12	--	1	Preserve	
138	Valley oak	38	Heritage	4	Preserve	
139	Valley oak	36	Heritage	4	Preserve	
140	Willow	27,24	--	1	Preserve	
141	Valley oak	51	Heritage	4	Preserve	
142	Willow	40	Heritage	2	Preserve	
143	Calif. black walnut	19	--	3	Remove	Access from Diablo Rd.
144	Willow	12,8,8,8	--	3	Remove	Access from Diablo Rd.
145	Valley oak	22	Protected	4	Preserve	
146	Coast live oak	7,6	--	4	Preserve	Assumes no new fence.
147	Calif. black walnut	14,14,12,12,8	--	1	Remove	Poor suitability.
148	Calif. black walnut	10,10,8,8	--	1	Remove	Poor suitability.
149	Coast live oak	8	--	5	Preserve	Assumes no new fence.
150	Calif. black walnut	17	--	1	Remove	Poor suitability.
151	Valley oak	8	--	3	Remove	Access from Diablo Rd.
152	Valley oak	9	--	3	Remove	Access from Diablo Rd.

Table 3, continued. Proposed action. Magee Ranch. San Ramon CA.

Tree No.	Species	Trunk Diameter (in.)	Status ?	Condition 1=poor 5=excell.	Proposed Action	Notes
153	Coast live oak	31	Protected	3	Preserve?	Possible retain in median?
154	Valley oak	16	Protected	3	Remove	Access from Diablo Rd.
155	Coast live oak	7	--	4	Remove	Access from Diablo Rd.
156	Coast live oak	6,6	--	4	Remove	Access from Diablo Rd.
157	Coast live oak	7	--	4	Remove	Access from Diablo Rd.
158	Valley oak	6,4	--	4	Remove	Access from Diablo Rd.
159	Coast live oak	10	Protected	4	Preserve	
160	Calif. black walnut	14,13,12,10,9	--	2	Remove	Poor suitability
161	Valley oak	13,10	Protected	3	Preserve?	Possible retain but poor suitability.
162	Calif. black walnut	12,10,10,9,8,7,7,6	--	2	Remove	Poor suitability.
163	Coast live oak	17,10	Protected	4	Preserve	Assumes no new fence.
164	Valley oak	18	Protected	5	Preserve	Locate trail between #164 & 165?
165	Valley oak	14	Protected	5	Remove	Connector to Jullian Street
166	Coast live oak	7	--	4	Preserve	Assumes no new fence.
167	Valley oak	39	Heritage	5	Preserve	Hold grading outside dripline, lot 59
168	Valley oak	23	Protected	3	Preserve	Hold grading outside dripline, lot 59
169	Valley oak	9	--	3	Preserve	Hold grading outside dripline, lot 59
170	Valley oak	14	Protected	4	Preserve	Hold grading outside dripline, lot 59
171	Valley oak	15	Protected	4	Preserve	Hold grading outside dripline, lot 59
172	Valley oak	51	Heritage	5	Preserve	
173	Valley oak	51	Heritage	3	Preserve	Hold grading outside dripline, lot 53
174	Valley oak	22	Protected	3	Preserve	
175	Valley oak	14	Protected	3	Preserve	

Table 3, continued. Proposed action. Magee Ranch. San Ramon CA.

Tree No.	Species	Trunk Diameter (in.)	Status ?	Condition 1=poor 5=excell.	Proposed Action	Notes
176	Valley oak	19	Protected	3	Preserve	
177	Valley oak	23	Protected	3	Preserve	
178	Valley oak	38,16	Heritage	3	Preserve	
179	Valley oak	26	Protected	4	Preserve	
180	Valley oak	37	Heritage	4	Preserve	
181	Valley oak	23	Protected	3	Preserve	
182	Valley oak	24	Protected	3	Preserve	
183	Valley oak	36	Heritage	3	Preserve	Hold grading outside dripline, lot 42
184	Valley oak	35	Protected	5	Preserve	Hold grading outside dripline, lot 42
185	Valley oak	25	Protected	3	Preserve	Lot 64 (custom)
186	Valley oak	37	Heritage	4	Preserve	Lot 64 (custom)
187	Valley oak	18	Protected	3	Preserve	Lot 64 (custom)
188	Valley oak	42	Heritage	4	Preserve	Lot 64 (custom)
189	Valley oak	18.5	Protected	4	Preserve	Lot 62 (custom)
190	Valley oak	28	Protected	4	Preserve	Lot 62 (custom)
191	Valley oak	49	Heritage	4	Preserve	Lot 62 (custom)
192	Valley oak	44	Heritage	4	Preserve	
193	Valley oak	47	Heritage	5	Preserve	
194	Valley oak	19	Protected	5	Preserve	
195	Valley oak	50	Heritage	5	Preserve	Lot 61 (custom)
196	Willow	11	--	1	Remove	Lot 15
197	Willow	11	--	1	Remove	Lot 16
198	Valley oak	29	Protected	4	Preserve	Lot 61 (custom)
199	Valley oak	29	Protected	4	Preserve	Lot 61 (custom)
200	Valley oak	25	Protected	4	Preserve	Lot 61 (custom)
201	Valley oak	30	Protected	4	Preserve	Lot 61 (custom)
202	Valley oak	21	Protected	3	Preserve	
203	Valley oak	14	Protected	4	Preserve	
204	Valley oak	20	Protected	3	Preserve	Hold grading outside dripline; lot 75
205	Valley oak	18	Protected	3	Preserve?	Hold grading outside dripline; lot 75
206	Valley oak	21	Protected	4	Preserve	
207	Valley oak	15	Protected	5	Preserve	
208	Valley oak	26	Protected	3	Preserve	
209	Valley oak	30	Protected	4	Preserve	
210	Valley oak	18	Protected	3	Preserve	
211	Valley oak	11	Protected	3	Preserve	
212	Valley oak	14	Protected	3	Preserve	

Table 3, continued. Proposed action. Magee Ranch. San Ramon CA.

Tree No.	Species	Trunk Diameter (in.)	Status ?	Condition 1=poor 5=excell.	Proposed Action	Notes
213	Valley oak	19	Protected	3	Preserve	
214	Valley oak	51	Heritage	1	Preserve	
215	Valley oak	36	Heritage	5	Preserve	
216	Valley oak	48	Heritage	3	Preserve?	Hold grading outside dripline; lot 75
217	Valley oak	50	Heritage	3	Remove	Road; near lot 72
218	Valley oak	36	Heritage	3	Remove	Grading within dripline; lot 73
219	Valley oak	17,11	Protected	3	Remove	Grading within dripline; lot 72
220	Valley oak	29	Protected	4	Remove	Grading within dripline; lot 72
221	Valley oak	17	Protected	3	Remove	Grading within dripline; lot 72
222	Valley oak	29	Protected	4	Remove	Grading within dripline; lot 72
223	Valley oak	10	Protected	1	Remove	Grading within dripline; lot 72
224	Valley oak	18	Protected	4	Remove	Grading within dripline; lot 72
225	Valley oak	16	Protected	3	Remove	Grading within dripline; lot 71
226	Valley oak	10	Protected	3	Preserve	
227	Valley oak	21	Protected	5	Preserve	
228	Valley oak	33	Protected	4	Preserve	
229	Valley oak	32	Protected	3	Remove	Bridge area, road to lots 71 to 75
230	Valley oak	41	Heritage	4	Remove	Bridge area, road to lots 71 to 75
231	Calif. buckeye	11,10	Protected	3	Remove	Bridge area, road to lots 71 to 75
232	Coast live oak	26	Protected	4	Preserve?	Diablo Road; opposite Fairway Drive
233	Calif. black walnut	7,6,6,6,4,3	--	2	Remove	Poor suitability
234	Calif. black walnut	6,6,6,5,5,4,4	--	2	Remove	Poor suitability
235	Calif. black walnut	6,6,6,5,4	--	2	Remove	Diablo Road; opposite Fairway Drive
236	Valley oak	35	Protected	3	Preserve?	Diablo Road; opposite Fairway Drive
237	Coast live oak	6	--	5	Preserve?	Diablo Road; opposite Fairway Drive
238	Calif. black walnut	26	--	3	Preserve?	Diablo Road; opposite Fairway Drive

Table 3, continued. Proposed action. Magee Ranch. San Ramon CA.

Tree No.	Species	Trunk Diameter (in.)	Status ?	Condition 1=poor 5=excell.	Proposed Action	Notes
239	Valley oak	21	Protected	3	Preserve?	Diablo Road; opposite Fairway Drive
240	Calif. buckeye	9,9,8,7,7,6,6.5	Protected	4	Preserve	
241	Valley oak	40	Heritage	3	Preserve	
242	Valley oak	32	Protected	3	Preserve?	Bridge area, road to lots 71 to 75
243	Blue oak	19	Protected	4	Preserve	Near lot 67
244	Valley oak	36	Heritage	3	Preserve	Near lot 67
245	Blue oak	23	Protected	4	Preserve	Near lot 68
246	Valley oak	41	Heritage	4	Preserve	Near lot 68
247	London plane	15	Protected	5	Preserve	
248	London plane	16	Protected	5	Preserve	
249	London plane	14	Protected	5	Preserve	
250	London plane	11	Protected	5	Preserve	
251	Valley oak	59	Heritage	3	Preserve	
252	Coast live oak	16	Protected	5	Preserve	
253	London plane	7	--	5	Preserve	
254	London plane	7	--	5	Preserve	
255	London plane	10	Protected	5	Preserve	
256	London plane	12	Protected	5	Preserve	
257	London plane	11	Protected	5	Preserve	
258	London plane	12	Protected	5	Preserve?	Access to lots 65 to 67
259	London plane	11	Protected	5	Remove	Access to lots 65 to 67
260	Valley oak	26	Protected	4	Preserve	Lot 68 (custom)
261	Calif. buckeye	13,12,12,11,10,9,9,8	Protected	5	Preserve	Lot 68 (custom)
262	Valley oak	23	Protected	4	Preserve	Lot 68 (custom)
263	Valley oak	8	--	3	Preserve	Lot 68 (custom)
264	Valley oak	7,6	--	4	Preserve	Lot 68 (custom)
265	Valley oak	6,5,5.3	--	4	Remove	Access from Diablo Rd., lot 68
266	Valley oak	6,4,3	--	4	Remove	Access from Diablo Rd., lot 68
267	Valley oak	9,7,7	Protected	4	Preserve	Lot 68 (custom)
268	Red maple	9,7,6,4	--	4	Preserve	Lot 68 (custom)
269	Coulter pine	25	--	4	Preserve	Lot 68 (custom)
270	Coulter pine	19	--	3	Preserve	Lot 68 (custom)
271	Coulter pine	14	--	3	Preserve	Lot 68 (custom)
272	Coulter pine	18,17	--	4	Preserve	Lot 68 (custom)
273	Blue oak	17,14,5	Protected	4	Preserve	Lot 69 (custom)
274	Blue oak	14,10	Protected	3	Preserve	Lot 69 (custom)
275	Blue oak	15	Protected	5	Preserve	Lot 69 (custom)
276	Blue oak	34	Protected	3	Preserve	Lot 69 (custom)
277	Valley oak	20	Protected	4	Preserve	Lot 69 (custom)

Table 3, continued. Proposed action. Magee Ranch. San Ramon CA.

Tree No.	Species	Trunk Diameter (in.)	Status ?	Condition 1=poor 5=excell.	Proposed Action	Notes
278	Valley oak	14	Protected	3	Preserve	Lot 69 (custom)
279	Blue oak	14	Protected	3	Preserve	Lot 69 (custom)
280	Blue oak	26	Protected	5	Preserve	Lot 69 (custom)
281	Blue oak	46	Protected	4	Preserve	Lot 69 (custom)
282	Valley oak	23	Protected	5	Preserve	Lot 69 (custom)
283	Valley oak	6	--	5	Relocate?	Lot 69 (custom)
284	Valley oak	17	Protected	4	Preserve	Lot 70 (custom)
285	Valley oak	38	Heritage	3	Preserve	Lot 70 (custom)
286	Valley oak	27	Protected	4	Preserve	Lot 70 (custom)
287	Coast live oak	22	Protected	1	Remove	Poor suitability, lot 71
288	Valley oak	34	Protected	3	Preserve	Lot 70 (custom)
289	Valley oak	23	Protected	4	Preserve	Lot 70 (custom)
290	Valley oak	26	Protected	4	Preserve	Lot 70 (custom)
291	Blue oak	31	Protected	5	Preserve?	Lot 76, center of building site
292	Valley oak	20	Protected	2	Preserve	Lot 76, center of building site
293	Blue oak	26	Protected	3	Preserve	Lot 76, center of building site
294	Blue oak	25	Protected	4	Preserve	Lot 76, center of building site
295	Blue oak	31	Protected	3	Preserve	Lot 76, center of building site
296	Valley oak	27	Protected	4	Preserve	Lot 77 (custom)
297	Valley oak	28	Protected	3	Preserve	Lot 77 (custom)
298	Valley oak	25	Protected	4	Preserve	Lot 78 (custom)
299	Valley oak	22	Protected	4	Preserve	Lot 78 (custom)
300	Valley oak	24	Protected	5	Preserve	Lot 78 (custom)

Tree Preservation Guidelines

The following recommendations will help evaluate impacts to trees from development as well as maintain and improve their health and vitality through the clearing, grading and construction phases.

Design recommendations

1. The Consulting Arborist shall review all project plans with regard to tree impact and necessary protection measures.

2. Establish the horizontal and vertical elevation of all trees with 25' of the proposed edge of grading. Include on all plans.

3. A **TREE PROTECTION ZONE** shall be established around each tree to be preserved. For design purposes, the **TREE PROTECTION ZONE** shall be the dripline. No grading, excavation, construction or storage of materials shall occur within that zone.

4. Underground services including utilities, sub-drains, water or sewer shall be routed around the **TREE PROTECTION ZONE**. Where encroachment cannot be avoided, special construction techniques such as hand digging or tunneling under roots shall be employed where necessary to minimize root injury.

5. **Tree Preservation Notes**, prepared by the Consulting Arborist, should be included on all plans.

6. Any herbicides placed under paving materials must be safe for use around trees and labeled for that use.

7. Irrigation systems must be designed so that no trenching will occur within the **TREE PROTECTION ZONE**.

8. As trees withdraw water from the soil, expansive soils may shrink within the root area. Therefore, foundations, footings and pavements on expansive soils near trees should be designed to withstand differential displacement.

Pre-construction treatments and recommendations

1. Have the construction superintendent meet with the Consulting Arborist before beginning work to discuss work procedures and tree protection.

2. Fence the **TREE PROTECTION ZONE** prior to demolition, grubbing or grading. Fencing shall be 6' chain link with posts sunk into the ground. Fencing is to remain until construction is complete.

3. Prune selected trees to provide necessary clearance. All pruning shall be completed by a Certified Arborist or Tree Worker and adhere to the *Tree Pruning Guidelines* of the International Society of Arboriculture. Brush may be chipped and spread beneath the trees within the **TREE PROTECTION ZONE.**

Recommendations for tree protection during construction

1. Prohibit grading, construction, demolition or other work within the **TREE PROTECTION ZONE**. Any modifications must be approved and monitored by the Consulting Arborist.

2. Ensure that any root pruning required for construction purposes shall receive the prior approval of, and be supervised by, the Consulting Arborist.

3. Supplement natural rainfall with irrigation, at a rate determined by the Consulting Arborist.

4. Evaluate any injury to trees that should occur during construction. Notify the Consulting Arborist so that appropriate treatments can be applied.

5. Prohibit the dumping and/or storage of excess soil, chemicals, debris, equipment or other materials within the **TREE PROTECTION ZONE**.

6. Require that any tree pruning needed for clearance during construction must be performed by a Certified Arborist and not by construction personnel.

HortScience, Inc.

James R. Clark, Ph.D.
Certified Arborist WE-0846
Registered Consulting Arborist #357

Attachments

Tree Survey Form

Tree Survey Map

Tree Survey

Magee Ranch
Danville CA
January 2010; updated February 2011

TREE No.	SPECIES	TRUNK DIAMETER (in.)	STATUS?	CONDITION 1=poor 5=excellent	SUITABILITY for PRESERVATION	COMMENTS
1	Siberian elm	8,6,5	--	4	Moderate	Multiple attachments @ base; below utility lines.
2	Siberian elm	6	--	3	Moderate	Interior.
3	Siberian elm	10	--	4	Moderate	Okay tree.
4	Valley oak	15	Protected	4	Good	Slight bow S.
5	Valley oak	10	Protected	3	Poor	Codominant trunks @ 6'; separated.
6	Valley oak	38	Heritage	4	Moderate	Nice mature tree; one-sided to S.
7	Siberian elm	12	--	3	Poor	Suppressed; bowed flat to SW.
8	Siberian elm	15	--	3	Poor	Leaning & one-sided to SW.
9	Siberian elm	8	--	2	Poor	Topped; poor form & structure.
10	Siberian elm	7	--	2	Poor	Suppressed; no vigor.
11	Siberian elm	21	--	3	Poor	Codominant trunks @ 8'; spread apart; bowed sharply to SW.
12	Siberian elm	24	--	5	Good	Nice vase-shaped form; high crown.
13	Siberian elm	12	--	2	Poor	Topped; poor form & structure.
14	Siberian elm	8	--	2	Poor	Suppressed; leans SW.
15	Siberian elm	11	--	3	Poor	Narrow form.
16	Siberian elm	10	--	3	Poor	Narrow form.
17	Willow	10,9	--	2	Poor	2 upright branches from failed tree.
18	Siberian elm	12,8	--	3	Poor	Codominant trunks @ base; leans W.
19	Siberian elm	22	--	4	Moderate	High vase-shaped crown.
20	Siberian elm	9,9,8	--	2	Poor	Multiple attachments @ base; poor.
21	Siberian elm	24	--	3	Poor	Leaning & one-sided to S.
22	Siberian elm	7	--	3	Poor	Creek; one-sided crown.
23	Siberian elm	20	--	3	Poor	Leans W. over creek; base outside dripline.
24	Siberian elm	17	--	2	Poor	Severe lean W. over creek.
25	Valley oak	32	Protected	5	Good	Nice tree; top of bank; high vase-shaped crown.
26	Valley oak	27	Protected	3	Poor	Bowed flat to W.; base outside dripline.

Tree Survey

Magee Ranch
Danville CA
January 2010; updated February 2011

HORT SCIENCE

TREE No.	SPECIES	TRUNK DIAMETER (in.)	STATUS?	CONDITION 1=poor 5=excellent	SUITABILITY for PRESERVATION	COMMENTS
27	Valley oak	17	Protected	2	Poor	Failed @ base to W.
28	Valley oak	44	Heritage	5	Good	Huge tree; very nice rounded crown but for codominant trunks @ 12'.
29	Willow	24	--	1	Poor	Failed @ base across creek.
30	Valley oak	32	Protected	3	Moderate	One-sided to SW.; codominant trunks @ 16'; leans SW.
31	Valley oak	16	Protected	3	Moderate	Narrow crown.
32	Valley oak	8	--	3	Poor	Poor form; below canopy.
33	Valley oak	7	--	2	Poor	Suppressed.
34	Valley oak	11	Protected	3	Moderate	Narrow crown.
35	Valley oak	13	Protected	3	Poor	Bowed flat to NE.
36	Valley oak	35	Protected	4	Moderate	Huge tree; central leader failed; heavy low lateral to project.
37	Valley oak	13	Protected	3	Poor	Bowed flat to NE.
38	Valley oak	14	Protected	3	Moderate	Narrow crown.
39	Valley oak	14	Protected	3	Poor	Bowed flat to S.
40	Valley oak	11	Protected	2	Poor	Suppressed.
41	Valley oak	16	Protected	3	Poor	Asymmetric form to SE.
42	Valley oak	20	Protected	3	Poor	Codominant failed @ mid-crown; decay; high crown.
43	Valley oak	17,11	Protected	3	Poor	Leans NE. over creek; high crown.
44	Coast live oak	28	Protected	2	Poor	Failed @ base; on ground with vertical branches; canopy extends to existing road.
45	Valley oak	36	Heritage	2	Poor	Failed @ base; on ground with vertical branches; canopy extends just over existing road.
46	Coast live oak	28	Protected	2	Poor	Failed @ base; on ground with vertical branches; canopy extends to existing road.
47	Coast live oak	14	Protected	4	Good	Narrow form.
48	Valley oak	7	--	3	Poor	Bowed flat to S.; base outside dripline.

Tree Survey

Magee Ranch
Danville CA
January 2010; updated February 2011

HORT SCIENCE

TREE No.	SPECIES	TRUNK DIAMETER (in.)	STATUS?	CONDITION 1=poor 5=excellent	SUITABILITY for PRESERVATION	COMMENTS
49	Valley oak	21	Protected	3	Poor	Failing @ base to W.
50	Valley oak	34	Protected	3	Poor	Failing @ base to SE.
51	Valley oak	19	Protected	3	Poor	Failing @ base to SE.
52	Valley oak	28	Protected	3	Poor	Failing @ base to S.
53	Yellow willow	16	--	4	Moderate	Creek bed; good tree.
54	Coast live oak	28	Protected	3	Poor	Failed @ base across creek.
55	Valley oak	33	Protected	4	Moderate	One-sided to SW; on slope.
56	Valley oak	29	Protected	4	Moderate	High vase-shaped crown; multiple attachments @ 28' with heavy lateral limbs.
57	Valley oak	32	Protected	3	Poor	Bowed flat to S; base outside dripline; huge tree.
58	Coast live oak	25	Protected	3	Poor	Failed @ base; on ground with vertical branches; canopy extends to existing road.
59	Willow	32	--	2	Poor	Tagged on stem; failed @ base across creek.
60	Willow	15,14	--	2	Poor	Tagged on stem; failed @ base across creek.
61	Calif. black walnut	7,7	--	3	Poor	Codominant trunks @ 1'.
62	Calif. black walnut	12,11	--	4	Moderate	Codominant trunks @ 2'; narrow attachment.
63	Willow	24	--	1	Poor	Couldn't be worse.
64	Willow	19	--	3	Moderate	Corrected lean N.; edge of bank.
65	Yellow willow	20	--	2	Poor	Failed @ base; on ground.
66	Yellow willow	18	--	2	Poor	Extensive trunk decay.
67	Yellow willow	15	--	2	Poor	Extensive trunk decay.
68	Yellow willow	33	--	3	Poor	Failed @ base; on ground; conks @ base.
69	Calif. black walnut	10	--	4	Moderate	Good tree; slight lean N.; mid-slope.
70	Yellow willow	13	--	3	Poor	In slumping soil; trunk decay.
71	Valley oak	6,5	--	3	Moderate	Codominant trunks @ 2'; stems touching.
72	Valley oak	7,5	--	3	Moderate	Codominant trunks @ base.
73	Yellow willow	33	--	2	Poor	Failed @ base; sprawled on ground; extensive trunk decay.

Tree Survey

Magee Ranch
Danville CA
January 2010; updated February 2011

HORT SCIENCE

TREE No.	SPECIES	TRUNK DIAMETER (in.)	STATUS?	CONDITION 1=poor 5=excellent	SUITABILITY for PRESERVATION	COMMENTS
74	Yellow willow	32	--	2	Poor	Couldn't be worse; totally decayed.
75	Calif. buckeye	22	Protected	4	Moderate	Nice tree in slumping soil; large exposed roots.
76	Calif. black walnut	11	--	4	Moderate	Codominant trunks @ 4' & 5'.
77	Calif. black walnut	7,5	--	3	Poor	Codominant trunks @ base & 2'.
78	Calif. black walnut	8,6	--	3	Poor	Codominant trunks @ 2'.
79	Willow	15,12	--	4	Moderate	Codominant trunks @ 1'; best willow we've seen.
80	Valley oak	27	Protected	5	Good	Nice vase-shaped crown; edge of bank.
81	Aleppo pine	13	--	3	Moderate	Sharp lean SE.; base outside dripline.
82	Willow	14	--	3	Poor	Poor form.
83	Willow	36	Heritage	2	Poor	Failed @ base; sprawled on ground.
84	Monterey pine	20	--	4	Moderate	Sinuous trunk; lots of Sequoia pitch moth.
85	Monterey pine	19	--	3	Poor	Partly corrected lean E; trunk cavity.
86	Willow	18	--	2	Poor	Failed @ base across creek.
87	Willow	12	--	3	Poor	Poor form & structure; @ flow line.
88	Willow	16,14	--	4	Moderate	Codominant trunks @ base; okay form; @ flow line.
89	Willow	9	--	3	Poor	Leans E; @ flow line.
90	Willow	24	--	3	Poor	Failed @ base; top of crown is upright.
91	Willow	18,12	--	2	Poor	Codominant trunks @ base; one-sided to S.
92	Willow	14	--	2	Poor	Failed @ base; sprawled on ground.
93	Willow	9	--	2	Poor	Poor form.
94	Willow	16,10,8,8	--	3	Poor	Tagged on stem; multiple attachments @ base; stem on project side failed across creek.
95	Willow	24	--	2	Poor	Failed @ base; across creek; sprawled on ground.
96	Willow	7	--	5	Good	Good young tree.
97	Yellow willow	10,5	--	3	Poor	Leans across creek; codominant trunks @ base.
98	Yellow willow	8	--	4	Moderate	Codominant trunks @ 4'.
99	Willow	21	--	2	Poor	Failed @ base; sprawled on ground.
100	Willow	23	--	3	Poor	Sharp lean S.; failing.

Tree Survey

Magee Ranch
Danville CA
January 2010; updated February 2011

HORT SCIENCE

TREE No.	SPECIES	TRUNK DIAMETER (in.)	STATUS?	CONDITION 1=poor 5=excellent	SUITABILITY for PRESERVATION	COMMENTS
101	Willow	15,14	--	4	Good	Codominant trunks @ 2'.
102	Willow	8	--	2	Poor	Suppressed.
103	Willow	10	--	3	Poor	Bowed flat to SE.
104	Willow	14,10	--	2	Poor	14" upright but with thin crown; 10" on ground.
105	Willow	19,6	--	3	Poor	Strong lean N.; base outside dripline.
106	Willow	15,9	--	3	Poor	Codominant trunks @ base; poor form.
107	Willow	16,14,14	--	3	Poor	Multiple attachments @ base; sprawled apart.
108	Willow	14,10,10,7	--	3	Poor	Multiple attachments @ base; upright; in channel.
109	Willow	16,15,15,13,12,	--	2	Poor	Multiple attachments @ base; split into 2 halves.
110	Yellow willow	13,12,11	--	3	Poor	Thicket of stems, originating with big stems which have multiple attachments @ base.
111	Yellow willow	9,8,8,7	--	3	Poor	Multiple attachments @ base forming dense thicket.
112	Willow	11	--	1	Poor	Couldn't be worse.
113	Willow	9	--	2	Poor	Leans S; base outside dripline.
114	Willow	15,13,13,11	--	3	Poor	Multiple attachments @ base; one-sided to S.
115	Willow	12,11,9	--	3	Poor	Multiple attachments @ base; one-sided to S.
116	Willow	15,14,10,7	--	3	Poor	Multiple attachments @ base; 10" & 7" on ground.
117	Willow	17,15	--	4	Moderate	Codominant trunks @ 2'; okay form.
118	Willow	20,17,16,10,10	--	3	Poor	Multiple attachments @ base.
119	Willow	7	--	2	Poor	Poor form & structure.
120	Willow	16	--	2	Poor	Failing @ base to S.
121	Willow	13	--	2	Poor	Failing @ base to S.
122	Willow	14,6	--	2	Poor	Codominant trunks @ base; bowed flat to S.
123	Willow	13,11,10	--	3	Poor	Codominant trunks @ base & 3'.
124	Willow	8	--	2	Poor	Suppressed.
125	Willow	17,15	--	2	Poor	Codominant trunks @ base; 17" with strong lean NE.
126	Willow	13	--	2	Poor	Poor form & structure.
127	Willow	15,13	--	2	Poor	Codominant trunks @ base.

Tree Survey

Magee Ranch
Danville CA
January 2010; updated February 2011

HORT SCIENCE

TREE No.	SPECIES	TRUNK DIAMETER (in.)	STATUS?	CONDITION 1=poor 5=excellent	SUITABILITY for PRESERVATION	COMMENTS
128	Willow	15	--	3	Poor	Strong lean N.; base outside dripline.
129	Willow	16	--	2	Poor	Twig & branch dieback; poor form.
130	Willow	20	--	2	Poor	Failed @ base to N.; on ground.
131	Willow	22,12	--	2	Poor	Codominant trunks @ base; declining; twig & branch dieback.
132	Willow	18,16,8	--	2	Poor	Failed @ base to SW; in channel.
133	Valley oak	44	Heritage	3	Moderate	In channel; huge tree with good form but sparse canopy.
134	Willow	32,14,8	--	2	Poor	Failed @ base to S; in channel; on ground.
135	Willow	18	--	1	Poor	Couldn't be worse; conks.
136	Willow	9	--	2	Poor	Poor form; leans N.
137	Willow	28,24,14,12	--	1	Poor	Multiple attachments @ base, split apart & sprawled on ground; conks & decay.
138	Valley oak	38	Heritage	4	Good	Huge tree; bowed E; codominant trunks high in crown; top of bank.
139	Valley oak	36	Heritage	4	Good	Huge tree; good form; roots in channel.
140	Willow	27,24	--	1	Poor	Codominant trunks @ base; split apart with extensive decay.
141	Valley oak	51	Heritage	4	Moderate	Huge tree; bowed E; codominant trunks @ 16'; top of bank; wide but somewhat thin crown.
142	Willow	40	Heritage	2	Poor	Hollow with large cavity; poor form.
143	Calif. black walnut	19	--	3	Poor	Multiple attachments @ 4'; one-sided to N.
144	Willow	12,8,8,8	--	3	Poor	Off-site; tagged on fence; in channel; leans into project.
145	Valley oak	22	Protected	4	Good	Off-site; tagged on fence; high canopy extends slightly over project.
146	Coast live oak	7,6	--	4	Moderate	On property line; codominant trunks @ 2'.
147	Calif. black walnut	14,14,12,12,8	--	1	Poor	Multiple attachments @ base; all but dead.

Tree Survey

Magee Ranch
Danville CA
January 2010; updated February 2011

TREE No.	SPECIES	TRUNK DIAMETER (in.)	STATUS?	CONDITION 1=poor 5=excellent	SUITABILITY for PRESERVATION	COMMENTS
148	Calif. black walnut	10,10,8,8	--	1	Poor	Multiple attachments @ base; all but dead.
149	Coast live oak	8	--	5	Good	On property line; good young tree; remove fence by hand.
150	Calif. black walnut	17	--	1	Poor	Only live stem on tree with multiple attachments; all but dead; extensive decay.
151	Valley oak	8	--	3	Poor	Below utility lines; topped on N.
152	Valley oak	9	--	3	Poor	Below utility lines; topped on N.
153	Coast live oak	31	Protected	3	Poor	Below utility lines; topped on N.; S. side low canopy; codominant trunks @ 3' with included bark; then multiple attachments @ 4' on S.
154	Valley oak	16	Protected	3	Moderate	Below utility lines; topped on N. with stubs; S. side okay.
155	Coast live oak	7	--	4	Good	Narrow crown.
156	Coast live oak	6,6	--	4	Good	Codominant trunks @ base; topped; narrow crown.
157	Coast live oak	7	--	4	Good	Narrow crown.
158	Valley oak	6,4	--	4	Good	Codominant trunks @ base; narrow crown.
159	Coast live oak	10	Protected	4	Moderate	Codominant trunks @ 6'; already spread apart.
160	Calif. black walnut	14,13,12,10,9	--	2	Poor	Multiple attachments @ base; basal decay; mistletoe; thin crown.
161	Valley oak	13,10	Protected	3	Poor	Codominant trunks @ base with included bark & embedded fence.
162	Calif. black walnut	12,10,10,9,8,7, 7,6	--	2	Poor	Multiple attachments @ base; basal decay; poor form; thin crown.
163	Coast live oak	17,10	Protected	4	Moderate	Codominant trunks @ 2'; fence embedded in lower trunk on E; dense canopy.
164	Valley oak	18	Protected	5	Good	Good tree; low lateral on S.
165	Valley oak	14	Protected	5	Good	Good tree; low lateral on S.

Tree Survey

Magee Ranch
Danville CA
January 2010; updated February 2011

TREE No.	SPECIES	TRUNK DIAMETER (in.)	STATUS?	CONDITION 1=poor 5=excellent	SUITABILITY for PRESERVATION	COMMENTS
166	Coast live oak	7	--	4	Moderate	Off-site; planted; codominant trunks @ 4' with included bark; small, light green foliage.
167	Valley oak	39	Heritage	5	Good	Multiple attachments @ 12'; rounded form; good.
168	Valley oak	23	Protected	3	Poor	Partly suppressed; bowed N.; codominant trunks @ 4' & 10'.
169	Valley oak	9	--	3	Poor	Suppressed.
170	Valley oak	14	Protected	4	Moderate	One-sided to W. but okay.
171	Valley oak	15	Protected	4	Moderate	One-sided to SW. but okay.
172	Valley oak	51	Heritage	5	Good	Big beautiful tree; codominant trunks @ 12'.
173	Valley oak	51	Heritage	3	Poor	Codominant failure on S. side of lower trunk; decayed with huge stub; crown heavy to N; partly corrected.
174	Valley oak	22	Protected	3	Moderate	One-sided to N.; small crown; codominant trunks @ 16'.
175	Valley oak	14	Protected	3	Poor	Long trunk cavity on S.; codominant trunks @ 12'.
176	Valley oak	19	Protected	3	Poor	Bowed flat to NE; base outside dripline.
177	Valley oak	23	Protected	3	Poor	Corrected lean S; multiple attachments @ 4'.
178	Valley oak	38,16	Heritage	3	Moderate	Codominant trunks @ base & 7', the latter with included bark; crown heavy to S.
179	Valley oak	26	Protected	4	Moderate	Corrected lean S; codominant trunks @ 16'.
180	Valley oak	37	Heritage	4	Good	Low spreading crown.
181	Valley oak	23	Protected	3	Moderate	Codominant trunks @ 10' with included bark.
182	Valley oak	24	Protected	3	Moderate	Bowed flat to SW.
183	Valley oak	36	Heritage	3	Moderate	Bowed flat to N; codominant trunks @ 4'.
184	Valley oak	35	Protected	5	Good	Nice tree; rounded crown.
185	Valley oak	25	Protected	3	Poor	One-sided & slightly suppressed to S.
186	Valley oak	37	Heritage	4	Moderate	Multiple attachments @ 6' spreading apart; vase-shaped crown.

Tree Survey

Magee Ranch
Danville CA
January 2010; updated February 2011

TREE No.	SPECIES	TRUNK DIAMETER (in.)	STATUS?	CONDITION 1=poor 5=excellent	SUITABILITY for PRESERVATION	COMMENTS
187	Valley oak	18	Protected	3	Poor	One-sided to W.; 2 sets of codominant trunks; both with wide attachments.
188	Valley oak	42	Heritage	4	Good	Round crown hangs to ground; codominant trunks @ 16'.
189	Valley oak	18½	Protected	4	Good	Leans E.
190	Valley oak	28	Protected	4	Good	Multiple attachments @ 10'; vase-shaped crown.
191	Valley oak	49	Heritage	4	Moderate	Huge tree leaning & one-sided to E., downhill; basal cavity on W.
192	Valley oak	44	Heritage	4	Moderate	Huge tree; multiple attachments @ 6' spreading apart with gap; may be in fill from uphill erosion.
193	Valley oak	47	Heritage	5	Good	Huge tree with low spreading crown; hangs to ground.
194	Valley oak	19	Protected	5	Good	Good form & structure.
195	Valley oak	50	Heritage	5	Good	Low spreading crown; nice.
196	Willow	11	--	1	Poor	Failed @ base; extensive decay.
197	Willow	11	--	1	Poor	Failed @ base; extensive decay; couldn't be worse.
198	Valley oak	29	Protected	4	Good	Codominant trunks at 7'; narrow attachment.
199	Valley oak	29	Protected	4	Moderate	Codominant trunks at 7'; nice form; heavy mistletoe.
200	Valley oak	25	Protected	4	Good	Upright form; one-sided E.
201	Valley oak	30	Protected	4	Good	Multiple attachments at 15'; one-sided N.; dead wood to 4".
202	Valley oak	21	Protected	3	Moderate	Multiple attachments @ 7'; mistletoe; twig & branch dieback.
203	Valley oak	14	Protected	4	Moderate	Codominant trunks @ 7'; asymmetric crown.
204	Valley oak	20	Protected	3	Moderate	One-sided W.; mistletoe.
205	Valley oak	18	Protected	3	Moderate	Very one-sided W.; low crown W..
206	Valley oak	21	Protected	4	Good	Multiple attachments @ 7'; asymmetric crown.
207	Valley oak	15	Protected	5	Good	Good young tree; mistletoe.

TREE No.	SPECIES	TRUNK DIAMETER (in.)	STATUS?	CONDITION 1=poor 5=excellent	SUITABILITY for PRESERVATION	COMMENTS
208	Valley oak	26	Protected	3	Poor	Failed & laying on ground; still vigorous.
209	Valley oak	30	Protected	4	Good	Multiple attachments @ 15'; high crown; mistletoe.
210	Valley oak	18	Protected	3	Moderate	Asymmetric crown; mistletoe; epicormic shoots.
211	Valley oak	11	Protected	3	Poor	Suppressed form; crown bowed N.
212	Valley oak	14	Protected	3	Poor	Suppressed form; crown bowed W.; epicormic shoots.
213	Valley oak	19	Protected	3	Poor	Asymmetric crown; dieback in upper crown.
214	Valley oak	51	Heritage	1	Poor	All but dead; minor epicormic shoots.
215	Valley oak	36	Heritage	5	Good	Slight lean S.; multiple attachments @ 8'; good form & structure.
216	Valley oak	48	Heritage	3	Poor	Failed & laying on ground; cavity with groud squirrels; mistletoe.
217	Valley oak	50	Heritage	3	Moderate	Roots exposed by erosion; extensive mistletoe.
218	Valley oak	36	Heritage	3	Poor	Codominant trunks @ 8'; silt fill @ base; twig & branch dieback.
219	Valley oak	17,11	Protected	3	Poor	Gnarled form; trunk & branch cankers; epicormic shoots.
220	Valley oak	29	Protected	4	Moderate	Multiple attachments @ 7'; history of branch failure; one-sided S.
221	Valley oak	17	Protected	3	Moderate	Codominant trunks @ 5'; narrow crown; nesting cavities.
222	Valley oak	29	Protected	4	Moderate	Codominant trunks @ 7'; narrow attachment; one-sided E.; mistletoe.
223	Valley oak	10	Protected	1	Poor	Lost top; all but dead.
224	Valley oak	18	Protected	4	Moderate	Suppressed form; crown bowed N.
225	Valley oak	16	Protected	3	Poor	Suppressed form; crown bowed E. to horizontal.
226	Valley oak	10	Protected	3	Poor	Suppressed form; crown bowed S.
227	Valley oak	21	Protected	5	Good	Multiple attachments @ 10'; vase shaped crown.

Tree Survey

Magee Ranch
Danville CA
January 2010; updated February 2011

HORT SCIENCE

TREE No.	SPECIES	TRUNK DIAMETER (in.)	STATUS?	CONDITION 1=poor 5=excellent	SUITABILITY for PRESERVATION	COMMENTS
228	Valley oak	33	Protected	4	Moderate	Growing on creek bank; leans N.
229	Valley oak	32	Protected	3	Poor	Growing on creek bank; roots exposed; leans N..
230	Valley oak	41	Heritage	4	Moderate	Growing on creek bank; slight lean S.; mistletoe.
231	Calif. buckeye	11,10	Protected	3	Moderate	Suppressed form; leans E.
232	Coast live oak	26	Protected	4	Moderate	Codominant trunks @ 7'; good form & structure; pruned for overhead utilities.
233	Calif. black walnut	7,6,6,6,4,3	--	2	Poor	Stump sprout; beneath overhead utilities.
234	Calif. black walnut	6,6,6,5,5,4,4	--	2	Poor	Stump sprout; beneath overhead utilities.
235	Calif. black walnut	6,6,6,5,4	--	2	Poor	Stump sprout; beneath overhead utilities.
236	Valley oak	35	Protected	3	Moderate	Codominant trunks @ 8'; embedded barbed wire; large pruning wound N.; pruned for overhead utilities.
237	Coast live oak	6	--	5	Good	Good young tree; beneath overhead utilities.
238	Calif. black walnut	26	--	3	Poor	Multiple attachments @ 8'; dead branches to 10"; topped for overhead utilities.
239	Valley oak	21	Protected	3	Moderate	Codominant trunks @ 8'; topped for overhead utilities.
240	Calif. buckeye	9,9,8,7,7,6,6.5	Protected	4	Moderate	Growing on creek bank; extensive soil erosion.
241	Valley oak	40	Heritage	3	Poor	Growing on creek bank; leans E.; large cavity N.
242	Valley oak	32	Protected	3	Poor	Growing on creek bank; extensive erosion; roots exposed; leans S.
243	Blue oak	19	Protected	4	Moderate	One-sided W.; low crown.
244	Valley oak	36	Heritage	3	Moderate	Multiple attachments @ 8'; thinning crown; mistletoe.
245	Blue oak	23	Protected	4	Moderate	Codominant trunks @ 6'; good form & structure; mistletoe.
246	Valley oak	41	Heritage	4	Good	Codominant trunks @ 12'; low crown dead branches to 6"; mistletoe.
247	London plane	15	Protected	5	Good	Good form & structure; surface roots.
248	London plane	16	Protected	5	Good	Good form & structure; surface roots.

Tree Survey

Magee Ranch
Danville CA
January 2010; updated February 2011

TREE No.	SPECIES	TRUNK DIAMETER (in.)	STATUS?	CONDITION 1=poor 5=excellent	SUITABILITY for PRESERVATION	COMMENTS
249	London plane	14	Protected	5	Good	Slight lean N.; good form & structure; surface roots.
250	London plane	11	Protected	5	Good	Good form & structure; surface roots with wounds.
251	Valley oak	59	Heritage	3	Moderate	Multiple attachments @ 7'; thinning crown; mistletoe.
252	Coast live oak	16	Protected	5	Good	Multiple attachments @ 10'; good form & structure; thin crown.
253	London plane	7	--	5	Good	Good young tree; surface roots.
254	London plane	7	--	5	Good	Good young tree; surface roots.
255	London plane	10	Protected	5	Good	Good form & structure.
256	London plane	12	Protected	5	Good	Good form & structure.
257	London plane	11	Protected	5	Good	Good form & structure; surface roots.
258	London plane	12	Protected	5	Good	Good form & structure.
259	London plane	11	Protected	5	Good	Good form & structure; surface roots.
260	Valley oak	26	Protected	4	Moderate	Codominant trunks @ 8'; epicormic shoots; mistletoe.
261	Calif. buckeye	13,12,12,11,10, 9,9,8	Protected	5	Good	Multiple attachments @ base; leans N.; low crown.
262	Valley oak	23	Protected	4	Moderate	Upright form; mistletoe; dead wood to 6".
263	Valley oak	8	--	3	Poor	Suppressed; crown bowed N.
264	Valley oak	7,6	--	4	Moderate	Codominant trunks @ 5'; beneath overhead utilities.
265	Valley oak	6,5,5.3	--	4	Moderate	Multiple attachments @ base; beneath overhead utilities.
266	Valley oak	6,4,3	--	4	Moderate	Multiple attachments @ base; beneath overhead utilities.
267	Valley oak	9,7,7	Protected	4	Moderate	Codominant trunks @ base; seam in attachment; beneath overhead utilities.
268	Red maple	9,7,6,4	--	4	Moderate	Off-site; multiple attachments @ base; narrow attachments; sapsucker damage.
269	Coulter pine	25	--	4	Moderate	Off-site, no tag; corrected lean S.

Tree Survey

Magee Ranch
Danville CA
January 2010; updated February 2011

HORT SCIENCE

TREE No.	SPECIES	TRUNK DIAMETER (in.)	STATUS?	CONDITION 1=poor 5=excellent	SUITABILITY for PRESERVATION	COMMENTS
270	Coulter pine	19	--	3	Poor	Off-site, no tag; poor form & structure.
271	Coulter pine	14	--	3	Poor	Off-site, no tag; poor form & structure.
272	Coulter pine	18,17	--	4	Moderate	Off-site, no tag; codominant trunks @ 3; included bark.
273	Blue oak	17,14,5	Protected	4	Moderate	Multiple attachments @ base; 14" stem bowed flat to S.
274	Blue oak	14,10	Protected	3	Poor	Codominant trunks @ 3'; suppressed form with crown bowed E.
275	Blue oak	15	Protected	5	Good	Codominant trunks @ 10'; nice form.
276	Blue oak	34	Protected	3	Poor	Central decay column; heavy lateral limb on W.
277	Valley oak	20	Protected	4	Good	Codominant trunks @ 6'; one-sided to W.
278	Valley oak	14	Protected	3	Poor	Lost upper crown; fair structure.
279	Blue oak	14	Protected	3	Poor	Suppressed form; trunk cankers.
280	Blue oak	26	Protected	5	Good	Codominant trunks @ 6'; low crown on S. epicormic shoots.
281	Blue oak	46	Protected	4	Moderate	Multiple attachments @ 10'; branch wounds with decay; heavy lateral limb on S. extends to ground; epicormic shoots; heavy mistletoe.
282	Valley oak	23	Protected	5	Good	Multiple attachments @ 10'; leans N. away from #281.
283	Valley oak	6	--	5	Moderate	Codominant trunks @ base; beneath overhead utilities.
284	Valley oak	17	Protected	4	Moderate	Codominant trunks @ 8'; leans S. away from utilties.
285	Valley oak	38	Heritage	3	Poor	Heavy lean S. away from utilties; epicormic shoots.
286	Valley oak	27	Protected	4	Moderate	Leans S. away from utilties; epicormic shoots.
287	Coast live oak	22	Protected	1	Poor	Central leader dead; crown formed from thin shell of live tissue on N. side of trunk; weight over Diablo Road.

Tree Survey

Magee Ranch
Danville CA
January 2010; updated February 2011

TREE No.	SPECIES	TRUNK DIAMETER (in.)	STATUS?	CONDITION 1=poor 5=excellent	SUITABILITY for PRESERVATION	COMMENTS
288	Valley oak	34	Protected	3	Poor	Very one-sided to S. away from utilties; epicormic shoots; mistletoe.
289	Valley oak	23	Protected	4	Moderate	Codominant trunks @ 6'; one-sided to N.; epicormic shoots.
290	Valley oak	26	Protected	4	Good	Codominant trunks @ 6'; good form; stub on S.; mistletoe.
291	Blue oak	31	Protected	5	Good	Codominant trunks @ 10'; good form & structure; branches to the ground S.; mistletoe; dead wood to 4".
292	Valley oak	20	Protected	2	Poor	Extensive dieback; extensive mistletoe.
293	Blue oak	26	Protected	3	Poor	Poor form & structure; extensive mistletoe.
294	Blue oak	25	Protected	4	Moderate	Multiple attachments @ 10'; good form & structure; branches to the ground to W.; mistletoe.
295	Blue oak	31	Protected	3	Moderate	Good form & structure; extensive mistletoe; epicormic shoots.
296	Valley oak	27	Protected	4	Moderate	Codominant trunks @ 6'; leans S. away from utilities; trunk wound.
297	Valley oak	28	Protected	3	Moderate	Codominant trunks @ 8'; pruned for overhead utilities; trunk wound.
298	Valley oak	25	Protected	4	Moderate	Multiple attachments @ 10'; leans S. away from utilities; heavy lateral limb on S.; dead wood to 8".
299	Valley oak	22	Protected	4	Moderate	Multiple attachments @ 6'; one-sided S. away from utilities; embedded barbed wire.
300	Valley oak	24	Protected	5	Good	Codominant trunks @ 8'; epicormic shoots; mistletoe.

TREE SURVEY EXHIBIT - MAGEE RANCHES

TOWN OF DANVILLE, CONTRA COSTA COUNTY, CALIFORNIA

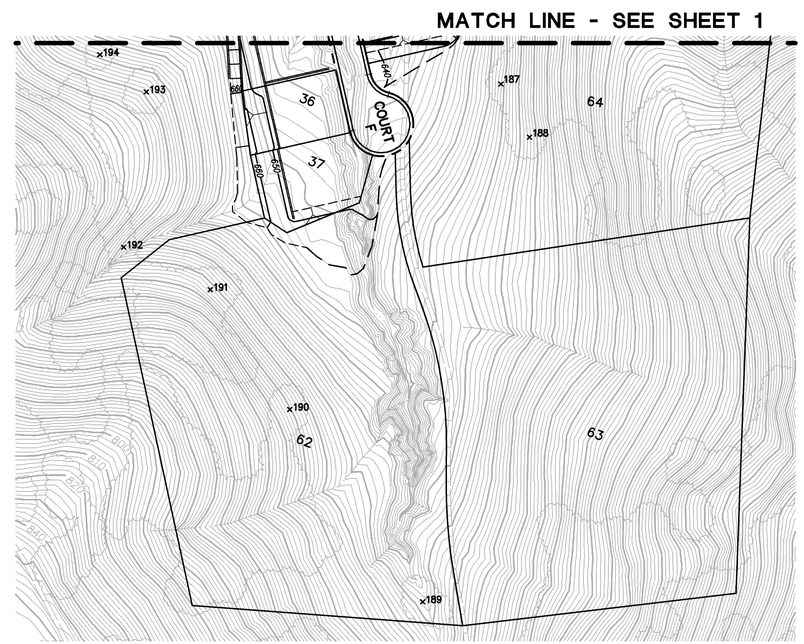
LEGEND:

x120 TREE NUMBER AND LOCATION

RJA
RUGGERI-JENSEN-AZAR
ENGINEERS ▪ PLANNERS ▪ SURVEYORS
4690 CHABOT DRIVE, SUITE 200 PLEASANTON, CA 94588
PHONE: (925) 227-9100 FAX: (925) 227-9300

DATE: APRIL 5, 2011 JOB NO. 091015 SHEET 1 OF 2 SHEETS

G:\JOBS2009\091015\EXHIBITS\TREE SURVEY EXHIBIT.DWG 4/5/2011 5:57:48 PM ALAN MULLEN



N

GRAPHIC SCALE

0 100 200 300

(IN FEET)
1 inch = 100 ft.

LEGEND:

×120 TREE NUMBER AND LOCATION

RJA

RUGGERI-JENSEN-AZAR

ENGINEERS ▪ PLANNERS ▪ SURVEYORS

4690 CHABOT DRIVE, SUITE 200 PLEASANTON, CA 94588

PHONE: (925) 227-9100 FAX: (925) 227-9300

TREE SURVEY EXHIBIT - MAGEE RANCHES

TOWN OF DANVILLE, CONTRA COSTA COUNTY, CALIFORNIA

DATE: APRIL 5, 2011 JOB NO. 091015 SHEET 2 OF 2 SHEETS

G:\JOBZ09\091015\EXHIBITS\TREE SURVEY EXHIBIT.DWG 4/5/2011 2:57:48 PM ALAN MULLEN

DRAFT Supplemental Tree Report

Diablo Road @ McCauley Road
Magee Ranch
Danville CA

Prepared for:
SummerHill Homes
5000 Executive Parkway, Suite 150
San Ramon CA 94583

Prepared by:
HortScience, Inc.
325 Ray Street
Pleasanton, CA 94566

April 2012

DRAFT Supplemental Tree Report

Diablo Road @ McCauley Road
Magee Ranch
Danville CA

Table of Contents

	Page
Introduction and Overview	1
Survey Methods	1
Description of Trees	1
Suitability for Preservation	4
Evaluation of Plans and Recommendations for Action	5
Tree Preservation Guidelines	16

List of Tables

Table 1. Species present and frequency of occurrence.	2
Table 2. Tree suitability for preservation.	5
Table 3. Proposed action.	7

Attachments

Tree Location Map

Tree Survey Forms

Introduction and Overview

SummerHill Homes is planning to develop a portion of Magee Ranch property located on Diablo Road in Danville CA. One aspect of the development could be improving the east side of the intersection of Diablo and McCauley Roads. The existing intersection consists of two westbound lanes and one eastbound. A multi-use trail on the north serves as sidewalk. There is no sidewalk on the south. Curb and gutter are absent on both sides of Diablo Road. Overhead electrical lines are present on the south side of Diablo Road.

HortScience, Inc. was asked to prepare a **DRAFT Supplemental Tree Report** for this improvement. This report provides the following information:

1. A survey of trees within and immediately adjacent to the proposed project area.
2. An assessment of the suitability for preservation of each tree.
3. An assessment of proposed plans and recommendations for action.
4. Preliminary guidelines for tree preservation during the design, construction and maintenance phases of development.

Survey Methods

Trees were surveyed in April 2012. The survey included trees greater than 5" in diameter. The survey procedure consisted of the following steps:

1. Identifying the tree as to species.
2. Tagging each tree with a numerically coded metal tag.
3. Recording its location on a map. Base map provided by RJA, project engineers.
4. Measuring the trunk diameter at a point 54" above grade.
5. Evaluating the health and structural condition using a scale of 1 – 5 where 1 = poor and 5 = excellent condition.
6. Rating the suitability for preservation as "good", "moderate" or "poor". Suitability for preservation considers the health, age and structural condition of the tree, and its potential to remain an asset to the site for years to come.

In addition, a census of trees smaller than 5" was undertaken. The number of trees by species was recorded.

Trees were mapped on a topographic plan prepared by RJA, project engineers (***see Tree Assessment Map*** in the **Attachments**).. The map reference trees by tree tag number.

Description of Trees

Twenty-one (21) were evaluated representing 6 species (Table 1, following page). Descriptions of individual trees are found in the ***Tree Assessment Form.***

Valley oak (11) was the most frequently occurring species. Valley oaks included 2 young multi-trunk saplings (#316, 317), 6 semi-mature trees (#301, 302, 311, 314, 315, 321) and 3 mature trees (#308, 310, 320). Trunk diameters ranged from 4" to 31" and reflected the range in tree age and development. Almost all valley oaks were in fair condition. Exceptions included #314 which was in poor condition with severely exposed roots and #311 which was in good condition. Several oaks had been topped or trimmed to provide clearance from the overhead electrical lines. For the largest trees, #308 and 310, the result was an asymmetric crown that was one-sided and heavy to the south (Photo 1, following page).

Table 1. Tree condition & frequency of occurrence. Diablo Road @ McCauley Road. Magee Ranch. Danville CA.

Common name	Scientfic name	Condition				No. of Trees	
		Poor	Fair	Good	Excel.	Protected	Total
Calif. black walnut	*Juglans hindsii*	--	5	--	--	2	5
English walnut	*Juglans regia*	--	1	--	--	--	1
Purpleleaf plum	*Prunus cerasifera* 'Atropurpurea'	--	1	--	--	--	1
Almond	*Prunus dulcis*	1	1	--	--	--	2
Valley oak	*Quercus lobata*	1	9	1	--	9	11
Siberian elm	*Ulmus pumila*	--	1	--	--	--	1
Total, all trees surveyed		**2**	**18**	**1**	**--**	**11**	**21**

Five (5) Calif. black walnuts were present on the south side of Diablo Road, interspersed among the oaks. All were in fair condition. Trunk diameters ranged from 6” to 11”. Walnuts #304 and 306 were semi-mature in development. Their crowns were formed by multiple sprouts from a cut stump. Both had been topped to clear the overhead wires. Walnuts #305, 2307 and 309 were sapling size (<9”).

Photo 1. Looking southwest across Diablo Road. Intersection with McCauley is on the right. Valley oaks #308 and 310 were mature but with asymmetric crowns due to the presence of the overhead wires and the need to provide adequate clearance.

Two almonds were located on the south side of Diablo Road. Tree #312 was in poor condition and was failing at the base of the trunk. Tree #313 was fair.

English walnut #303 was a small multi-trunked tree in fair condition.

Purpleleaf plum #318 was a multi-trunked small tree on the north side of the road (Photo 2). Located below the canopy of trees #319 and 310, it had an asymmetric crown that was heavy to the south. It was in fair condition.

Siberian elm #319 was mature in size and form (Photo 2). Overall tree form was good but dieback of twigs and small branches was extensive. There appeared to be extensive decay in the trunk.

Photo 2. Looking across Diablo Road to the north.

Among trees less than 5" in diameter, 5 Calif. black walnuts and 3 valley oaks were present. All were interspersed among the tagged trees on the south side of Diablo Road.

The Town of Danville designates trees as having either protected or heritage status. Protected status is based on tree species and trunk diameter. A heritage tree has a trunk diameter of 36" or greater regardless of species. No Heritage trees were present. There were 9 protected trees: valley oaks #301, 302, 308, 310, 311 314, 315, 320 and 321; and Calif. black walnuts #304 and 306.

Suitability for Preservation

Before evaluating the impacts that will occur during development, it is important to consider the quality of the tree resource itself, and the potential for individual trees to function well over an extended length of time. Trees that are preserved on development sites must be carefully selected to make sure that they may survive development impacts, adapt to a new environment and perform well in the landscape.

Our goal is to identify trees that have the potential for long-term health, structural stability and longevity. For trees growing in open fields, away from areas where people and property are present, structural defects and/or poor health presents a low risk of damage or injury if they fail. However, we must be concerned about safety in use areas. Therefore, where development encroaches into existing plantings, we must consider their structural stability as well as their potential to grow and thrive in a new environment. Where development will not occur, the normal life cycles of decline, structural failure and death should be allowed to continue.

Evaluation of suitability for preservation considers several factors:

- **Tree health**
  Healthy, vigorous trees are better able to tolerate impacts such as root injury, demolition of existing structures, changes in soil grade and moisture, and soil compaction than are non-vigorous trees.

- **Structural integrity**
  Trees with significant amounts of wood decay and other structural defects that cannot be corrected are likely to fail. Such trees should not be preserved in areas where damage to people or property is likely.

- **Species response**
  There is a wide variation in the response of individual species to construction impacts and changes in the environment. In our experience, for example, Calif. black walnut is very sensitive to construction impacts while valley oak is moderate in tolerance.

- **Tree age and longevity**
  Old trees, while having significant emotional and aesthetic appeal, have limited physiological capacity to adjust to an altered environment. Young trees are better able to generate new tissue and respond to change.

- **Species invasiveness**
  Species which spread across a site and displace desired vegetation are not always appropriate for retention. This is particularly true when indigenous species are displaced. Siberian elm is considered invasive, spreading by seed and root sprouts.

Each tree was rated for suitability for preservation based upon its age, health, structural condition and ability to safely coexist within a development environment (Table 2).

Table 2. Tree suitability for preservation. Diablo Road @ McCauley Road. Magee Ranch. Danville CA.

Good	Trees with good health and structural stability that have the potential for longevity at the site. None of the surveyed trees had good suitability for preservation.
Moderate	Trees in fair health and/or possessing structural defects that may be abated with treatment. Trees in this category require more intense management and monitoring, and may have shorter life-spans than those in the “good” category. Ten (10) trees were rated as having moderate suitability for preservation: valley oaks #308, 310, 311, 315, 316, 317, 320, 321; Calif. black walnut #307; purpleleaf plum #318.

Table 2, continued. Tree suitability for preservation. Diablo Road @ McCauley Road. Magee Ranch. Danville CA.

Poor	Trees in poor health or possessing significant defects in structure that cannot be abated with treatment. These trees can be expected to decline regardless of management. The species or individual tree may possess either characteristics that are undesirable in landscape settings or be unsuited for use areas. Eleven (11) trees were rated as having poor suitability for preservation: Calif. black walnuts #304, 305, 306, 309; English walnut #303, Siberian elm #319; almonds #312, 313; and valley oaks #301, 302, 314.

We consider trees with good suitability for preservation to be the best candidates for preservation. We do not recommend retention of trees with low suitability for preservation in areas where people or property will be present. Retention of trees with moderate suitability for preservation depends upon the intensity of proposed site changes.

Evaluation of Plans and Recommendations for Action

Appropriate tree retention develops a practical match between the location and intensity of construction activities and the quality and health of trees. The ***Tree Assessment Form*** was the reference point for tree condition and quality. Potential impacts from construction were evaluated using the site plan (dated March 2012) prepared by RJA, project engineers. The plan depicted a wider road width including four west bound lanes and a single east-bound lane.. Tree trunk locations and canopy outlines were included on the plan. Grading requirements as well as curb, gutter and drainage were not.

Impacts to trees would occur in several ways. Demolition of existing infrastructure can injure tree roots. Trees may be located within areas proposed for new landscape features. Excavation and construction may damage both tree roots and crowns. Some slopes will be re-contoured and areas of instability repaired.

Using the proposed plans, I evaluated the impacts to each of the surveyed trees (Table 3, following page). Based on my assessment, I recommend preservation of three trees (valley oaks #315, 320, 321, all protected status) and removal of 18. Trees recommended for removal either have poor suitability for preservation or are located within and immediately adjacent to proposed improvements.

Table 3. Proposed action. Diablo Road @ McCauley Road. Magee Ranch. San Ramon CA.

Tree No.	Species	Trunk Diameter (in.)	Status	Condition 1=poor 5=excell.	Proposed Action	Notes
301	Valley oak	10	Protected	3	Remove	Poor suitability
302	Valley oak	13,12	Protected	3	Remove	Poor suitability
303	English walnut	6,4,4,2	--	3	Remove	Within new alignment; poor suitability
304	Calif. black walnut	10,10,9,8,7	Protected	3	Remove	Within new alignment; poor suitability
305	Calif. black walnut	9	--	3	Remove	Within new alignment; poor suitability
306	Calif. black walnut	11,10,9,9,4	Protected	3	Remove	Within new alignment; poor suitability
307	Calif. black walnut	6	--	3	Remove	Within new alignment
308	Valley oak	31	Protected	3	Remove	Within new alignment
309	Calif. black walnut	6,4	--	3	Remove	Within new alignment; poor suitability
310	Valley oak	25	Protected	3	Remove	Within new alignment
311	Valley oak	12,10,8	Protected	4	Remove	Edge of improvements; locate trunk
312	Almond	7,6	--	2	Remove	Poor suitability
313	Almond	5,4,2	--	3	Remove	Poor suitability
314	Valley oak	10	Protected	2	Remove	Poor suitability
315	Valley oak	17	Protected	3	Preserve	Outside project area
316	Valley oak	4,3	--	3	Remove	Edge of improvements
317	Valley oak	4,4,3,2,2,1	--	3	Remove	Edge of improvements
318	Purpleleaf plum	3,2,2,2,2	--	3	Remove	Edge of improvements
319	Siberian elm	24	--	3	Remove	Edge of improvements; poor suitability
320	Valley oak	22	Protected	3	Preserve	Edge of improvements; locate trunk
321	Valley oak	12,11	Protected	3	Preserve	Edge of improvements; locate trunk

Tree Preservation Guidelines

The following recommendations will help evaluate impacts to trees from development as well as maintain and improve their health and vitality through the clearing, grading and construction phases.

Design recommendations

1. The Consulting Arborist shall review all project plans with regard to tree impact and necessary protection measures.

2. Establish the horizontal and vertical elevation of all trees with 10' of the proposed edge of grading. Include on all plans.

3. A **TREE PROTECTION ZONE** shall be established around each tree to be preserved. For design purposes, the **TREE PROTECTION ZONE** shall be 2' from the edge of grading. No grading, excavation, construction or storage of materials shall occur within that zone.

4. Underground services including utilities, sub-drains, water or sewer shall be routed around the **TREE PROTECTION ZONE**. Where encroachment cannot be avoided, special construction techniques such as hand digging or tunneling under roots shall be employed where necessary to minimize root injury.

5. **Tree Preservation Notes**, prepared by the Consulting Arborist, should be included on all plans.

6. Any herbicides placed under paving materials must be safe for use around trees and labeled for that use.

7. Irrigation systems must be designed so that no trenching will occur within the **TREE PROTECTION ZONE**.

8. As trees withdraw water from the soil, expansive soils may shrink within the root area. Therefore, foundations, footings and pavements on expansive soils near trees should be designed to withstand differential displacement.

Pre-construction treatments and recommendations

1. Have the construction superintendent meet with the Consulting Arborist before beginning work to discuss work procedures and tree protection.

2. Fence the **TREE PROTECTION ZONE** prior to demolition, grubbing or grading. Fencing shall be 6' chain link with posts sunk into the ground. Fencing is to remain until construction is complete.

3. Prune selected trees to provide necessary clearance. All pruning shall be completed by a Certified Arborist or Tree Worker and adhere to the *Tree Pruning Guidelines* of the International Society of Arboriculture. Brush may be chipped and spread beneath the trees within the **TREE PROTECTION ZONE.**

Recommendations for tree protection during construction

1. Prohibit grading, construction, demolition or other work within the **TREE PROTECTION ZONE**. Any modifications must be approved and monitored by the Consulting Arborist.

2. Ensure that any root pruning required for construction purposes shall receive the prior approval of, and be supervised by, the Consulting Arborist.

3. Supplement natural rainfall with irrigation, at a rate determined by the Consulting Arborist.

4. Evaluate any injury to trees that should occur during construction. Notify the Consulting Arborist so that appropriate treatments can be applied.

5. Prohibit the dumping and/or storage of excess soil, chemicals, debris, equipment or other materials within the **TREE PROTECTION ZONE**.

6. Require that any tree pruning needed for clearance during construction must be performed by a Certified Arborist and not by construction personnel.

HortScience, Inc.

James R. Clark, Ph.D.
Certified Arborist WE-0846
Registered Consulting Arborist #357

Attachments

Tree Assessment Form

Tree Assessment Map

Tree Assessment

Diablo Road @ McCauley Road
Danville CA
April 2012

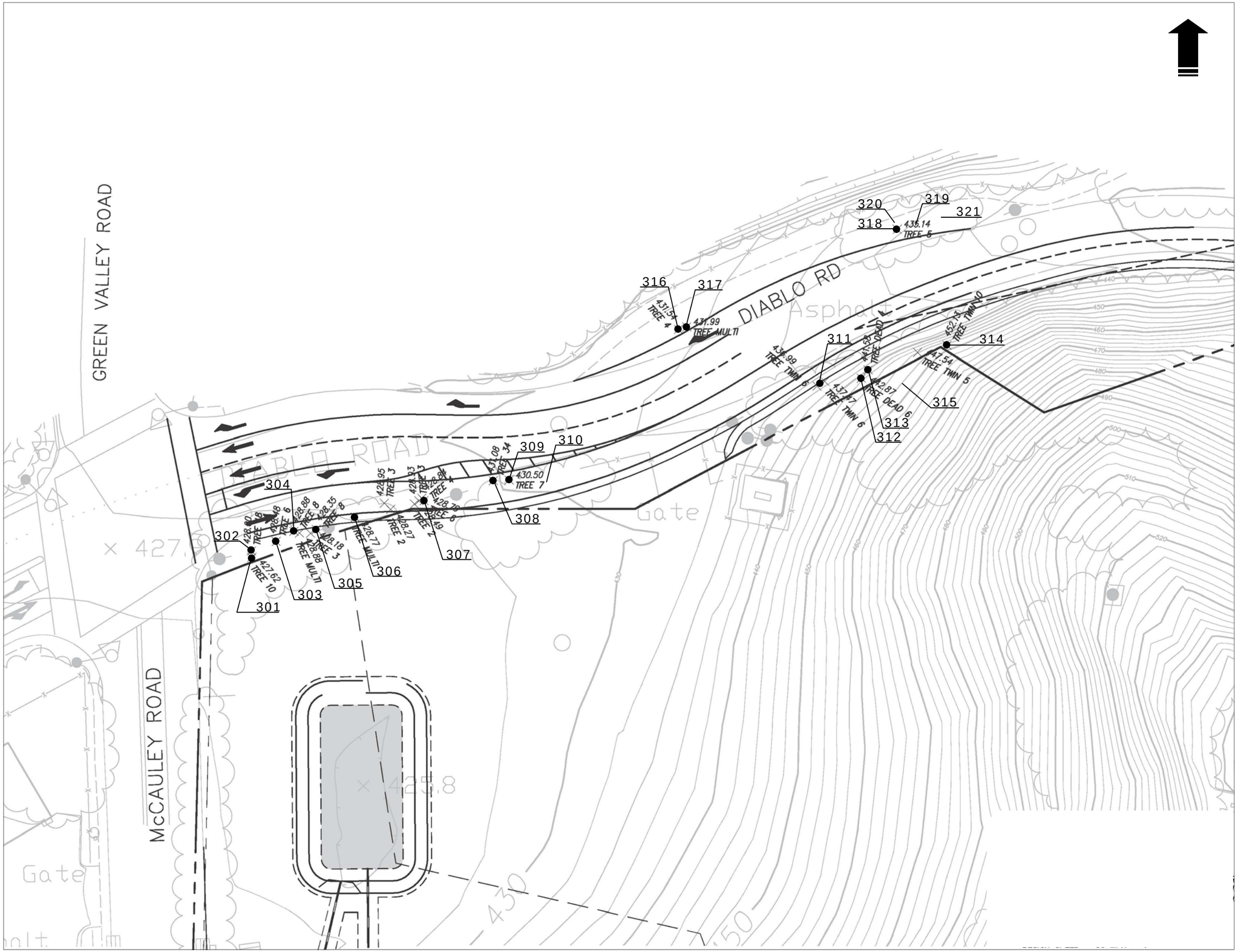
HORT SCIENCE

TREE No.	SPECIES	TRUNK DIAMETER (in.)	STATUS	CONDITION 1=poor 5=excell.	SUITABILITY for PRESERVATION	COMMENTS
301	Valley oak	10	Protected	3	Poor	Leans SW. & bowed flat; suppressed by #302.
302	Valley oak	13,12	Protected	3	Poor	Codominant trunks @ 2'; 1 upright; 1 bowed S.; center removed for overhead lines; no basal flare.
303	English walnut	6,4,4,2	--	3	Poor	Multiple attachments @ base; 1 4" stem reduced.
304	Calif. black walnut	10,10,9,8,7	Protected	3	Poor	Multiple attachments @ base; stump sprouts; topped for overhead lines.
305	Calif. black walnut	9	--	3	Poor	Topped for overhead lines; small crown.
306	Calif. black walnut	11,10,9,9,4	Protected	3	Poor	Multiple attachments @ base; stump sprouts; topped for overhead lines.
307	Calif. black walnut	6	--	3	Moderate	Small tree; 2" branch broken; multiple attachements @ 6; too small to be topped but below lines.
308	Valley oak	31	Protected	3	Moderate	Multiple attachments @ 8'; 2 upright; 1 horizontal scaffold; one-sided to S. due to trimming for overhead lines; 4' from edge of pavement; no crown over Diablo; leans S.
309	Calif. black walnut	6,4	--	3	Poor	Codominant trunks @ 3'; 6" okay; 4" suppressed.
310	Valley oak	25	Protected	3	Moderate	Codominant trunks @ 6' & 8' with V-shaped attachment; one-sided to S. due to trimming for overhead lines; no basal flare; barbed wire circles lower trunk; 7' from edge of pavement; 20.5' from #309; extensive epicormic sprouts.
311	Valley oak	12,10,8	Protected	4	Moderate	Codominant trunks @ 1' & 3'; 10" & 8" kiss @ 4'; 5.5' from edge of pavement; wide vase-shaped crown; under lines but not yet trimmed.

Tree Assessment

Diablo Road @ McCauley Road
Danville CA
April 2012

TREE No.	SPECIES	TRUNK DIAMETER (in.)	STATUS	CONDITION 1=poor 5=excell.	SUITABILITY for PRESERVATION	COMMENTS
312	Almond	7,6	--	2	Poor	Failing @ base to NW. from bank; base outside dripline; codominant trunks @ 1', 3' & 4'.
313	Almond	5,4,2	--	3	Poor	Corrected lean N; codominant trunks @ base, 2' & 4'; large basal wound on 2" trunk.
314	Valley oak	10	Protected	2	Poor	Mid-slope; extensive exposed & severed roots.
315	Valley oak	17	Protected	3	Moderate	Approximately 22' from edge of pavement; okay form save for branch failure on N.; codominant trunks @ 12'.
316	Valley oak	4,3	--	3	Moderate	Codominant trunks @ base & 5'; could be trained; 9' from edge of pavement.
317	Valley oak	4,4,3,2,2,1	--	3	Moderate	Multiple attachments @ base; 7.5' from edge of pavement; could be trained.
318	Purpleleaf plum	3,2,2,2,2	--	3	Moderate	Multiple attachments @ base; one-sided to SW.; 7' from edge of pavement.
319	Siberian elm	24	--	3	Poor	Good form but dying; twig & branch dieback in upper crown; no basal flare; 6.5' from edge of pavement.
320	Valley oak	22	Protected	3	Moderate	Codominant trunks @ 24'; main stem bowed flat to S. & SW.; trunk wound @ 1'; 12' from edge of pavement.
321	Valley oak	12,11	Protected	3	Moderate	Codominant trunks @ 2'; large trunk wound @ base of 11"; no basal flare; one-sided to SE.; 6' from edge of pavement.



Tree Assessment Map

Magee Ranch
McCauley Rd. & Diablo Rd.
Road Improvements
Danville, CA

Prepared for:
SummerHill Homes
San Ramon, CA

April 2012

No Scale

Notes

- Base map provided by:
  Ruggeri-Jensen-Azar & Associates
  Pleasanton, CA
- Numbered tree locations
  are approximate.

HORT SCIENCE
325 Ray Street
Pleasanton, California 94566
Phone 925.484.0211
Fax 925.484.0596

APPENDIX E

PRELIMINARY GEOTECHNICAL ANALYSIS

Project No.
8889.000.000

July 31, 2012

Ms. Wendi E. Baker
Land Acquisition Manager
SummerHill Land
5000 Executive Parkway, Suite 150
San Ramon, CA 94583

Subject: Magee Ranch Project
Contra Costa County, California

UPDATED SUPPLEMENTAL GEOTECHNICAL REPORT

Dear Ms. Baker:

This letter presents updated geotechnical recommendations and includes a preliminary corrective grading plan for the Magee Ranch project for planning and CEQA impact analysis purposes. The proposed corrective grading is based on the findings and recommendations presented in our preliminary geotechnical exploration (Reference 1).

PROPOSED PROJECT

It is proposed to subdivide the approximately 410-acre site into 70 single-family lots, 7 of which would be custom home lots. Sixty-four of the lots, including four custom lots, are clustered on the eastern portion of the project and will be accessed via Blackhawk Road.

GEOLOGIC CONDITIONS

Reference 1 identified geotechnical conditions within the proposed development area that will require mitigation, including landslides, compressible and expansive soils. The project has been planned to avoid landslide hazards where possible. Landslides that are partially or completely within the proposed grading envelope will require some form of direct mitigation such as corrective earthwork. Debris catchment areas have been provided for landslide areas outside the grading envelope if required.

The proposed landslide mitigation measures for the Magee Ranch project will include:

1. Landslide avoidance.
2. Construction of catchment areas between landslides and proposed improvements.
3. Partial landslide removal and buttressing with engineered fill.
4. Complete landslide removal and replacement as engineered fill.

Figures 1 and 2 depict the landslide areas identified in close proximity to the proposed development areas. Table 1 summarizes proposed mitigation measures by landslide area.

TABLE 1

Landslide	Mitigation
1	Partial landslide removal and buttressing with engineered fill
2	Construction of catchment areas between landslides and proposed improvements
3	Partial landslide removal and buttressing with engineered fill
4	Construction of catchment areas between landslides and proposed improvements
5	Complete landslide removal and replacement as engineered fill
6	Complete landslide removal and replacement as engineered fill
7	Complete landslide removal and replacement as engineered fill
8	Landslide avoidance
9	Landslide avoidance
10	Landslide avoidance
11	Landslide avoidance
12	Landslide avoidance
13	Landslide avoidance
14	Landslide avoidance
15	Landslide avoidance
16	Landslide avoidance

CORRECTIVE GRADING

Geotechnical recommendations for corrective grading, including construction details, were provided in Reference 1. Corrective grading measures will include keyway and landslide repair excavations to remove unstable or compressible soils and installation of subsurface drains. The anticipated locations of subsurface drains, keyways and removals and the approximate estimated limits of corrective excavations are depicted on Figures 1 through 3. Corrective grading for custom lot areas outside the proposed grading envelopes will be evaluated when more detailed plans are available. Detailed 40-scale corrective grading plans for the entire project will be prepared when project grading plans have been finalized.

PRELIMINARY SLOPE STABILITY ANALYSIS

We performed two-dimensional limit-equilibrium slope stability analyses of Sections 1 and 2 (Landslides 1 and 3) with the computer slope stability software SLIDE (Version 6.0) using the method of GLE/Morgenstern-Price (1965). These cross sections were selected for analyses because they include some of the highest proposed graded slopes, and they are within the two largest proposed landslide repairs. As such, we judge these sections to be a conservative representation of critical slope stability conditions within the project.

We estimated residual shear strength of the basal landslide slip surfaces based on correlation of Atterberg limits and clay content of samples collected from large-diameter borings as described by Stark (2005). Shear strengths of other modeled soils were estimated from soil types observed in borings and test pits, blow counts and the results of laboratory testing. The assumed shear strengths used for analyses are listed below.

TABLE 2
Summary Shear Strength Parameters

Material	Effective-Stress Strength Parameters		Pseudo-Static Strength Parameters	
	Friction Angle (deg)	Cohesion (psf)	Friction Angle (deg)	Cohesion (psf)
Engineered Fill (proposed)	25	300	0	2,000
Landslide	0	17	0	17
Alluvium	200	20	20	200
Bedrock	45	1,000	45	1,000

RESULTS OF SLOPE STABILITY ANALYSES

Appendix A shows the results of our static and pseudo-static stability analyses for Section A-A'. The results of our analyses for the post-mitigation condition are summarized in Table 3. The analyses indicate factors of safety above commonly accepted criteria. We used the screening analysis recommended in the California Geological Survey's SP 117A "Guidelines for Evaluating and Mitigating Landslide Hazards in California" to estimate seismic slope performance. Based on the Guidelines, we selected a seismic coefficient of 0.2 for an assumed seismic displacement threshold of 15cm. Based on these analyses, it appears that the calculated static factor of safety and estimated seismic slope deformations are acceptable for the proposed development.

TABLE 3
Static and Pseudostatic Stability

Section	Min Static FS	Min Pseudo-Static FS (K=0.2)
1	1.83	1.2
2	1.83	1.02

LIQUEFACTION

The alluvium encountered in the borings primarily consists of stiff to hard, fine-grained silty to sandy clay with occasional thin lenses of dense clayey sand. In Boring B-1, a 2-foot-thick layer of medium dense clayey sand was encountered at a depth of approximately 22 feet. Based on the blow counts, this thin sand lens is considered to be potentially liquefiable. The effects of liquefaction can include vertical settlement, loss of bearing capacity and ground failure due to venting of

liquefied soil from ground fissures, or lateral spreading. In order for liquefaction-induced ground failure to occur, the pore water pressure generated within the liquefied strata must exert a sufficient enough force to break through the overlying soil and vent to the surface resulting in sand boils or fissures. Based on the above studies, the potentially liquefiable soils at the site are currently capped by a sufficient thickness of non-liquefiable soils to prevent venting. Due to the limited extent of liquefiable sand and the lack of a free face at the elevation of the lens, the risk of lateral spreading is considered to be low. Based on the observed blow counts and layer thickness, the potential liquefaction induced vertical settlement is estimated to be less than 2 inches.

Reference 1 recommended that foundations at the Magee Ranch project be designed for differential soil movement due to the presence of highly expansive soils. The estimate potential for minor vertical liquefaction-related settlement is within the typical range of differential soil movement that is expected from seasonal shrink/swell of expansive soils. The estimated settlements can therefore be accommodated by foundation design and do not pose a significant impact for the project.

CONCLUSIONS

As with any typical Bay Area hillside development, the Magee Ranch project will be required to mitigate geotechnical hazards as part of its design and construction. The proposed mitigations for landslides, expansive soils and liquefaction are geotechnically feasible and have been used successfully for numerous hillside projects in the Danville area. In our opinion, all of the geotechnical hazards described in Reference 1 can be mitigated to less than significant levels by implementing the design report recommendations.

We are pleased to have been of service to you on this project and will continue to consult with you and your design team as project planning progresses.

Sincerely,

ENGEO Incorporated

PROFESSIONAL GEOLOGIST
PHILIP STUECHELI
No. 1640
Exp. 3/31/2014
CERTIFIED ENGINEERING GEOLOGIST
STATE OF CALIFORNIA

Philip J. Stuecheli CEG

REGISTERED PROFESSIONAL ENGINEER
THEODORE P. BAYHAM
No. 2480
Exp. 9/30/2012
GEOTECHNICAL
STATE OF CALIFORNIA

Theodore Bayham, GE

pjs/tpb/jf

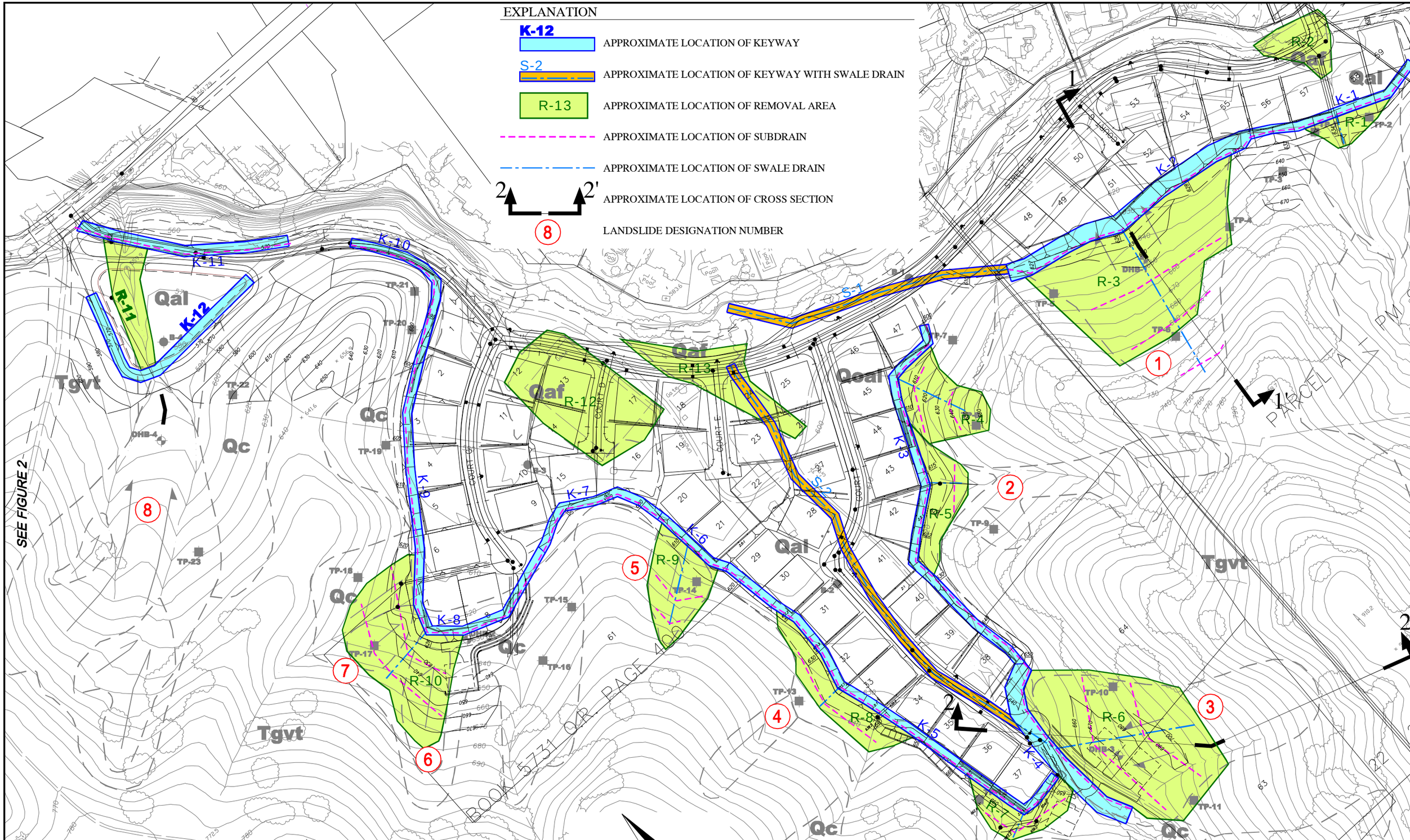
Attachments: List of References
Figures
Appendix A – Slope Stability Analyses

REFERENCES

1. ENGEO; 2012, Preliminary Geotechnical Exploration for Tentative Map, Magee Ranch, Danville, California; December 27, 2010, Latest Revision May 1, 2012.

2. Stark, T.D., H. Choi, and S. McCone, "Drained Shear Strength Parameters for Analysis of Landslides," *J. of Geotechnical and Geoenvironmental Engrg.*, ASCE, Vol. 131, No. 5, May, 2005, pp. 575-588.

3. Vesting Tentative Map, Subdivision 9291, Magee Ranches, Town of Danville, Contra Costa County, California; May 25 2012.



BASE MAP SOURCE: UNKNOWN

ENGEO
Expect Excellence

REMEDIAL GRADING PLAN
MAGEE RANCH
DANVILLE, CALIFORNIA

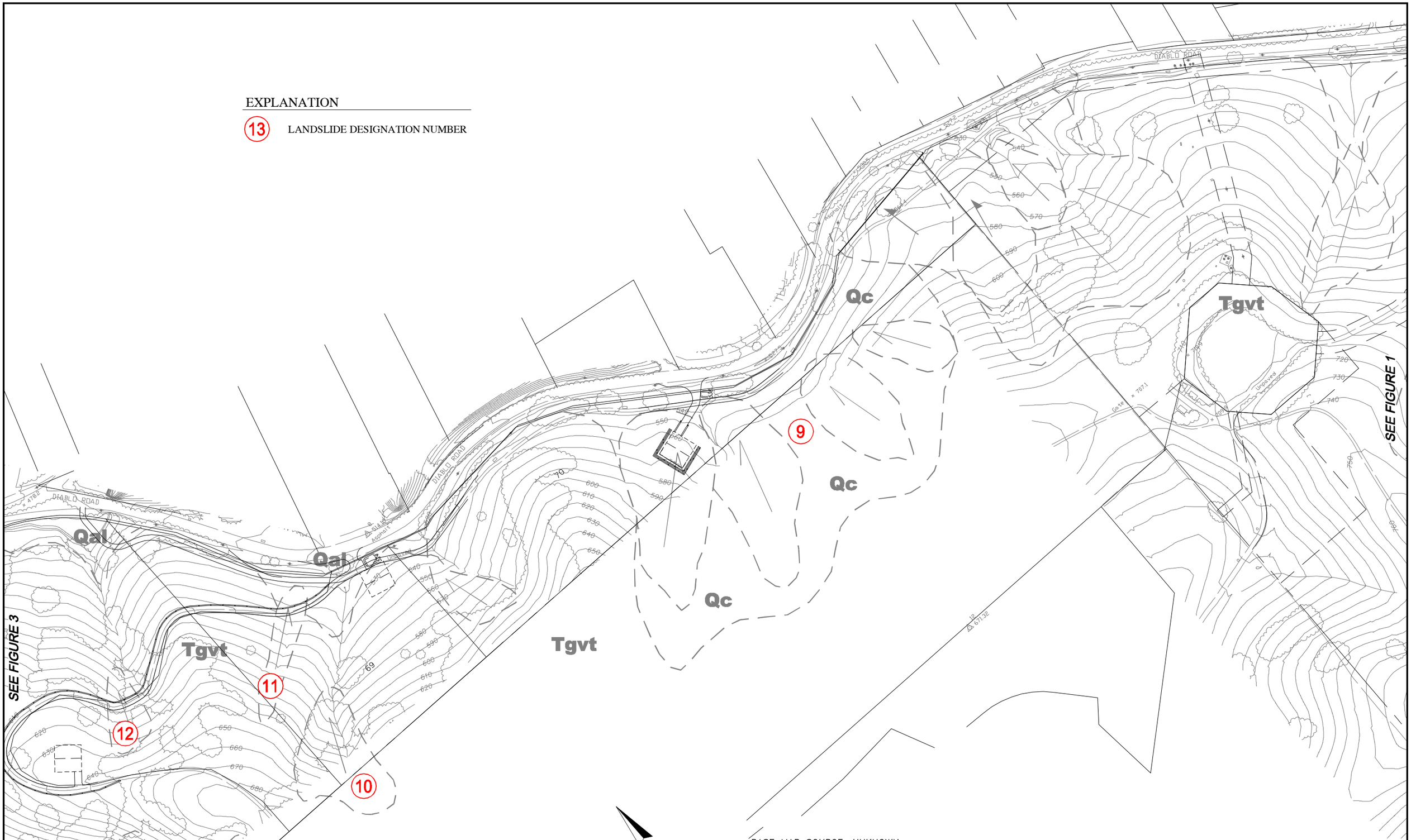
PROJECT NO.: 8889.000.000		FIGURE NO.
SCALE: AS SHOWN		1
DRAWN BY: DLB	CHECKED BY: PS	

ORIGINAL FIGURE PRINTED IN COLOR

COPYRIGHT © 2012 BY ENGEO INCORPORATED. THIS DOCUMENT MAY NOT BE REPRODUCED IN WHOLE OR IN PART BY ANY MEANS WHATSOEVER, NOR MAY IT BE QUOTED OR EXCERPTED WITHOUT THE EXPRESS WRITTEN CONSENT OF ENGEO INCORPORATED.

G:\Drafting\DRAFTING2_Dwg\8889\000\RemGrading\8889000000-1-3-RemedialGradingPlans-0712.dwg 7-26-12 08:50:49 AM dborde

COPYRIGHT © 2012 BY ENGEO INCORPORATED. THIS DOCUMENT MAY NOT BE REPRODUCED IN WHOLE OR IN PART BY ANY MEANS WHATSOEVER, NOR MAY IT BE QUOTED OR EXCERPTED WITHOUT THE EXPRESS WRITTEN CONSENT OF ENGEO INCORPORATED.



BASE MAP SOURCE: UNKNOWN

ENGEO Expect Excellence

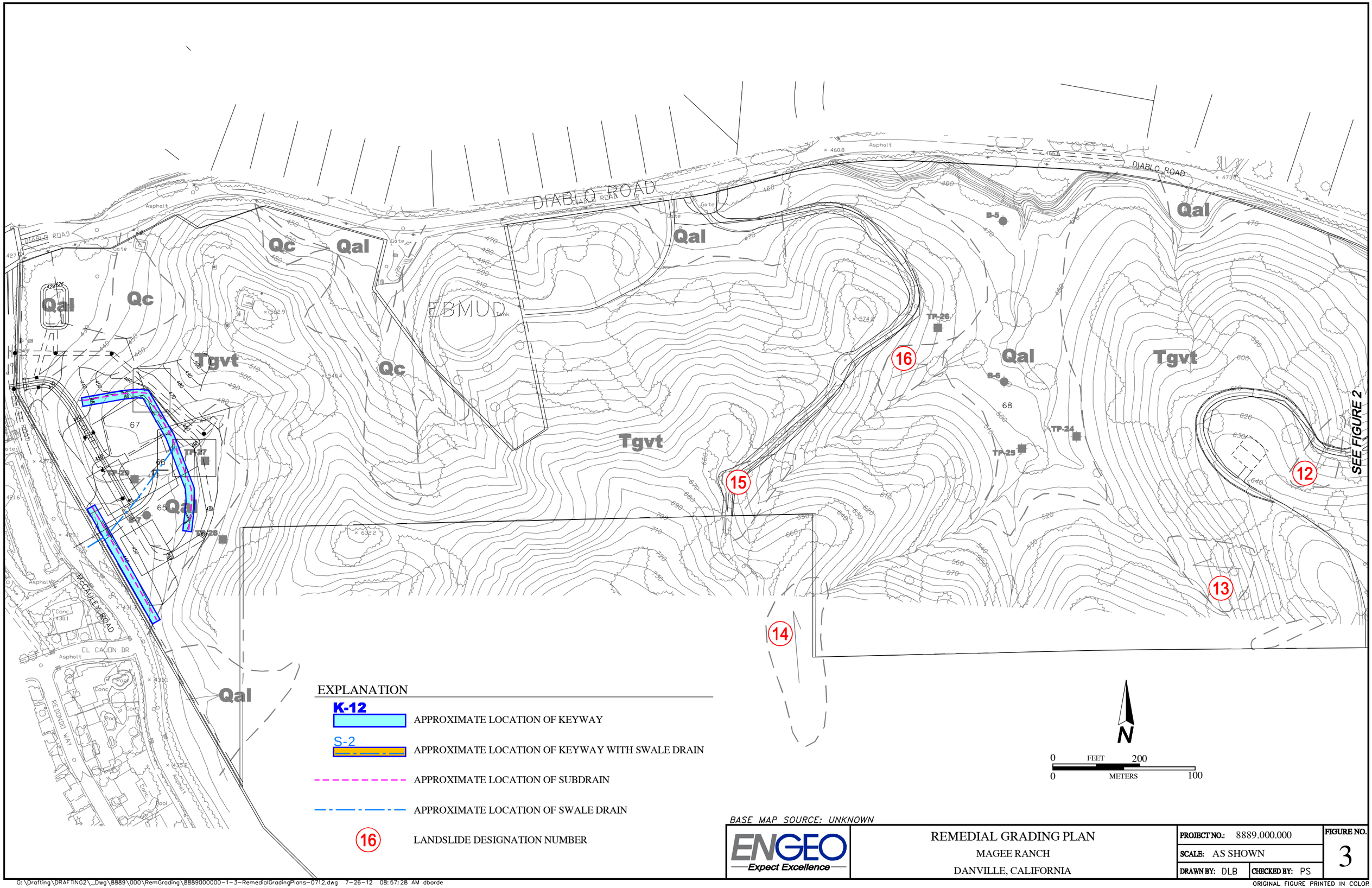
REMEDIAL GRADING PLAN
MAGEE RANCH
DANVILLE, CALIFORNIA

PROJECT NO.: 8889.000.000		FIGURE NO.
SCALE: AS SHOWN		2
DRAWN BY: DLB	CHECKED BY: PS	

G:\Drafting\DRAFTING2_Dwg\8889\000\RemGrading\8889000000-1-3-RemedialGradingPlans-0712.dwg 7-26-12 08:51:52 AM dborde

ORIGINAL FIGURE PRINTED IN COLOR

COPYRIGHT © 2012 BY ENGEO INCORPORATED. THIS DOCUMENT MAY NOT BE REPRODUCED IN WHOLE OR IN PART BY ANY MEANS WHATSOEVER, NOR MAY IT BE QUOTED OR EXCERPTED WITHOUT THE EXPRESS WRITTEN CONSENT OF ENGEO INCORPORATED.



BASE MAP SOURCE: UNKNOWN

ENGEO Expect Excellence

REMEDIAL GRADING PLAN
MAGEE RANCH
DANVILLE, CALIFORNIA

PROJECT NO.:	8889.000.000
SCALE:	AS SHOWN
DRAWN BY: DLB	CHECKED BY: PS

FIGURE NO. 3

G:\Drafting\DRAFTING2_Dwg\8889\000\RemGrading\8889000000-1-3-RemedialGradingPlans-0712.dwg 7-26-12 08:57:28 AM dborde

ORIGINAL FIGURE PRINTED IN COLOR

APPENDIX A

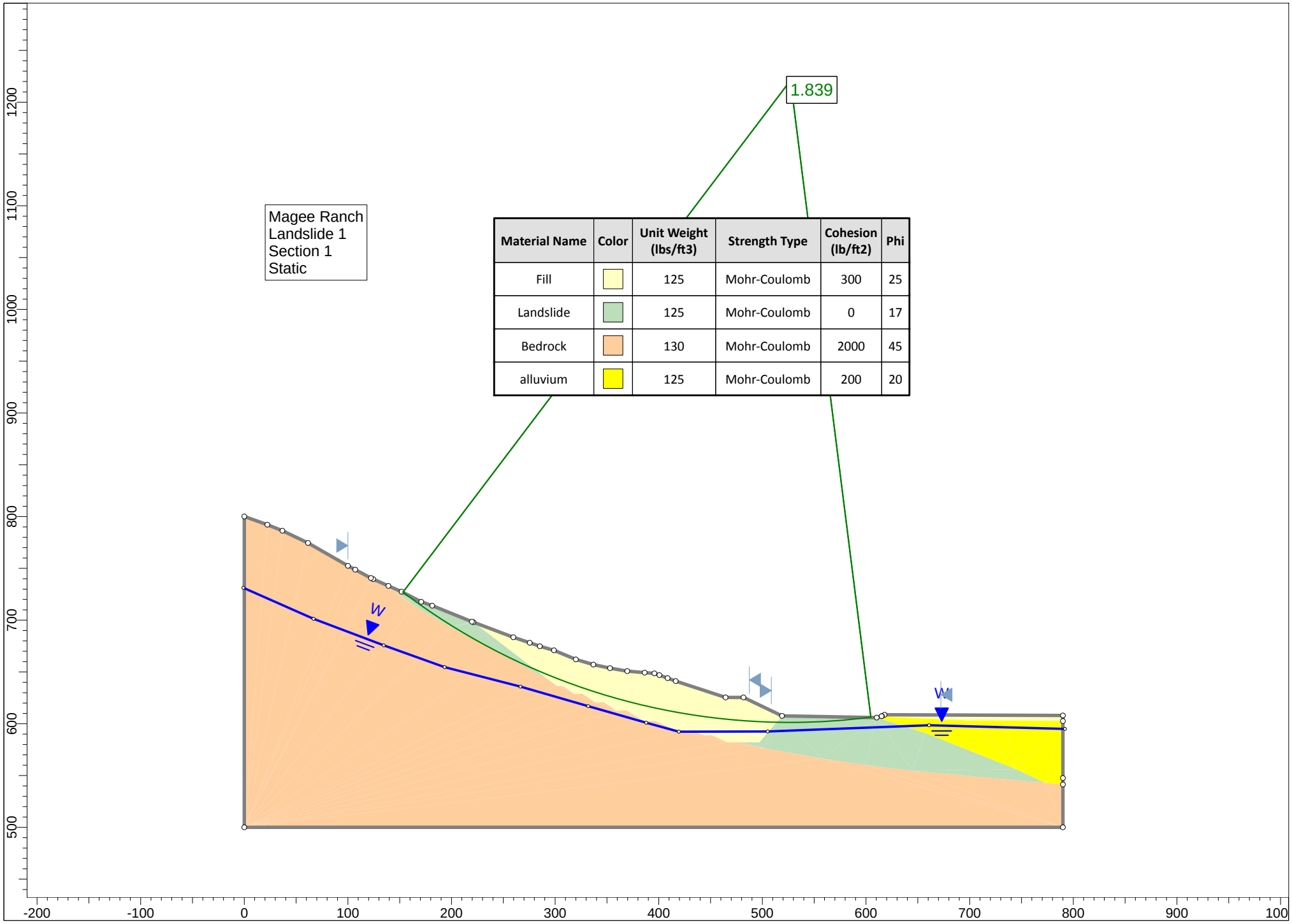
Slope Stability Analyses

8889.000.000
July 31, 2012

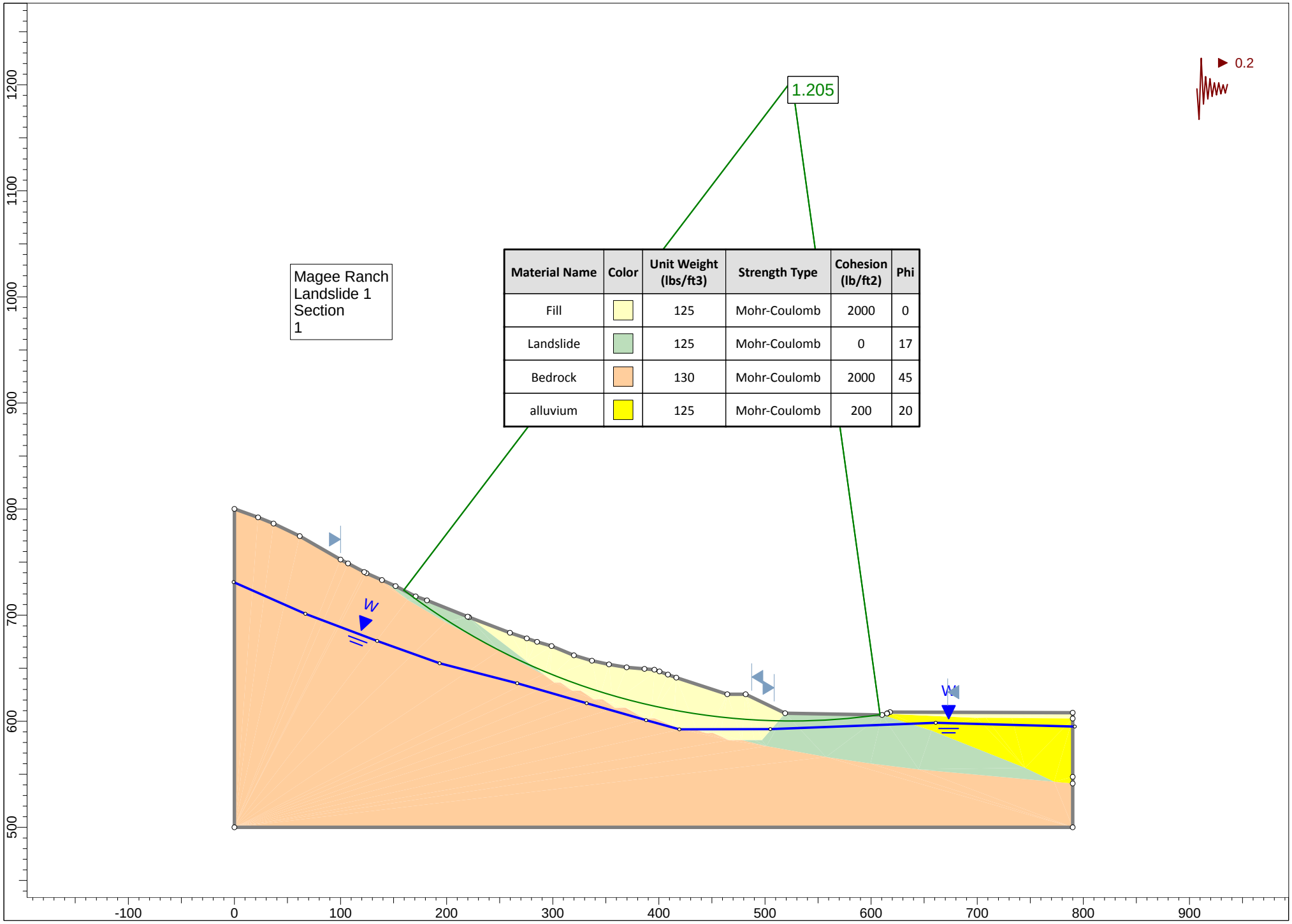
Magee Ranch
Landslide 1
Section 1
Static

1.839

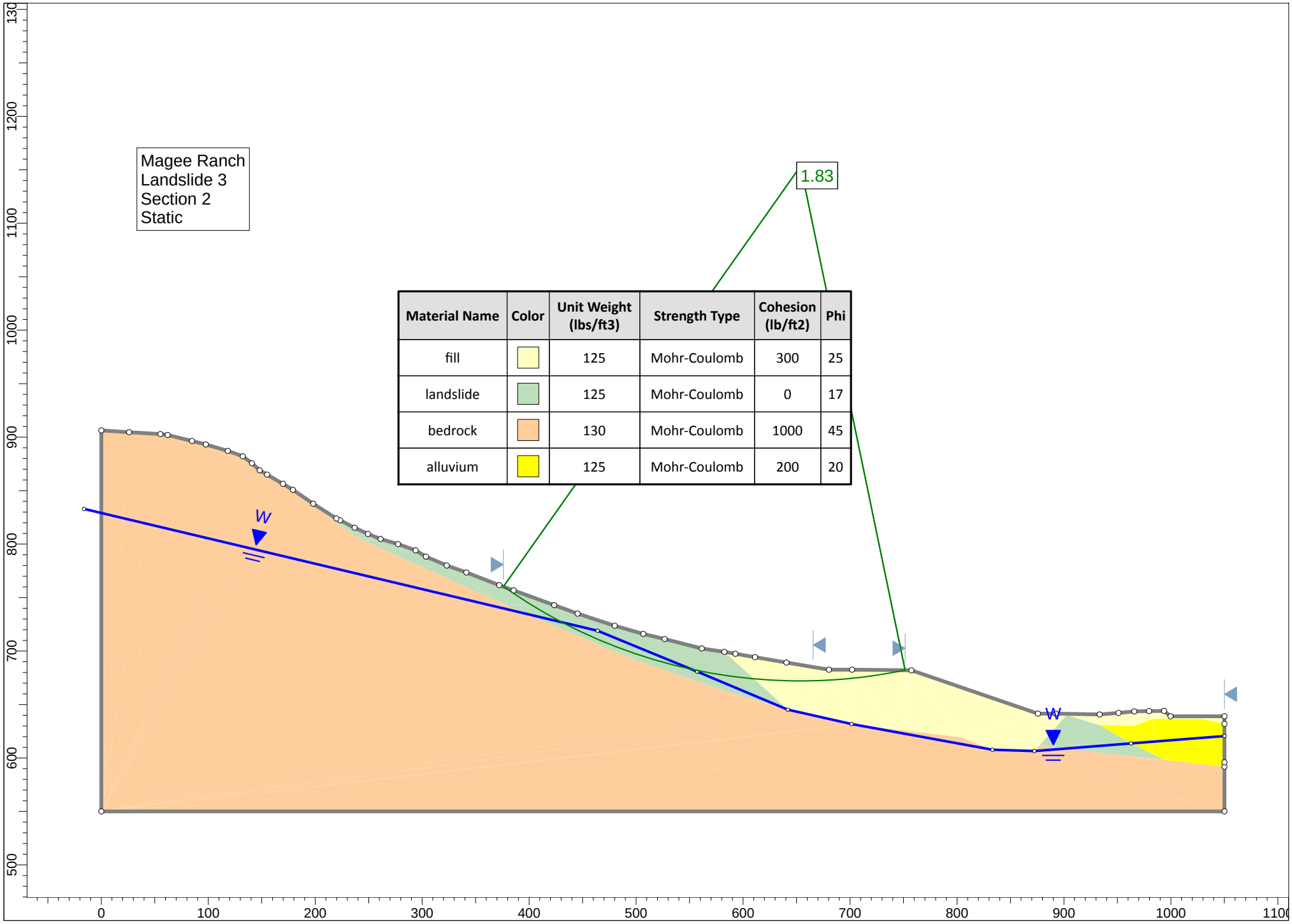
Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (lb/ft2)	Phi
Fill		125	Mohr-Coulomb	300	25
Landslide		125	Mohr-Coulomb	0	17
Bedrock		130	Mohr-Coulomb	2000	45
alluvium		125	Mohr-Coulomb	200	20



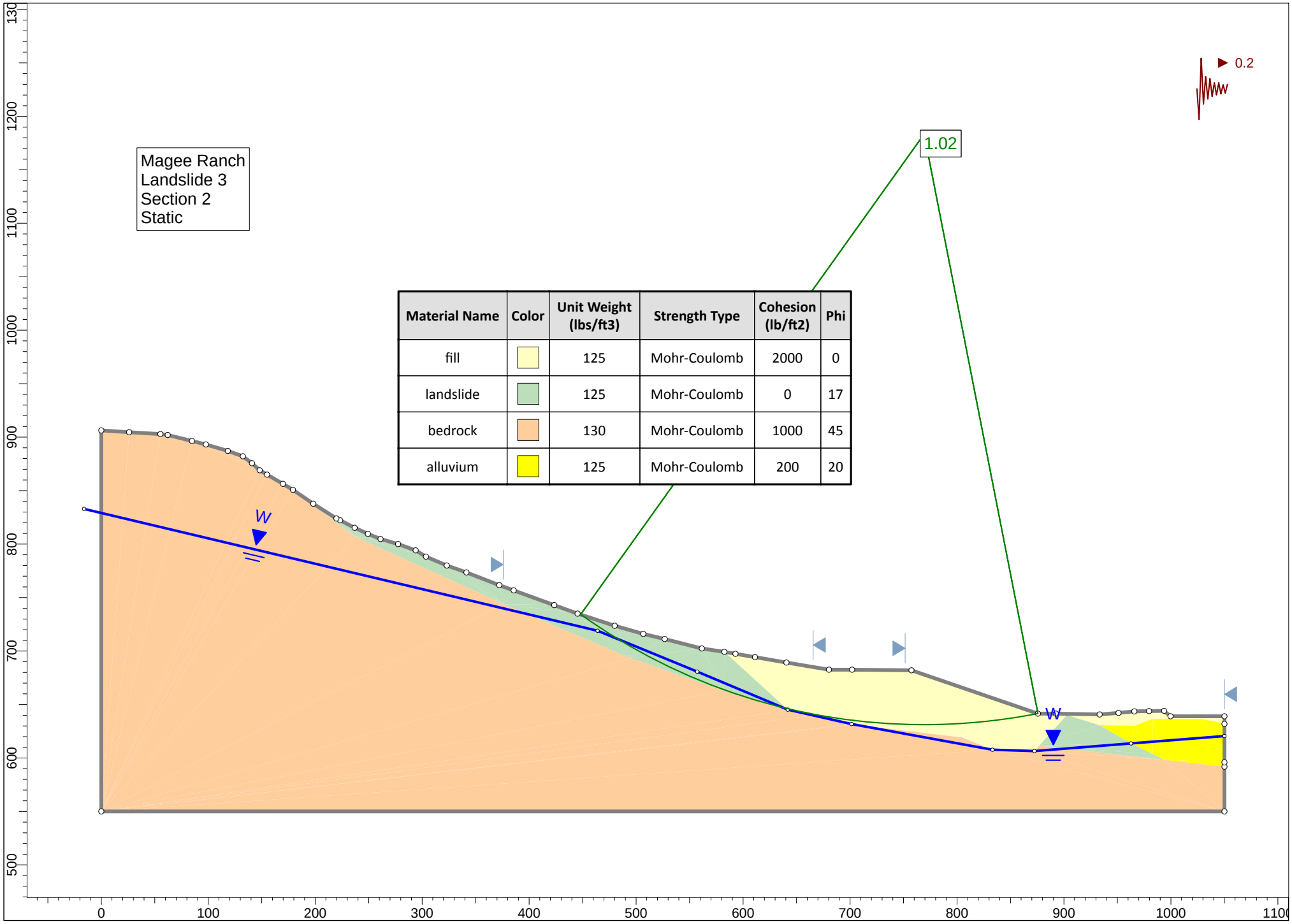
Magee Ranch
Landslide 1
Section
1



Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (lb/ft2)	Phi
Fill		125	Mohr-Coulomb	2000	0
Landslide		125	Mohr-Coulomb	0	17
Bedrock		130	Mohr-Coulomb	2000	45
alluvium		125	Mohr-Coulomb	200	20



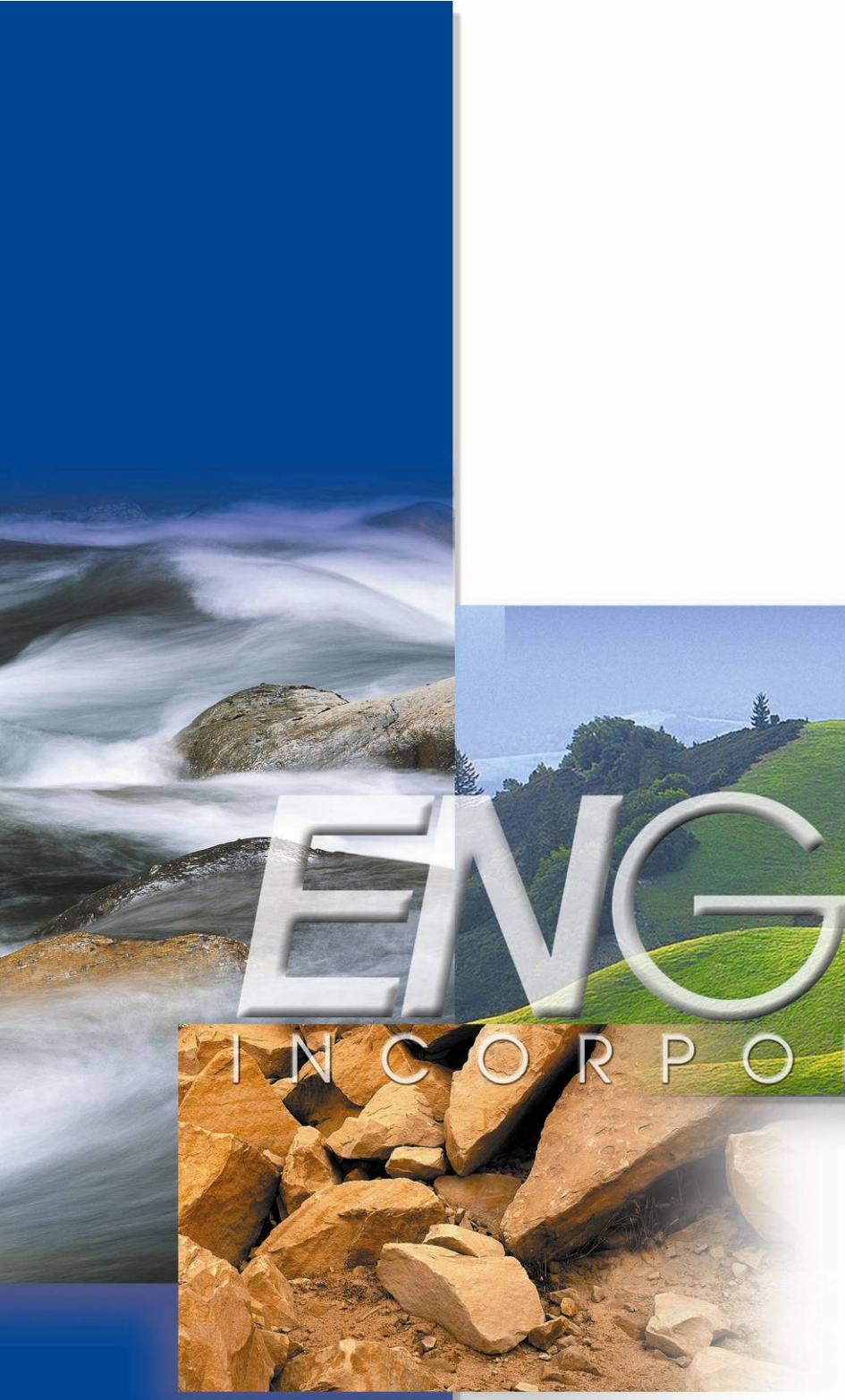
Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (lb/ft2)	Phi
fill		125	Mohr-Coulomb	300	25
landslide		125	Mohr-Coulomb	0	17
bedrock		130	Mohr-Coulomb	1000	45
alluvium		125	Mohr-Coulomb	200	20



Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (lb/ft2)	Phi
fill		125	Mohr-Coulomb	2000	0
landslide		125	Mohr-Coulomb	0	17
bedrock		130	Mohr-Coulomb	1000	45
alluvium		125	Mohr-Coulomb	200	20

PRELIMINARY GEOTECHNICAL EXPLORATION FOR TENTATIVE MAP

MAGEE RANCHES PROJECT
DANVILLE, CALIFORNIA



Submitted to:
Wendi Baker
SummerHill Homes
5000 Executive Parkway, Suite 150
San Ramon, CA 94583

Prepared by:
ENGEO Incorporated

December 27, 2010
Latest Revision May 1, 2012

Project No.
8889.000.000

Copyright © 2012 By ENGEO Incorporated. This Document May Not Be Reproduced In Whole Or In Part By Any Means Whatsoever, Nor May It Be Quoted Or Excerpted Without The Express Written Consent Of ENGEO Incorporated

- Expect Excellence -

Project No.
8889.000.000

December 27, 2010
Latest Revision May 1, 2012

Ms. Wendi E. Baker
Land Acquisition Manager
SummerHill Land
5000 Executive Parkway, Suite 150
San Ramon, CA 94583

Subject: Magee Ranches Project
Danville, California

PRELIMINARY GEOTECHNICAL EXPLORATION FOR TENTATIVE MAP

Dear Ms. Baker:

With your authorization, we conducted a preliminary geotechnical exploration for the Magee Ranches project in Danville, California. The accompanying report contains our finding, conclusions, and preliminary recommendations for design and construction at the subject area. It is our opinion that the proposed development is feasible from a geotechnical standpoint.

We are pleased to have been of service to you on this project and will continue to consult with you and your design team as project planning progresses.

Sincerely,

ENGEO Incorporated

PROFESSIONAL GEOLOGIST
PHILIP STUECHELI
No. 1640
Exp. 3/31/2012
CERTIFIED ENGINEERING GEOLOGIST
STATE OF CALIFORNIA

Philip J. Stuecheli, CEG

REGISTERED PROFESSIONAL ENGINEER
DANIEL S. HAYNOSCH
No. 387
Exp. 3/31/2012
GEOTECHNICAL
STATE OF CALIFORNIA

Daniel S. Haynosch, GE

pjs/dsh/dt:gex

TABLE OF CONTENTS

Letter of Transmittal

1.0 INTRODUCTION 1

1.1 PURPOSE AND SCOPE 1
1.2 PROJECT LOCATION AND DESCRIPTION 1

2.0 FINDINGS 2

2.1 FIELD EXPLORATION 2
2.1.1 Borings 2
2.1.2 Test Pits 3
2.1.3 Geologic Field Mapping 3
2.2 REGIONAL GEOLOGY AND SEISMICITY 3
2.2.1 Geologic Setting 3
2.2.2 Seismicity 4
2.3 GEOLOGIC MATERIALS AND SUBSURFACE CONDITIONS 4
2.3.1 Fill (Qaf) 4
2.3.2 Surficial Soils and Colluvium (Qc) 4
2.3.3 Alluvium (Qal) 5
2.3.4 Orinda Formation (Tor) / Green Valley Formation (Tgvt) 5
2.3.5 Landslides 5
2.4 GROUNDWATER CONDITIONS 5
2.5 LABORATORY TESTING 6

3.0 CONCLUSIONS 6

3.1 LANDSLIDES 6
3.2 EXPANSIVE SOILS 7
3.3 GROUND RUPTURE 7
3.4 SEISMIC GROUND SHAKING 7
3.5 LIQUEFACTION, LATERAL SPREADING, AND GROUND LURCHING 7
3.6 SEISMICALLY INDUCED SLOPE MOVEMENT 8
3.7 EXISTING FILLS 8

4.0 RECOMMENDATIONS 8

4.1 GENERAL SITE CLEARING 8
4.2 ACCEPTABLE FILL 9
4.3 FILL COMPACTION 9
4.4 GRADED SLOPES 10
4.5 SUBGRADE PREPARATION 10
4.6 TOE KEYWAYS 10
4.7 DEBRIS BENCHES 11
4.8 SUBSURFACE DRAINAGE 11
4.9 SLOPE STABILIZATION 12

TABLE OF CONTENTS (Continued)

4.10 CUT-FILL TRANSITION LOTS AND CUT LOTS.....12
4.11 PRELIMINARY FOUNDATION DESIGN.....12
4.12 SURFACE DRAINAGE.....13
4.13 REMEDIAL GRADING PLANS.....13

5.0 LIMITATIONS AND UNIFORMITY OF CONDITIONS.....14

FIGURES

Figure 1: Vicinity Map
Figure 2: Regional Geologic Map
Figure 3: Regional Faulting and Seismicity
Figure 4: Site Geologic Map
Figure 5: Debris Bench Detail
Figure 6: Typical Keyway Detail
Figure 7: Typical Subdrain Detail
Figure 8: Downhole Boring Logs DHB-1 through DHB-4

APPENDIX A – Exploration Logs
APPENDIX B – Laboratory Test Data

1.0 INTRODUCTION

1.1 PURPOSE AND SCOPE

This report presents the results of our preliminary geotechnical exploration of the Magee Ranch property. The purpose of this report is to provide geotechnical analysis and recommendations related to the design of the Magee Ranches project and the associated vesting tentative map, which was submitted to the Town of Danville by SummerHill Homes. The project planners have worked closely with ENGEO to avoid potential geologic impacts to the extent possible within the framework of the overall project objectives.

The conclusions and recommendations presented in this report are preliminary in nature. In the event that any changes are made in the character, design or layout of the development, ENGEO should review the conclusions and recommendations contained in this report to determine whether modifications to the report and related recommendations are necessary. This document may be reproduced in its entirety in the context of preparation of the EIR submittal package. However, it may not be quoted or excerpted without the express written consent of ENGEO Incorporated.

1.2 PROJECT LOCATION AND DESCRIPTION

The Magee Ranches project is located at the headwaters of San Ramon Creek in Danville, California, at the southern periphery of the East Branch of Green Valley Creek watershed (Figure 1). San Ramon Creek is part of the Walnut Creek watershed and eventually drains through the cities of Walnut Creek and Concord and then into San Francisco Bay.

The Magee Ranch property encompasses roughly 410 acres located south of Diablo Road in Danville, California (Figure 1). The proposed development will be concentrated on a 335-acre parcel designated as Magee East with additional lots proposed on a smaller 75-acre parcel Magee West as shown on the Conceptual 5-acre Lots Site Plan prepared by Ruggeri-Jensen-Azar (RJA), the project civil engineer (Figure 4). The East Branch of Green Valley Creek is located along the northern boundary of Magee East. The Magee Ranch property is generally characterized by open, rolling, grass-covered hills with scattered trees. Current elevations range from a high of about 860 feet above mean sea level (msl), at a ridge-top peak on Magee East near the center of the property, to a low of about 425 feet above msl, at the intersection of Diablo Road and McCauley Road. Within Magee East, the surface drainage is generally to the north into Green Valley Creek. The low point on Magee East is located at the northwestern corner, where the creek crosses under Diablo Road via a concrete box culvert at an elevation of 425 feet. The existing ranch improvements are located on Magee East, at the end of San Andreas Drive, and include a hay barn and stable buildings. There is an equestrian riding area west of the ranch buildings opposite the end of Creekledge Court.

Currently, the property is used for beef cattle operations. The overall property began subdivision in the 1950s when several walnut orchards were sold and further subdivided in the 1980s. The

existing Magee Ranch development is located just east of the subject property. The proposed development consists of 78 residential lots, access roads, utilities and a stormwater detention basin near the low point at the undercrossing of Green Valley Creek at Diablo Road.

2.0 FINDINGS

2.1 FIELD EXPLORATION

We performed our field exploration in September 2010. The subsurface exploration for this study included:

- Excavation of 29 test pits.
- Drilling of seven test borings with auger drilling equipment to evaluate the subsurface characteristics of alluvium and colluvium deposits in valley areas.
- Drilling of four large-diameter, downhole-logged borings in landslides around the project perimeter.
- Geologic field mapping.

The location of subsurface exploration points are depicted on Figure 4. The location and elevations of our explorations are approximate and were estimated by pacing from features shown on the referenced plan; they should be considered accurate only to the degree implied by the method used. The test pits and borings were logged in the field by an ENGEO engineering geologist. The large-diameter boring logs are presented as Figure 8 of this report. The test boring and test pit logs are presented in Appendix A, along with a discussion of the subsurface exploration and sampling methods.

2.1.1 Borings

The subsurface investigation included drilling and logging of four large-diameter and seven auger borings at the locations shown on Figure 4. The large-diameter borings were drilled using a 24-inch-diameter bucket auger. Large-diameter borings DHB-1 through DHB-4 were extended to depths that ranged from 59 to 94 feet below the ground surface. The large-diameter borings were logged downhole by an ENGEO geologist where ground conditions allowed safe access. An ENGEO-Certified Engineering Geologist also observed the downhole conditions. Bulk soil samples were retrieved from the landslide gouge for testing in our laboratory. The large-diameter borings were backfilled with cuttings. The graphic logs of the large-diameter borings are included as Figure 8.

The seven auger borings were drilled at the locations shown on the Site Geologic Map, Figure 4. An ENGEO geologist logged the subsurface conditions at each location. We retained a drilling contractor who provided a truck-mounted B-57 drill rig and crew to advance the borings using

4-inch-diameter continuous solid flight augers. The borings were advanced to depths ranging from approximately 30 to 51 feet below existing grade. We permitted and backfilled the auger borings in accordance with the requirements of Contra Costa County.

Soil samples were retrieved at various intervals in the borings using standard penetration tests, 3-inch O.D. split-spoon sampler, and 2-inch O.D split-spoon sampler. The standard penetration resistance blow counts were obtained by dropping a 140-pound hammer through a 30-inch free fall. The split-spoon sampler was driven 18 inches and the number of blows was recorded for each 6 inches of penetration. Unless otherwise indicated, the blows per foot recorded on the boring log represent the accumulated number of blows required to drive the last 1 foot of penetration. The blow counts reported on the boring logs have not been converted using any correction factors. When sampler driving was difficult, penetration was recorded only as inches penetrated for 50 hammer blows.

We used the field logs to develop the report logs in Appendix A. The logs depict subsurface conditions at the exploration locations for the date of exploration; however, subsurface conditions may vary with time.

2.1.2 Test Pits

We observed the excavation of 29 test pits at the approximate locations shown on the Site Geologic Map (Figure 4). We retained a contractor with a rubber-tire backhoe to excavate the test pits. An ENGEO geologist logged the subsurface conditions at each of the test pit excavations. The maximum depth penetrated by the test pits was 14 feet.

Bulk soil samples were obtained from the test pits using hand-sampling techniques. We used the field logs to develop the report logs in Appendix A. The test pit logs present descriptions and depict the subsurface conditions encountered at the exploration locations for the date of exploration; however, subsurface conditions may vary with time.

2.1.3 Geologic Field Mapping

During our field exploration, an ENGEO geologist observed the surface conditions and visible geologic features at the site. We mapped the geologic features and summarized our findings on the Site Geologic Map, Figure 4.

2.2 REGIONAL GEOLOGY AND SEISMICITY

2.2.1 Geologic Setting

The Magee Ranches project is located in Green Valley within the Mount Diablo fold-and-thrust belt on the south flank of the Mount Diablo uplift. The bedrock formations in the area south of

Mount Diablo and north of the Livermore Valley have been folded and cut by thrust faults that typically dip toward the north, according to geologic mapping by Crane (1995), Graymer, et al. (1996).

Geologic studies by Unruh and Sawyer (1997) suggest that the core of Mount Diablo may be underlain at depth (several thousand feet) by an active "blind" thrust fault system (a "blind" thrust fault does not extend to the surface). According to Unruh and Sawyer (1997), movement on the blind thrust fault system has been responsible for the uplift of Mount Diablo and the folding of the rocks in the site vicinity. Unruh and Sawyer believe that surface effects of the deeply buried blind thrust fault system have typically been relatively slow, diffused, and distributed vertical movements associated with the growth of folds. They did not identify any active surface faults in the site vicinity.

2.2.2 Seismicity

Figure 3 shows the approximate location of active and potentially active faults and significant historic earthquakes mapped within the San Francisco Bay Region. According to Unruh and Sawyer (1997), the blind thrust fault system associated with Mount Diablo is thought to exist at depths of approximately 5 to 7 kilometers below the site. There is no known historic seismicity that can be directly associated with the postulated blind thrust fault, but Unruh and Sawyer estimate a maximum moment magnitude (Mw) of 6.25 to 6.75. The location of a possible earthquake on a buried blind thrust cannot be easily predicted but could presumably occur relatively close to the proposed project.

The Working Group on California Earthquake Probabilities (WGEP) (2007) evaluated the 30-year probability of a M6.7 or greater earthquake occurring on the known active fault systems in the Bay Area, including the Mount Diablo thrust fault. The WGEP calculated an overall probability of 63 percent for the Bay Area as a whole, and a probability of 1 percent for the Mount Diablo thrust fault.

2.3 GEOLOGIC MATERIALS AND SUBSURFACE CONDITIONS

2.3.1 Fill (Qaf)

Relatively minor deposits of fill associated with some of the improvements are present in the project area (Figure 4). It is unlikely that these fill deposits were rigorously compacted. The most extensive existing fill deposit is located at the equestrian area on Magee East.

2.3.2 Surficial Soils and Colluvium (Qc)

The surface of the site is typically mantled by dark gray-brown silty clay derived from weathering of the underlying parent material. The surficial soil mantling bedrock in the upland areas has accumulated in swales and hollows by downslope movement processes including creep, slopewash and shallow sloughing. These deposits are identified on Figure 4 as colluvium (Qc). Test pits

excavated on slopes and in swale areas typically encountered 3 to 10 feet of dark gray brown silty to sandy clay overlying weathered bedrock. Surficial soils and colluvium across the site typically exhibit relatively large shrinkage cracks. Laboratory tests on samples yielded plasticity index results ranging from 30 to 58, indicating that these soils are highly to critically expansive.

2.3.3 Alluvium (Qal)

Soils deposited by stream flow and sheet wash have accumulated on the floors of larger valleys on site and adjacent to Green Valley Creek. Borings drilled in the alluvium generally encountered stiff to very stiff interbedded silty to sandy clays with relatively thin lenses of medium dense to dense clayey sand to depths ranging from 22 feet to greater than 50 feet. Boring B-1, drilled adjacent to the creek, encountered a layer of loose clayey sand from a depth of 24 to 31 feet below the ground surface.

2.3.4 Orinda Formation (Tor) / Green Valley Formation (Tgvt)

According to Graymer (1994), bedrock at the site comprises Pliocene non-marine sedimentary rock of the Tassajara-Green Valley Formation (Tgvt). The Tgvt is also referred to as the Orinda Formation as depicted on the geologic map by Dibblee (2005, (Figure 2) Bedrock of the Tassajara-Green Valley Formation typically consists of weakly indurated sandstone, siltstone claystone with thin beds of pebble conglomerate. In the site vicinity, the bedrock layers generally strike west-northwest and dip steeply south with occasional overturned beds dipping steeply north. The dipping rocks on the site form the northern limb of a syncline, with the syncline axis located along the southern site boundary. Crane (1988) maps the Sherburne Tuff, a volcanic ash deposit within the Green Valley Formation passing through the northern portion of Magee East.

2.3.5 Landslides

Figure 4 depicts landslides identified by our geologic mapping and subsurface exploration at the Magee Ranch property. We have categorized landslides as relatively shallow surficial earthflows and deeper-seated earthflows and rotational slumps. Earthflows on the site typically occur within deposits of colluvium that have accumulated in swale areas. Deep-seated rotational slumps commonly incorporate portions of the site bedrock. Large-diameter borings DHB-1, DHB-3 and DHB-4, drilled in deep-seated rotational slumps at the margins of development on Magee East, encountered landslide slip surfaces within claystone bedrock at depths of 50 to 80 feet below the ground surface. DHB-2, drilled in a landslide mapped as an earthflow encountered silty to sandy clay interpreted to be landslide debris to a depth of around 12 feet.

2.4 GROUNDWATER CONDITIONS

Groundwater depths in borings ranged from approximately 10 feet adjacent to Green Valley Creek to greater than 40 feet in borings drilled in upstream valleys. Zones of water seepage were encountered at depths ranging from 17 to 58 feet below the ground surface within the

large-diameter borings advanced within landslides. Groundwater was not encountered in test pits excavated in upland slope areas. It should be expected that groundwater elevations will vary seasonally.

2.5 LABORATORY TESTING

Bulk samples and relatively undisturbed drive samples of the soils and bedrock encountered in the borings and test pits were tested in our laboratory to measure gradation, plasticity index, dry density and moisture content. The results of laboratory testing are shown on the boring logs and the figures presented in Appendix B.

3.0 CONCLUSIONS

From a geotechnical engineering viewpoint, it is our opinion that the proposed development is feasible provided that the project is appropriately designed for the geologic and geotechnical hazards identified in this report. The proposed improvements should be designed with appropriate mitigations for the geologic hazards discussed below. These project considerations are common to residential and commercial construction projects throughout California. The following sections of this report discuss significant impacts and present geotechnical mitigation measures designed to reduce impacts to less than significant levels.

The primary geotechnical considerations for the proposed site development include landslides and potentially unstable colluvial deposits on slopes, moderately to critically expansive soil and bedrock, and seismic ground motion considerations common to the Bay Area as a whole.

3.1 LANDSLIDES

As depicted on Figure 4, we have identified a number of landslides on the Magee Ranch property. Landslides are a significant planning consideration for the Magee Ranches project, as they are for most construction projects in hillside terrain in the California Coast Ranges. Landslide movement can be triggered by changes in groundwater elevation due to rainfall, saturation by leaking utilities or impounded water, stream incision, man-made excavations of fill placement, as well as by seismic ground shaking. Landslide movement can cause large vertical and horizontal ground movements, ground warping and bulging, displacement of large masses of debris from slopes onto roads and structures, and blocking of stream courses. Landslides at Magee Ranch can be mitigated by a combination of the following measures:

- Landslide avoidance
- Construction of catchment areas between landslides and proposed improvements
- Partial landslide debris removal and buttressing with engineered fill
- Complete landslide debris removal and replacement as engineered fill

3.2 EXPANSIVE SOILS

A significant geotechnical consideration is the highly to critically expansive nature of the native soil and bedrock across the proposed development area. Expansive soils shrink and swell as a result of seasonal fluctuation in moisture content. This can cause heaving and cracking of slabs-on-grade, pavements, and structures founded on shallow foundations. Building damage due to volume changes associated with expansive soils can be reduced through proper foundation design.

Successful construction on expansive soils requires special attention during construction. It is imperative that exposed soils be kept moist by watering for several days before placement of concrete. It is extremely difficult to remoisturize clayey soils without excavation, moisture conditioning, and recompaction.

3.3 GROUND RUPTURE

The site is not located in a State of California Earthquake Fault Zone, and there are no known active faults passing though the property. The project, therefore, is not considered subject to seismic surface rupture hazards.

3.4 SEISMIC GROUND SHAKING

An earthquake of moderate to high magnitude generated within the San Francisco Bay Region could cause considerable ground shaking at the site, similar to that which has occurred in the past. To mitigate the shaking effects, all structures should be designed using sound engineering judgment and the 2007 California Building Code (CBC) requirements, as a minimum. Seismic design provisions of current building codes generally prescribe minimum lateral forces, applied statically to the structure, combined with the gravity forces of dead-and-live loads. The code-prescribed lateral forces are generally considered to be substantially smaller than the comparable forces that would be associated with a major earthquake. Therefore, structures should be able to: (1) resist minor earthquakes without damage, (2) resist moderate earthquakes without structural damage but with some nonstructural damage, and (3) resist major earthquakes without collapse but with some structural as well as nonstructural damage. Conformance to the current building code recommendations does not constitute any kind of guarantee that significant structural damage would not occur in the event of a maximum magnitude earthquake; however, it is reasonable to expect that a well-designed and well-constructed structure will not collapse or cause loss of life in a major earthquake (SEAOC, 1996).

3.5 LIQUEFACTION, LATERAL SPREADING, AND GROUND LURCHING

Liquefaction is a phenomenon in which saturated cohesionless soils are subject to a temporary loss of shear strength because of pore pressure buildup under the cyclic shear stresses associated with earthquakes. Lateral spreading is a failure within a nearly horizontal soil zone, commonly

associated with liquefaction, which causes the overlying soil mass to move towards a free face or down a gentle slope. Ground lurching can occur in soft, saturated clays and silts that are subjected to strong ground shaking during earthquakes.

The alluvium encountered in the borings primarily consists of stiff to hard, fine-grained silty to sandy clay with occasional thin lenses of medium dense to loose clayey sand. The layers of medium dense to loose clayey sand may be susceptible to liquefaction; should liquefaction occur, vertical settlement may occur. Based on the amounts of sand encountered in our limited exploration, the amount of post-liquefaction ground surface settlement will likely be less than 2 inches. The scope of our preliminary study did not include a detailed evaluation of liquefaction. We recommend that the potential for liquefaction within the alluvial layer be investigated as part of the final design report.

3.6 SEISMICALLY INDUCED SLOPE MOVEMENT

Seismically induced slope movement risks at the site are associated with existing landslide areas identified on Figure 4. The risk of seismic slope movement will be mitigated as part of the landslide mitigation required for improvements located in or adjacent to existing landslides, and by construction of properly compacted and drained engineered fills.

3.7 EXISTING FILLS

As shown on Figure 4, existing fills are present onsite associated with existing ranch improvements. Existing engineered fills within the development footprint should be removed and replaced with compacted engineered fill.

4.0 RECOMMENDATIONS

Geotechnical matters addressed in this report include site preparation and grading, foundation design recommendations, retaining walls, and drainage. ENGEO should be retained to provide supplemental recommendations and modifications to geotechnical recommendations presented herein during plan development and the review process, as necessary. This may include revised grading and foundation design recommendations, and remedial grading plan preparation. Additional recommendations may be necessary during site grading, depending on the actual subsurface conditions encountered.

4.1 GENERAL SITE CLEARING

Grading should begin with the removal of existing structures and associated foundation systems, any buried pipes, septic tanks, leach fields, debris piles, designated fences, trees and associated root systems, and any other deleterious materials. Underground structures that will be abandoned or are expected to extend below proposed finished grades should be removed from the project site.

All existing non-engineered fill, vegetation, and soft or compressible soils in existing ravines, creeks, stock ponds, swales and other areas to be graded should be removed as necessary for project requirements. The depth of removal of these materials should be determined by the Geotechnical Engineer or qualified representative in the field at the time of grading. Evaluation of unsuitable deposits should be performed during grading by sampling and laboratory analyses.

Areas to receive fill, slabs-on-grade or structural foundations, and those areas that serve as borrow for fill should be stripped of existing vegetation. Topsoil is estimated to be from 3 to 6 inches in thickness depending on location. Actual depths will be determined by the Geotechnical Engineer or qualified representative in the field during grading. Site strippings should be reserved for placement on graded slopes prior to installation of proposed erosion control measures. After placement on graded slopes, any remaining strippings and organically contaminated soils which are not suitable for use as engineered fill may be used in approved open space areas or landscape areas. Any topsoil retained for future use in landscape areas should be approved by the Landscape Architect and stockpiled in areas where it will not interfere with mass grading operations.

All exploratory geologic test pits excavated during site explorations are shown on Figure 4. It will be necessary to remove and recompact all loose soil within the test pits where it will remain below final grades and is located within proposed improvement areas. Within the development areas, excavations resulting from demolition, clearing, and/or stripping which extend below final grades should be cleaned to firm undisturbed soil as determined by the Geotechnical Engineer's representative.

4.2 ACCEPTABLE FILL

Onsite soil and rock material is suitable as fill material provided it is processed to remove concentrations of organic material, debris, and particles greater than 6 inches in maximum dimension. Imported fill materials should meet the above requirements and have a plasticity index less than 12. ENGEO should be notified at least 72 hours prior to delivery to the site to sample and test proposed imported fill materials.

4.3 FILL COMPACTION

The following compaction control requirements should be generally applied to engineered fills.

TABLE 1

Description	Minimum Relative Compaction (%)	Minimum Moisture Content (Percentage Points Above Optimum)
Within the upper 5 feet	87 to 92	+5
Below 5 feet	90	+4

Maximum dry densities and moisture contents should be determined in accordance with ASTM D-1557. Plasticity Index determinations, and possibly supplemental swell test data, should be made as a part of grading control. Place all fills in thin lifts. Avoid lift thicknesses exceeding 8 inches or the compaction equipment penetration depth, whichever is less.

4.4 GRADED SLOPES

The following slope gradient guidelines should be applied to the design of permanent slopes:

TABLE 2

SLOPE GRADIENT (HORIZONTAL:VERTICAL)	MAXIMUM ALLOWABLE SLOPE HEIGHT (FEET)
2:1	8
3:1	>8

Where steeper slopes than those indicated above are desired, supplemental slope stabilization techniques (e.g., geogrid reinforcing) may be required.

We recommend placing the topsoil strippings on graded slopes as an alternative to constructing slope drainage terraces. Site topsoil strippings should be placed over all open space cut and fill slopes immediately following grading and prior to the installation of erosion control measures. In our opinion, placing the site strippings on graded slopes reduces rainfall infiltration to natural levels, more actively promotes revegetation, enhances local slope stability, and provides a more natural slope appearance.

All cut slopes should be viewed by the Engineering Geologist during slope grading for adverse bedding, seepage, or bedrock conditions which may affect slope stability. In the event that adverse geologic conditions are detected during grading of the cut slopes, overexcavation and reconstruction of these slopes may be necessary. Track rolling to compact faces of slopes is not sufficient. Slopes should be overbuilt at least 2 feet and cut back to design grades.

4.5 SUBGRADE PREPARATION

Following demolition, clearing, and stripping, all areas to receive fill, slabs-on-grade, or pavement should be scarified to a depth of at least 12 inches, moisture conditioned, and compacted to the requirements for engineered fill presented below. The finished subgrade should be firm and non-yielding under the weight of compaction equipment.

4.6 TOE KEYWAYS

After stripping, mass grading should begin with construction of toe keyways and subdrains. All fills should be adequately keyed into bedrock. Typical minimum key sizes and typical keyway

subdrains are shown in Figures 5 and 6, respectively. Recommended keyway sizes and locations will be determined by the Geotechnical Engineer and will be approximately shown on the final grading plans. Horizontal benches should be excavated into bedrock as the filling proceeds. The vertical spacing of benches should be no more than 5 feet, unless otherwise recommended by the Geotechnical Engineer. The actual size of the keyways and benches should be determined by the Geotechnical Engineer in the field during grading.

4.7 DEBRIS BENCHES

Debris benches with keyways will be required at the toes of cut or natural slopes. A typical debris bench with keyway and subdrain is shown on Figure 5 The outboard side of the debris bench should be provided with a concrete V-ditch discharging into an approved outlet.

Typically, debris benches consist of a minimum 15-foot-wide near-level bench located between the rear or side yard and the adjacent slopes. The bench is typically elevated between 10 and 15 feet above pad elevation. If possible, the bench width should be increased to a minimum of 30 feet where development crosses the mouths of topographic swales with identified landslides or colluvium. Alternatively, consideration could be given to construction of catchments using walls or deflection berms. Detailed site-specific corrective grading plans and landslide mitigation measures will be prepared during review of the final 40-scale grading plans. It is important to note that to preserve the natural topography, wildlife habitat, and vegetation of the site, stabilization of slide masses is planned only for slides that directly threaten the proposed improvements. Open-space slides that do not currently threaten the proposed improvements will not be repaired and may reactivate in the future.

All debris benches will require periodic maintenance, consisting of the removal and disposal of accumulated slope detritus. Proper access should be provided for the heavy equipment which may be required for removal of slide debris from benches and paved areas.

All debris benches and buttress fills should be jointly designed by the Civil and Geotechnical Engineers to optimize stability, cut/fill balance, and drainage concerns. Recommendations for mass grading are generally applicable to landslide reconstruction and buttress fill installation.

4.8 SUBSURFACE DRAINAGE

Subsurface drainage systems should be installed in all keyways and swales or natural drainage areas. In addition, subdrains should be installed at the toe of cut slopes adjacent to building pads. Typical subdrain details are shown on Figure 7.

We anticipate that swale drains will be necessary where fills are placed over existing drainage features. Swales and drainage courses should be overexcavated to a firm base prior to the installation of subdrains as determined by ENGEO during grading. Typical swale subdrains are shown on Figure 7.

We recommend that we be provided an opportunity to review the grading plans and show the approximate locations of recommended subdrains on a remedial grading plan. Depending on the actual conditions encountered during grading, similar subsurface drainage facilities may be recommended within low-lying areas. Subdrains should also be added where wet conditions are encountered during grading.

4.9 SLOPE STABILIZATION

Landslides or unstable hillsides, which pose a potential hazard to the proposed development, should be mitigated. Once final 40-scale grading plans are developed for the project, more detailed mitigation measures for the landslides should be developed by the geotechnical engineer or engineering geologist. Potential mitigation measures for landslides and slope instability at the project site include avoiding placement of structures in or downslope of slide areas, removing the landslide debris to bedrock and replacing it with engineered fill, buttressing the toes of landslides with engineered fill, and constructing keyways and debris benches with surface and subsurface drainage. To reduce the potential for landslide danger, subsurface water flow and spring activity should be controlled in development areas through the use of subdrains.

It is important to note that to preserve the natural topography, wildlife habitat and vegetation of the site, stabilization of slide masses is planned only for slides that directly threaten the proposed improvements. Open-space slides that do not currently threaten the proposed improvements will not be repaired and may reactivate in the future.

4.10 CUT-FILL TRANSITION LOTS AND CUT LOTS

Some single-family lots in this project will likely be entirely in cut or traversed by a cut/fill transition. It can be anticipated that significant variations in material properties may occur in areas of cut or cut/fill transition if not mitigated during site grading. It is our opinion that there is a potential for significant differential in swell characteristics across cut areas and cut/fill transitions. Such situations can be detrimental to building performance. We recommend that cut and cut/fill transition lots be overexcavated 2 feet, scarified 12 inches, and recompacted to provide a uniform thickness of engineered fill within the entire foundation area. Where cut/fill transition lots involve bedrock, the overexcavation should be increased to 3 feet.

4.11 PRELIMINARY FOUNDATION DESIGN

Major considerations in foundation design for this project are the swell potential of onsite soils. The effects of expansion must be minimized by the choice of a proper foundation system. Provided that local subexcavation and engineered fill replacement limit differentials in fill thickness under buildings to less than ten feet, differential fill movement under buildings is expected to be minor.

In order to reduce the effects of the potentially expansive soils, the foundations should be sufficiently stiff to move as rigid units with minimum differential movements or by deepening

the foundations to below the zone of moisture fluctuation. In our opinion, post-tensioned structural mat foundation systems are most appropriate for this site. Specific recommendations for these foundation systems will be developed following design-level geotechnical exploration studies.

4.12 SURFACE DRAINAGE

The project civil engineer is responsible for designing surface drainage improvements. With regard to geotechnical engineering issues, we provide the following minimum recommendation for surface drainage.

1. Slope pavement areas a minimum of 1 percent towards drop inlets or other surface drainage devices.

2. Slope finished grade away from building exteriors at a minimum of 3 percent for a distance of at least 7 feet.

3. Discharge roof downspouts into closed conduits and direct away from buildings to appropriate drainage devices.

4.13 REMEDIAL GRADING PLANS

Due to the complex geology and hillside topography, we recommend that a remedial grading plan be prepared for this project. This will be important to clarify our geotechnical recommendations related to keyways, benches, cut/fill transition subexcavations, and subdrains. In preparing these plans, the grading plans should be overlaid with graphic representations of the remedial grading and subsurface drainage recommendations presented in this report. This can assist in obtaining more accurate earthwork bids as well as clarifying the geotechnical recommendations as they apply to the final grading plan.

5.0 LIMITATIONS AND UNIFORMITY OF CONDITIONS

This report presents preliminary geotechnical recommendations for planning purposes. If changes occur in the nature or design of the project, we should be allowed to review this report and provide additional recommendations, if any. It is the responsibility of the owner to transmit the information and recommendations of this report to the appropriate organizations or people involved in design of the project, including but not limited to developers, owners, buyers, architects, engineers, and designers. The conclusions and recommendations contained in this report are solely professional opinions and are valid for a period of no more than 2 years from the date of report issuance.

We strived to perform our professional services in accordance with generally accepted geotechnical engineering principles and practices currently employed in the area; no warranty is expressed or implied. There are risks of earth movement and property damages inherent in building on or with earth materials. We are unable to eliminate all risks or provide insurance; therefore, we are unable to guarantee or warrant the results of our services.

This report is based upon field and other conditions discovered at the time of report preparation. We developed this report with limited subsurface exploration data. We assumed that our subsurface exploration data is representative of the actual subsurface conditions across the site. Considering possible underground variability of soil, rock, stockpiled material, and groundwater, additional costs may be required to complete the project. We recommend that the owner establish a contingency fund to cover such costs. If unexpected conditions are encountered, notify ENGEO immediately to review these conditions and provide additional and/or modified recommendations, as necessary.

This document must not be subject to unauthorized reuse; that is, reusing without written authorization of ENGEO. Such authorization is essential because it requires ENGEO to evaluate the document's applicability given new circumstances, not the least of which is passage of time.

Actual field or other conditions will necessitate clarifications, adjustments, modifications or other changes to ENGEO's documents. Therefore, ENGEO must be engaged to prepare the necessary clarifications, adjustments, modifications or other changes before construction activities commence or further activity proceeds. If ENGEO's scope of services does not include on-site construction observation, or if other persons or entities are retained to provide such services, ENGEO cannot be held responsible for any or all claims arising from or resulting from the performance of such services by other persons or entities, and from any or all claims arising from or resulting from clarifications, adjustments, modifications, discrepancies or other changes necessary to reflect changed field or other conditions.

REFERENCES

ENGEO, 2010, Preliminary Geotechnical Report, Lots 1, 2 and 3, Magee Ranch, Contra Costa County, California, May 6, 2010, Project No. 8889.000.000.

Davenport, C. W., 1986, Landslide Hazards in Parts of the Diablo and Dublin 7½' Quadrangles, Contra Costa County, California, CDMG Open-File Report 86-7 SF.

Dibblee, T. W., Jr., 1980, Preliminary Geologic Map of the Diablo Quadrangle, Alameda and Contra Costa Counties, California, Open File Report 80-546.

Graymer, R. W., Jones, D. L. and Brabb, E. E., 1994, Preliminary Geologic Map Emphasizing Bedrock Formations in Contra Costa County, California: OFR 94-622.

Nilsen, T. H., 1975, Preliminary Photointerpretation Map of Landslide and Other Surficial Deposits of the Diablo 7½' Quadrangle, Contra Costa County, California, USGS 75 277-14.

Peterson, et. al., 1996, Probabilistic Seismic Hazard Assessment for the State of California: California Division of Mines and Geology Open File Report 96-08.

Unruh, J. R. and Sawyer, T. L., 1997, Assessment of Blind Seismogenic Sources, Livermore Valley, Eastern San Francisco Bay Region: Final Technical Report by William Lettis Associates and Piedmont Geosciences Inc. for the U. S. Geologic Survey National Earthquake Hazards Reduction Program.

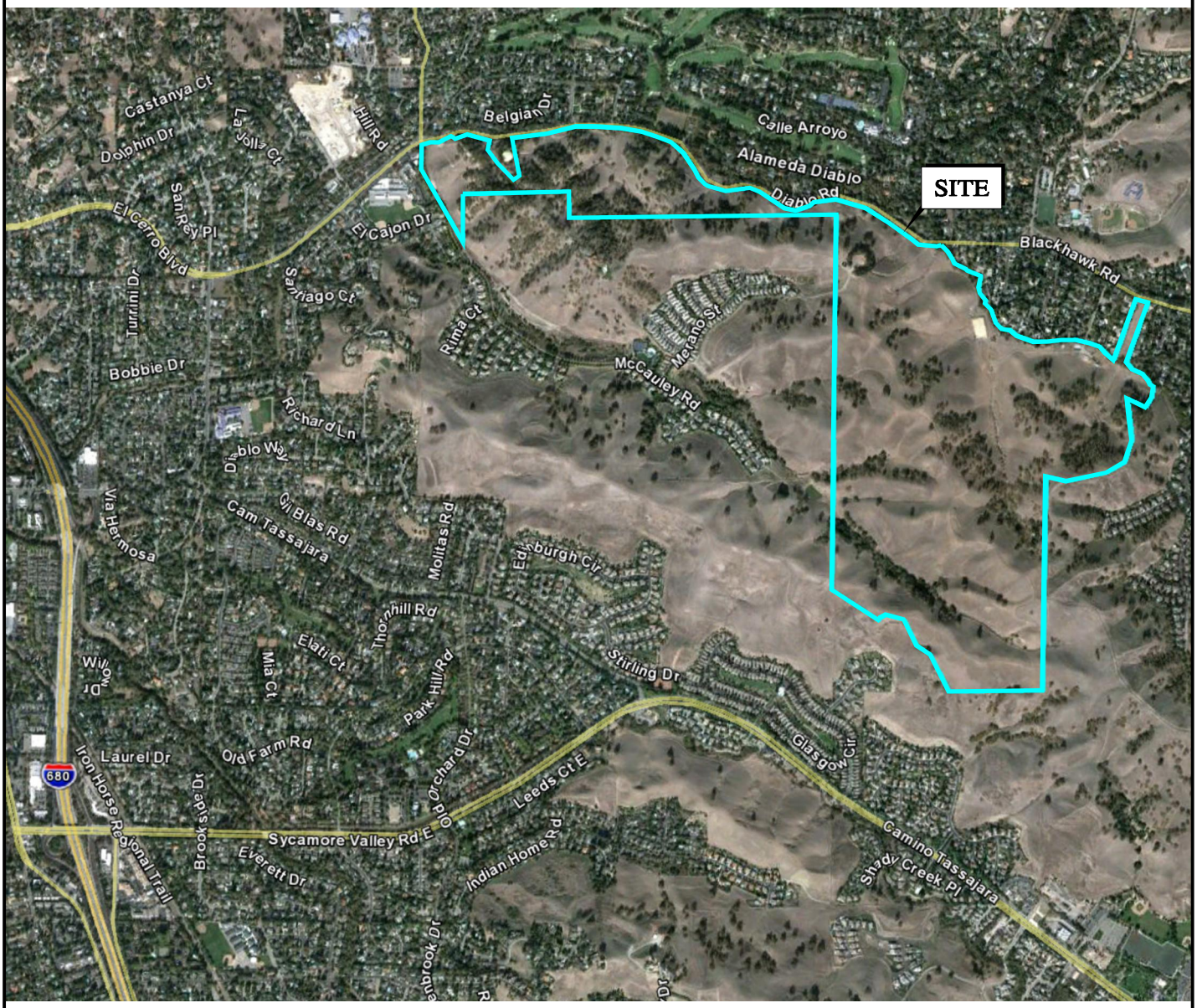
2007 Working Group on California Earthquake Probabilities, 2008, The Uniform California Earthquake Rupture Forecast, Version 2 (UCERF 2): U.S. Geological Survey Open-File Report 2007-1437 and California Geological Survey Special Report 203 [http://pubs.usgs.gov/of/2007/1437/].

FIGURES

Figure 1 - Vicinity Map
Figure 2 - Regional Geologic Map
Figure 3 - Regional Faulting and Seismicity
Figure 4 - Site Geologic Map
Figure 5 - Debris Bench Detail
Figure 6 - Typical Keyway Detail
Figure 7 - Typical Subdrain Detail
Figure 8 - Downhole Boring Logs DHB-1 through DHB-4

FIGURES

COPYRIGHT © 2012 BY ENGEO INCORPORATED. THIS DOCUMENT MAY NOT BE REPRODUCED IN WHOLE OR IN PART BY ANY MEANS WHATSOEVER, NOR MAY IT BE QUOTED OR EXCERPTED WITHOUT THE EXPRESS WRITTEN CONSENT OF ENGEO INCORPORATED.



N

0 FEET 2000

0 METERS 1000

BASE MAP SOURCE: GOOGLE EARTH

ENGEO Expect Excellence

VICINITY MAP

MAGEE RANCHES PROJECT

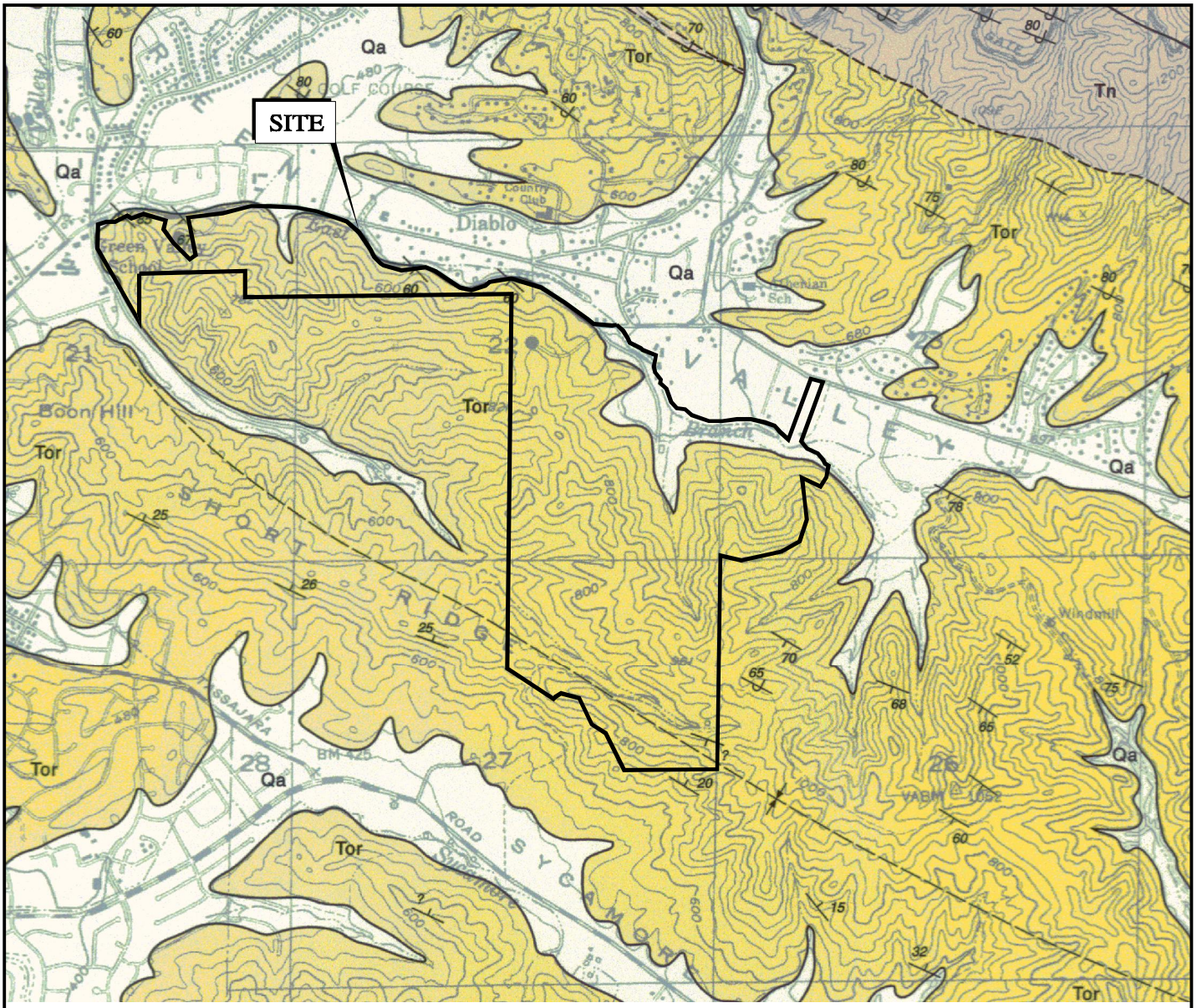
DANVILLE, CALIFORNIA

PROJECT NO.:	8889.000.000
SCALE:	AS SHOWN
DRAWN BY: SRP	CHECKED BY: PJS

FIGURE NO. 1

G:\Drafting\DRAFTING2_Dwg\8889\000\GEX-UPDATE-050112\8889000000-1-VicMap-0512.dwg 5-01-12 11:53:16 AM spatters

ORIGINAL FIGURE PRINTED IN COLOR



EXPLANATION

BEDROCK CONTACT-DASHED WHERE GRADATIONAL OR APPROXIMATELY LOCATED

FAULT-DASHED WHERE INFERRED, DOTTED WHERE CONCEALED, QUERIED WHERE EXISTENCE IS DOUBTFUL

AXIS OF FOLD

SYNCLINE

STRIKE AND DIP OF STRATA

INCLINED VERTICAL OVERTURNED

Qa ALLUVIUM

Tor ORINDA FORMATION

Tn NEROLY FORMATION

N

0 FEET 2000

0 METERS 1000

BASE MAP SOURCE: DIBBLEE, 2005

ENGEO Expect Excellence

SITE GEOLOGIC MAP

MAGEE RANCH

DANVILLE, CALIFORNIA

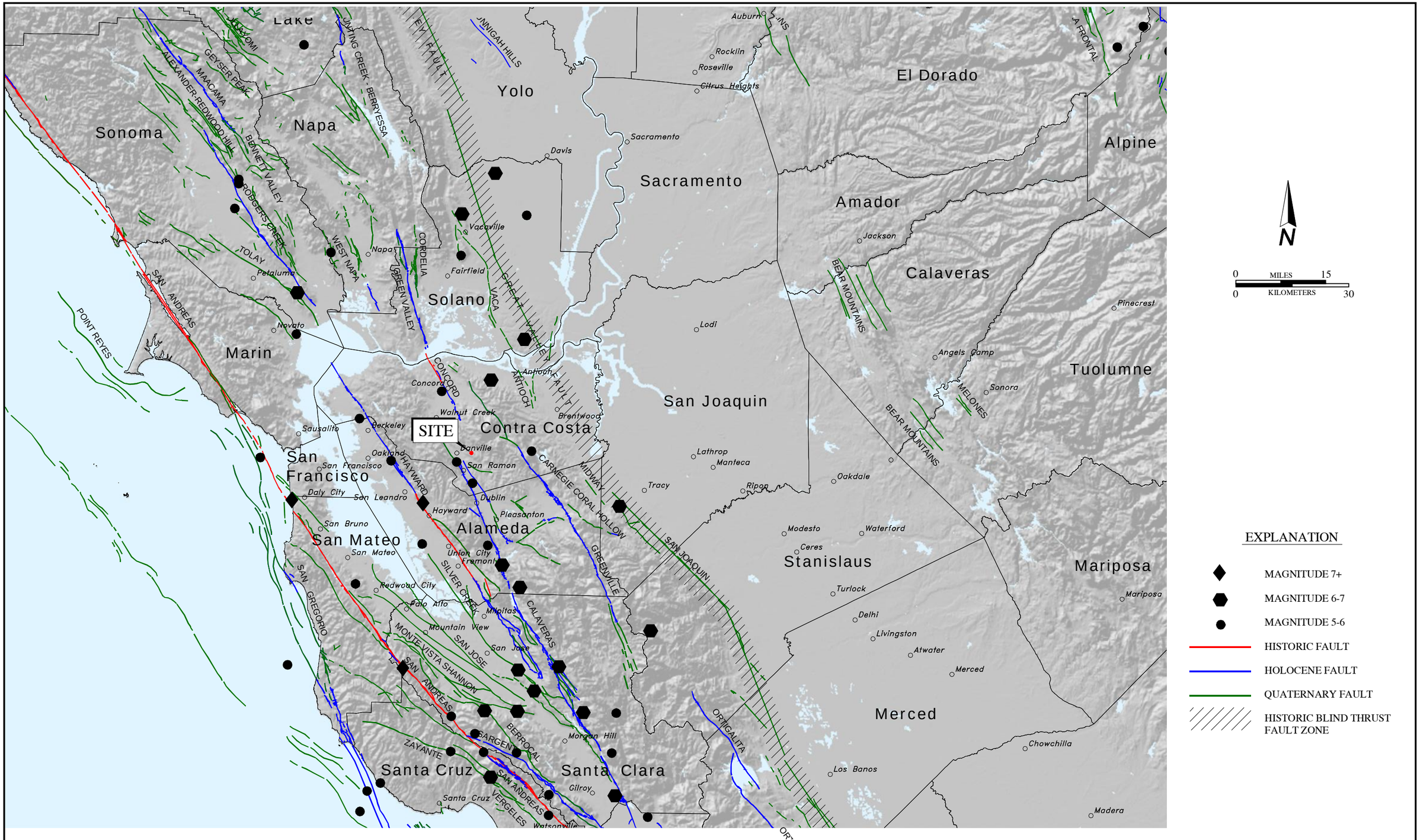
PROJECT NO.: 8889.000.000		FIGURE NO.
SCALE: AS SHOWN		2
DRAWN BY: PC	CHECKED BY: PS	

G:\Drafting\DRAFTING2_Dwg\8889\000\GEX-UPDATE-050112\8889000000-2-SiteGeoMap-Dibblee-0512.dwg 5-01-12 12:59:22 PM spatters

ORIGINAL FIGURE PRINTED IN COLOR

COPYRIGHT © 2012 BY ENGEO INCORPORATED. THIS DOCUMENT MAY NOT BE REPRODUCED IN WHOLE OR IN PART BY ANY MEANS WHATSOEVER, NOR MAY IT BE QUOTED OR EXCERPTED WITHOUT THE EXPRESS WRITTEN CONSENT OF ENGEO INCORPORATED.

COPYRIGHT © 2012 BY ENGEO INCORPORATED. THIS DOCUMENT MAY NOT BE REPRODUCED IN WHOLE OR IN PART BY ANY MEANS WHATSOEVER, NOR MAY IT BE QUOTED OR EXCERPTED WITHOUT THE EXPRESS WRITTEN CONSENT OF ENGEO INCORPORATED.



BASE MAP SOURCE:
U.S.G.S. 1-ARC SECOND S.R.T.M. DATABASE
U.S.G.S. QUATERNARY FAULT DATABASE, MARCH, 2006
U.S.G.S. HISTORIC EARTHQUAKE DATABASE (1800-2000)

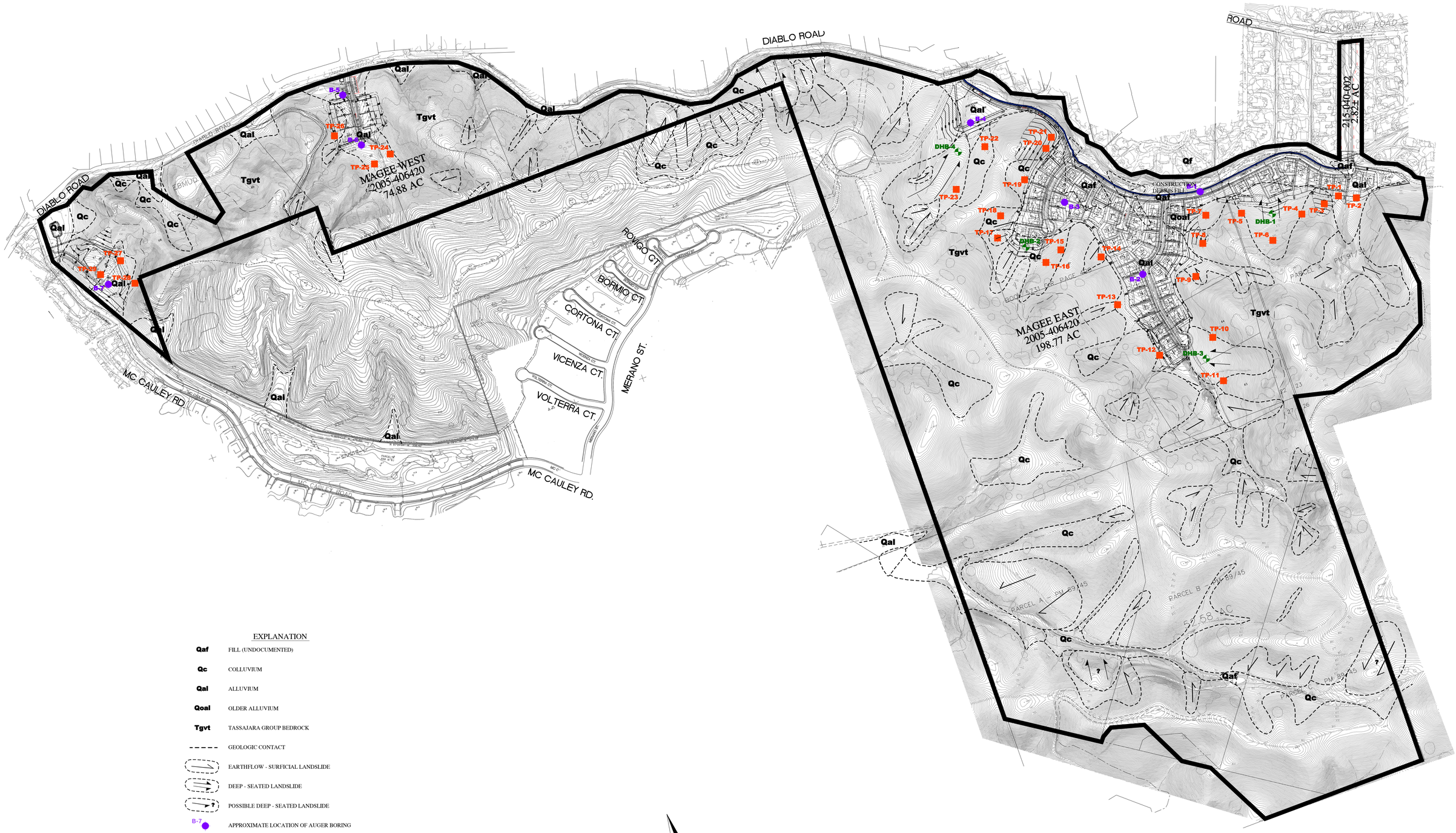
ENGEO
Expect Excellence

REGIONAL FAULTING AND SEISMICITY
MAGEE RANCHES PROJECT
DANVILLE, CALIFORNIA

PROJECT NO.: 8889.000.000		FIGURE NO
SCALE: AS SHOWN		3
DRAWN BY: SRP	CHECKED BY: PJS	

ORIGINAL FIGURE PRINTED IN COLOR

G:\Drafting\DRAFTING2_Dwg\8889\000\GEX-UPDATE-050112\8889000000-3-RegFaultSeismicMap-0512.dwg 5-01-12 11:58:15 AM



EXPLANATION

Qaf	FILL (UNDOCUMENTED)
Qc	COLLUVIUM
Qal	ALLUVIUM
Qoal	OLDER ALLUVIUM
Tgvt	TASSAJARA GROUP BEDROCK
- - - -	GEOLOGIC CONTACT
	EARTHFLOW - SURFICIAL LANDSLIDE
	DEEP - SEATED LANDSLIDE
	POSSIBLE DEEP - SEATED LANDSLIDE
B-7	APPROXIMATE LOCATION OF AUGER BORING
DHB-4	APPROXIMATE LOCATION OF DOWNHOLE BORING
TP-29	APPROXIMATE LOCATION OF TEST PIT

BASE MAP SOURCE: UNKNOWN

ENGEO Expect Excellence

SITE GEOLOGIC MAP
MAGEE RANCHES PROJECT
DANVILLE, CALIFORNIA

PROJECT NO: SS889.000.000
SCALE: AS SHOWN
DRAWN BY: SRP
CHECKED BY: PJS

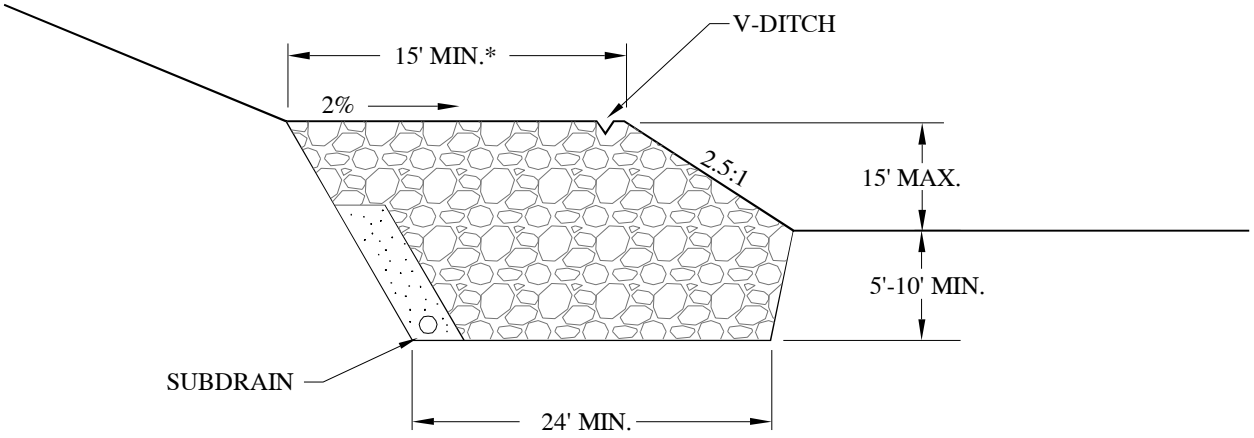
FIGURE NO 4

ORIGINAL FIGURE PRINTED IN COLOR

COPYRIGHT © 2010 BY ENGEO INCORPORATED. THIS DOCUMENT MAY NOT BE REPRODUCED IN WHOLE OR IN PART BY ANY MEANS WHATSOEVER, NOR MAY IT BE QUOTED OR EXCERPTED WITHOUT THE EXPRESS WRITTEN CONSENT OF ENGEO INCORPORATED.

COPYRIGHT © 2010 BY ENGEO INCORPORATED. THIS DOCUMENT MAY NOT BE REPRODUCED IN WHOLE OR IN PART BY ANY MEANS WHATSOEVER, NOR MAY IT BE QUOTED OR EXCERPTED WITHOUT THE EXPRESS WRITTEN CONSENT OF ENGEO INCORPORATED.

G:\Drafting\DRAFTING2_Dwg\8889\000\GEX-UPDATE-050112\8889000000-5-Debris Bench Dtl-0512.dwg 5-01-12 01:06:58 PM spotters



ACTUAL SIZE AND DEPTH OF KEYWAY TO BE DETERMINED IN THE FIELD BY THE GEOTECHNICAL ENGINEER

*THE MINIMUM DEBRIS BENCH WIDTH MAY BE NARROWED TO 15 FEET IN AREAS WHERE A ROADWAY, PARKING AREA OR OPEN SPACE IS PLANNED BETWEEN THE TOE OF THE BUTTRESS FILL AND STRUCTURES

ENGEO
Expect Excellence

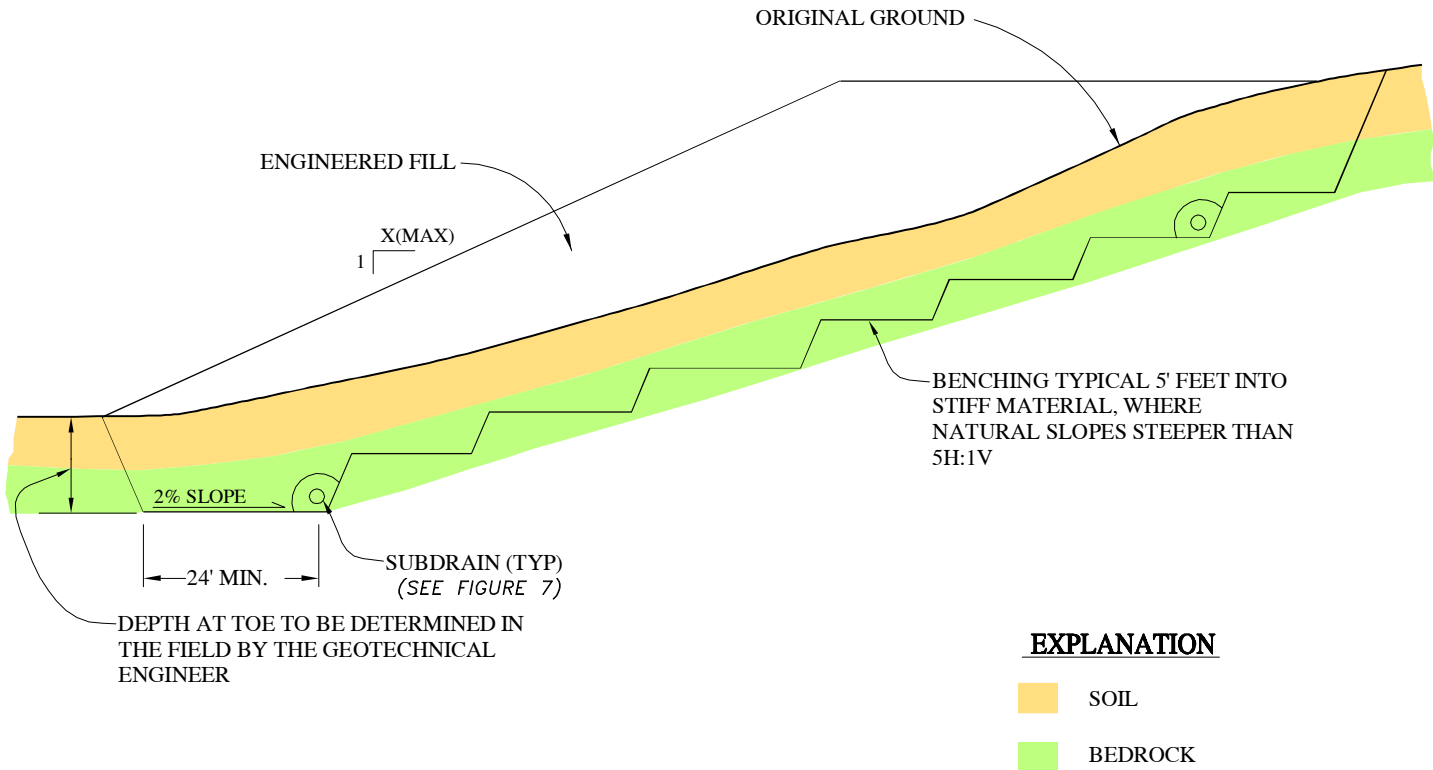
DEBRIS BENCH DETAIL
MAGEE RANCHES PROJECT
DANVILLE, CALIFORNIA

PROJECT NO.:	8889.000.000
SCALE:	NO SCALE
DRAWN BY: PC	CHECKED BY: PS

FIGURE NO. 5

COPYRIGHT © 2010 BY ENGEO INCORPORATED. THIS DOCUMENT MAY NOT BE REPRODUCED IN WHOLE OR IN PART BY ANY MEANS WHATSOEVER, NOR MAY IT BE QUOTED OR EXCERPTED WITHOUT THE EXPRESS WRITTEN CONSENT OF ENGEO INCORPORATED.

G:\Drafting\DRAFTING2_Dwg\8889\000\GEX-UPDATE-050112\8889000000-6-TypicalKeywayDetail-0512.dwg 5-01-12 01:07:37 PM spotters



FOR SLOPE HEIGHT AND MAXIMUM SLOPE GRADIENT, REFER TO GRADED SLOPES SECTION OF THE TEXT

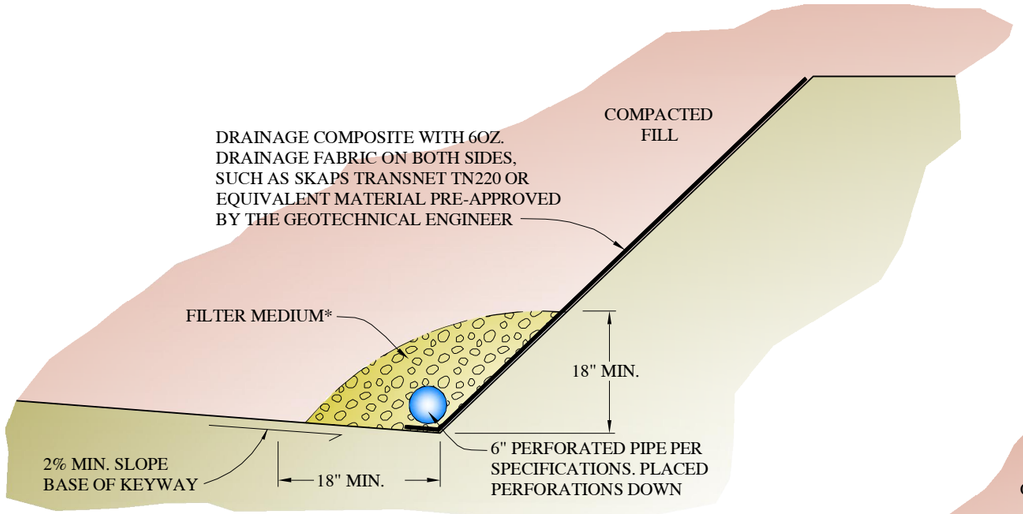
ENGEO
Expect Excellence

TYPICAL KEYWAY DETAIL
MAGEE RANCHES PROJECT
DANVILLE, CALIFORNIA

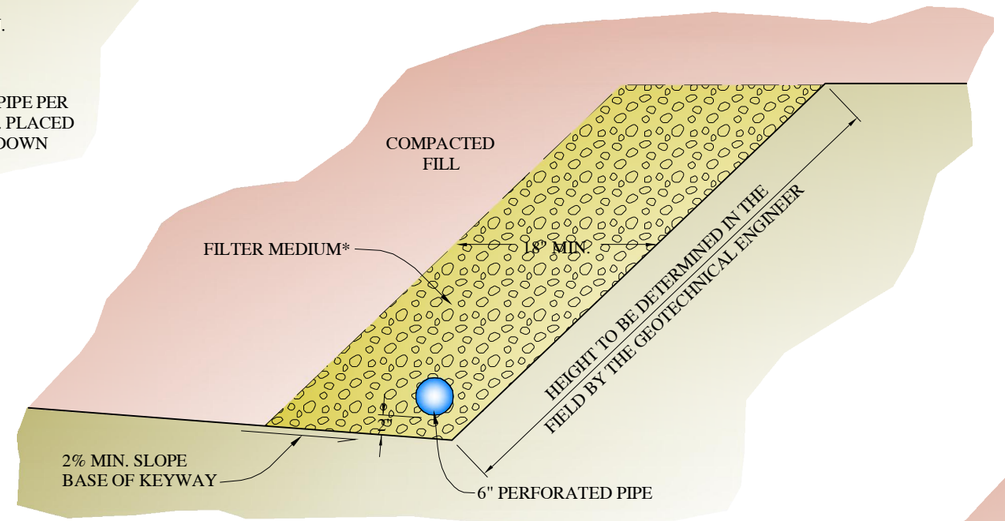
PROJECT NO.:	8889.000.000
SCALE:	NO SCALE
DRAWN BY: SRP	CHECKED BY: PS

FIGURE NO. 6

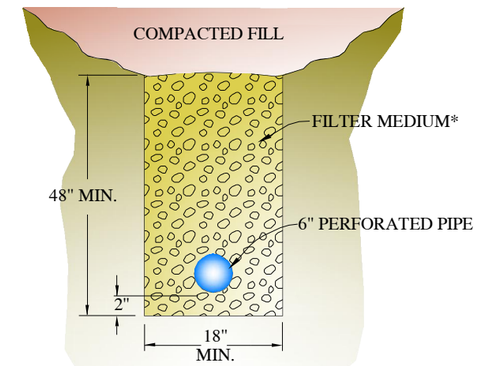
ORIGINAL FIGURE PRINTED IN COLOR



KEYWAY SUBDRAIN - OPTION 1



KEYWAY SUBDRAIN - OPTION 2



SWALE SUBDRAIN

*FILTER MEDIUM

ALTERNATIVE A

CLASS 2 PERMEABLE MATERIAL

MATERIAL SHALL CONSIST OF CLEAN, COARSE SAND AND GRAVEL OR CRUSHED STONE, CONFORMING TO THE FOLLOWING GRADING REQUIREMENTS:

SIEVE SIZE	% PASSING SIEVE
1"	100
3/4"	90–100
3/8"	40–100
#4	25–40
#8	18–33
#30	5–15
#50	0–7
#200	0–3

ALTERNATIVE B

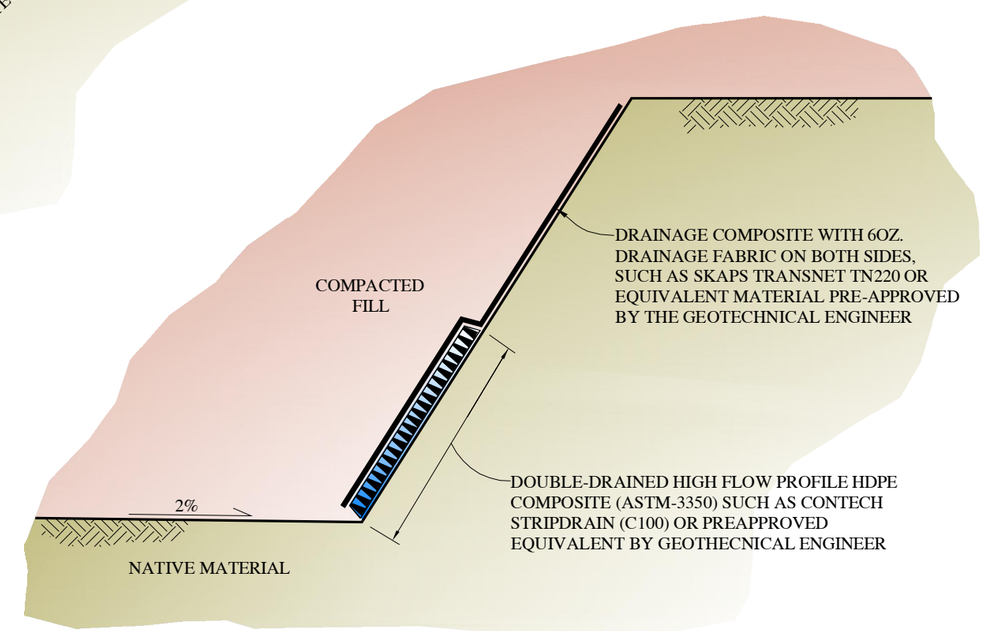
CLEAN CRUSHED ROCK OR GRAVEL WRAPPED IN FILTER FABRIC

ALL FILTER FABRIC SHALL MEET THE FOLLOWING MINIMUM AVERAGE ROLL VALUES UNLESS OTHERWISE SPECIFIED BY ENGEO:

GRAB STRENGTH (ASTM D-4632)	180 lbs
MASS PER UNIT AREA (ASTM D-4751)	6 oz/yd^2
APPARENT OPENING SIZE (ASTM D-4751)	70–100 U.S. STD. SIEVE
FLOW RATE (ASTM D-4491)	80 gal/min/ft
PUNCTURE STRENGTH (ASTM D-4833)	80 lbs

NOTES:

1. *ALL PIPE JOINTS SHALL BE GLUED*
2. *ALL PERFORATED PIPE PLACED PERFORATIONS DOWN*
3. *1% FALL (MINIMUM) ON ALL TRENCHES AND DRAIN LINES*



ALTERNATE KEYWAY SUBDRAIN - OPTION 3

(FOR DEPTHS LESS THAN 30 FEET)

ENGEO — Expect Excellence

TYPICAL SUBDRAIN DETAIL

MAGEE RANCHES PROJECT

DANVILLE, CALIFORNIA

PROJECT NO.:	8889.000.000
SACLE:	NO SCALE
DRAWN BY: SRP	CHECKED BY: PJS

FIGURE NO

7

ORIGINAL FIGURE PRINTED IN COLOR

COPYRIGHT © 2010 BY ENGEO INCORPORATED. THIS DOCUMENT MAY NOT BE REPRODUCED IN WHOLE OR IN PART BY ANY MEANS WHATSOEVER, NOR MAY IT BE QUOTED OR EXCERPTED WITHOUT THE EXPRESS WRITTEN CONSENT OF ENGEO INCORPORATED.

G:\Drafting\DRAFTING2_Dwg\8889\000\GEX-UPDATE-050112\8889000000-7-KeywaySubdrain-0512.dwg 5-01-12 01:08:29 PM spatters

COPYRIGHT © 2010 BY ENGEO INCORPORATED. THIS DOCUMENT MAY NOT BE REPRODUCED IN WHOLE OR IN PART BY ANY MEANS WHATSOEVER, NOR MAY IT BE QUOTED OR EXCERPTED WITHOUT THE EXPRESS WRITTEN CONSENT OF ENGEO INCORPORATED.

DHB-1
ELEVATION 646'

SILTY CLAY (CL), very dark gray, stiff, dry, trace fine gravel
SILTY CLAY (CL), very dark brown, very stiff, moist, trace fine gravel
SANDY CLAY (CL), dark brown, stiff, moist, trace fine gravel, few coarse gravels, claystone fragments
CLAYEY SAND (SC), brown, dense, moist, fine to coarse sand, with fine and coarse gravel
SANDSTONE, brown, extremely weak, crushed, with silt, disturbed bedrock
[Claystone blocks, olive brown and reddish brown, extremely weak, crushed]
SANDSTONE, brown, extremely weak, crushed, with silt, disturbed bedrock. Becomes light yellowish brown, extremely weak, fine grained
Carbonate nodules
Shear, ¼ ▯ gouge, N50W/ 16S
CLAYSTONE, brown, extremely weak, gradational contact
SANDSTONE, brown, extremely weak, crushed, with silt, disturbed bedrock
Carbonate nodules
Becomes light gray, increasing moisture content
Becomes coarser grained, freshly weathered, very weak
CLAYSTONE, brown, extremely weak, very moist, crushed, disturbed bedrock
Slide Plane, polished, N15W/40W
SANDSTONE, light gray, very weak, disturbed bedrock
2▯ gray clay gouge, nearly horizontal
2 to 3▯ clay gouge, N75W/ 14N
SILTSTONE, dark olive brown, very weak, moderately weathered
Possible basal slide plane, 2 to 3▯ clay gouge, N69W/34N
Seepage
Seepage
Becomes very weak, brown, rock quality increasing
SANDSTONE, dark gray, medium strong, closely fractured, freshly weathered, fine grained
Becomes dark gray, medium strong, closely fractured, contact gradational
Bottom @ 65'

DHB-2
ELEVATION 628'
S45°E

SILTY CLAY (CL), very dark gray, stiff, dry
SILTY CLAY (CL), very dark brown, very stiff, moist, trace fine and coarse gravel, carbonate nodules
Abundant carbonate nodules.
SANDY CLAY (CL), dark brown, very stiff, moist, some fine to coarse gravel, abundant carbonate nodules and filaments
Roots.
Few sandstone fragments. Becomes brown
SANDSTONE, light olive brown, extremely weak, crushed, highly weathered, fine grained
Becomes olive brown, weak, poorly sorted
Abundant carbonate nodules.
Few rounded gravels
Becomes medium strong, coarse grained
SILTSTONE, olive brown, weak, very closely fractured, moderately weathered
Abundant carbonate nodules.
Becomes medium strong, dark olive brown and dark gray
SANDSTONE, olive brown, weak, very closely fractured, fine grained
Shear, S18E, 71S
Polished lenticular shear, N40W/77S
SILTSTONE, dark brown and dark gray, weak to medium strong, closely fractured, freshly weathered, increasing rock quality
CLAYSTONE, dark brown and dark gray, weak to medium strong, closely fractured, freshly weathered
SILTSTONE, dark brown and dark gray, weak to medium strong, closely fractured, freshly weathered, increasing rock quality
Seepage
Becomes dark gray, increasing rock quality
SANDSTONE, dark gray, medium strong, closely fractured, freshly weathered, poorly sorted
Bottom at 59'

DHB-3
ELEVATION 676'
N10°E

SILTY CLAY (CL), very dark gray, stiff, dry
SILTY CLAY (CL), dark brown, very stiff, moist, trace fine gravel
SANDY CLAY (CL), dark brown with light olive brown, stiff, moist, trace fine and coarse gravel
SANDY CLAY with weak sandstone fragments and blocks, brown, stiff, moist, landslide debris
Becomes yellowish brown, stiff, moist, claystone fragments
Carbonate nodules
Becomes finer grained
SILTSTONE, olive brown, very weak, closely fractured, highly weathered, disturbed bedrock
CLAYSTONE, olive brown, extremely weak, crushed to very closely fractured, highly weathered
Carbonate nodules
Polished shear, N84E/22S
1▯ Clay gouge, olive brown, N10W
SANDSTONE, olive brown, extremely weak, very closely fractured, highly weathered
Fine grained, very weak
SILTSTONE, olive brown, weak, very closely fractured, highly weathered
Shear, 1/8 ▯ clay gouge, possible basal slide Plane, N25W/ 14W
Thin clay seam, 1/16▯, N60W/29N
Very Weak
Rock quality increasing at 53 feet.
Becomes bluish gray, medium strong
Bottom @ 69'

DHB-4
ELEVATION 579'
S50°E

SILTY CLAY (CL), very dark gray, stiff, dry, trace fine gravel
SILTY CLAY (CL), very dark brown, very stiff, moist, trace fine and coarse gravel
Becomes dark brown
Becomes very moist, few sandstone fragments
Abundant carbonates.
SANDY CLAY, brown, medium stiff, moist, with bedrock fragments and blocks, fine to medium grained, highly disturbed, few claystone fragments, landslide debris
Becomes coarser grained, poorly sorted, few fine gravels, very moist
Siltstone fragments, olive brown, extremely weak, highly weathered, very moist
Seepage
With claystone fragments, olive brown, extremely weak, landslide debris
Seepage
Becomes olive gray and olive brown, internally sheared slide debris
Landslide debris consisting of silty clay matrix with claystone and siltstone blocks and fragments
High angle shears, area Highly unstable, Started caving, no orientation Measured.
Bluish gray layers
Becomes olive gray, increasing rock quality
Seepage
Become light olive brown
Becomes light olive gray and bluish gray
Seepage
SILTY CLAY with bedrock fragments consisting of siltstone, sandstone and claystone, mixture of dark gray, dark olive and bluish gray. landslide debris
Roots from 63' to 66'
Hole unstable, did not observe below 70 feet. Logged from cuttings
Becomes olive gray and dark bluish gray, stiff, very moist
Shear in cuttings, landslide debris.
Likely maximum depth of Landsliding at approximately 87 feet.
CLAYSTONE, very dark gray, weak, closely fractured, freshly weathered, highly sheared
SILSTONE, dark bluish gray, weak to medium strong, closely fractured, freshly weathered
Bottom @ 94'

ENGEO Expect Excellence	DOWNHOLE BORING LOGS DHB1- THROUGH DHB-4 MAGEE RANCHES PROJECT DANVILLE, CALIFORNIA	PROJECT NO.: 8889.000.000 SCALE: AS SHOWN DRAWN BY: SRP CHECKED BY: PJS	FIGURE NO. 8

APPENDIX A

Exploration Logs

APPENDIX A

LOG OF BORING B-1

ENGEO INCORPORATED

Geotechnical Exploration
Magee Ranches
Danville, California
8889.000.000

DATE DRILLED: 9/22/2010
HOLE DEPTH: Approx. 51½ ft.
HOLE DIAMETER: 4.0 in.
SURF ELEV (msl): Approx. 595 ft.

LOGGED / REVIEWED BY: J. White / PJS
DRILLING CONTRACTOR: West Coast Exploration
DRILLING METHOD: Solid Flight Auger
HAMMER TYPE: 140 lb. Rope and Cathead

Depth in Feet	Depth in Meters	Sample Type	DESCRIPTION	Log Symbol	Water Level	Blow Count/Foot	Atterberg Limits: Liquid Limit	Atterberg Limits: Plastic Limit	Atterberg Limits: Plasticity Index	Fines Content (% passing #200 sieve)	Moisture Content (% dry weight)	Dry Unit Weight (pcf)	Unconfined Strength (tsf) *field approx
			SILTY CLAY (CL), very dark gray, stiff, dry, trace fine gravel.										
			CLAY (CH), very dark brown, very stiff, dry, trace fine gravel, carbonate filaments.										
	1												
	2	■				21	73	15	58		25.2	99.1	3.2*
10	3	■				28							3*
			CLAYEY SAND (SC), brown, dense, moist, fine to coarse grained sand, manganese nodules.		▽								
	4		SANDY CLAY (CL), brown to grayish brown, very stiff, fine to coarse sand, trace fine to coarse gravel.										
	5	■				28					26.7	99.3	3*
			SILTY CLAY (CL), grayish brown, stiff, very moist, trace fine gravel, few manganese nodules.										
20	6	■				18					23.7	109.9	2.5*
	7												
			CLAYEY SAND (SC), brown, loose, very moist, fine to medium grained sand, some silt.										
	8	■				9							
		◣	Same as above.			8					25.2		
30	9	◣				9							
			SANDY CLAY (CL), brown, medium stiff, very moist, fine to medium grained sand.										
	10												
	11	■	Becomes dark grayish brown, very stiff, moist, fine sand, trace fine gravel.			29					25.1	102.2	2.5*
	12												
40		■	Becomes stiff.			15							1.5*
	13												
			SANDY CLAY (CL), dark grayish brown, very stiff, moist, trace fine gravel.										
	14	■				16					28.1	104.6	1.5*
	15												
50		■	Same as above.			30							2.5*
			Bottom of boring at 51.5 feet, groundwater encountered at 13 feet.										

LOG OF BORING B-2

ENGEO INCORPORATED

Geotechnical Exploration
Magee Ranches
Danville, California
8889.000.000

DATE DRILLED: 9/23/2010
HOLE DEPTH: Approx. 40½ ft.
HOLE DIAMETER: 4.0 in.
SURF ELEV (msl): Approx. 612 ft.

LOGGED / REVIEWED BY: J. White / PJS
DRILLING CONTRACTOR: West Coast Exploration
DRILLING METHOD: Solid Flight Auger
HAMMER TYPE: 140 lb. Rope and Cathead

Depth in Feet	Depth in Meters	Sample Type	DESCRIPTION	Log Symbol	Water Level	Blow Count/Foot	Atterberg Limits: Liquid Limit	Atterberg Limits: Plastic Limit	Atterberg Limits: Plasticity Index	Fines Content (% passing #200 sieve)	Moisture Content (% dry weight)	Dry Unit Weight (pcf)	Unconfined Strength (tsf) *field approx
			SILTY CLAY (CL), very dark gray, stiff, trace fine gravel.										
	1	■	SILTY CLAY (CL), very dark brown, hard, moist, trace sand, carbonate nodules, rootlets.			61					24.6	99.9	4.5*
		■	Same as above.			66							4.5*
	2												
10	3	■	Becomes dark brown, trace fine gravel, very stiff.			40					19.9	107.5	4.5*
	4				▽								
		■	SANDY CLAY (CL), brown mottled with gray, very stiff, moist, trace fine gravel, fine to coarse grained sand.			38							4.2*
	5												
20	6	■	Few carbonates.			43					20.3	108.3	4*
	7												
		■	Becomes hard.			63							4.5*
	8												
30	9	■	Same as above.			46							4*
	10												
		■	Same as above.			37							4*
	11												
40	12	■	Same as above.			38					23.6	103.5	4.2*
			Bottom of boring at 40.5 feet, no groundwater encountered.										

LOG OF BORING B-3

Geotechnical Exploration
Magee Ranches
Danville, California
8889.000.000

DATE DRILLED: 9/23/2010
HOLE DEPTH: Approx. 31½ ft.
HOLE DIAMETER: 4.0 in.
SURF ELEV (msl): Approx. 589 ft.

LOGGED / REVIEWED BY: J. White / PJS
DRILLING CONTRACTOR: West Coast Exploration
DRILLING METHOD: Solid Flight Auger
HAMMER TYPE: 140 lb. Rope and Cathead

Depth in Feet	Depth in Meters	Sample Type	DESCRIPTION	Log Symbol	Water Level	Blow Count/Foot	Atterberg Limits: Liquid Limit	Atterberg Limits: Plastic Limit	Atterberg Limits: Plasticity Index	Fines Content (% passing #200 sieve)	Moisture Content (% dry weight)	Dry Unit Weight (pcf)	Unconfined Strength (tsf) *field approx
			SILTY CLAY (CL), very dark gray, stiff, dry, some fine gravel.										
			SILTY CLAY (CL), very dark brown, very stiff, moist, trace fine gravel, few carbonate nodules.										
	1	■				26							4*
	2	■	Same as above.			23					24.9	107	3.5*
			SILTY CLAY (CL), dark brown, very stiff, very moist, trace fine and coarse gravel, few manganese nodules, carbonates.										
10	3	■				20							2.5*
	4												
	5	■	Becomes stiff.			18					29.3	97.5	2.5*
20	6	■	Becomes brown mottled with dark bluish gray, very stiff.			25							3*
	7		CLAYSTONE, olive brown, extremely weak, very closely fractured, highly weathered, carbonates.										
	8	■				56					34.7	87.5	
30	9	■	Becomes very weak.			58							
			Bottom of boring at 31.5 feet, groundwater encountered at 13 feet.										

LOG OF BORING B-4

Geotechnical Exploration
Magee Ranches
Danville, California
8889.000.000

DATE DRILLED: 9/23/2010
HOLE DEPTH: Approx. 36 ft.
HOLE DIAMETER: 4.0 in.
SURF ELEV (msl): Approx. 579 ft.

LOGGED / REVIEWED BY: J. White / PJS
DRILLING CONTRACTOR: West Coast Exploration
DRILLING METHOD: Solid Flight Auger
HAMMER TYPE: 140 lb. Rope and Cathead

Depth in Feet	Depth in Meters	Sample Type	DESCRIPTION	Log Symbol	Water Level	Blow Count/Foot	Atterberg Limits: Liquid Limit	Atterberg Limits: Plastic Limit	Atterberg Limits: Plasticity Index	Fines Content (% passing #200 sieve)	Moisture Content (% dry weight)	Dry Unit Weight (pcf)	Unconfined Strength (tsf) *field approx
			SILTY CLAY (CL), very dark gray, stiff, trace fine gravel.										
			SILTY CLAY (CL), very dark brown, very stiff, moist, trace fine gravel and carbonate nodules.										
	1	■				53					19.6	102.6	4.5*
	2												
		■				56							4.5*
10	3		Same as above.										
			SILTY CLAY (CL), dark brown, very stiff, moist, trace fine gravel, some fine sand.										
	4	■				46					20.3	108.6	3*
	5												
			SANDY CLAY (CL), dark brown, very stiff, moist, trace fine gravel, few manganese nodules.										
		■				38							3.75*
20	6												
	7	■				30					25.9	98.1	3.75*
			Becomes brown.										
	8												
			SILTSTONE, dark olive brown, very weak, very closely fractured, highly weathered, carbonates.										
		■				50/5"							
30	9												
	10		SANDSTONE, brown, very weak, very closely fractured, highly weathered.										
		■				50/4"					20.6	108	
			Bottom of boring at 36 feet, no groundwater encountered.										

LOG OF BORING B-5

Geotechnical Exploration
Magee Ranches
Danville, California
8889.000.000

DATE DRILLED: 9/22/2010
HOLE DEPTH: Approx. 30½ ft.
HOLE DIAMETER: 4.0 in.
SURF ELEV (msl): Approx. 467 ft.

LOGGED / REVIEWED BY: J. White / PJS
DRILLING CONTRACTOR: West Coast Exploration
DRILLING METHOD: Solid Flight Auger
HAMMER TYPE: 140 lb. Rope and Cathead

Depth in Feet	Depth in Meters	Sample Type	DESCRIPTION	Log Symbol	Water Level	Blow Count/Foot	Atterberg Limits: Liquid Limit	Atterberg Limits: Plastic Limit	Atterberg Limits: Plasticity Index	Fines Content (% passing #200 sieve)	Moisture Content (% dry weight)	Dry Unit Weight (pcf)	Unconfined Strength (tsf) *field approx
			SILTY CLAY (CL), very dark gray, stiff, trace fine gravel.										
			SILTY CLAY (CL), very dark brown, very stiff, moist, some fine sand, trace fine gravel.										
	1	■				25					18.7	107.6	4.5*
	2												
10	3	■	Becomes dark brown, trace coarse gravel.			37							4.5*
	4												
		■	Few carbonates.			32					23.4	101.6	4*
	5												
20	6	■	Same as above.			21							
			CLAYEY SAND (SC), dark bluish gray and brown, medium dense, very moist, some roots, some carbonates.										
	7		SANDY CLAY (CL), brown, very stiff, very moist, fine to coarse sand, trace fine gravel, few carbonates.		▽								
		■				21					27.2	97.7	2.5*
	8												
30	9	■	Becomes stiff to very stiff.			32							2.5*
			Bottom of boring at 30.5 feet, groundwater encountered at 23 feet.										

LOG OF BORING B-6

Geotechnical Exploration
Magee Ranches
Danville, California
8889.000.000

DATE DRILLED: 9/22/2010
HOLE DEPTH: Approx. 30½ ft.
HOLE DIAMETER: 4.0 in.
SURF ELEV (msl): Approx. 490 ft.

LOGGED / REVIEWED BY: J. White / PJS
DRILLING CONTRACTOR: West Coast Exploration
DRILLING METHOD: Solid Flight Auger
HAMMER TYPE: 140 lb. Rope and Cathead

Depth in Feet	Depth in Meters	Sample Type	DESCRIPTION	Log Symbol	Water Level	Blow Count/Foot	Atterberg Limits: Liquid Limit	Atterberg Limits: Plastic Limit	Atterberg Limits: Plasticity Index	Fines Content (% passing #200 sieve)	Moisture Content (% dry weight)	Dry Unit Weight (pcf)	Unconfined Strength (tsf) *field approx
			SILTY CLAY (CL), very dark gray, stiff, trace fine gravel.										
			SILTY CLAY (CL), very dark brown, very stiff, moist, trace fine sand and gravel, trace carbonate nodules.										
	1												
	2					46					18.2	105.3	4.25*
			SANDY CLAY (CL), dark brown, hard, moist, trace fine gravel.										
10	3					63					17.3	113.6	4.5*
	4												
	5		Same as above.			58							4.5*
			CLAYEY SAND (SC), very dense, brown, moist, some sandstone fragments, trace fine gravel.										
20	6					72					20.4	116.5	
	7		SANDSTONE, brown, very weak, closely fractured, highly weathered, fine to coarse sand.										
	8					50/4"							
30	9		Same as above.			50/3"					18.9		

LOG OF BORING B-7

Geotechnical Exploration
Magee Ranches
Danville, California
8889.000.000

DATE DRILLED: 9/22/2010
HOLE DEPTH: Approx. 31½ ft.
HOLE DIAMETER: 4.0 in.
SURF ELEV (msl): Approx. 443 ft.

LOGGED / REVIEWED BY: J. White / PJS
DRILLING CONTRACTOR: West Coast Exploration
DRILLING METHOD: Solid Flight Auger
HAMMER TYPE: 140 lb. Rope and Cathead

Depth in Feet	Depth in Meters	Sample Type	DESCRIPTION	Log Symbol	Water Level	Blow Count/Foot	Atterberg Limits: Liquid Limit	Atterberg Limits: Plastic Limit	Atterberg Limits: Plasticity Index	Fines Content (% passing #200 sieve)	Moisture Content (% dry weight)	Dry Unit Weight (pcf)	Unconfined Strength (tsf) *field approx
			SILTY CLAY (CL), very dark gray, stiff, trace fine gravel.										
	1	■	SILTY CLAY (CL), very dark brown, very stiff, moist, trace fine and coarse gravel, few carbonates.			55					19.5	104.8	4.5*
	2												
		■	SANDY CLAY (CL), dark brown, very dense, moist, trace fine gravel.			73					19.5	108.6	4.5*
10	3												
	4	■	CLAYEY SAND (SC), dark brown, very dense, moist, trace fine gravel.			55							
	5												
		■	SANDY CLAY (CL), dark brown, hard, moist, trace fine gravel.			64					22	105.3	4.5*
20	6												
	7	■	Same as above.		▽	48							4.5*
	8												
30	9	■	Same as above.			69					20	110.2	

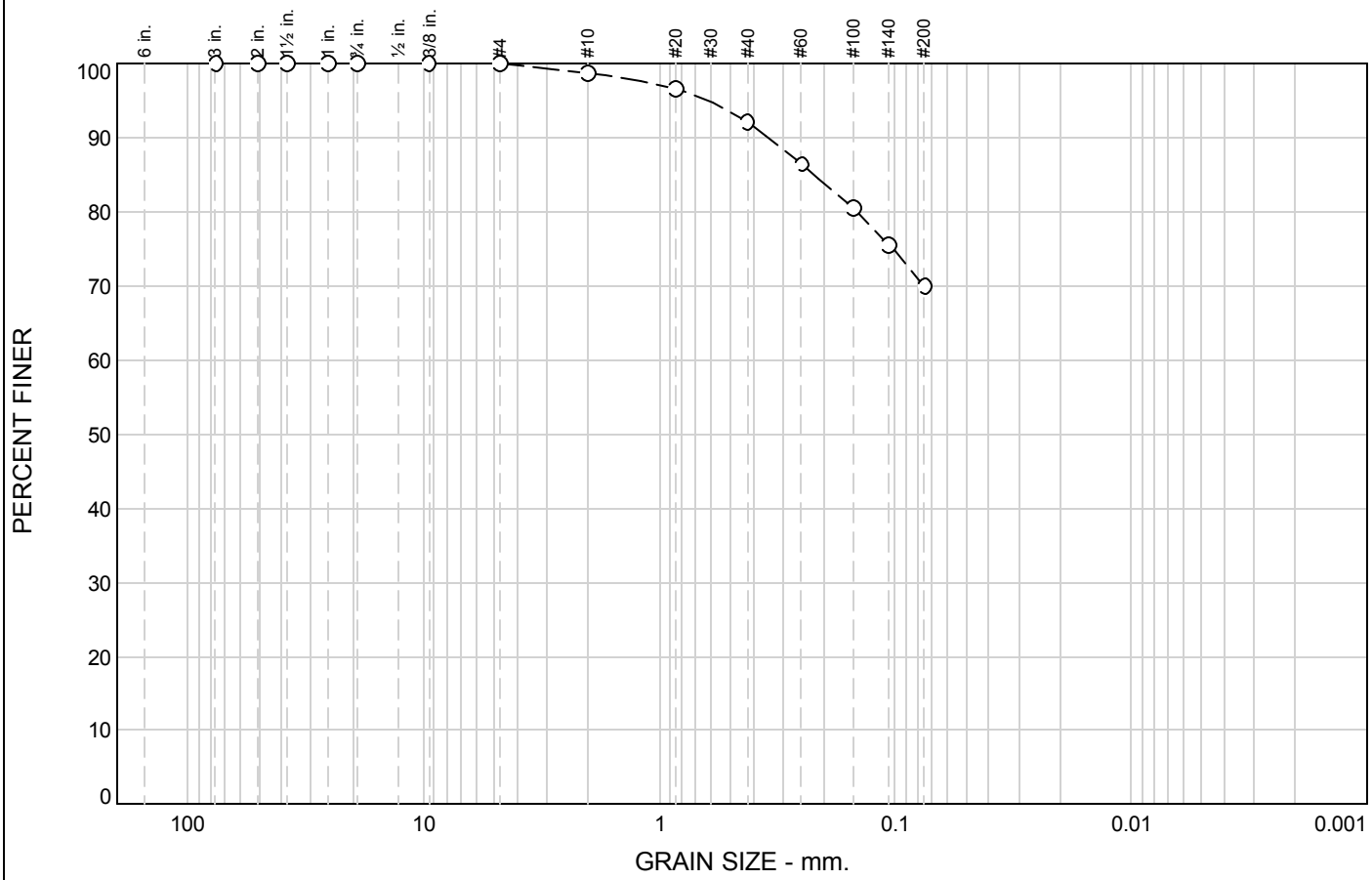
Bottom of boring at 31.5 feet, groundwater encountered at 23 feet.

APPENDIX B

Laboratory Test Data

APPENDIX B

Particle Size Distribution Report



% Cobbles	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.1	1.1	6.7	22.2	69.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3	100.0		
2	100.0		
1.5	100.0		
1	100.0		
3/4	100.0		
3/8	100.0		
#4	99.9		
#10	98.8		
#20	96.6		
#40	92.1		
#60	86.4		
#100	80.5		
#140	75.5		
#200	69.9		

* (no specification provided)

Soil Description

Very dark grayish brown sandy CLAY.

Atterberg Limits

PL= 18 LL= 48 PI= 30

Coefficients

D_{85}= 0.2196 D_{60}= D_{50}=
D_{30}= D_{15}= D_{10}=
C_u= C_c=

Classification

USCS= CL AASHTO= A-7-6(19)

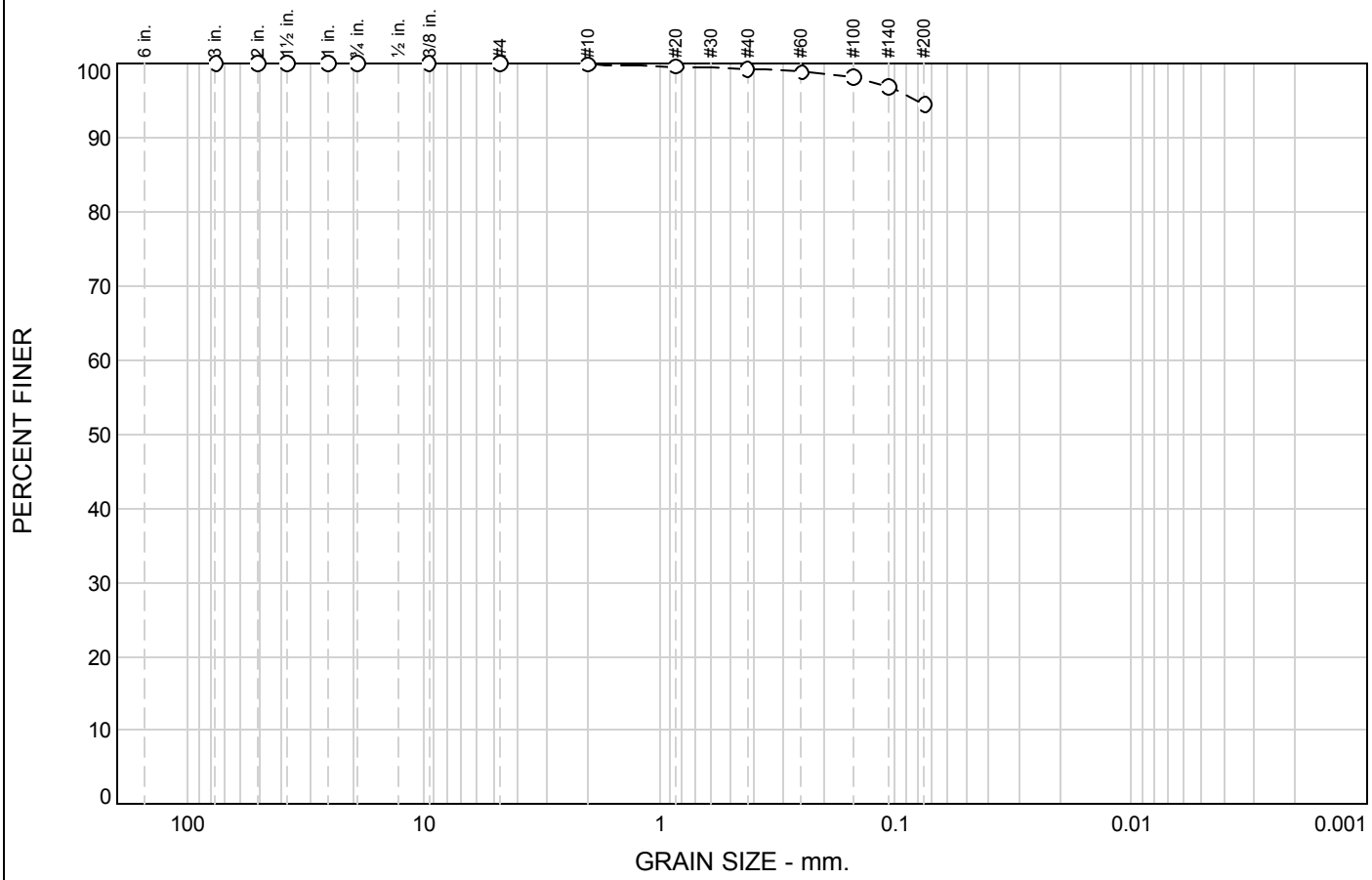
Remarks

Sample No.: TP-1 @ 2 **Source of Sample:** **Date:** 10/15/10
Location: **Elev./Depth:**

ENGEO INCORPORATED
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS
MATERIALS TESTING

Client:
Project: Magee Ranches - Danville, CA
Project No: 8889.000.000 **Plate**

Particle Size Distribution Report



% Cobbles	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.1	0.6	4.9	94.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3	100.0		
2	100.0		
1.5	100.0		
1	100.0		
3/4	100.0		
3/8	100.0		
#4	100.0		
#10	99.9		
#20	99.6		
#40	99.3		
#60	98.8		
#100	98.1		
#140	96.8		
#200	94.4		

* (no specification provided)

Soil Description

Dark yellowish brown weathered silty CLAYSTONE.

Atterberg Limits

PL= 18 LL= 40 PI= 22

Coefficients

D_{85}= D_{60}= D_{50}=
D_{30}= D_{15}= D_{10}=
C_u= C_c=

Classification

USCS= CL AASHTO= A-6(21)

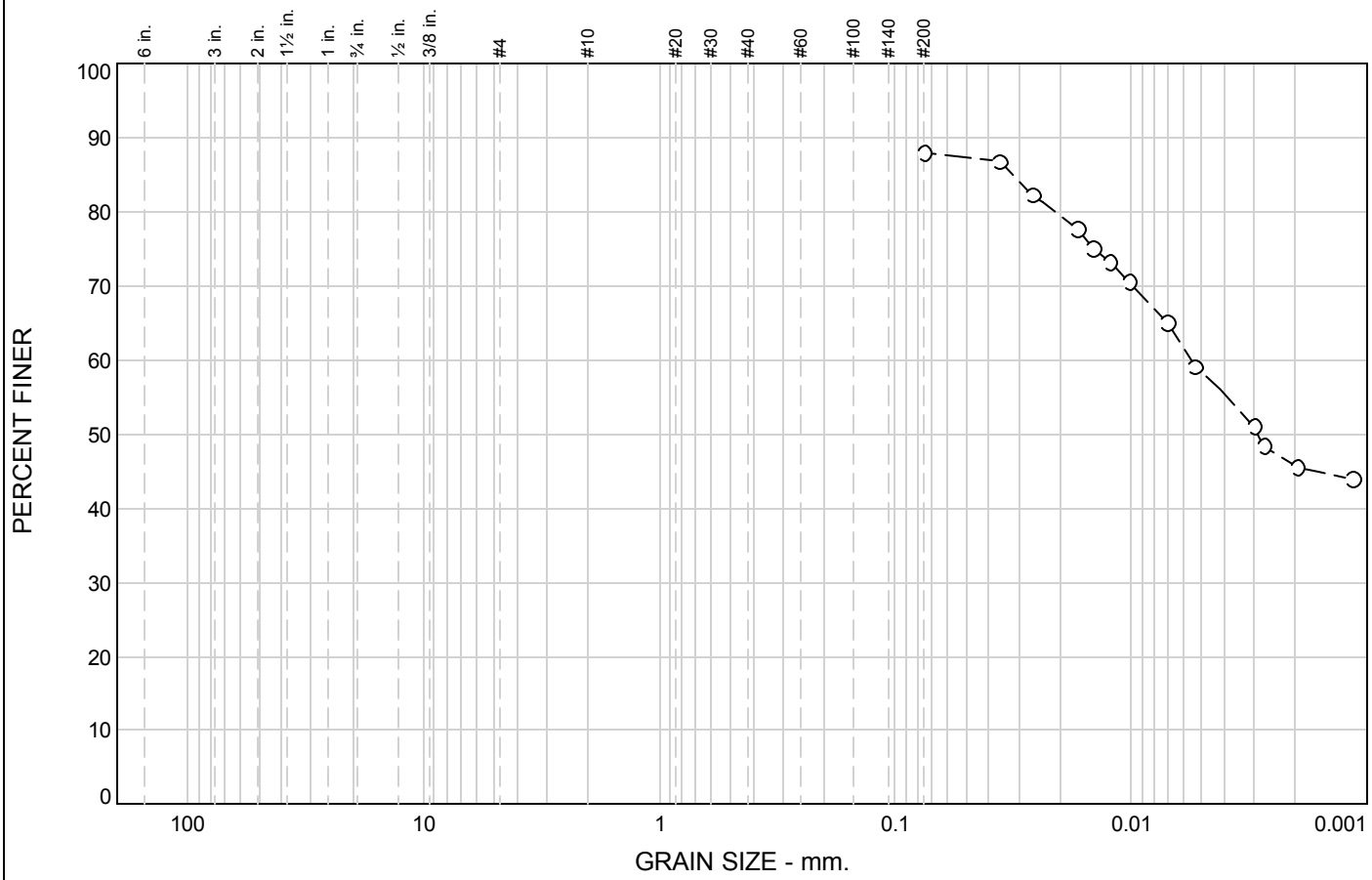
Remarks

Sample No.: TP-8 @ 3 **Source of Sample:** **Date:** 10/15/10
Location: **Elev./Depth:**

ENGEO INCORPORATED
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS
MATERIALS TESTING

Client:
Project: Magee Ranches - Danville, CA
Project No: 8889.000.000 **Plate**

Particle Size Distribution Report



% Cobbles	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						42.3	45.5

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	87.8		

* (no specification provided)

Soil Description

Light olive brown CLAY.

Atterberg Limits

PL= 20 LL= 69 PI= 49

Coefficients

D_{85}= 0.0317 D_{60}= 0.0056 D_{50}= 0.0029
D_{30}= D_{15}= D_{10}=
C_u= C_c=

Classification

USCS= CH AASHTO=

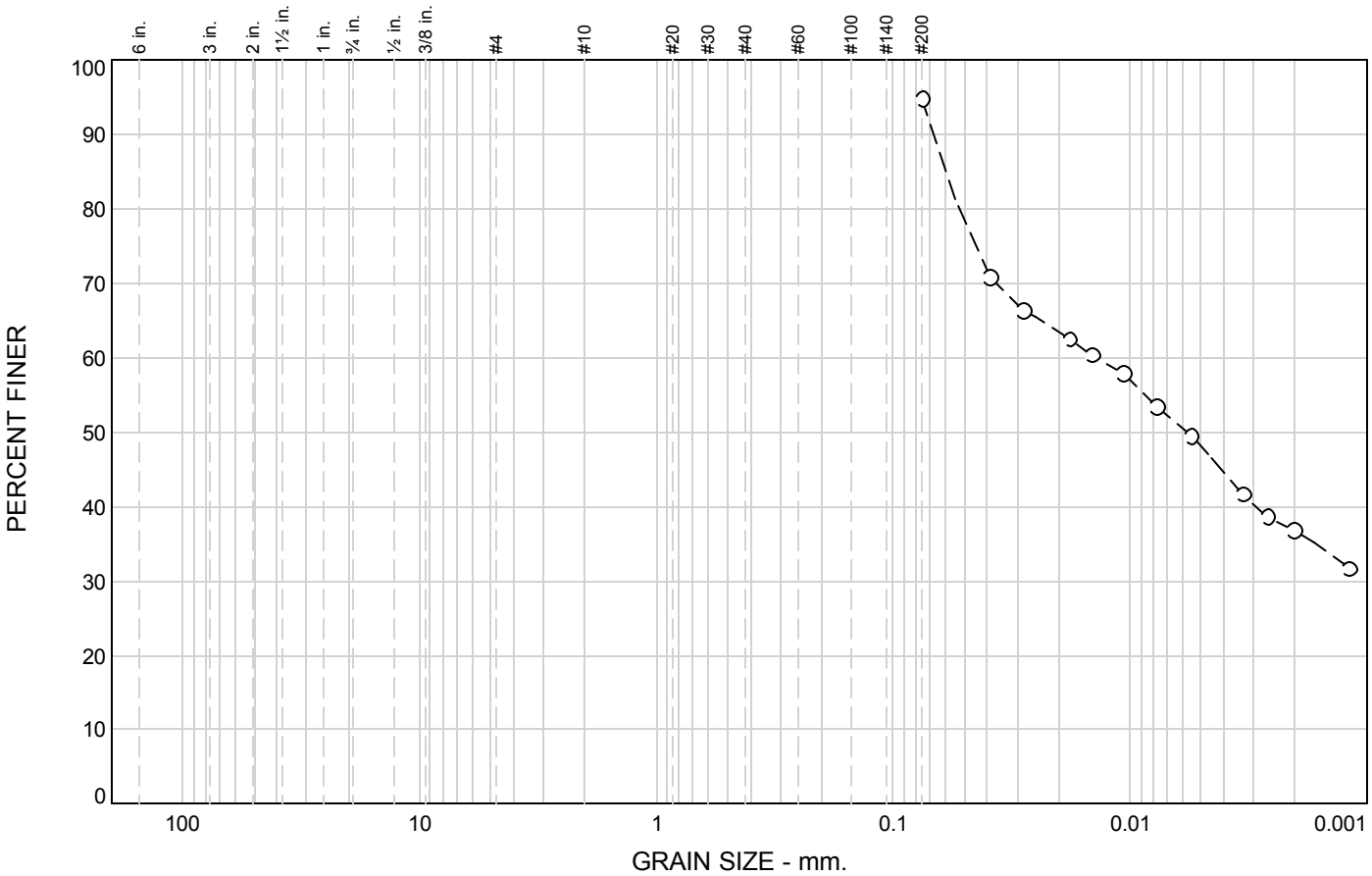
Remarks

Sample No.: DHB-1 @ 44 **Source of Sample:** **Date:** 10/22/10
Location: **Elev./Depth:**

ENGEO INCORPORATED
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS
MATERIALS TESTING

Client:
Project: Magee Ranches - Danville, CA
Project No: 8889.000.000 **Plate**

Particle Size Distribution Report



% Cobbles	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						58.0	36.7

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	94.7		

* (no specification provided)

Soil Description

Light olive brown CLAY.

Atterberg Limits

PL= 21 LL= 56 PI= 35

Coefficients

D_{85}= 0.0597 D_{60}= 0.0138 D_{50}= 0.0058
D_{30}= D_{15}= D_{10}=
C_u= C_c=

Classification

USCS= CH AASHTO=

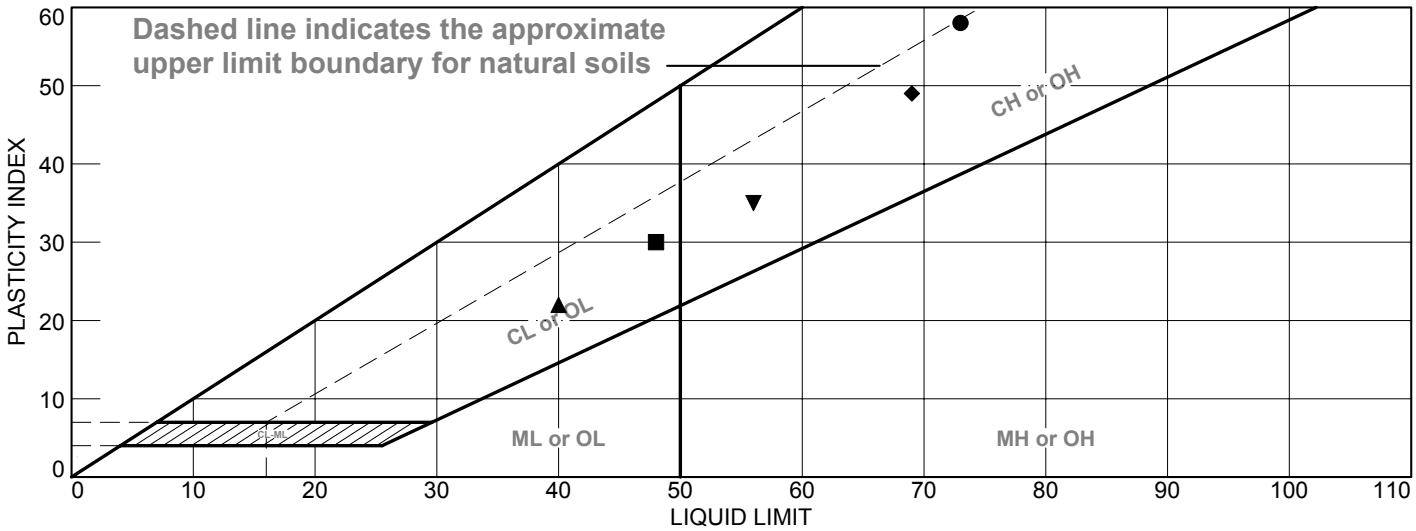
Remarks

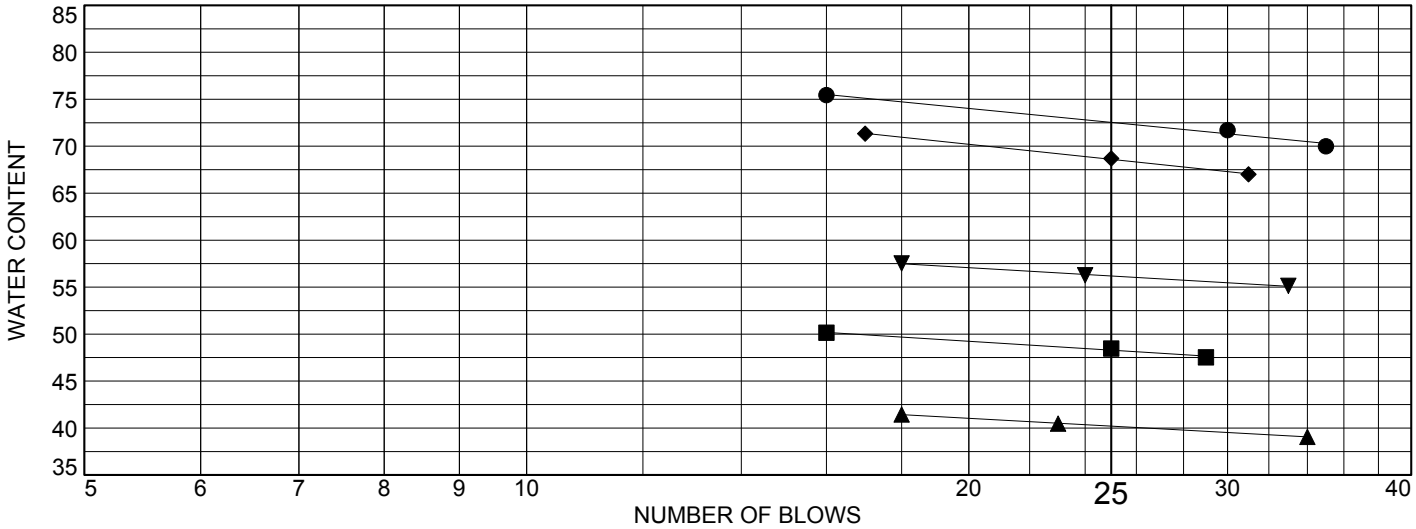
Sample No.: DHB-3 @ 21 **Source of Sample:** **Date:** 10/15/10
Location: **Elev./Depth:**

ENGEO INCORPORATED
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS
MATERIALS TESTING

Client:
Project: Magee Ranches - Danville, CA
Project No: 8889.000.000 **Plate**

LIQUID AND PLASTIC LIMITS TEST REPORT





	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	Very dark grayish brown CLAY with sand.	73	15	58			CH
■	Very dark grayish brown sandy CLAY.	48	18	30	92.1	69.9	CL
▲	Dark yellowish brown weathered silty CLAYSTONE.	40	18	22	99.3	94.4	CL
◆	Light olive brown CLAY.	69	20	49		87.8	CH
▼	Light olive brown CLAY.	56	21	35		94.7	CH

Project No. 8889.000.000 **Client:**

Project: Magee Ranches - Danville, CA

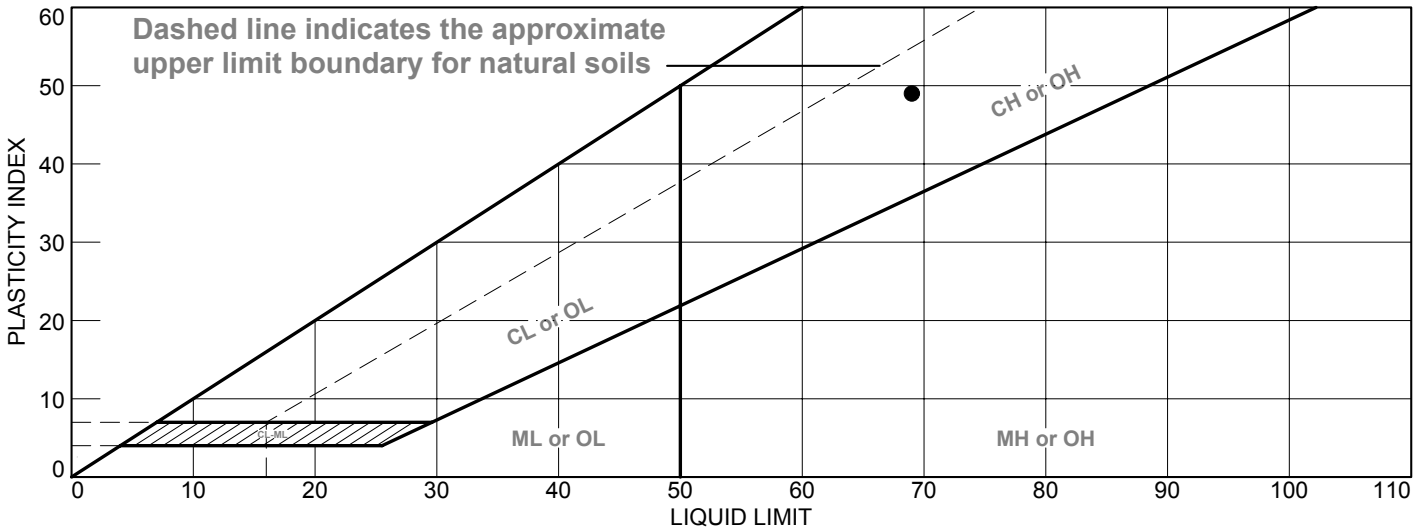
● **Sample Number:** B-1 @ 5.5
■ **Sample Number:** TP-1 @ 2
▲ **Sample Number:** TP-8 @ 3
◆ **Sample Number:** DHB-1 @ 44
▼ **Sample Number:** DHB-3 @ 21

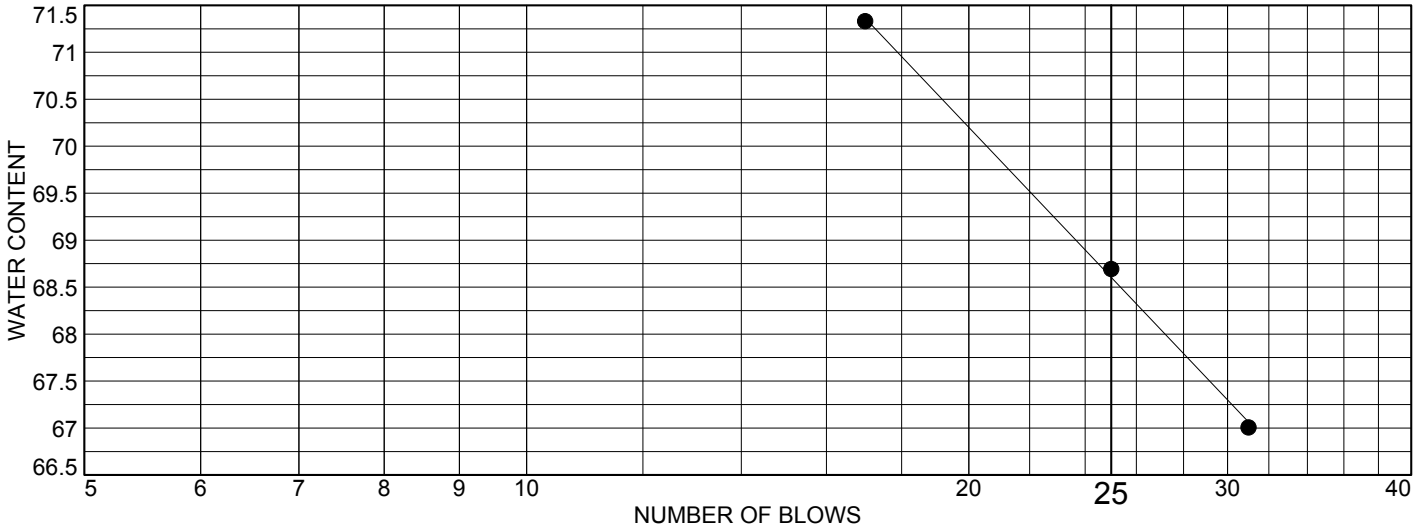
Remarks:

ENGEO INCORPORATED
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS
MATERIALS TESTING

Plate

LIQUID AND PLASTIC LIMITS TEST REPORT





	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	Light olive brown CLAY.	69	20	49		87.8	CH

Project No. 8889.000.000 **Client:**

Project: Magee Ranches - Danville, CA

● **Sample Number:** DHB-1 @ 44

Remarks:

ENGEO INCORPORATED
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS
MATERIALS TESTING

Plate

APPENDIX F

INITIAL ENVIRONMENTAL REVIEWS

Imagine the result

SummerHill Homes

DRAFT Phase I Environmental Site Assessment and Limited Phase II Subsurface Investigation Report

Magee East Ranch Property, Diablo Road and Blackhawk Road, Danville, California

February 28, 2012

ARCADIS
Infrastructure · Water · Environment · Buildings

ARCADIS U.S., Inc.
5150 El Camino Real
Suite D-21,
Los Altos
California 94022
Tel 650.469.7230
Fax 650.229.0199
www.arcadis-us.com

Ms. Wendi Baker
SummerHill Homes
777 California Avenue
Palo Alto, California 94304

Subject: Draft Phase I Environmental Site Assessment and Limited Phase II Subsurface Investigation
Magee East Ranch Property
Diablo Road and Blackhawk Road, Danville, California

Date:
February 28, 2012

Contact:
Trent Weise

Phone:
650.245.4463

Email:
Trent.Weise
@arcadis-us.com

Our ref:
LC010082.0000

Dear Ms. Baker:

ARCADIS U.S., Inc. (ARCADIS; formerly LFR Inc. [LFR]is pleased to present the attached Phase I Environmental Site Assessment (Phase I ESA) and Limited Phase II Subsurface Investigation Report ("the Report") for the property known as Magee East Ranch, bounded to the north by Blackhawk Road and Diablo Road, in Danville, California ("the Site"). The approximately 48-acre Site is that portion of a larger 335-acre ranch property that is being considered for residential development by SummerHill Homes (SummerHill). ARCADIS prepared this Report, with conclusions based on the results of a reconnaissance-level Site visit, review regulatory records, limited soil sampling activities conducted at the Site by ARCADIS personnel, and ARCADIS' review of available and pertinent background information.

ARCADIS appreciates this opportunity to provide consulting services to you. If you have any questions concerning this report, please contact Trent Weise at 650.469.7231.

Sincerely,
ARCADIS U.S., Inc.

Trent A. Weise, P.E.
Principal Engineer (C64480)

Copies:
Enclosure

ARCADIS

Eva Chan
Environmental Scientist

Lita D. Freeman, P.G., R.E.A. II
Principal Geologist
California Professional Geologist (7368)
Registered Environmental Assessor (20106)

DRAFT Phase I Environmental Site Assessment and Limited Phase II Subsurface Investigation Report

Magee East Ranch Property
Danville, California

Prepared for:
SummerHill Homes

Prepared by:
ARCADIS U.S., Inc.
5150 El Camino Real, Suite D-21,
Los Altos
California 94022
Tel 650.469.7230
Fax 650.229.0199
www.arcadis-us.com

Our Ref.:
LC010082.0000

Date:
February 28, 2012

This document is intended only for the use of the individual or entity for which it was prepared and may contain information that is privileged, confidential and exempt from disclosure under applicable law. Any dissemination, distribution or copying of this document is strictly prohibited.

Executive Summary IV

Signatures of Environmental Professionals VII

1. Introduction 1
   1.1 Objective 1
   1.2 Detailed Scope of Services 2
   1.3 Significant Assumptions 2
   1.4 Limitations and Exceptions 2
   1.5 Special Terms and Conditions 3
   1.6 User Reliance 3

2. Site Setting 4
   2.1 Site Location and Description 4
   2.2 Site and Vicinity General Characteristics 4
   2.3 Site Improvements 4
   2.4 Topography and Surface Water Characteristics 6
      2.4.1 Topography 6
      2.4.2 Site Proximity to Existing Designated Wetlands 6
   2.5 Regional and Local Surface and Groundwater Hydrology 6
      2.5.1 Proximity to Surface Waters 6
      2.5.2 Subsurface Features 6

3. Site History 7
   3.1 History of Property Use 7
      3.1.1 Historical City Directories 7
   3.1.2 Historical Topographic Maps 7
   3.1.3 Historical Aerial Photographs Review 7
   3.1.4. Sanborn Map Review 8

3.1.5 Environmental LienSearch Review 8
3.2 Local Agency Review 8
3.3 Preliminary Title Report 8
3.4 Adjacent Property Use 8

4. User-Provided Information 9
4.1 Title Record 9
4.2 Environmental Liens or Activity and Use Limitations 9
4.3 Specialized Knowledge 9
4.4 Commonly Known or Reasonably Ascertainable Information 10
4.5 Valuation Reduction for Environmental Issues 11

5. Regulatory Agency Research 11
5.1 Regulatory Database Research 11
5.2 Radon 12

6. Limited Phase II Subsurface Investigation 12
6.1 Soil Sampling, Screening, and Analysis 12

7. Summary and Conclusions 14
7.1 On Site 14
7.2 Off Site 15

8. Recommendations 15

9. References 16

Tables

1 Summary of Hydrocarbons and Organochlorine Pesticides Soil Analytical Data
2 Summary of Soil Metals Analytical Data

Figures

1 Site Vicinity Map

2 Soil Sampling Locations

Appendices

A Site Photographs

B User-Provided Documents

C Environmental Data Resources, Inc. Report

D Laboratory Analytical Reports and Chain-of-Custody Documentation

Executive Summary

ARCADIS U.S. Inc. (ARCADIS; formerly LFR Inc. [LFR]), is pleased to present this Phase I Environmental Site Assessment (Phase I ESA) and Limited Phase II Subsurface Investigation Report ("the Report") for the property known as Magee East Ranch, bounded to the north by Blackhawk Road and Diablo Road in Danville, California ("the Site"). The approximately 48-acre Site is that portion of a larger 335-acre ranch property that is being considered for residential development by SummerHill Homes (SummerHill). ARCADIS prepared this Report in conformance with the scope and limitations of ASTM Practice E 1527-05 for Phase I ESAs and the Code of Federal Regulations (CFR) 40 CFR Part 312 "Standards and Practices for All Appropriate Inquiries: Final Rule" (AAI). ARCADIS' activities included a reconnaissance-level Site visit, review of regulatory records, limited soil sampling activities conducted at the Site by ARCADIS personnel and ARCADIS' review of available and pertinent background information.

The Site is located in the eastern part of the City of Danville, in Contra Costa County, California. The Site consists primarily of undeveloped grasslands, with scattered shrubs, trees, and uncultivated vegetation. The Site is currently and has been used for beef-cattle operations and horse stables since about 1950. The Site, which comprises the proposed residential development area, is the most topographically level portion of the Magee East Ranch and is surrounded by hills to the east, south and west of Magee East Ranch. Green Valley Creek flows from east to west along a portion of the northern boundary of the Site.

A 500-gallon diesel aboveground storage tank (AST) was observed next to the storage shed situated in the eastern portion of the Site. According to Mr. Jed Magee, representative of the property owner, the AST was reportedly used to store gasoline and was emptied and abandoned in 1992. Minor oil staining was observed on the surface soil beneath the AST.

According to an Underground Storage Tank Removals Soil Sampling Diagram prepared by Timmerman Engineering Construction dated October 21, 1992, a 2,000-gallon gasoline underground storage tank (UST) was removed from the eastern portion of the Site in 1992. Copies of the Underground Storage Tank Removals Soil Sampling Diagram and associated laboratory report are included in Appendix B. According to the McCampbell Analytical Inc., laboratory report dated October 21, 1992, soil confirmation samples were collected at the pump end and fill ends of the UST and from the UST sidewall and floor of the 10-foot UST pit after the tank was removed. None of the analyzed soil samples were non-detect for constituents of concern (COC), with the exception of one sample collected from the pump end (Sample ID # 1). That sample yielded benzene, toluene, ethylbenzene and xylenes (BTEX) compound concentrations above corresponding laboratory method detection limits (LMDLs) values but below current Environmental Screening Level (ESL) values for the Direct Exposure Soil Screening Levels - Residential Exposure Scenario (Table K-1, RWQCB 2008).

According Mr. Magee, some fill material was used to level a portion of what is now the arena located in the western portion of the Site. The fill materials consisted of concrete and asphalt from an unknown source, as well as materials from an excavation at a nearby off-site residence. According to Mr. Magee, no paint was observed on the concrete or asphalt in the fill material. No written documentation was available for the source of the fill material.

Based upon the current and historical Site uses and to preliminarily assess the potential presence of COC associated with the tanks as well as the historical uses of the Site, ARCADIS collected eleven soil samples from locations across the Site, with an addition of a debris sample from the stormwater sump (described in Section 2.3 below) for chemical analysis. The samples were collected from the former UST and AST locations, the stormwater sump debris, a composite sample from the arena composed of fill material and shallow soil samples collected from representative locations across the area proposed for residential development.

Surface soil samples collected from beneath the former AST yielded total petroleum hydrocarbons as diesel (TPHd) at 35 milligrams per kilogram (mg/kg) and total petroleum hydrocarbons as motor oil (TPHmo) at 140 mg/kg. The surface soil sample (SB-3-D0.5) located south of the arena in the western portion of the Site yielded Beta-BHC at 14 mg/kg, methoxychlor at 36 mg/kg and 4, 4-DDE at 40 mg/kg. Based upon the noted analytical results, the deeper soil samples (2.5 to 3.0 feet bgs) collected from the former AST vicinity and from soil boring SB-3 were analyzed to assess whether those detected constituents were present at greater depths. The deeper soil sample collected at 3 feet bgs from the former AST location did not yield TPHd or TPHmo above the corresponding LMDL values. The 3-foot sample from the SB-3 location did not yield Beta-BHC, methoxychlor and\or 4, 4-DDE above the corresponding LMDL values. Of these detections, only the DDE detection was above current regulatory screening levels for residential use.

No nearby or upgradient properties were identified on the environmental databases reviewed that pose a potential threat to soil and/or groundwater quality at the Site.

ARCADIS performed a Phase II subsurface investigation to evaluate the potential environmental concerns at the Site. ARCADIS collected eleven soil samples from locations across the Site, including the former UST and AST locations. One sump debris sample was also collected to evaluate the debris accumulated in the sump, with an addition to a composite sample collected at the arena area composed of fill materials. Surface samples at the former AST yielded TPHd at 35 mg/kg and TPHmo at 140 mg/kg. The soil sample (SB-3-D0.5) located south of the arena located on the western side of the Site yielded Beta-BHC concentration at 14 mg/kg, methoxychlor at 36 mg/kg and 4, 4-DDE concentration at 40 mg/kg. Due to the analyte concentrations which exceeded corresponding ESL values in the samples collected from the former AST location and soil boring SB-3-D0.5, ARCADIS recommended that deeper soil samples (2.5 feet to 3.0 feet bgs) be analyzed to assess whether the detected constituents were present at greater depth at each location. The

deeper samples from the AST and SB-3 locations did not yield analytes at or above the corresponding LMDLs.

Since 4, 4-DDE was detected in one shallow soil sample at an elevated concentration, we recommend that SummerHill remove the affected soil and document adequate soils removal by collecting and chemically analyzing confirmation soil samples following the excavation activities. We recommend that SummerHill retain a qualified waste disposal firm to evaluate the results and identify an appropriate disposal method for those soils.

ARCADIS also recommends that all hazardous materials, including the chemical containers observed in the storage shed and herbicides spray bottles, be properly disposed prior to any constructions activities on Site.

In order to identify the presence, and mitigate the impact of these three potential Recognized Environmental Conditions (RECs) during any construction activities, ARCADIS recommends that a trained environmental professional be retained to assist in the characterization of the excavated materials and assure that any excavated hazardous materials are properly managed and properly disposed of.

Signatures of Environmental Professionals

ARCADIS U.S., Inc. (ARCADIS) has prepared this Phase I and Limited Phase II Subsurface Investigation Report for SummerHill Homes (SummerHill) in a manner consistent with the level of care and skill ordinarily exercised by professional geologists and environmental scientists. This report was prepared under the technical direction of the undersigned California Professional Geologist*.

The environmental assessment described herein was conducted by the undersigned employee of ARCADIS. ARCADIS' assessment consisted solely of the activities described in the Introduction Section of this report, and in accordance with the Terms and Conditions of the Standard Consulting Services Agreement signed prior to initiation of the assessment, as applicable.

The undersigned ARCADIS employee declares that, to the best of her professional knowledge and belief, she meets the definition of environmental professional as defined in §312.10 of 40 CFR 312. The undersigned ARCADIS employee has the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. She has developed and performed the appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

DRAFT

February 28, 2012

Lita D. Freeman, P.G., R.E.A. II — Date
Principal Geologist
California Professional Geologist No. 7368
California Registered Environmental Assessor II No. 20106

*A professional geologist's certification of conditions comprises a declaration of his or her professional judgment. It does not constitute a warranty or guarantee, expressed or implied, nor does it relieve any other party of its responsibility to abide by contract documents, applicable codes, standards, regulations, and ordinances.

1. Introduction

ARCADIS U.S., Inc. (ARCADIS; formerly LFR Inc. [LFR]) performed a Phase I Environmental Site Assessment (Phase I ESA) and a Limited Phase II Subsurface Investigation and prepared this report ("the Report") for the proposed Magee East Ranch residential development bounded to the north by Blackhawk Road and Diablo Road, Danville, California ("the Site"). The Site is located in the eastern part of the City of Danville in Contra Costa County. LFR focused the Phase I ESA and Limited Phase II Subsurface Investigation on the areas identified by SummerHill for development of residences. The Site is part of a 335-acre ranch and is composed of numerous parcels.

We understand that SummerHill is interested in acquiring the Site and developing single family residences within an approximately 48-acre portion of the ranch property. At SummerHill's request, LFR therefore performed an ESA and Limited Phase II Subsurface Investigation, and prepared this Report describing our evaluation of the current Site conditions A Site Vicinity Map is included as Figure 1.

1.1 Objective

SummerHill requested that LFR conduct a Phase I ESA and Limited Phase II Subsurface Investigation of the Site to facilitate their evaluation of the Site for residential development. The purpose of this investigation is to identify Recognized Environmental Conditions (RECs) in connection with the Site. RECs, as defined by ASTM Standard Practice E1527-05, are the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or the material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with environmental laws. The term is not intended to include de minimis conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be de minimis are not RECs.

This Phase I ESA includes information gathered from Federal, State of California ("the State"), and local regulatory agencies, personal interviews with persons familiar with the Site and surrounding properties, a Site visit conducted by an LFR representative, and a Limited Phase II Subsurface Investigation.

1.2 Detailed Scope of Services

This Phase I ESA and Limited Phase II Subsurface Investigation conducted by ARCADIS included, but were not limited to, the following services:

- a reconnaissance-level Site visit to look for visual evidence of the release(s) of hazardous materials and/or petroleum products, and to assess the potential for on-Site releases of hazardous materials and/or petroleum products;
- drive-by observations of adjacent properties and the Site vicinity;
- interviews with people familiar with the Site;
- review of regulatory agency files;
- review of historical documents;
- a Limited Phase II Subsurface Investigation consisting of soil sample collection and chemical analysis; and,
- preparation of this Report presenting our findings, including a summary and conclusions and recommendations.

1.3 Significant Assumptions

The purpose of the Phase I ESA is to provide appropriate inquiry into the ownership and use of the Site, consistent with good commercial and customary practice, in an effort to minimize liability. ARCADIS also assumes that the information provided by SummerHill, the regulatory database provider, the persons interviewed, and the regulatory agencies are correct, true, and reliable.

1.4 Limitations and Exceptions

The opinions and recommendations presented in this Report are based upon the scope of services, information obtained through the performance of the services, and the schedule as agreed upon by ARCADIS and the party for whom this report was originally prepared. This Report is an instrument of professional service and was prepared in accordance with the generally accepted standards and level of skill and care under similar conditions and circumstances established by the environmental consulting industry. No representation, warranty, or guarantee, express or implied, is intended or given. To the extent that ARCADIS relied upon

any information prepared by other parties not under contract to ARCADIS, ARCADIS makes no representation as to the accuracy or completeness of such information. This Report is expressly for the sole and exclusive use of the party for whom this report was originally prepared for a particular purpose. Only the party for whom this report was originally prepared and/or other specifically named parties have the right to make use of and rely upon this Report. Reuse of this Report or any portion thereof for other than its intended purpose, or if modified, or if used by third parties, shall be at the user's sole risk.

The findings presented in this Report apply solely to Site conditions existing at the time when ARCADIS' assessment was performed. It must be recognized, however, that an ESA is intended for the purpose of determining the potential for contamination through limited research and investigative activities and in no way represents a conclusive or complete site characterization. Conditions in other parts of the project Site may vary from those at the locations where data were collected. ARCADIS' ability to interpret investigation results is related to the availability of the data and the extent of the investigation activities. As such, 100 percent confidence in ESA conclusions cannot reasonably be achieved.

ARCADIS, therefore, does not provide any guarantees, certifications, or warranties that a property is free from environmental contamination. Furthermore, nothing contained in this document shall relieve any other party of its responsibility to abide by contract documents and applicable laws, codes, regulations, or standards.

1.5 Special Terms and Conditions

The scope of work for this Phase I ESA was presented in ARCADIS' Proposal dated December 14, 2009.

The scope of work for this ESA did not include testing of electrical equipment for the potential presence of polychlorinated biphenyls (PCBs) or the assessment of natural hazards such as naturally occurring asbestos, radon gas, or methane gas, assessment of the potential presence of radionuclides, or assessment of non-chemical hazards such as the potential for damage from earthquakes or floods. This Phase I ESA also did not include a supplemental assessment of the environmental compliance status of the Site or of the businesses operating at the Site, or a health-based risk assessment.

1.6 User Reliance

This Report is for the exclusive use of SummerHill, Teardrop Partners LP and their respective agents and assignees. Use of this report by any other party shall be at such party's sole risk.

2. Site Setting

2.1 Site Location and Description

The Site has been occupied by Magee East Ranch since 1950s and has been used for beef cattle operations. The Site is an approximately 48-acre portion of the greater 335-acre ranch property which is composed of numerous parcels, bounded to the north by Blackhawk Road and Diablo Road. The proposed future Site development for residences will be located within the relatively flat, grassland portion of the Site. The Site is surrounded by hills to the south, east and west, which are not included in the proposed residential land use development. Green Valley Creek is aligned in an east-west direction along the northern site boundary.

Based upon information obtained from Environmental Data Resources, Inc. (EDR) of Milford, Connecticut, the approximate geographic coordinates of the Site are 37.82740° north latitude and 121.9509° west longitude. The Site is located at an elevation of approximately 660 feet above mean sea level (msl) and generally slopes downward from southeast to northwest.

The Magee East Ranch consists of nine parcels. The Assessor's office for the County of Contra Costa designates the entire Magee East Ranch as Assessor Parcel Numbers (APNs) 202-050-071-2, 202-050-073-8, 202-050-074-6, 202-050-078-7, 215-040-002-2, 202-100-017-5, 202-100-019-1,202-100-038-1 and 202-100-040-7. The parcels are currently listed as being owned by Teardrop Partners and Magee Investment Co.

Photographs of the Site are included in Appendix A.

2.2 Site and Vicinity General Characteristics

A Site Vicinity Map and Sampling Location Map showing adjacent properties are presented as Figures 1 and 2, respectively. The Site is bounded to the north by Blackhawk Road and Diablo Road. A new access road will be constructed at the Site according to information provided by the property owner's representative. The neighboring land use is mainly residential and Mt. Diablo State Park is located approximately 3.5 miles northeast of the Site.

2.3 Site Improvements

On December 8, 2009 and January 6, 2010, ARCADIS conducted a Site reconnaissance to review Site activities and conditions. The Site consists primarily of undeveloped grasslands, with scattered shrubs, trees, and other non-cultivated vegetation. The Site is currently and has historically been used for beef cattle operations since about 1950. The approximately 48-acre Site is that portion of a larger 335-acre ranch property which is being considered for residential

development by SummerHill and includes the topographically flattest portion of Magee East Ranch. The Site is surrounded by hills to the south, west and east of Magee East Ranch.

Man-made structures include horse barns and stables, storage sheds, fences, concrete water troughs were observed in various locations across the Site. A storm water sump and animal scale was located in the eastern portion of the Site. Two empty 55-gallon drums were stored in the storage shed located in the eastern portion of the Site. According to Mr. Jed Magee, the property owner representative, the drums have not been not used for over 10 years, but may have previously been used to store diesel fuel for ranch equipment includes the tractor. There was no sign of leakage on or around the drums. At least two, approximately 3-gallon plastic containers of diesel fuel for the tractor(s) were observed inside the storage shed located in the eastern portion of the Site. Mr. Magee indicated that Roundup™ and Tordon were used for weed control at the Site. There was no sign of leakage on or around the containers.

ARCADIS observed a 500-gallon diesel above ground storage tank (AST) next to the storage shed situated in the eastern portion of the Site. According to Mr. Magee, the AST was previously used to store diesel and was emptied and abandoned in 1992. Minor oil staining was observed on the surface soil beneath the AST.

According to an Underground Storage Tank Removals Soil Sampling Diagram prepared by Timmerman Engineering Construction dated October 21, 1992, a 2,000 gallon gasoline underground storage tank (UST) was removed from its location in the eastern portion of the Site in 1992. According to the McCampbell Analytical Inc., laboratory report dated October 21, 1992, soil confirmation samples were collected at the pump end and fill end of the UST and from the UST sidewall and base of the 10 foot UST pit after the tank was removed. None of the analyzed soil samples yielded COC above laboratory method detection limits (LMDLs) with the exception of the sample collected from the pump end (Sample ID # 1). That sample yielded detectable levels of benzene, toluene, ethylbenzene and xylenes (BTEX) compounds, but each was below current Environmental Screening Level (ESL) values for the Direct Exposure Soil Screening Levels-Residential Exposure Scenario (Table K-1, RWQCB 2008).

According Mr. Magee, some fill material was used to level a portion of what is now the arena located in the western portion of the Site. The fill materials consisted of concrete and asphalt from an unknown source, as well as materials from an excavation at a nearby off-site residence. According to Mr. Magee, no paint was observed on the concrete or asphalt in the fill material. No written documentation was available for the source of the fill material.

2.4 Topography and Surface Water Characteristics

2.4.1 Topography

The regional topography slopes to the west toward the San Francisco Bay. The Site's elevation is approximately 660 feet above mean sea level (msl), with a slightly downward ground slope to the west based upon ARCADIS' observations during the site visit.

2.4.2 Site Proximity to Existing Designated Wetlands

A site reconnaissance did not reveal conditions such as reeds or standing water that may indicate the presence of wetlands. However, a wetlands survey was not included in the scope of work for this Phase I ESA.

2.5 Regional and Local Surface and Groundwater Hydrology

2.5.1 Proximity to Surface Waters

Green Valley Creek is located along the northern boundary of the Site and Sycamore Creek is located approximately one-mile west of the Site. According to the Gregg Drilling Northern California Groundwater Depth Chart for the City of Danville, groundwater was recorded from 10 to 30 feet below ground surface. According to a groundwater monitoring report for a facility located approximately 2 miles west from the Site, the groundwater flow direction was reported to be toward the northwest.

2.5.2 Subsurface Features

According to the EDR Geocheck Physical Setting Source Summary, soils at and in the vicinity of the Site are mapped as Cenozoic alluvium clay soil with an ALO component (EDR, 2009). The soil was classified as being in the Class D hydrologic group with a very slow infiltration rate, high water table and/or shallow to an impervious layer consisting of unconsolidated deposits of gravel, sand, silt, and clay (EDR, 2009). Descriptions of soil samples collected from the soil borings advanced at the Site during ARCADIS' subsurface investigation on January 6, 2010 indicates the subsurface soils, penetrated to a maximum depth of approximately three feet bgs, consisted primarily of clay.

3. Site History

3.1 History of Property Use

ARCADIS reviewed the historical information sources such as aerial photographs, topographic maps, Sanborn fire insurance maps, and a city directory abstract, all of which were provided by EDR. According to Mr. Magee, the Site was used for beef cattle operations for approximately 62 years. The Site was depicted as vacant and no agricultural land use was reported prior to Site development as a ranch. Orchards were apparently present in areas immediately north of the Site dating back to 1939 or earlier. Copies of the EDR Reports are included in Appendix C.

3.1.1 Historical City Directories

Our review of information included historical city directories provided by EDR dated from 1975 to 2008. Adjoining properties were developed as residential use in 1975 or earlier. According to the representative of the property owner, the adjoining properties to the west and to the east were developed for residential use in 1989 in 1990, respectively.

3.1.2 Historical Topographic Maps

Based on the historical topographic maps provided by EDR dated from 1912 to 1980, the Site was depicted as vacant since 1912 and orchards are depicted immediately north of the Site by at least 1953. According to the representative of the property owner, the orchards depicted to the north from the Site. The topography of the Site vicinity was included rolling hill. Urban development surrounding the Site included a water tank, a country club and Green Valley School as depicted in the1953 map.

3.1.3 Historical Aerial Photographs Review

Historical aerial photographs were requested from EDR. Photographs dated 1939, 1946, 1958, 1965, 1974, 1982, 1993, 1998 and 2005 were reviewed. The Site appeared similar to the current Site condition. The 1939 photograph does not exhibit evidence of Site structures or developments. Shrubs and trees were scattered across the Site similar to the current vegetation pattern. Orchards are evident north of the Site with decreasing intensity over time. The water tower at the top of the hill located in the northwestern portion of the Site was depicted in the 1965 photograph. The current storage shed located in the western portion of the Site was shown on the 1965 photograph, possibly the shed was a historical hay barn. Structures, possibly water troughs for animals were also depicted in the 1965 photograph.

3.1.4. Sanborn Map Review

Sanborn maps were requested from EDR to identify former land use at and in the vicinity of the Site. No Sanborn maps were available to review.

3.1.5 Environmental LienSearch Review

Environmental LienSearch TM Report was requested from EDR. No environmental liens or other activity or use limitations were found associated with the Site.

3.2 Local Agency Review

Local agency records of the San Ramon Valley Fire Protection District, the Contra Costa County Department of Conservation and Development (CCDCD), Contra Costa County. The files referenced the plans for and construction of the satellite/communication tower located at the hilltop of the northwestern portion of the Site. No files Health Services, Contra Costa County Public Works, Contra Costa County Hazardous Materials Department were requested. No records were available for ARCADIS for review except for files held by the CCDCD, for the address 1970 Diablo Road.

3.3 Preliminary Title Report

A preliminary title report was not provided for ARCADIS' review; however, according to Mr. Jed Magee, the Site has been owned and occupied by the Magee family since 1949.

3.4 Adjacent Property Use

ARCADIS performed a drive-by reconnaissance of adjacent properties to observe current businesses or land uses that may use, store, generate, or dispose of hazardous materials. The adjacent properties are identified on Figure 2, and are described below:

- **North:** Green Valley Creek**/** Residential housing/Diablo and Blackhawk Roads
- **East**: Hill/Residential housing
- **South:** Hill
- **West:** Hill/ Residential housing

Current activities at the adjacent properties do not appear to be of potential environmental concern to the Site at this time.

4. User-Provided Information

The following items regarding the Site were provided by the client or obtained by ARCADIS on behalf of the client. ARCADIS provided Mr. Magee, the representative of the property owner, with a questionnaire on the environmental status of the property. Mr. Magee completed the questionnaire on December 21, 2009 and a copy of the questionnaire is included in Appendix B. Information obtained from the questionnaire is summarized below.

4.1 Title Record

A preliminary title report was not reviewed by ARCADIS prior to the production of this Phase I ESA; however, according to Mr. Magee, the Site has been owned and occupied by the Magee family since 1949.

4.2 Environmental Liens or Activity and Use Limitations

ARCADIS submitted a questionnaire to Mr. Magee requesting information pertaining to specialized knowledge they may have as the current site owner. The following questions and responses were obtained from the completed questionnaire:

- ***Question:*** Were you aware of any environmental cleanup liens against the property that are filed or recorded under federal, tribal, state, or local law? ***Response: No.***
- ***Question:*** Were you aware of any activity or land use limitations, such as engineering controls, land use restrictions, or institutional controls, that are in place at the Site and/or have been filed or recorded in a registry under federal, tribal, state, or local law? ***Response: No.***

ARCADIS obtained an Environmental Lien Search Report from EDR (EDR Number 2661936.7, dated December 29, 2009) for the site. According to information provided by EDR, no environmental liens associated with the site address were found during their review of public information. A copy of EDR's Environmental Liens Search Report is provided in Appendix C.

4.3 Specialized Knowledge

The following responses to ARCADIS' questions were obtained from Mr. Magee as part of the assessment:

- ***Question:*** Do you have any specialized knowledge or experience related to the property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the property or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business?

Response: Yes. "Running cows" was written by Mr. Magee under the explanation section. No further explanations were included.

- ***Question:*** Are you aware of commonly known or reasonably ascertainable information about the Site that would help the environmental professional to identify conditions indicative of releases or threatened releases? For example, as user,

a) ***Question:*** Do you know the past uses of the property? ***Response: Yes. Mr. Magee responded that prior to 1949, the Site was used for running cattle and sheep.***

b) ***Question:*** Do you know of specific chemicals that are present or once were present at the property? ***Response: No.***

c) ***Question:*** Do you know of spills or other chemical releases that have taken place at the property? ***Response: No.***

d) ***Question:*** Do you know of any environmental cleanups that have taken place at the property? ***Response: No.***

e) ***Question:*** Do you know if any fill material has been imported to the Site? ***Response: Yes. Mr. Magee responded fill material consisted of asphalt and concrete chunks under the arena with adobe clay and sand over it.***

f) ***Question:*** Do they know of any pending, threatened, or past litigation relevant to hazardous substances or petroleum products in, on, or from the Site? ***Response: No.***

- ***Question:*** Do you know of any pending, threatened, or past administrative proceedings relevant to hazardous substances or petroleum products in, on, or from the Site? ***Response: No.***
- ***Question:*** Do you know of any notices from any governmental entity regarding any possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products? ***Response: No.***

4.4 Commonly Known or Reasonably Ascertainable Information

Information obtained from Mr. Magee confirmed information on the historical and current uses of the Site as obtained by ARCADIS from other sources and during the site reconnaissance.

Question: Based on your knowledge and experience related to the Site are there any obvious indicators that point to the presence or likely presence of contamination at the Site? ***Response: No.***

4.5 Valuation Reduction for Environmental Issues

Mr. Magee was asked whether the Site's purchase price (or lease value) reasonably reflects the fair market value of the property. ***Response: N/A.***

5. Regulatory Agency Research

As part of this assessment, ARCADIS reviewed regulatory databases and available agency files and records for the Site. Information from these sources is discussed in the following sections.

5.1 Regulatory Database Research

An environmental database report prepared by EDR was reviewed for local, State, and Federal listings of properties within specific distances of the Site. Regulatory database lists were reviewed for cases pertaining to leaking USTs and ASTs, hazardous waste sites, and abandoned sites within the specified radii of standards established by the ASTM. The information provided by EDR and the assumed direction of groundwater flow were used to assist ARCADIS in this assessment. A copy of the EDR report, dated December 18, 2009, is included in Appendix C.

State and Federal databases reviewed in the EDR report include the following:

- U.S. EPA National Priority List (NPL)
- U.S. EPA Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS)
- U.S EPA Resource Conservation and Recovery Act (RCRA) Corrective Actions (with and without treatment, storage, and disposal [TSD] facilities)
- U.S.EPA RCRA permitted TSD facilities
- U.S EPA RCRA Corrective Action Sites (RCRA-CORRACTS)
- RCRIS – Small and Large Quantity Generators (RCRIS-SQG and RCRIS-LQG)
- Emergency Response Notification System (ERNS)
- California Sites (CalSites)
- Cortese
- California Annual Work Plan (AWP)
- LUST Facilities
- UST Facilities

- AST Facilities
- Office of Emergency Services – California Hazardous Materials Incident Report System (CHMIRS)
- State Solid Waste Land Fills (SWLF)
- Federal and State Drinking Water Sources

The Site was not included on the Federal databases reviewed. Based upon the provided data, no off-site facility appears to pose a potential negative environmental impact to the Site.

5.2 Radon

According to the U.S. EPA, the Site is located in Zone 2, an area with expected average radon activity levels to be greater than or equal to 2.0 picoCuries per liter (pCi/L) but less than or equal to 4.0 pCi/L of air. According to the EDR database report (Appendix C), radon levels were reported at four locations in Contra Costa County. One of the four sites was reported to have a radon level above 4.0 pCi/L.

6. Limited Phase II Subsurface Investigation

Due to the historical uses of adjacent property and historical operations at the Site, including a former UST and AST, ARCADIS performed a Limited Phase II Subsurface Investigation on January 6, 2010 to assess the potential presence of COC in Site soils. The Limited Phase II Subsurface Investigation consisted of the collection and analysis of surface soil samples at 0 to 0.5 feet below ground surface (bgs) from eleven hand auger borings (SB-1 through SB-7, SB-9 through SB-12) advanced across the Site, including the former UST and AST locations. Soil samples were also collected at 2.5 to 3.0 feet bgs and would be placed on hold pending analysis of the 0.5-foot sample in order to assess the vertical extent of chemicals present at the Site. One sump debris sample was also collected to assess the debris accumulated in the on-site sump, with an addition sample collected at the arena area composed of fill material located in the western portion of the Site.

6.1 Soil Sampling, Screening, and Analysis

Prior to conducting the proposed field work, ARCADIS prepared a Site-specific health and safely plan (HSP) for use by our employees. Prior to commencing field activities the proposed hand auger locations were marked using flagging and white spray paint. ARCADIS then notified Underground Service Alert (USA), who in turn notified member companies to allow clearance of the Site for underground utilities and other potential subsurface hazards or obstructions.

Based upon the potential development of the property for residential use, ARCADIS selected soil sample hand auger locations across the Site. The ARCADIS geologist advanced the hand auger to a total depth of three feet bgs at each location, and collected soil samples from slightly below ground surface to approximately 0.5 feet bgs and from the 2.5 to 3.0 foot bgs interval. The samples were collected in clean, glass jars, labeled with sample number, depth, and date, and placed in an ice-filled cooler for preservation during transport to Kiff Analytical LLC, the selected California certified analytical laboratory. The samples were transported under Chain-of-Custody protocol, and analyzed as described below.

Selected soil samples were submitted for analysis of organochlorine pesticides (OCPs) by US EPA method 8081, herbicides by US EPA method 8151A, and metals by US EPA method 6010. Four soil samples were also submitted for analysis of asbestos due to the naturally occurring asbestos located at Mt. Diablo, approximately three miles northwest from the Site.

ARCADIS also collected a shallow soil sample from the area formerly occupied by the former UST and submitted the sample for analysis of TPHd and TPHmo by US EPA 8015M, and BTEX compounds and fuel oxygenates by US EPA Method 8260B.The former AST vicinity soil sample was analyzed for TPHg, BTEX compounds, and fuel oxygenates.

A debris sample was collected in the sump and analyzed for VOCs, metals, OCPs and SVOCs. Also, a composite sample was collected at the arena area composed of fill material and analyzed for VOCs, metals, OCPs, herbicides and SVOCs.

The analytical results for the analyzed soil samples are presented on Tables 1 and 2 and described as follows. The CAM 17 metals analysis did not reveal elevated metals concentrations with the exception of arsenic and vanadium. The reported arsenic concentrations ranged from 1.2 to 4.8 mg/kg, above the corresponding ESL value of 0.39 mg/kg, but well below the area background concentration value of between 10 and 20 mg/kg. Vanadium was also detected in all of the collected soil samples at a range of 27 mg/kg to 80 mg/kg. Only one sample (SB-9) exceeded the corresponding ESL value of 78 mg/kg. As with arsenic, the Site vicinity soils are expected to yield background metals concentrations higher than the corresponding ESL values.

The sample collected from the AST location yielded TPHd at 35 mg/kg (below the corresponding ESL value) and TPHmo at 140 mg/kg (slightly above the corresponding ESL value of 110 mg/kg). One soil sample (SB-3-D0.5) located south of the arena located in the western portion of the Site yielded Beta-BHC at 14 mg/kg, methoxychlor at 36 mg/kg and 4, 4-DDE concentration at 40 mg/kg. Only the 4, 4-DDE result exceeds an applicable regulatory screening value (ESL for 4, 4-DDE is 1.7 mg/kg).

Due to the analyte concentrations which exceeded corresponding ESL values in the samples collected from the former AST location and soil boring SB-3-D0.5, ARCADIS recommended that

deeper soil samples (2.5 feet to 3.0 feet bgs) be analyzed to assess whether the detected constituents were present at greater depth at each location. The deeper sample from the AST location did not yield analytes at or above the corresponding LMDLs. No analyte detection was reported above the corresponding LMDL for the deeper sample at location SB-3. Laboratory analytical reports are included in Appendix D in this Report.

7. Summary and Conclusions

At the request of SummerHill, ARCADIS performed a Phase I ESA and a Limited Phase II Subsurface Investigation of the Site. The Phase I ESA was completed in conformance with the scope and limitations of ASTM Practice E 1527-05 for Phase I ESAs and AAI. The Phase I ESA reveal RECs associated with the Site due to the historical agricultural use of the Site and suspected remaining petroleum residues remaining from the former UST at the Site. The Limited Phase II Subsurface Investigation identified one area with soils containing a constituent (4, 4-DDE) in excess of a regulatory screening value, at a depth of above 3 feet bgs.

7.1 On Site

The Site is located in the eastern part of the City of Danville, in Contra Costa County, California. The Site consists primarily of undeveloped grasslands, with scattered shrubs, trees, and uncultivated vegetation. The Site is currently and has been used for beef-cattle operations and horse stables since about 1950. The Site, which comprises the proposed residential development area, is the most topographically level portion of the Magee East Ranch and is surrounded by hills to the east, south and west of Magee East Ranch. Green Valley Creek flows from east to west along a portion of the northern boundary of the Site.

A 500-gallon diesel AST was observed next to the storage shed situated in the eastern portion of the Site. According to Mr. Jed Magee, representative of the property owner, the AST was reportedly used to store gasoline and was emptied and abandoned in 1992. Minor oil staining was observed on the surface soil beneath the AST.

According to an Underground Storage Tank Removals Soil Sampling Diagram prepared by Timmerman Engineering Construction dated October 21, 1992, a 2,000-gallon gasoline UST was removed from the eastern portion of the Site in 1992. Copies of the Underground Storage Tank Removals Soil Sampling Diagram and associated laboratory report are included in Appendix B. According to the McCampbell Analytical Inc., laboratory report dated October 21, 1992, soil confirmation samples were collected at the pump end and fill ends of the UST and from the UST sidewall and floor of the 10-foot UST pit after the tank was removed. None of the analyzed soil samples were non-detect for COC, with the exception of one sample collected from the pump end (Sample ID # 1). That sample yielded BTEX compound concentrations above corresponding LMDLs

values but below current ESL values for the Direct Exposure Soil Screening Levels- Residential Exposure Scenario (Table K-1, RWQCB 2008).

According Mr. Magee, some fill material used to level a portion of what is now the arena located in the western portion of the Site. The fill materials consisted of concrete and asphalt, as well as materials from an excavation at a nearby off-site residence. According to Mr. Magee, no paint was observed on the concrete or asphalt in the fill material. No documentation was available for the source of the fill material.

The Site was not listed in local, State, and Federal databases included in the EDR database report.

ARCADIS collected eleven soil samples from locations across the Site, including the former UST and AST locations. One sump debris sample was also collected to evaluate the debris accumulated in the sump, with an addition to a composite sample collected at the arena area composed of fill materials. Surface samples at the former AST yielded TPHd at 35 mg/kg and TPHmo at 140 mg/kg. The soil sample (SB-3-D0.5) located south of the arena located on the western side of the Site yielded Beta-BHC concentration at 14 mg/kg, methoxychlor at 36 mg/kg and 4, 4-DDE concentration at 40 mg/kg. Due to the analyte concentrations which exceeded corresponding ESL values in the samples collected from the former AST location and soil boring SB-3-D0.5, ARCADIS recommended that deeper soil samples (2.5 feet to 3.0 feet bgs) be analyzed to assess whether the detected constituents were present at greater depth at each location. The deeper samples from the AST and SB-3 locations did not yield analytes at or above the corresponding LMDLs.

7.2 Off Site

No nearby or upgradient properties were identified on the environmental databases reviewed that pose a potential threat to soil and/or groundwater quality at the Site.

8. Recommendations

ARCADIS has performed a Phase I ESA of the Site in conformance with the scope and limitations of ASTM Practice E 1527-05 for Phase I ESAs and AAI, and a Limited Phase II Subsurface Investigation.

Given the lack of documentation associated with the former UST, we recommend that SummerHill consider collecting and chemically analyzing soil samples from the former UST location. Due to the detection of OCPs, elevated 4, 4-DDE at location SB-3, we recommend that SummerHill confirm that sufficient soils removal has occurred. ARCADIS recommends that all hazardous materials, including the chemical containers observed in the storage shed and herbicides spray bottles, be properly disposed of prior to any construction activities on Site.

In order to identify and mitigate the impact of potential RECs during construction activities, ARCADIS recommends that a trained environmental professional be retained or available to assist in the characterization of excavated materials as necessary.

9. References

Environmental Data Resources, Inc. (EDR). 2009. *EDR Radius Map with GeoCheck®.* Inquiry Number 2661936.2s. December 18.

———. 2009. *EDR Environmental LienSearch ™ Report*. Inquiry Number 2661936.7. December 29.

———. 2009. Sanborn® Map Report. Inquiry Number 2661936.3. December 18.

———. 2009. Aerial Photographs. Inquiry Number 2661936.5. December 22.

———. 2009. City Directory Abstract. Inquiry Number 2661936.6. December 28.

Gregg Drilling & Testing, Inc. Groundwater Depth Table: Northern California. http://www.greggdrilling.com/Resources/Other/water_table_n.html

Regional Water Quality Control Board (RWQCB). 2007. San Francisco Bay Region, Environmental Screening Level, Revised May 2008.

TABLES

TABLE 1
SUMMARY OF HYDROCARBONS AND ORGANOCHLORINE PESTICIDES SOIL ANALYTICAL DATA
Magee Ranch, Danville, California

Sample Location	Date	Depth (feet bgs)	TPHd (mg/kg)	TPHmo (mg/kg)	Beta-BHC (mg/kg)	Methoxychlor (mg/kg)	4,4'-DDE (mg/kg)	4,4'-DDD (mg/kg)	4,4'-DDT (mg/kg)	Chlordane (mg/kg)	Dieldrin (mg/kg)
Screening Levels											
ESL			110	110	4.1	--	1.7	2.4	1.7	0.44	0.034
CHHSL			--	--	--	340	1.6	2.3	1.6	0.43	0.035
RSL (PRG)			--	--	0.27	310	1.4	2.0	1.7	1.6	0.03
SB-1-D0.5	1/6/2010	0.5	--	--	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005
SB-2-D0.5	1/6/2010	0.5	--	--	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005
SB-3-D0.5	1/6/2010	0.5	--	--	**14**	**36**	**40**	<0.005	<0.005	<0.05	<0.005
SB-3-D3.0	1/6/2010	3	--	--	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
SB-4-D0.5	1/6/2010	0.5	--	--	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005
SB-5-D0.5	1/6/2010	0.5	--	--	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005
SB-6-D0.5	1/6/2010	0.5	--	--	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005
SB-7-D0.5	1/6/2010	0.5	--	--	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005
SB-9-D0.5	1/6/2010	0.5	--	--	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005
SB-10-D0.5	1/6/2010	0.5	**35**	**140**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005
SB-10-D3.0	1/6/2010	3.0	<1.0	<10	--	--	--	--	--	--	--

Draft Only

Abbreviations:

-- = not analyzed

< / ND= analyte not detected at or above the noted laboratory method detection limit

mg/kg = milligrams per kilogram

4,4'-DDD = 1,1-dichloro-2,2-bis(p-chlorophenyl)ethane

4,4' - DDE = 1,1-dichloro-2,2-bis(4-chlorophenyl)ethene

4,4' - DDT = 1,1,1-trichloro-2,2-bis(4-chlorophenyl)ethane

OCP = organochlorine pesticides

Bold = analyte detected at or above laboratory method detection limit

ESL = San Francisco Bay Regional Water Quality Control Board. Direct Exposure Environmental Screening Levels (ESL) Interim Final - November 2007. Table K-1. Shallow Soil Screening Levels. Residential Land Use. Groundwtaer is not a current or potential drinking Water Resources

CHHSL = California Human Health Screening Levels for soil

RSL= US EPA Region 9 Regional Screening Level for Soil, Residential Soil. September 2008

TABLE 2
SUMMARY OF SOIL METALS ANALYTICAL DATA
Magee Ranch, Danville, California

Sample Location	Date	Antimony (mg/kg)	Arsenic [1] (mg/kg)	Barium (mg/kg)	Beryllium (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Cobalt (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Mercury (mg/kg)	Molybdenum (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Thallium (mg/kg)	Vanadium (mg/kg)	Zinc (mg/kg)
Screening Levels																		
ESL		6.3	0.39	3,000	31	1.7	NA	280	6,300	260	1.3	78	300	78	78	1.3	78	4,700
CHHSL		30	0.07	5,200	150	1.7	NA	660	3,000	150	18	380	1,600	380	380	5.0	530	23,000
RSL (PRG)		31	0.39	15,000	160	180	230	900	3,100	400	24	390	1,600	390	390	--	390	24,000
SB-1-D0.5	1/6/2010	<0.75	**4.2**	**230**	**0.59**	<0.50	**29**	**8.0**	**17**	**6.1**	<0.050	<0.25	**22**	<0.75	<0.25	<0.75	**44**	**48**
SB-2-D0.5	1/6/2010	<0.75	**4.4**	**200**	**0.54**	<0.50	**23**	**8.3**	**17**	**6.5**	<0.050	<0.25	**20**	<0.75	<0.25	<0.75	**33**	**39**
SB-3-D0.5	1/6/2010	<0.75	**3.1**	**180**	**0.36**	<0.50	**25**	**8.1**	**21**	**17**	<0.050	<0.25	**20**	<0.75	<0.25	<0.75	**36**	**65**
SB-4-D0.5	1/6/2010	<0.75	**3.9**	**200**	**0.52**	<0.50	**27**	**9.4**	**18**	**7.1**	<0.050	<0.25	**27**	<0.75	<0.25	<0.75	**33**	**49**
SB-5-D0.5	1/6/2010	<0.75	**3.6**	**150**	**0.36**	<0.50	**19**	**8.4**	**12**	**6.9**	<0.050	<0.25	**16**	<0.75	<0.25	<0.75	**39**	**37**
SB-6-D0.5	1/6/2010	<0.75	**3.4**	**150**	**0.40**	<0.50	**21**	**8.2**	**17**	**5.7**	0.053	<0.25	**16**	<0.75	<0.25	<0.75	**45**	**57**
SB-7-D0.5	1/6/2010	<0.75	**3.2**	**190**	**0.49**	<0.50	**19**	**7.3**	**13**	**5.7**	<0.050	<0.25	**15**	<0.75	<0.25	<0.75	**28**	**38**
SB-9-D0.5	1/6/2010	<0.75	**1.2**	**10**	<0.25	<0.50	**33**	**17**	**150**	**0.78**	**1.2**	**0.28**	**21**	<0.75	<0.25	<0.75	**80**	**47**
SB-12-D0.5	1/6/2010	<0.75	**4.8**	**200**	**0.55**	<0.50	**27**	**8.1**	**23**	**6**	<0.050	<0.25	**24**	<0.75	<0.25	<0.75	**38**	**50**
SUMP	1/6/2010	<0.75	**4.2**	**110**	<0.25	**0.92**	**68**	**7.7**	**76**	**43**	**0.16**	**2.0**	**28**	<0.75	<0.25	<0.75	**27**	**350**
Fill (Comp)	1/6/2010	<0.75	**4.4**	**140**	**0.45**	<0.50	**27**	**7.8**	**14**	**5.7**	<0.050	<0.25	**18**	<0.75	<0.25	<0.75	**47**	**44**

Abbreviations:

-- = not analyzed

< / ND = analyte not detected at or above the noted laboratory method detection limit

mg/kg = milligrams per kilogram

Bold = analyte detected at or above laboratory method detection limit

ESL = San Francisco Bay Regional Water Quality Control Board. Environmental Screening Levels (ESL) Interim Final - November 2007. Table K-1. Direct-Exposure Screening Levels, Residential Exposure Scenario

PRG = US EPA Region 9 Preliminary Remediation Goals, Residential Soil.

CHHSL = California Human Health Screening Levels for soil

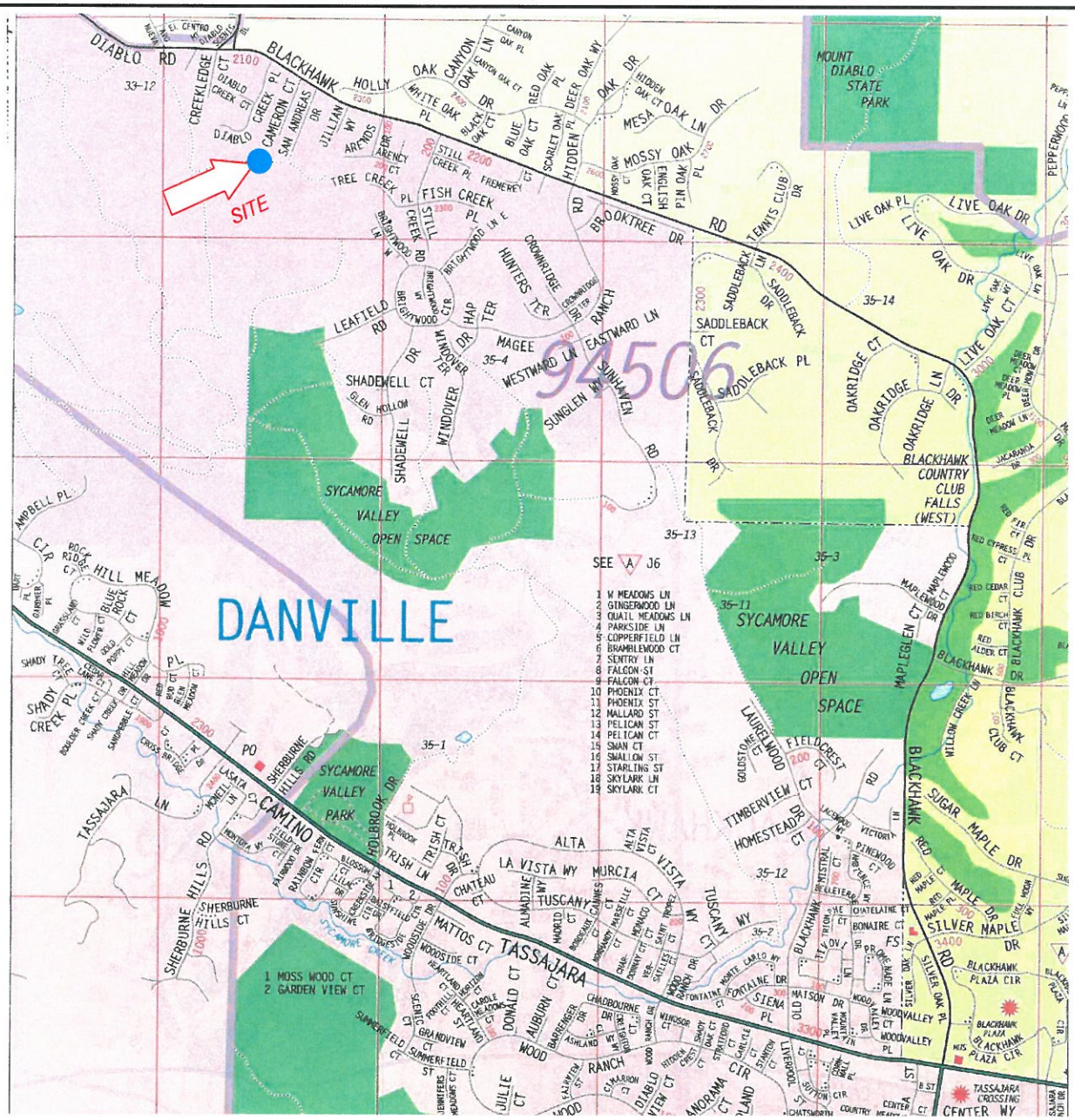
Notes:

(1) Typical background levels of arsenic in the San Francisco Bay Area range up to 19 mg/kg, with 8 mg/kg used as the average background level.

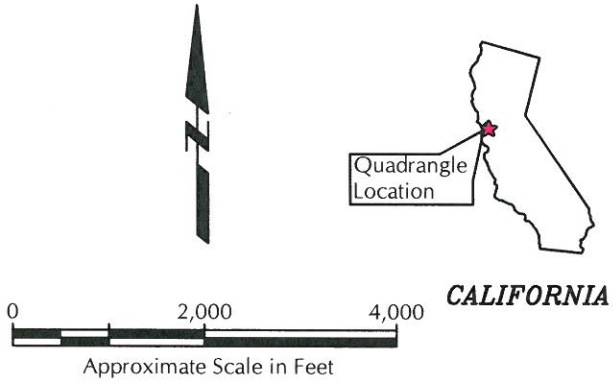
(2) Typical background levels of vanadium in the United States range up to 310 mg/kg, with 200 mg/kg used as the average background level.

Draft Only

FIGURES



USGS 7.5 Minute Quadrangle, San Francisco, South, CA



DRAFT

Site Vicinity Map

SummerHill Homes

Magee Ranch, Danville, California

Figure 1

ARCADIS

I:\Design\Blocks\SHEETS\Border\ACAD\8X11P-Arckie.dwg Jan 29,2009-9:27am

EXPLANATION:

Soil Sampling Locations

Sump Sampling Locations

DRAFT

Note:
1. Soil sampling locations are approximate.
2. Referenced "Conceptual 8,000 S.F. Lots Site Plan - Magee Ranch" by Ruggeri-Jensen-Azar, January 5, 2010.

0 150' 300'
Approximate Scale in Feet

Soil Sampling Locations

SummerHill Homes

Magee Ranch, Danville, California

Figure 2

ARCADIS

C:\temp\AcPublish_392\Site Plan_recover.dwg Jan 22,2010-2:13pm

APPENDICES

APPENDIX A

Site Photographs

Photograph 1 – Pasture and driveway in the western portion of the Site. View to the west.

Photograph 2 – Green Valley Creek running from west to east located along the northern boundary of the Site. View to the north.

Photograph 3 – Arena located in the western portion of the Site. View to the north.

Photograph 4 – Arena composed of fill materials located in the western portion of the Site. View to the northwest.

Draft Only

Photograph 5 – Scrap wood pile, crane and tires located east of the arena. View to the west.

Photograph 6 – Wooden storage house with concrete pad-mounted foundation located in the western portion of the Site. View to the north.

Draft Only

Photograph 7 – Wooden piles and blocks located west of the wooden storage shed. View to the north.

Photograph 8 – Horse barns located northeast of the Site. View to the west.

Draft Only

Photograph 9 – Storage shed located northeast of the Site. View to the south.

Photograph 10 – Roof dripline drainage located north of the storage shed. View to the west.

Draft Only

Photograph 11 – Plastic containers for fueling tractors and trucks located inside the storage shed.

Photograph 12 – Two empty 55-gallon drums located along the southern wall of the storage shed.

Draft Only

Photograph 13 – A 500-gallon aboveground storage tank previously used to store diesel was located west of the storage shed. View to the south.

Photograph 14 – Stable located in the eastern portion of the Site. View to the north.

Draft Only

Photograph 15 – An animal scale and sump located south of the storage shed. View to the north.

Photograph 16 – Historical gasoline underground storage tank location. View to the north.

Draft Only

Photograph 17 – Western gate and signs located at the western end of the Site. View to the south.

Photograph 18 – Site access bridge located in the northeastern portion of the Site. View to the south.

Draft

Photograph 19 – Residential houses and San Andreas Drive leading to the northeastern access of the Site. View to the south.

Photograph 20 – Diablo Road located along the northern boundary outside the Site. View to the west.

Draft Only

Imagine the result

SummerHill Homes

Draft Phase I Environmental Site Assessment Report

Magee West Property
Diablo Road and McCauley Road
Danville, California

January 18, 2011

ARCADIS
Infrastructure · Water · Environment · Buildings

Ms. Wendi Baker
SummerHill Homes
777 California Avenue
Palo Alto, California 94304

ARCADIS U.S., Inc.
5150 El Camino Real
Suite D-21,
Los Altos
California 94022
Tel 650.469.7230
Fax 650.229.0199
www.arcadis-us.com

Subject: *DRAFT* Phase I Environmental Site Assessment Report, Magee West Property, Diablo Road and McCauley Road, Danville, California

Date:
January 18, 2012

Contact:
Trent Weise

Phone:
650.245.4463

Email:
Trent.Weise
@arcadis-us.com

Our ref:
LC010082.0000/00001

Dear Ms. Baker:

ARCADIS U.S., Inc. (ARCADIS) was retained by SummerHill Homes (SummerHill) to perform this Phase I Environmental Site Assessment (ESA) for the property known as Magee West, bounded to the north by Diablo Road and to the west by McCauley Road, in Danville, California ("the Site").

The purpose of conducting the Phase I ESA is to assist SummerHill with identifying potential environmental liabilities associated with the Site. The approximately 75-acre ranch property is being considered for residential development. The Phase I ESA was prepared in conformance with the processes prescribed in the American Society for Testing and Materials International (ASTM) E 1527-05 guidelines and the Code of Federal Regulations (CFR) 40 CFR Part 312 "Standards and Practices for All Appropriate Inquiries: Final Rule," and includes a reconnaissance-level site visit, review of regulatory records, and review of available and pertinent background information conducted by ARCADIS personnel.

ARCADIS appreciates this opportunity to provide consulting services to you. If you have any questions concerning this report, please contact Trent Weise at 650.469.7231.

Sincerely,

Trent A. Weise, P.E.
Principal Engineer (C64480)

Copies:
Enclosure

ARCADIS

DRAFT
Phase I Environmental Site Assessment Report

Magee West Property
Diablo Road and McCauley Road
Danville, California

Eva Chan
Environmental Scientist

Lita D. Freeman, P.G., R.E.A. II
Principal Geologist
California Professional Geologist (7368)
Registered Environmental Assessor (20106)

Prepared for:
SummerHill Homes

Prepared by:
ARCADIS U.S., Inc.
5150 El Camino Real
Suite D-21,
Los Altos
California 94022
Tel 650.469.7230
Fax 650.229.0199
www.arcadis-us.com

Our Ref.:
LC010082.0000/00001

Date:
January 18, 2012

This document is intended only for the use of the individual or entity for which it was prepared and may contain information that is privileged, confidential and exempt from disclosure under applicable law. Any dissemination, distribution or copying of this document is strictly prohibited.

Executive Summary **v**

Signatures of Environmental Professionals **ix**

1. Introduction **1**

1.1 Purpose 1

1.2 Scope of Work 1

1.3 Significant Assumptions 2

1.4 Limitations and Exceptions 2

1.5 Special Terms and Conditions 3

1.6 User Reliance 3

1.7 Qualifications 3

2. Site Setting **4**

2.1 Location 4

2.2 Regional and Local Surface and Groundwater Hydrology 4

2.2.1 Surface Features 4

2.2.2 Subsurface Features 5

2.2.3 Site Proximity to Existing Designated Wetlands 5

2.3 Site Vicinity 5

3. User-Provided Information **6**

3.1 Environmental Liens or Activity and Use Limitations 6

3.2 Specialized Knowledge 6

3.3 Commonly Known or Reasonably Ascertainable Information 7

3.4 Valuation Reduction for Environmental Issues 7

4. Site Reconnaissance **7**

4.1 Property Reconnaissance 7

4.1.1 Access to the Site 8

4.1.2 Aboveground/Underground Storage Tanks (ASTs/USTs) 9

4.1.3 Wooded Areas 9

4.1.4 Water Bodies 9

4.1.5 Drainage Paths 9

4.1.6 On-Site Utilities 9

4.1.7 Building Ruins 9

4.1.8 Heavy Equipment 9

4.1.9 Obvious Odors 9

4.1.10 Evidence of Landfills, Dumping, or Burial Activities 9

4.1.11 Evidence of Surface Impoundments or Holding Ponds 10

4.1.12 Evidence of Air Emissions or Wastewater Discharge 10

4.1.13 Evidence of Industrial or Manufacturing Activities 10

4.1.14 Monitoring Wells or Remedial Activities 10

4.1.15 Evidence of Stained or Discolored Soil 10

4.1.16 Evidence of Leachates or Seeps 10

4.1.17 Evidence of Distressed, Discolored, or Stained Vegetation 10

4.1.18 Evidence of Chemical Spills or Releases 10

4.1.19 Evidence of Groundwater and Surface-Water Contamination 10

4.1.20 Oil or Gas Well Exploration, Production, or Refinery Activities 11

4.1.21 Evidence of Farm Waste Concerns 11

4.1.22 Discharges, Leachate, Migration, or Runoff of Potential Contaminants from Off-Site Sources 11

4.1.23 Other Known or Observed Environmentally Sensitive Conditions 11

4.1.24 Transformers and PCB Equipment 11

5. Public Record Review 11

5.1 Environmental 11

5.1.1 Site 13

5.1.2 Off-Site Properties 13

5.1.3 Orphan Properties 13

5.2 Historical Review 14

5.2.1 History of Property Use 14

5.2.2 Sanborn Map Review 14

5.2.3 Aerial Photograph Review 14

5.2.4 Historical Topographic Maps 15

5.2.5 Historical City Street Directories 15

5.3 Regulatory Agency File Review 15

5.3.1 Contra Costa Health Services Hazardous Materials Program (CCHSHMP) 15

5.3.2 San Ramon Valley Fire Protection District (SRVFPD) 15

5.4 Previous Site Investigations 16

6. Radon Gas Data 16

7. Interviews 16

7.1 Interviews with On-Site Contacts 16

7.2 Interviews with Off-Site Contacts 16

8. Deviations/Data Gaps 17

9. Findings 18

10. Conclusions and Recommendations 19

11. References 20

Tables *(embedded in the text)*

1 Regulatory Agency Databases/Lists Reviewed

Figures

1 Vicinity Map

2 Site Plan

Appendices

A Parcel Map

B Site Photographs

C EDR Radius Map

D Historical Documentation

E Phase I Environmental Site Assessment Questionnaire

Executive Summary

ARCADIS U.S., Inc. (ARCADIS) was retained by SummerHill Homes (SummerHill) to perform this Phase I Environmental Site Assessment (ESA) for an approximately 75-acre property located at the southeastern corner of Diablo Road and McCauley Road in Danville, Contra Costa County, California ("the Site"). The Site, which is being considered for residential development, consists of two parcels designated as Contra Costa County Assessor's Parcel Numbers (APNs) 202-050-079 and 202-050-080.

The objective of the Phase I ESA was to identify recognized environmental conditions (RECs) in connection with the Site. The Phase I ESA was prepared in general conformance with the processes prescribed in the American Society for Testing and Materials International (ASTM) E 1527-05 guidelines and the Code of Federal Regulations (CFR) 40 CFR Part 312 "Standards and Practices for All Appropriate Inquiries: Final Rule," which became effective on November 1, 2006 ("AAI"), and included a site visit and a review of available and pertinent background information.

On-Site Findings

The Site is located in the eastern part of the City of Danville, in Contra Costa County, California. The Site consists primarily of undeveloped grasslands, with scattered shrubs, trees, and uncultivated vegetation. The Site is currently and has historically been used for cattle grazing and horse ranching since the 1950s. The proposed residential development will be located within the relatively flat, grassland portion of the Site. The Site is surrounded to the south and west by hills, and to the east by the Magee East region of Magee Ranches property. Green Valley Creek flows from east to west along the northern boundary of the Site with Diablo Country Club farther north.

Structures on the Site include a concrete animal water trough and metal water pipes. In addition, Verizon, Metro PCS, T-Mobile and Sprint operate wireless equipment and antennae located in the western portion of the Site. A backup generator enclosure was observed on a concrete pad at the western end of the Site. An above-ground diesel storage tank was located on the pad adjacent to the enclosure and appeared to be related to the backup generator. This enclosure was inaccessible; however, no staining was observed near the enclosure, including around the storage tank or on the soil around the concrete pad. A conduit for Pacific Gas and Electric Company and AT&T underground cables extends along the northern boundary of the Site within an easement. According to Mr. Jed Magee, a representative of the Site owner, Verizon owns both the backup generator and diesel

storage tank, and no pipelines or liquid pipes were installed along the easement. Mr. Magee indicated that no pesticides or weed control were used at the Site.

Green Valley Creek was observed along the northern boundary of the Site. The outlet culvert of Green Valley Creek was located at the northwestern portion of the Site. ARCADIS observed a concrete structure and two metal pipes extending from the north under Diablo Road and ending at Green Valley Creek. According to Mr. Magee, the concrete structure was a diversion dam remnant from the 1920s and is currently non-operational. An East Bay Municipal Utilities District (EBMUD) water tank is located on property owned by EBMUD adjacent to the northwestern portion of the Site.

No evidence or suspicion of the release of petroleum products or chemicals onto the land surface, including stains, odors, or residues, or hazardous materials disposal, were observed on the Site during ARCADIS' site reconnaissance or through the review of reasonably available background information.

The Site was not included in the databases reviewed for this assessment as provided in the Environmental Data Resources, Inc. (EDR) report.

Off-Site Findings

Properties in the site vicinity were reportedly used for ranch, orchard, and other agricultural purposes prior to the 1950s. Diablo Country Club has been present to the north of the Site since at least the 1950s. At present, a school is located west of the Site and surrounding property use consists mainly of residences.

EDR's report noted several historic releases in vicinity of the Site. The closest to the Site was documented at 1025 Diablo Road (Rassier Ranch property), located approximately 0.1 mile west of the Site. That property is listed in the HIST CORTESE, Leaking Underground Storage Tank (LUST), CONTRA COSTA CO. SITE LIST, Enforcement Action Listing, and HAZNET databases. The LUST database indicates that a gasoline underground storage tank (UST) leak was identified during tank closure in September 1989. Available information indicates that soil and groundwater at this facility were impacted by the release. Due to the fact that the property is located cross-gradient from the Site and redeveloped as a senior center (subject to local regulatory oversight and approvals), it does not appear to pose a potential environmental concern to the Site.

Based on our review of the information provided by EDR, the remaining reported releases in the Site vicinity also do not appear to pose a potential environmental concern to the Site due

to impacts to soil only, completion of investigation/remedial activities and case closure status, their distances of more than 1,000 feet from the Site, and/or location in a crossgradient to downgradient direction from the Site.

EDR identified a number of regulated facilities that could not be located because of insufficient address information. Based on our knowledge of the Site vicinity and our observations during the Site visit, these properties do not appear to be located in close proximity to the Site, and are unlikely to represent an environmental concern to the Site.

Deviations/Data Gaps

ARCADIS conducted a site visit, evaluated local land uses, and interviewed representatives of the site owner. ARCADIS has performed this Phase I ESA in conformance with the scope and limitations of ASTM Standard Practice E 1527-05 for the Site and the Code of Federal Regulations (CFR) 40 CFR Part 312 "Standards and Practices for All Appropriate Inquiries: Final Rule. During this Phase I ESA, ARCADIS noted the following data gaps:

- A 50-year chain-of-title report was not provided to ARCADIS; however the owner's representative, Mr. Jed Magee has been associated with the Site for more than 50 years and indicated that title to the Site has been held in his family since 1949. See Section 3.2. Accordingly, this data gap is not deemed to be significant.

- Intervals between aerial photographs/topographic maps were more than five years.

- No response from the several agencies noted in Section 5.3 was received prior to the due date of this Phase I ESA report.

- Lack of complete LUST case information from the nearby property (Rassier Ranch property).

- The quality of sediment in Green Valley Creek is unknown.

- The generator compound was inaccessible; therefore, ARCADIS was unable to observe the condition of the diesel backup generator.

No other limiting factors were documented during this Phase I ESA based on information obtained during our review of previous reports and observations of site conditions during our site visit. In the event such information is received by SummerHill after issuance of this

report, it should be reviewed by an ARCADIS environmental professional and may affect the conclusions in this report.

Conclusions and Recommendations

This Phase I ESA was performed in conformance with the scope and limitations of ASTM Practice E 1527-05 and AAI. Any additions to or deletions from this practice are described in Section 1.4.

Based on the information obtained during this Phase I ESA, no RECs were identified. However, data gaps were identified for this Phase I ESA as described above. In addition, the following identified data gaps may be sufficiently material to affect our ability to identify RECs.

- "The generator enclosure and surrounding area should be periodically checked for evidence of a diesel release, if one were to occur."

- The quality of sediment in Green Valley Creek is unknown.

Signatures of Environmental Professionals

ARCADIS U.S., Inc. (ARCADIS) has prepared this Phase I Environmental Site Assessment (ESA) on behalf of SummerHill Homes in a manner consistent with the level of care and skill ordinarily exercised by professional geologists and environmental scientists. This Phase I ESA was prepared under the technical direction of the undersigned California Professional Geologist*.

The environmental assessment described herein was conducted by the undersigned employee of ARCADIS. ARCADIS' assessment consisted solely of the activities described in the Introduction Section of this report, and in accordance with the Terms and Conditions of the Standard Consulting Services Agreement signed prior to initiation of the assessment, as applicable.

The undersigned ARCADIS employee declares that, to the best of her professional knowledge and belief, she meets the definition of environmental professional as defined in §312.10 of 40 CFR 312. The undersigned ARCADIS employee has the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. She has developed and performed the appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

January 18, 2012

Lita D. Freeman, P.G., R.E.A. II — Date
Principal Geologist
California Professional Geologist No. 7368
California Registered Environmental Assessor II No. 20106

*A professional geologist's certification of conditions comprises a declaration of his or her professional judgment. It does not constitute a warranty or guarantee, expressed or implied, nor does it relieve any other party of its responsibility to abide by contract documents, applicable codes, standards, regulations, and ordinances.

1. Introduction

ARCADIS U.S., Inc. (ARCADIS) was retained by SummerHill Homes (SummerHill) to perform this Phase I Environmental Site Assessment (ESA) for an approximately 75-acre property located at the southeastern corner of Diablo Road and McCauley Road ("the Site"). The Site consists of two parcels with designated Contra Costa County Assessor's Parcel Numbers (APNs) of 202-050-079 and 202-050-080.

The purpose of conducting the Phase I ESA is to assist SummerHill with identifying potential environmental liabilities associated with the Site. The Site is retained by the current property owner and is being considered for residential development. ARCADIS prepared this Phase I ESA in conformance with the processes prescribed in the American Society for Testing and Materials International (ASTM) E 1527-05 guidelines and the Code of Federal Regulations (CFR) 40 CFR Part 312 "Standards and Practices for All Appropriate Inquiries: Final Rule," (AAI), including a reconnaissance-level site visit, review of regulatory records, and ARCADIS' review of available and pertinent background information.

1.1 Purpose

The objective of the Phase I ESA was to identify recognized environmental conditions (RECs) in connection with the Site for a potential acquisition by SummerHill to the extent feasible pursuant to the processes prescribed in the ASTM E 1527-05 guidelines and AAI.

The ASTM defines a REC as "the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property."

1.2 Scope of Work

The Phase I ESA conducted by ARCADIS included, but was not limited to, the following services:

- a reconnaissance-level visit of the Site for evidence of the release(s) of hazardous materials and petroleum products, and to assess the potential for on-site releases of hazardous materials and petroleum products
- drive-by observations of adjacent properties and the site vicinity
- interviews with people familiar with the Site

- review of regulatory agency files, if available
- review of historical documents
- preparation of a report presenting our findings, including a summary of conclusions and recommendations

1.3 Significant Assumptions

ARCADIS assumes that the purpose of this Phase I ESA is to provide appropriate inquiry into the previous ownership and use of the Site so that, among other things, SummerHill may qualify for the "innocent landowner defense" under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 USC subparagraphs 9601(35) and 9607(b)(3). ARCADIS also assumes that the information provided by SummerHill, the regulatory database provider, and regulatory agencies is true and reliable.

1.4 Limitations and Exceptions

Site-specific activities performed by ARCADIS, and the information collected during these activities, are summarized in the following sections. ARCADIS' conclusions and recommendations are presented in Section 10.

The opinions and recommendations presented in this report are based upon the scope of services, information obtained through the performance of the services, and the schedule as agreed upon by ARCADIS and the original party for whom this report was originally prepared. This report is an instrument of professional service and was prepared in accordance with the generally accepted standards and level of skill and care under similar conditions and circumstances established by the environmental consulting industry. To the extent that ARCADIS relied upon any information prepared by other parties not under contract to ARCADIS, ARCADIS makes no representation as to the accuracy or completeness of such information.

Only SummerHill, Teardrop Partners LP and other specifically named parties, may make use of and rely upon the information in this report. Each should be aware that ASTM E 1527-05 and AAI contain certain time limitations relating to the use of the information in a Phase I report.

The findings presented in this report apply solely to site conditions existing at the time of ARCADIS' assessment. It must be recognized, however, that a Phase I ESA is intended for the purpose of evaluating the potential for contamination through limited research and investigative activities and in no way represents a conclusive or complete site characterization. Conditions in other parts of the Site may vary from those at the locations

where data were collected. ARCADIS' ability to interpret investigation results is related to the availability of the data and the extent of the investigation activities. As such, 100 percent confidence in Phase I conclusions cannot reasonably be achieved.

ARCADIS, therefore, does not provide any guarantees, certifications, or warranties (express or implied) that a property is free from environmental contamination. Furthermore, nothing contained in this document shall relieve any other party of its responsibility to abide by contract documents and all applicable laws, codes, regulations, or standards.

1.5 Special Terms and Conditions

The scope of work for this Phase I ESA was presented in ARCADIS' proposal dated November 8, 2011.

Tasks not presented in our proposal were not performed during this Phase I ESA. The tasks we did not perform included (but were not limited to) testing electrical equipment for the potential presence of polychlorinated biphenyls (PCBs); assessing natural hazards such as methane gas; assessing the potential presence of radionuclides; assessing nonchemical hazards such as the potential for damage from earthquakes or floods; or assessing the presence of endangered species or wildlife habitats.

This Phase I ESA also did not include an extensive assessment of the environmental compliance status of the Site or of the businesses operating at the Site (if any), or a health-based risk assessment.

1.6 User Reliance

This Report is for the exclusive use of SummerHill, Teardrop Partners LP, and each of their agents and assignees. Use of this report by any other party shall be at such party's sole risk.

1.7 Qualifications

A summary of the ARCADIS personnel who worked on this project follows:

- Ms. Lita Freeman, California Professional Geologist and Class II California Registered Environmental Assessor II, has over 19 years of experience providing site assessment services. This has included evaluating potential property impacts from historical on- and off-site operations, conducting subsurface investigations, and implementing site

remediation plans. Ms. Freeman works with property owners, attorneys, and regulators to mitigate and resolve environmental issues.

- Ms. Eva Chan, Environmental Scientist, has been involved in the implementation and management of Phase I ESAs for private property owners, banks, and regulatory agencies. Ms. Chan has also assisted in soil and groundwater investigations, and evaluation and implementation of remediation systems, including operations and maintenance of these systems.

2. Site Setting

2.1 Location

The Site has been occupied by the Magee West region of Magee Ranches since the 1950s and has been used for cattle and livestock grazing. The Site is an approximately 75-acre property developed as a ranch. The Site is composed of two parcels, bounded to the north by Diablo Road and to the west by McCauley Road. The proposed future residential development will be located within the relatively flat, grassland portion of the Site.

The Site is surrounded by hills to the south, east, and west, which are not included in the proposed residential land use development. Green Valley Creek flows from east to west along the northern site boundary.

Based on information obtained from Environmental Data Resources, Inc. (EDR) of Milford, Connecticut, the approximate geographic coordinates of the Site are 37.83420° north latitude and 121.9699° west longitude. The Site is located at an elevation of approximately 500 feet above mean sea level and generally slopes downward to the north.

The Site consists of two parcels with designated Contra Costa County APNs of 202-050-079 and 202-050-080.

The Site and site vicinity are shown on Figures 1 and 2. The parcel maps are presented in Appendix A. Photographs of the Site are included in Appendix B.

2.2 Regional and Local Surface and Groundwater Hydrology

2.2.1 Surface Features

Green Valley Creek is located along the northern boundary of the Site, and Sycamore Creek is located approximately 1 mile northeast of the Site. According to the property owner, Mr.

Jed Magee, rainwater that falls to the ground surface at the Site would travel by overland flow to nearby Green Valley Creek.

2.2.2 Subsurface Features

According to the EDR Geocheck Physical Setting Source Summary, soils at and in the vicinity of the Site are mapped as Cenozoic alluvium clay soil with an ALO component (EDR 2011a). The soil was classified as being in the Class D hydrologic group with a very slow infiltration rate, high water table and/or shallow to an impervious layer consisting of unconsolidated deposits of gravel, sand, silt, and clay (EDR 2011a).

Based on surface topography, ARCADIS assumes that groundwater flow is in a northerly direction. Depth to groundwater beneath the Site is expected to be more than 20 feet below ground surface (bgs).

2.2.3 Site Proximity to Existing Designated Wetlands

A reconnaissance-level site visit did not reveal conditions such as reeds or standing water that would indicate the presence of a wetland on the Site. However, an assessment for potential or existing on-site wetlands was not included in our scope of work.

2.3 Site Vicinity

ARCADIS performed a drive-by reconnaissance of adjacent properties to observe current businesses or land uses that may use, store, generate, or dispose of hazardous materials. The adjacent properties are described below:

- **North:** Diablo Road with Diablo Country Club farther north
- **East:** Hill/Ranch
- **South:** Hill/Ranch
- **West:** Green Valley School

Current activities at the adjacent properties do not appear to be of potential environmental concern to the Site at this time.

3. User-Provided Information

The following items regarding the Site were provided by the client or obtained by ARCADIS on behalf of the client. ARCADIS provided Mr. Magee, the designated representative of the property owner, with a questionnaire to describe the environmental status of the Site. Mr. Magee completed the questionnaire on November 14, 2011, and a copy of the questionnaire is included in Appendix E. Information obtained from the questionnaire is summarized below.

3.1 Environmental Liens or Activity and Use Limitations

Mr. Magee is not aware of any environmental cleanup liens against the Site that are filed or recorded under federal, tribal, state, or local law for the Site.

Mr. Magee is not aware of the activity or land use limitations (AULs), such as engineering controls, land use restrictions, or institutional controls, that are in place at the Site and/or have been filed or recorded in a registry under federal, tribal, state, or local law.

3.2 Specialized Knowledge

The following questions were presented to Mr. Magee, the representative of the property owner, who has been associated with the Site for 50 years, as part of the assessment. A copy of the completed questionnaire is presented in Appendix E.

- Do you have any specialized knowledge or experience related to the property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the property or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business? ***Response: Yes. Under family ownership since 1949. Used for cattle grazing.***
- Are you aware of commonly known or reasonably ascertainable information about the property that would help the environmental professional to identify conditions indicative of releases or threatened releases? For example, as user,

  a) Do you know the past uses of the property? ***Response: Yes. Cattle.***

  b) Do you know of specific chemicals that are present or once were present at the property? ***Response: No.***

  c) Do you know of spills or other chemical releases that have taken place at the property? ***Response: No.***

d) Do you know of any environmental cleanups that have taken place at the property? ***Response: No.***

e) Do you know if any fill material has been imported to the Site? ***Response: No.***

- Do you know of any pending, threatened, or past litigation relevant to hazardous substances or petroleum products in, on, or from the property? ***Response: No.***

- Do you know of any pending, threatened, or past administrative proceedings relevant to hazardous substances or petroleum products in, on or from the property? ***Response: No.***

- Do you know of any notices from any governmental entity regarding any possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products? ***Response: No.***

3.3 Commonly Known or Reasonably Ascertainable Information

Based on your knowledge and experience related to the property, are there any obvious indicators that point to the presence or likely presence of contamination at the property? ***Response: No.***

3.4 Valuation Reduction for Environmental Issues

Does the Site's purchase price reasonably reflect fair market value? ***Response: N/A.***

4. Site Reconnaissance

On November 15, 2011, Ms. Eva Chan of ARCADIS conducted a reconnaissance of the Site to document the general site conditions and observe indications of possible chemical releases at the Site. Photographs from the site reconnaissance are provided in Appendix B.

4.1 Property Reconnaissance

The Site consists primarily of undeveloped grasslands and hills with scattered shrubs, trees, and other non-cultivated vegetation. The Site is currently and has historically been used for cattle grazing and horse ranching since about 1950. The approximately 75-acre ranch property is being considered for residential development. The Site is surrounded by hills to the south, west, and east.

Structures observed on the Site include a concrete animal water trough and metal water pipes. In addition, Verizon, Metro PCS, T-Mobile and Sprint operate wireless equipment and antennae located in the western portion of the Site.

A backup generator enclosure was observed on a concrete pad at the western end of the Site. An above-ground diesel storage tank was located on the pad adjacent to the enclosure and appeared to be related to the backup generator. This enclosure was inaccessible; however, no staining was observed near the enclosure, including around the storage tank or on the soil around the concrete pad.

A conduit for Pacific Gas and Electric Company (PG&E) and AT&T underground cables extends along the northern boundary of the Site within an easement. According to Mr. Magee, Verizon owns both the backup generator and diesel storage tank, and no pipelines for transporting liquid were installed along the easement.

Mr. Magee indicated that no pesticides or weed control were used at the Site.

Green Valley Creek was observed along the northern boundary of the Site. The outlet of Green Valley Creek was located at the northwestern portion of the Site. ARCADIS observed a concrete culvert and two metal pipes extending from the north under Diablo Road and ending at Green Valley Creek. According to Mr. Magee, the structure are remnants of a diversion dam from the 1920s formerly for the benefit of the Diablo Country Club and is currently non-operational.

An East Bay Municipal Utilities District (EBMUD) water tank was located on property owned by EBMUD adjacent to the northwestern portion of the Site.

No evidence or suspicion of the release of petroleum products or chemicals onto the land surface, including stains, odors, or residues, or hazardous materials disposal, were observed on the Site during ARCADIS' site reconnaissance or through the review of reasonably available background information.

4.1.1 Access to the Site

The Site is currently accessible from Diablo Road.

4.1.2 Aboveground/Underground Storage Tanks (ASTs/USTs)

ARCADIS observed no evidence of ASTs or USTs during the site visit. However, an AST for diesel is assumed to be associated with the backup generator.

4.1.3 Wooded Areas

Portions of the Site were covered by wooded areas.

4.1.4 Water Bodies

Green Valley Creek was located along the northern boundary of the Site, and no evidence of recent flooding events was observed during the site walk.

4.1.5 Drainage Paths

Rainwater that falls to the ground surface at the Site would be diverted by overland flow to nearby Green Valley Creek.

4.1.6 On-Site Utilities

Utilities at the Site include PG&E and AT&T underground cables and a diesel backup generator owned by Verizon.

4.1.7 Building Ruins

No remnants of former buildings were observed at the Site.

4.1.8 Heavy Equipment

No heavy equipment was observed at the Site.

4.1.9 Obvious Odors

No chemical or petroleum or foul odors were noted during the site visit.

4.1.10 Evidence of Landfills, Dumping, or Burial Activities

No evidence of current landfills or burial activities was observed at the Site.

4.1.11 Evidence of Surface Impoundments or Holding Ponds

No evidence of surface impoundments or holding ponds was identified at the Site.

4.1.12 Evidence of Air Emissions or Wastewater Discharge

No evidence of air emissions or wastewater discharge was observed at the Site.

4.1.13 Evidence of Industrial or Manufacturing Activities

No evidence of industrial or manufacturing activities was identified at the Site.

4.1.14 Monitoring Wells or Remedial Activities

No evidence of monitoring wells or remedial activities was observed at the Site.

4.1.15 Evidence of Stained or Discolored Soil

No areas of stained or discolored soil were observed at the Site.

4.1.16 Evidence of Leachates or Seeps

No evidence of leachate(s) or seeps was identified at the Site.

4.1.17 Evidence of Distressed, Discolored, or Stained Vegetation

No evidence of distressed, discolored, or stained vegetation was observed at the Site.

4.1.18 Evidence of Chemical Spills or Releases

No evidence of chemical spills or releases was observed at the Site.

4.1.19 Evidence of Groundwater and Surface-Water Contamination

No evidence of groundwater or surface-water contamination was observed at the Site.

4.1.20 Oil or Gas Well Exploration, Production, or Refinery Activities

No current evidence of oil or gas exploration, production, or refinery activities was identified at the Site.

4.1.21 Evidence of Farm Waste Concerns

No current evidence of farm waste concerns was identified at the Site.

4.1.22 Discharges, Leachate, Migration, or Runoff of Potential Contaminants from Off-Site Sources

No discharges, leachate, migration, or runoff of potential contaminants from off-site sources were visually identified at the Site. However, according to Mr. Magee, the two underground pipes located in the western portion of the Site possibly connected the neighboring facility (Diablo Country Club) to Green Valley Creek.

4.1.23 Other Known or Observed Environmentally Sensitive Conditions

No evidence of known or observed environmentally sensitive conditions was visible at the Site.

4.1.24 Transformers and PCB Equipment

No evidence of transformers and PCB equipment was observed at the Site.

5. Public Record Review

5.1 Environmental

An environmental database report prepared by EDR was reviewed for local, state, and federal listings for properties within the site area. Included in EDR's report are regulatory database lists, which were reviewed by EDR for cases pertaining to leaking USTs and ASTs, hazardous waste sites, and abandoned sites within ASTM-specified radii (Table 1). EDR also reviewed selected database lists generated by the United States Environmental Protection Agency (U.S. EPA).

Explanations of the regulatory agency database lists reviewed and acronyms used by EDR are presented in EDR's report in Appendix C.

Table 1. Regulatory Agency Databases/Lists Reviewed

Search Radius	Agency	Database	Type of Records in Database
1 mile	U.S. EPA	NPL	Sites designated for Superfund cleanup by the U.S. EPA
	U.S. EPA	CORRACTS	RCRA facilities undergoing "corrective actions"
	DHS	BEP	Specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds
	DTSC	ENVIROSTOR	Sites that have known contamination or sites for which there may be a reason to investigate
0.5 mile	U.S. EPA	CERCLIS	Sites under review by the U.S. EPA
	U.S. EPA	TSD	Facilities that treat, store, and/or dispose of hazardous waste
	RWQCB	LUST	Sites with LUSTs
	IWMB	SWLF/SWAT	Sites permitted as solid waste landfills, incinerators, or transfer stations
	SWRCB	WMUDS/SWAT	Tracking and inventory of waste management units
	U.S. EPA	CERCLIS – NFRAP	CERCLIS sites with no further remedial actions planned at time of report
Site or Adjacent Properties	U.S. EPA	RCRA Generator	Sites that generate large or small quantities of hazardous waste
	U.S. EPA and OES	ERNS	Sites with reported accidental releases of oil and hazardous substances
	SWRCB	UST	Sites with registered USTs

Notes: AST=aboveground storage tank
CERCLIS=Comprehensive Environmental Response, Compensation and Liability Information System
DTSC=Department of Toxic Substances Control
ERNS= Emergency Response Notification System
NFRAP=No Further Remedial Action Planned
NPL=National Priorities List
OES=Office of Emergency Services
RWQCB=Regional Water Quality Control Board
SWAT=Solid Waste Assessment Test
SWLF=Solid Waste Landfills
U.S. EPA=U.S. Environmental Protection Agency
BEP=Bond Expenditure Plan
CORRACTS=Corrective Action Report
DPH=Department of Public Health
EMI - Emissions Inventory Data
IWMB=Integrated Waste Management Board
LUST=Leaking Underground Storage Tank
RCRA=Resource Conservation and Recovery Act
SCL=CORTESE List
SWIS=Solid Waste Information System
SWRCB=State Water Resources Control Board
UST=underground storage tank
WMUDS=Waste Management Unit Database

5.1.1 Site

According to ARCADIS' review of EDR's Radius Report, the Site was not listed in the databases searched by EDR.

5.1.2 Off-Site Properties

EDR's report noted several releases in the Site vicinity. The closest to the Site was documented at 1025 Diablo Road (Rassier Ranch property) and is discussed below.

Rassier Ranch Property at 1025 Diablo Road, Danville, is located approximately 0.1 mile west of the Site. This facility is listed in the HIST CORTESE, LUST, CONTRA COSTA CO. SITE LIST, Enforcement Action Listing (ENF), and HAZNET database. The LUST database reported that a gasoline UST leak was confirmed on May 19, 1994 during tank closure. Soil and other groundwater (uses other than drinking water) were the potential media affected at this facility. According to a letter obtained from the Geotracker database issued by the RWQCB, dated June 7, 2000, the UST was removed in September 1989 and soil samples were collected during tank removal activities. The soil samples yielded a maximum of 6,200 parts per million (ppm) total petroleum hydrocarbons (TPH) as diesel and 4,590 ppm of TPH as gasoline. The RWQCB requested analytical results for methyl tertiary-butyl ether (MTBE). However, no further information was provided for ARCADIS to review. Due to the fact that the property is located cross-gradient from the Site, however, was subject to regulatory oversight by the RWQCB and was recently redeveloped as a senior center (also subject to local regulatory oversight and approvals), this property is not expected to pose a potential environmental concern to the Site..

5.1.3 Orphan Properties

EDR identified a number of regulated facilities that could not be located because of insufficient address information. These facilities are referred to by EDR as "orphan" facilities. Based on our knowledge of the site vicinity and our observations during the site reconnaissance, these properties do not appear to be located in close proximity to the Site, and are therefore unlikely to represent an environmental concern to the Site. Information regarding these regulated facilities can be found in Appendix C.

5.2 Historical Review

5.2.1 History of Property Use

ARCADIS reviewed the historical use of the Site and adjacent properties to assess whether prior owners of the Site or adjacent properties may have conducted activities that could pose environmental concerns with respect to the Site. ARCADIS' research included reviewing aerial photographs and topographic maps, conducting personal interviews with people familiar with the Site, and reviewing historical city directories. These activities are described in the following sections of this report.

Based on review of available historical data, the Site was used as a ranch for at least 56 years. The Site was depicted as undeveloped land with no agricultural land use reported prior to development of the Site. A copy of the EDR report is included in Appendix C.

5.2.2 Sanborn Map Review

Historical Sanborn Fire Insurance Maps for the Site and vicinity were requested from EDR. Sanborn maps were originally generated in the late 1800s to mid-1900s to document possible fire hazards related to the types of building structures and their general use. According to EDR, no Sanborn coverage of the site area is available.

5.2.3 Aerial Photograph Review

Historical aerial photographs were requested from EDR. Photographs dated 1939, 1946, 1959, 1965, 1974, 1982, 1993, 1998, 2005, and 2006 were reviewed. The 1939 photograph does not exhibit evidence of site structures or developments. Shrubs and trees were scattered across the Site similar to the current vegetation pattern. The EBMUD water tank located on EBMUD property adjacent to the northwestern side of the Site was depicted in the 1974 photograph. The Site appeared generally similar to the current site condition since 1939.

Orchards are evident off-site to the north of the Site in the 1939 photograph with decreasing intensity over time. What appeared to be a track (purpose unknown) was present to the north of the Site in the 1939 photograph. What appeared to be a country club (currently Diablo Country Club) was present to the north of the Site in the 1953 and later photographs. Residential development in the area to the north of the Site began to increase in the mid-1960s and the track to the north was no longer present.

Copies of the aerial photographs are included in Appendix D.

5.2.4 Historical Topographic Maps

Based on the historical topographic maps provided by EDR dated from 1896 to 1980, the Site was depicted as undeveloped land since 1896. The EBMUD water tank is present on the 1968 map.

The topography of the site vicinity was mainly rolling hill. Urban development surrounding the Site included a country club and Green Valley School as depicted on the 1953 map. Copies of the topographic maps are included in Appendix D.

5.2.5 Historical City Street Directories

Our review of information included historical city directories provided by EDR dated from 1975 to 2008. Adjoining properties were developed as residential use in 2008. A copy of EDR's City Directory Abstract Report is included in Appendix D.

5.3 Regulatory Agency File Review

5.3.1 Contra Costa Health Services Hazardous Materials Program (CCHSHMP)

No files associated with the Site were available for ARCADIS to review.

5.3.2 San Ramon Valley Fire Protection District (SRVFPD)

A written request for available information with respect to the Site was submitted to the SRVFPD. No response was received from the SRVFPD prior to the date of this Phase I ESA.

5.3.3 Department of Conservation and Development Building Inspection Division (DCDBID)

A written request for available information with respect to the Site was submitted to the DCDBID. No response was received from the DCDBID prior to the date of this Phase I ESA.

5.3.4 Contra Costa County Environmental Health Services (CCCEHS)

A written request for available information with respect to the Site was submitted to the CCCEHS. No response was received from CCCEHS prior to the date of this Phase I ESA.

5.4 Previous Site Investigations

No previous site investigation documents were made available to ARCADIS for review.

6. Radon Gas Data

Radon is a colorless, tasteless, radioactive gas with a U. S. EPA-specified action level of 4 picoCuries per liter of air (pCi/L). Radon gas has a very short half-life of 3.8 days. The health risk potential of radon is associate with its rate of accumulation within confined areas, particularly confined areas near or in the ground, such as basements, where vapors can readily transfer to indoor air from the ground through foundation cracks or other pathways. Large, adequately ventilated rooms generally present limited risk for radon exposure.

According to regional radon information obtained from the U.S. EPA, the Site is located within U.S. EPA-designated Zone 2 for radon gas. Average radon concentrations within Zone 2 are reported to be generally equal to or greater than 2 pCi/L and equal to or less than 4 pCi/L. No radon test reported by the U.S. EPA for the Site's zip code (94526) revealed that the result was above 4.0 pCi/l in first floor living area.

Forty-one sites were surveyed in Contra Costa County; no radon concentrations were reported above 4 pCi/L for the properties surveyed.

Therefore, it is ARCADIS' opinion that radon gas does not represent a potential concern on the Site.

7. Interviews

The on-site tenants were not interviewed as part of this Phase I ESA.

7.1 Interviews with On-Site Contacts

The questionnaires completed by the representative of the property owner are presented in Section 3.2.

7.2 Interviews with Off-Site Contacts

ARCADIS contacted several local government officials as part of our assessment. The information obtained from the government agencies is presented in Section 5.3.

8. Deviations/Data Gaps

ARCADIS conducted a site visit, evaluated local land uses, and interviewed site owner representatives. ARCADIS has performed this Phase I ESA in conformance with the scope and limitations of ASTM Standard Practice E 1527-05 for the Site and AAI. During this Phase I ESA, ARCADIS noted the following data gaps, some of which may have affected our ability to identify RECs:

- A 50-year chain-of-title report was not provided to ARCADIS; however the owner's representative, Mr. Jed Magee has been associated with the Site for more than 50 years and indicated that title to the Site has been held in his family since 1949. See Section 3.2. Accordingly, this data gap is not deemed to be significant.

- Intervals between some aerial photographs/topographic maps were more than five years; however the owner's representative, Mr. Jed Magee has been associated with the Site for more than 50 years, that title to the Site has been held in his family since 1949 and that use of the Site has been consistent throughout that time. See Section 3.2. Accordingly, this data gap is not deemed to be significant.

- No response from the several agencies noted in Section 5.3 was received prior to the date of this Phase I ESA report.

- Lack of complete LUST case information from the nearby property (Rassier Ranch property).

- Lack of analytical data for sediment in Green Valley Creek.

- The backup generator compound was inaccessible; therefore, ARCADIS was unable to observe the condition of the generator.

No other limiting factors were documented during this Phase I ESA based on information obtained during our review of previous reports and observations of site conditions during our visit. In the event such information is received by SummerHill after issuance of this report, it should be reviewed by an ARCADIS environmental professional and may affect the conclusions in this report.

9. Findings

On-Site Findings

The Site is located in the eastern part of the City of Danville, in Contra Costa County, California. The Site consists primarily of undeveloped grasslands, with scattered shrubs, trees, and uncultivated vegetation. The Site is currently and has historically been used for cattle grazing and horse ranching since the 1950s. The proposed residential development will be located within the relatively flat, grassland portion of the Site. The Site is surrounded to the south and west by hills, and to the east by the Magee East region of Magee Ranches property. Green Valley Creek flows from east to west along the northern boundary of the Site with Diablo Country Club farther north.

Structures on the Site include a concrete animal water trough and metal water pipes. In addition, Verizon, Metro PCS, T-Mobile and Sprint operate wireless equipment and antennae located in the western portion of the Site. A backup generator enclosure was observed on a concrete pad at the western end of the Site. An above-ground diesel storage tank was located on the pad adjacent to the enclosure and appeared to be related to the backup generator. This enclosure was inaccessible; however, no staining was observed near the enclosure, including around the storage tank or on the soil around the concrete pad. A conduit for Pacific Gas and Electric Company and AT&T underground cables extends along the northern boundary of the Site within an easement. According to Mr. Jed Magee, a representative of the Site owner, Verizon owns both the backup generator and diesel storage tank, and no pipelines or liquid pipes were installed along the easement. Mr. Magee indicated that no pesticides or weed control were used at the Site.

Green Valley Creek was observed along the northern boundary of the Site. The outlet culvert of Green Valley Creek was located at the northwestern portion of the Site. ARCADIS observed a concrete structure and two metal pipes extending from the north under Diablo Road and ending at Green Valley Creek. According to Mr. Magee, the concrete structure was a diversion dam remnant from the 1920s and is currently non-operational. An EBMUD water tank is located on property owned by EBMUD adjacent to the northwestern portion of the Site.

No evidence or suspicion of the release of petroleum products or chemicals onto the land surface, including stains, odors, or residues, or hazardous materials disposal, were observed on the Site during ARCADIS' site reconnaissance or through the review of reasonably available background information.

The Site was not included in the databases reviewed for this assessment as provided in the EDR report.

Off-Site Findings

Properties in the site vicinity were reportedly used for ranch, orchard, and other agricultural purposes prior to the 1950s. Diablo Country Club has been present to the north of the Site since at least the 1950s. At present, a school is located west of the Site and surrounding property use consists mainly of residences.

EDR's report noted several historic releases in vicinity of the Site. The closest to the Site was documented at 1025 Diablo Road (Rassier Ranch property), located approximately 0.1 mile west of the Site. That property is listed in the HIST CORTESE, LUST, CONTRA COSTA CO. SITE LIST, Enforcement Action Listing, and HAZNET databases. The LUST database indicates that a gasoline UST leak was identified during tank closure in September 1989. Available information indicates that soil and groundwater at this facility were impacted by the release. Due to the fact that the property is located cross-gradient from the Site and redeveloped as a senior center (subject to local regulatory oversight and approvals), it does not appear to pose a potential environmental concern to the Site.

Based on our review of the information provided by EDR, the remaining reported releases in the Site vicinity also do not appear to pose a potential environmental concern to the Site due to impacts to soil only, completion of investigation/remedial activities and case closure status, their distances of more than 1,000 feet from the Site, and/or location in a crossgradient to downgradient direction from the Site.

EDR identified a number of regulated facilities that could not be located because of insufficient address information. Based on our knowledge of the Site vicinity and our observations during the Site visit, these properties do not appear to be located in close proximity to the Site, and are unlikely to represent an environmental concern to the Site.

10. Conclusions and Recommendations

This Phase I ESA was performed in conformance with the scope and limitations of ASTM Practice E 1527-05 and AAI. Any additions to or deletions from this practice are described in Section 1.4.

Based on the information obtained during this Phase I ESA, no RECs were identified. However, data gaps were identified for this Phase I ESA as described in Section 8 above.

The identified significant data gaps may have affected our ability to identify RECs. The environmental conclusions and recommendations are summarized as follows:

- The generator enclosure and surrounding area should be periodically checked for evidence of a diesel release, if one were to occur.
- The quality of sediment in Green Valley Creek is unknown.

11. References

California Department of Water Resources. 2003. California's Groundwater, Bulletin 118. October. Available from: *http://www.groundwater.water.ca.gov/bulletin118/basin_desc/index.cfm*

California Regional Water Quality Control Board (RWQCB). 2008. GeoTracker On-line Database. https://geotracker.waterboards.ca.gov/

Environmental Data Resources, Inc. (EDR). 2011a. EDR Radius Report with GeoCheck. Inquiry # 3204717.2s. November 9.

_____. 2011b. EDR Certified Sanborn Map Report. Inquiry #3204717.3. November 10.

_____. 2011c. EDR Environmental Historical Topographic Map Report. Inquiry #3204717.4. November 10.

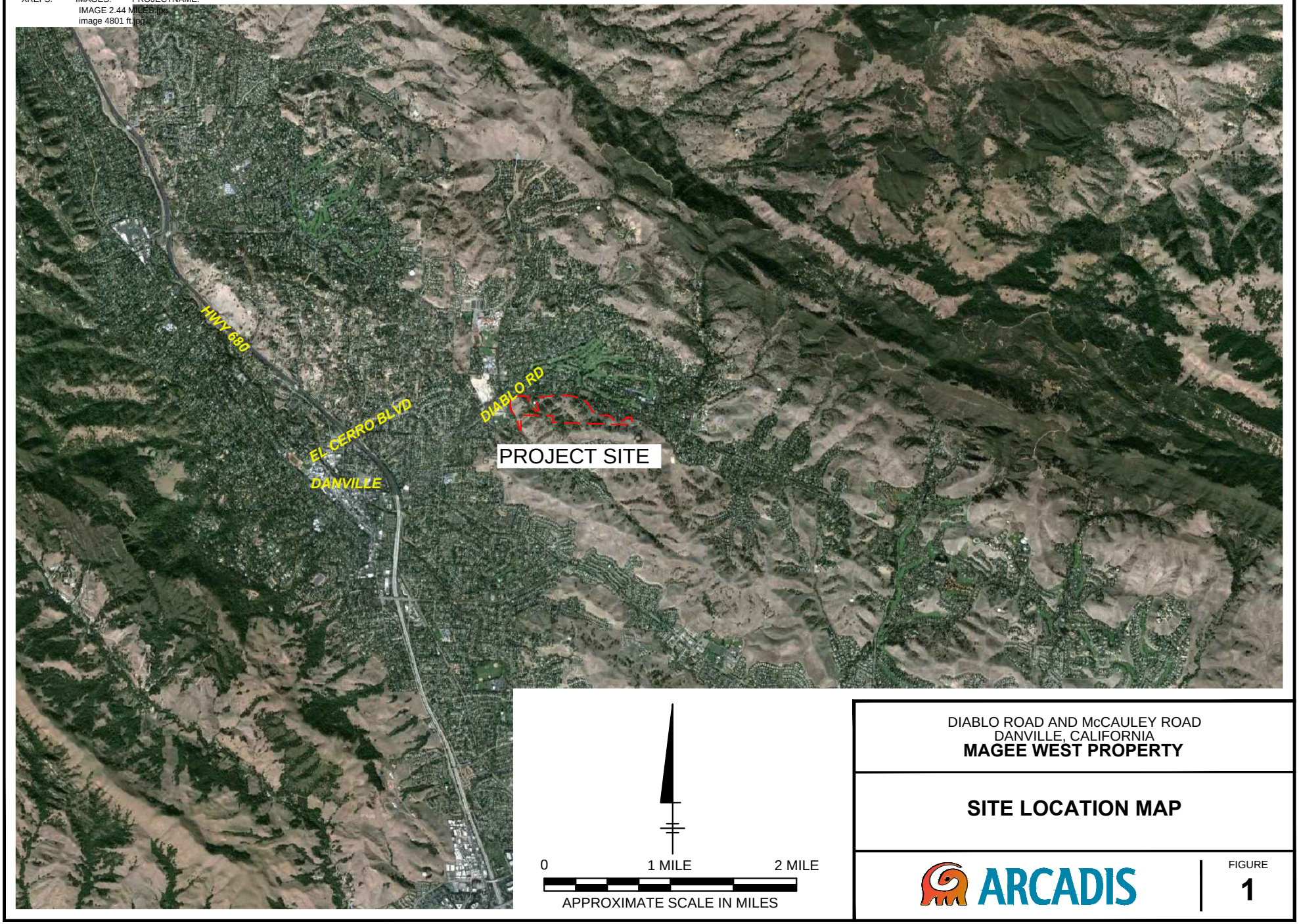
_____. 2011d. EDR Aerial Photo Decade Package. Inquiry #3204717.5. November 11.

_____. 2011e. EDR City Directory Abstract. Inquiry #3204717.6. November 14.

Norris and Webb. 1990. *Geology of California*. Second edition.

Figures

CITY:(Reqd) DIV/GROUP:(Reqd) DB:(Reqd) LD:(Opt) PIC:(Opt) PM:(Reqd) TM:(Opt) LYR:(Opt)ON=*;OFF=*REF*
G:\ENVCAD\Emeryville\RETURN-TO\CostaMesa-CA\B010105\0000\00001\LC0101050000-B01.dwg LAYOUT: 1 SAVED: 2/28/2012 5:47 PM ACADVER: 18.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ARCADIS-EMV.CTB PLOTTED: 2/29/2012 1:31 PM BY: BEARDSLEY, DANIEL
XREFS: IMAGES: PROJECTNAME: ----
IMAGE 2.44 MILES.jpg
image 4801 ft.jpg



0 1 MILE 2 MILE

APPROXIMATE SCALE IN MILES

DIABLO ROAD AND McCAULEY ROAD
DANVILLE, CALIFORNIA
MAGEE WEST PROPERTY

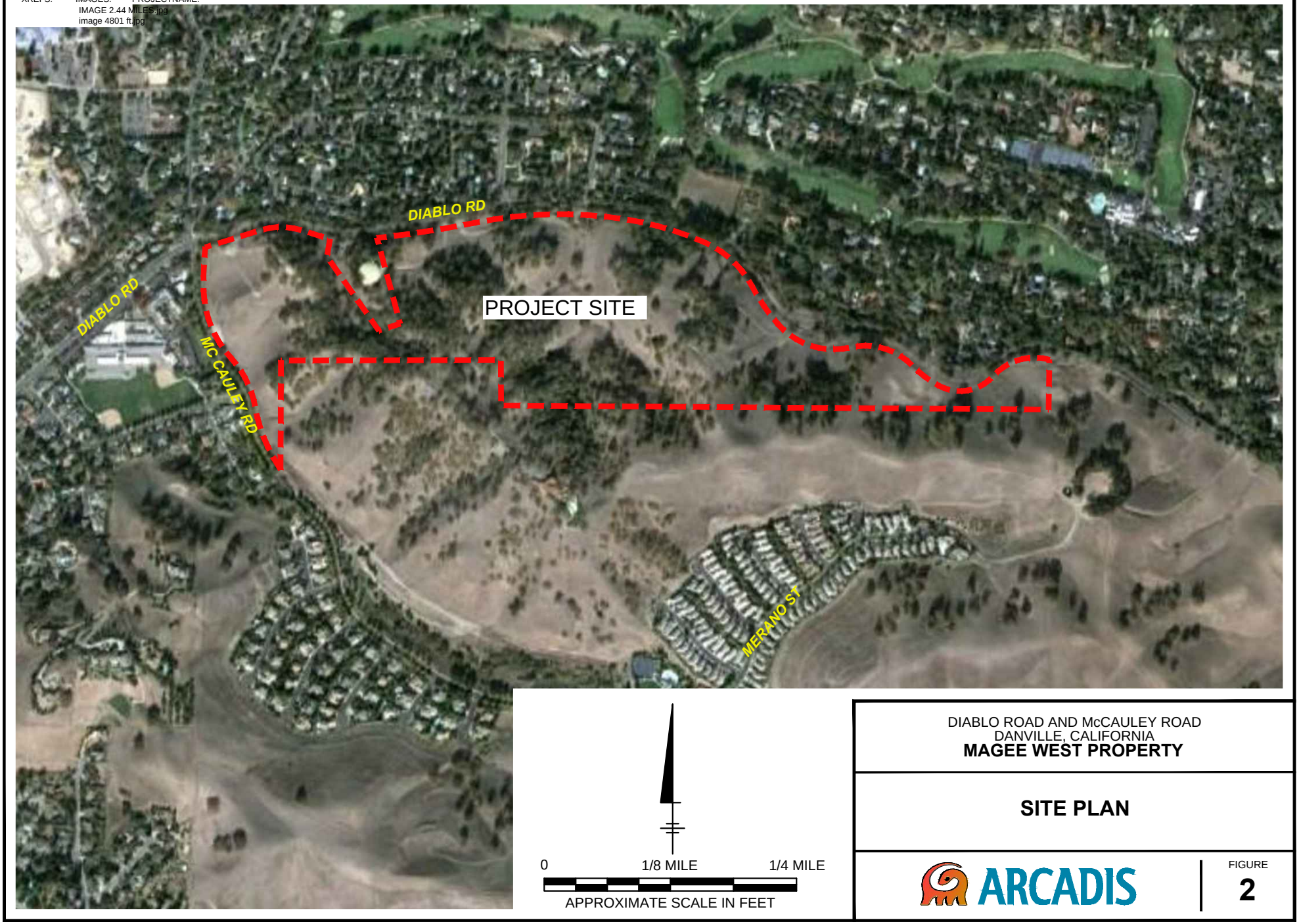
SITE LOCATION MAP

ARCADIS

FIGURE
1

CITY:(Reqd) DIV/GROUP:(Reqd) DB:(Reqd) LD:(Opt) PIC:(Opt) PM:(Reqd) TM:(Opt) LYR:(Opt)ON=*;OFF=*REF*
G:\ENVCAD\Emeryville\RETURN-TO\CostaMesa-CA\B010105\0000\00001\LC0101050000-B01.dwg LAYOUT: 2 SAVED: 2/28/2012 5:47 PM ACADVER: 18.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ARCADIS-EMV.CTB PLOTTED: 2/29/2012 1:31 PM BY: BEARDSLEY, DANIEL

XREFS: IMAGES: PROJECTNAME: ----
IMAGE 2.44 MILES.jpg
image 4801 ft.jpg



DIABLO ROAD AND McCAULEY ROAD
DANVILLE, CALIFORNIA
MAGEE WEST PROPERTY

SITE PLAN

ARCADIS

FIGURE
2

ARCADIS

Appendix **A**

Parcel Maps

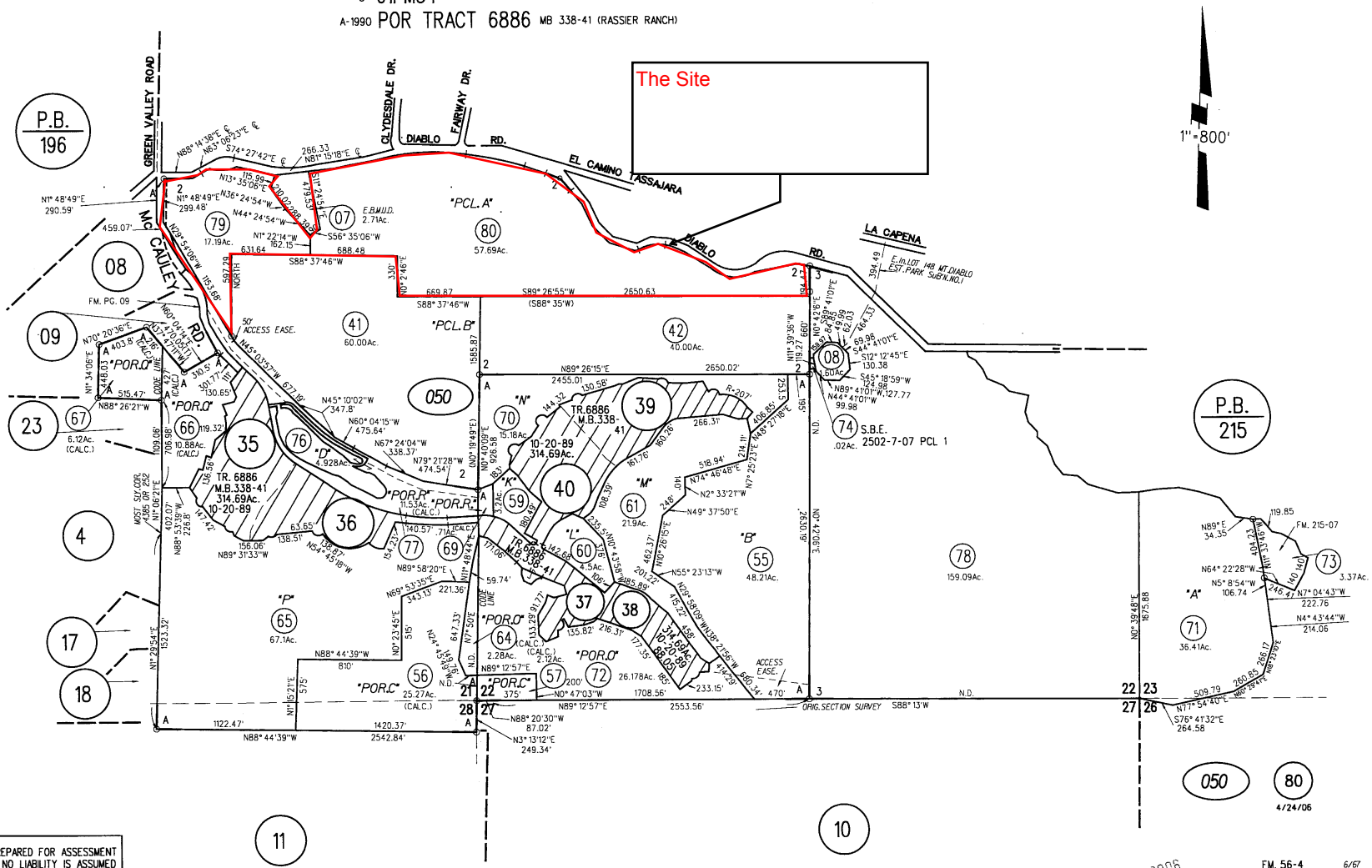
POR SEC 21, 22 & 28 T1S R1W MDBM

1-1974 28PM48 7-9-73

2- 63PM33 2-16-78

3- 91PM34 12-18-80

A-1990 POR TRACT 6886 MB 338-41 (RASSIER RANCH)



NOTE: THIS MAP WAS PREPARED FOR ASSESSMENT PURPOSES ONLY. NO LIABILITY IS ASSUMED FOR THE ACCURACY OF THE INFORMATION DELINEATED HEREON. ASSESSOR'S PARCELS MAY NOT COMPLY WITH LOCAL LOT SPLIT OR BUILDING SITE ORDINANCES.

JUN 2 0 2006

FM. 56-4 6/67

ASSESSOR'S MAP

BOOK 202 PAGE 05

CONTRA COSTA COUNTY, CALIF.

ARCADIS

Appendix **B**

Site Photographs

Photograph 1 – The eastern boundary of the Site. View to the west.

Photograph 2 – Hillside and easement for wireless companies. View to the west.

Photograph 3 – Possible accessing point for wireless companies.

Photograph 4 – Historical water trough location with exposed metal pipes.

Photograph 5 – Drainage pipes and diversion dam remnant observed on the northern boundary of the Site adjacent to the creek.

Photograph 6 – East Branch of the Green Valley Creek along the northern boundary of the Site.

Photograph 7 – Outlet of the East Branch of the Green Valley Creek.

Photograph 8 – Metal water pipes connected to the East Bay Mud water system.

Photograph 9 – Equipment for wireless companies observed at the western end of the Site.

Photograph 10 – Diesel generator for backup power for the wireless company on Site.

APPENDIX G

HYDROLOGY REPORTS

BASELINE HYDROLOGY AND GEOMORPHIC ANALYSIS

MAGEE RANCHES PROJECT
DANVILLE, CALIFORNIA

Submitted to:

Wendi Baker
SummerHill Homes
5000 Executive Parkway, Suite 150
San Ramon, CA 94583

Prepared by:
ENGEO Incorporated

Project No. 8889.000.000
March 21, 2011
Latest Revision May 24, 2011

Copyright © 2011 By ENGEO Incorporated. This Document May Not Be Reproduced In Whole Or In Part By Any Means Whatsoever, Nor May It Be Quoted Or Excerpted Without The Express Written Consent Of ENGEO Incorporated

- Expect Excellence -

Project No.
8889.000.000

March 21, 2011
Latest Revision May 24, 2011

Ms. Wendi E. Baker
Land Acquisition Manager
SummerHill Land
5000 Executive Parkway, Suite 150
San Ramon, CA 94583

Subject: Magee Ranches Project
Danville, California

BASELINE HYDROLOGY AND GEOMORPHIC ANALYSIS

Dear Ms. Baker:

At your request, we are pleased to submit this hydrology and geomorphic analysis for the watersheds located within your proposed Magee Ranches project in Danville, California. The objectives of this study are to evaluate the geomorphology and hydrology of the watersheds located within the project and to outline mitigation countermeasures to reduce flooding and erosion hazards associated with the proposed development.

If you have any questions regarding this report, please do not hesitate to contact us.

Sincerely,

ENGEO Incorporated

REGISTERED PROFESSIONAL ENGINEER
JONATHAN BUCK
No. 67302
Exp. 9/30/2012
CIVIL
STATE OF CALIFORNIA

Jonathan D. Buck, PE
jdb/pcg/jf:analysis

Paul C. Guerin, GE

cc: 1 – Mr. Mark Falgout, RJA

TABLE OF CONTENTS

Page

Letter of Transmittal

1.0 INTRODUCTION 1

2.0 GEOLOGIC SETTING 1

3.0 HYDROLOGIC AND GEOMORPHIC SETTING 2

- **3.1 SURFACE WATER 2**
- **3.2 GROUNDWATER 2**
- **3.3 SUMMARY OF GEOMORPHIC CHARACTERISTICS 3**

4.0 SUMMARY OF REGULATIONS 8

- **4.1 FEDERAL – NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) 8**
- **4.2 FEDERAL 404 – U.S. ARMY CORPS OF ENGINEERS 8**
- **4.3 STATE OF CALIFORNIA – REGIONAL WATER QUALITY CONTROL BOARD – 401 CERTIFICATION 8**
- **4.4 STATE OF CALIFORNIA – CALIFORNIA DEPARTMENT OF FISH AND GAME 8**
- **4.5 CONTRA COSTA COUNTY 8**

5.0 CHALLENGES AND OPPORTUNITIES AT MAGEE RANCHES 8

- **5.1 BASIS OF MITIGATION MEASURES 8**
- **5.2 CONCLUSIONS 8**

6.0 LIMITATIONS AND UNIFORMITY OF CONDITIONS 8

SELECTED REFERENCES

FIGURES:

Figure 1 – Site Map
Figures 2A and 2B – Photopoints and Stormwater Mitigation Map
Figure 3 – Creek Restoration and Crossing

1.0 INTRODUCTION

The Magee Ranches project is located at the headwaters of San Ramon Creek in Danville, California, at the southern periphery of the East Branch of Green Valley Creek watershed (Figure 1). San Ramon Creek is part of the Walnut Creek watershed and eventually drains through the cities of Walnut Creek and Concord and then into San Francisco Bay.

The Magee Ranches property encompasses roughly 410 acres located south of Diablo Road in Danville, California (Figure 1). The proposed development will be concentrated on a 198-acre parcel designated as Lot 3 on the Conceptual 5-acre Lots Site Plan prepared by Ruggeri-Jensen-Azar (RJA), the project civil engineer. The East Branch of Green Valley Creek is located along the northern boundary of Lot 3. The Magee Ranches property is generally characterized by open, rolling, grass-covered hills with scattered trees. Current elevations range from a high of about 860 feet above mean sea level (msl), at a ridge-top peak on Lot 3 near the center of the property, to a low of about 425 feet above msl, at the intersection of Diablo Road and McCauley Road. Within Lot 3, the surface drainage is generally to the north into Green Valley Creek. The low point on Lot 3 is located at the northwestern corner, where the creek crosses under Diablo Road via a concrete box culvert at an elevation of 425 feet. The existing ranch improvements are located on Lot 3, at the end of San Andreas Drive, and include a hay barn and stable buildings. There is an equestrian riding area west of the ranch buildings opposite the end of Creekledge Court.

Currently, the property is used for beef cattle operations. The overall property began subdivision in the 1950's when several walnut orchards were sold and further subdivided in the 1980's. The existing Magee Ranches development is located just east of the subject property. The proposed development consists of 78 residential lots, access roads, utilities and a stormwater detention basin near the low point at the undercrossing of Green Valley Creek at Diablo Road. The objectives of this study are to evaluate the geomorphology and hydrology of the sub-watersheds where development is proposed and to outline mitigation countermeasures to reduce the impact of the proposed improvements on the San Ramon Creek watershed system to less than significant levels.

2.0 GEOLOGIC SETTING

The Magee Ranches project is located in Green Valley within the Mount Diablo fold-and-thrust belt on the south flank of the Mount Diablo uplift. The bedrock formations in the area south of Mount Diablo and north of the Livermore Valley have been folded and cut by thrust faults that typically dip toward the north, according to recent geologic mapping by Crane (1995) and Graymer, et al. (1996). The site is underlain by Pliocene non-marine sedimentary rock consisting of weakly indurated claystone, siltstone and thin beds of sandstone and pebble conglomerate. Soil mapping of the watershed prepared by the National Resource Conservation Service (NRCS) indicates that surficial soil materials are primarily comprised of montmorillonitic clay soils with a hydrologic group rating of 'D.' Group 'D' soils are defined as having a very slow infiltration rate when thoroughly saturated. As a result, the watershed is characterized by rapid run-off characteristics after saturation has occurred.

3.0 HYDROLOGIC AND GEOMORPHIC SETTING

3.1 SURFACE WATER

Magee Ranches is located close to the headwaters of the watershed of the East Branch of Green Valley Creek. Published hydrologic mapping of the area prepared by the Contra Costa County Public Works Department dated December 1977 indicates that approximately 17.5 to 20 inches of annual precipitation occurs per year in the area of the creek watershed based on precipitation records collected between 1879 and 1973. The total watershed area draining into the local creek segments upstream of the box culvert at Diablo Road is approximately 2.23 square miles. On the USGS Diablo Quadrangle, the headwater channel of East Branch of Green Valley Creek terminates approximately 2 miles upstream within Mount Diablo State Park.

The Contra Costa County Flood Control District has prepared preliminary regional hydrology calculations for the project area as summarized below:

Watershed	2-Year Flow (cfs)	10-Year Flow (cfs)	100-Year Flow (cfs)
Upstream Area	220	630	1000
Upstream + Project	300	890	1430

The upstream area flows are calculated from the point of connection of Green Valley Creek with the project. The upstream and project flows are calculated from the point where Green Valley Creek passes through the box culvert at Diablo Road, upstream from Diablo Country Club.

3.2 GROUNDWATER

Groundwater depths in borings ranged from approximately 10 feet adjacent to Green Valley Creek to greater than 40 feet in borings drilled in upstream valleys. Zones of water seepage were encountered at depths ranging from 17 to 58 feet below the ground surface within the large-diameter borings advanced within landslides. Groundwater was not encountered in test pits excavated in upland slope areas. It should be expected that groundwater elevations will vary seasonally.

The East Branch of Green Valley Creek currently flows year-round. According to the property owner, the creek was formerly dry during summer months, but began to flow perennially after upstream development of the Blackhawk Country Club. At the time of our field visits in January and September 2009, we did not observe any evidence of groundwater springs or seeps adjacent to the creek or in the sub-watersheds onsite. Based on these observations, it appears unlikely that onsite groundwater contributes significantly to dry-season flows.

3.3 SUMMARY OF GEOMORPHIC CHARACTERISTICS

The geology of the Diablo Valley is characterized by fine-grained clay soils and numerous landslides that periodically contribute fine-grained slope material to active creek channels in the various sub-watersheds. In the neighborhood of Magee Ranches, much of the upstream watershed is urbanized, including portions of the Blackhawk Country Club and developed portions of the original Magee Ranches. Due to the high clay content of the soil materials found throughout the Diablo Valley, the headwater creeks located on the Magee Ranches project site can be generally characterized as ephemeral channels dominated by wash load sediment processes and flashy winter flows. As described above, the historically intermittent stream flows are now perennial with summer low flows.

In the vicinity of Magee Ranches, the East Branch of Green Valley Creek flows in a combination of natural channels, underground storm drains and artificial open channels as shown on Figure 2. The creek flows through a number of road under-crossings that range from bridges, concrete box culverts to corrugated metal culverts. The nature of the existing channel conditions is depicted on Photo 1. In the Magee Ranches vicinity, the base and sides of the creek channel are typically formed by cohesive alluvium or colluvium with local exposures of bedrock in the channel base.

On Lot 3, the East Branch Green Valley Creek channel is slightly to moderately incised, with the channel flow line approximately 5 to 15 feet below the general elevation of adjacent alluvial terraces. South of the existing bridge at San Andreas Drive, the incised channel deepens slightly and there is a small inset alluvial terrace adjacent to the low-flow channel (Photo 1).

Photo 1: Low-flow channel and adjacent inset terrace downstream from San Andreas Drive bridge

There are a few small vertical drops of up to a few feet high in the low-flow channel that have been created by the root structures of trees growing in the channel (Photo 2). The existing concrete box culvert at Diablo Road provides grade control for the segment of the creek channel that crosses Lot 3. The creek channel on Lot 3 just upstream from the culvert appears to be in a relatively stable condition with little evidence of recent incision and stable banks (Photo 3)

Photo 2: Small vertical drop stabilized by root ball

Photo 3A (left): Stable low-flow channel upstream from box culvert
Photo 3B (right): Outfall of box culvert at west side of Lot 3

West of Lot 3, the creek flows in a natural channel adjacent to residential lots in Diablo Country Club. This segment of the channel was not accessible for inspection, but the upstream and downstream portions visible at the Diablo Road under-crossings appear to be in relatively stable condition (Photos 3 and 4).

Photo 4: Stable-appearing channel at downstream end of Diablo Country Club channel reach. Small tributary creek enters at left-lower portion of photograph.

Just east of the intersection of Diablo Road and La Cadena Road, the creek crosses under Diablo Road via a large-diameter corrugated metal culvert and re-enters the Magee Ranches property (Photos 4 and 5). At the culvert outfall, the channel has eroded to bedrock and down cut an estimated 3 to 4 feet based on the vertical drop at the culvert outfall and exposed tree root systems (Photos 5 and 6). The upper reaches of the channel segment west of the culvert crossing at Diablo Road and La Cadena Road are generally degraded with abundant shallow bank instability and extensive exposure of adjacent tree root systems (Photo 6).

Photo 5A (left): CMP Culvert outfall showing 3-4 feet of erosion and exposed bedrock in the channel
Photo 5B (right): Degraded channel with bank instability

Photo 6: Downstream view of degraded channel segment below Diablo Road CMP culvert showing bedrock exposed in channel and eroded banks exposing tree root systems

Photo 7: Partially washed-out concrete structure opposite Fairway Drive

Opposite Fairway Drive, there is a partially washed-out concrete structure that was reportedly constructed as a water supply dam for the original Diablo Country Club. Two CMP culverts enter the creek at that point (Photo 7). A concrete slab from the old structure is still intact under the creek flow line and appears to provide grade control for the portion of the creek between Fairway Drive and the concrete box culvert crossing at Clydesdale Drive. The creek channel below the dissipater slab appears to be relatively stable (Photo 8).

Photo 8: Stable channel reach just upstream from Clydesdale Drive Box Culvert

Photo 9: Box culvert at Diablo Road and Clydesdale Road

Photo 10: Artificial channel below box culvert.

The creek leaves the Magee Ranches property and crosses under Diablo Road at the Clydesdale Road box culvert (Photo 9) and enters an artificial channel (Photo 10).

4.0 SUMMARY OF REGULATIONS

We expect the following federal, state and local regulations will apply to the project; these regulations will require the incorporation of mitigation measures in terms of stormwater run-off and wetlands hydrology during and post-construction.

4.1 FEDERAL – NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES)

Water run-off quality is regulated by the federal National Pollution Discharge Elimination System (NPDES) program (established by the Clean Water Act of 1972). The NPDES objective is to control and reduce pollutants to water bodies from non-point discharges. The program is administered by the Regional Water Quality Control Boards (RWQCB) throughout the state. The RWQCB issues NPDES point source permits for discharges from major industries and non-point source permits for discharges to water bodies in the Bay Area Region for municipalities and other local government entities. The current project area is covered under the Contra Costa County NPDES water quality permit.

Additionally, improvement projects disturbing more than 1 acre of land during construction are required to file a Notice of Intent (NOI) to be covered under the State NPDES General Construction Permit for discharges of stormwater associated with construction activity. An applicant must propose control measures that are consistent with the State General Construction Permit. A Storm Water Management Plan (SWMP) must be developed and implemented for each site covered by the General Permit. A SWMP must include “Best Management Practices” (BMPs) designed to reduce potential impacts to surface water quality through the construction and life of the project.

4.2 FEDERAL 404 – U.S. ARMY CORPS OF ENGINEERS

Section 404 of the Clean Water Act of 1972 regulates activities that result in the discharge of dredged or fill material into Waters of the United States, including wetlands. The USACE has the principal authority to regulate discharges of dredged or fill material into Waters of the United States. Waters of the United States may include:

- All waters that are currently used, or were used in the past, or may be susceptible to use in interstate of foreign commerce, including all waters that are subject to ebb and flow of tide.
- All interstate waters, including interstate wetlands.
- All other waters such as intrastate lakes, rivers and streams (including intermittent streams); mudflats; sandflats; wetlands; vernal pools; playa lakes; natural ponds, the use, degradation or destruction of which could affect interstate of foreign commerce.
- Tributaries of the above.

The USACE no longer takes jurisdiction over "isolated" wetlands and waters but does take jurisdiction over "adjacent" wetlands, which are hydrologically connected to navigable waters or tributaries of navigable water, even if such wetlands appear to otherwise be "isolated". Additional regulations regarding USACE 404 permitting are discussed in Section 4.4, Biological Resources.

4.3 STATE OF CALIFORNIA – REGIONAL WATER QUALITY CONTROL BOARD – 401 CERTIFICATION

Pursuant to Section 401 of the Clean Water Act and EPA 404(b)(1) guidelines, in order for a USACE federal permit applicant to conduct any activity that may result in discharge into navigable waters, the applicant must provide a certification from the RWQCB that such discharge will comply with State water quality standards. The RWQCB has a policy of no-net-loss of wetlands and typically requires mitigation for all impact to wetlands before it will issue water quality certification.

Also, under the Porter-Cologne Water Quality Control Act (California Water Code Sections 13000-14290), the RWQCB is authorized to regulate the discharge of waste that could affect the quality of the State's waters, including projects that do not require a federal permit through the USACE. To meet RWQCB 401 Certification standards, it is necessary to address all hydrologic issues related to a project, including:

- Wetlands
- Watershed hydrograph modification
- Proposed creek or riverine related modifications
- Long-term post-construction water quality

4.4 STATE OF CALIFORNIA – CALIFORNIA DEPARTMENT OF FISH AND GAME

The California Department of Fish and Game (CDFG) exercises jurisdiction over wetland and riparian resources associated with rivers, streams, and lakes under California Fish and Game Code Section 1600 to Section 1607. The CDFG has the authority to regulate work that will:

- Divert, obstruct, or change the natural flow of a river, stream, or lake;
- Change the bed, channel, or bank of a river, stream or lake; or
- Use material from a streambed.

The CDFG asserts that its jurisdictional area along a river, stream or creek is usually bounded by the top-of-bank or the outermost edges of riparian vegetation. Typical activities regulated by the CDFG under Section 1600 to Section 1607 authority include installing outfalls, stabilizing banks, restoring creeks, and implementing flood control projects.

4.5 CONTRA COSTA COUNTY

Contra Costa County also has the authority to uphold its NPDES permit as discussed above under Federal Regulatory Environment and currently exercises this authority in its recently adopted Provision C.3 requirements. The provisions require the installation of post-construction BMPs for new development as part of the federal NDPES program and include set standards for their implementation. The intent of these regulations is to rigorously regulate the quality and quantity of stormwater run-off from any new impervious surface over 10,000 square feet so that receiving waters downstream are not adversely impacted. To comply with these requirements, new developments are required to install water quality stormwater run-off BMPs that filter or treat rainfall run-off generated from storm events up to approximately the 85th percentile rainfall event (or approximately the 1-inch storm event) before discharging into natural drainage systems. Additional hydrograph modification BMPs are also required so that post-project run-off does not exceed pre-project rates or durations, if such an increase could contribute to erosion in receiving waters downstream from the proposed project. We would expect these BMPs to be required for the Magee Ranches project based on the condition of portions of the Green Valley East Branch Creek channel.

5.0 CHALLENGES AND OPPORTUNITIES AT MAGEE RANCHES

5.1 BASIS OF MITIGATION MEASURES

Avoidance of Development on Existing Site

The proposed project design avoids development (including vertical, habitable structures) in areas where sensitive hydrologic conditions exist, such as floodways and wetlands. Habitable structures are avoided in the 100-year floodplain along the Green Valley creek channel. Existing seeps are avoided wherever possible.

Flood Hydrograph Control

As a result of the proposed Magee Ranches project, rainfall losses such as evapotranspiration and soil infiltration will decrease due to the addition of impervious surfaces such as roads and rooftops. Conversely, travel time of stormwater run-off collected in the proposed storm drain system toward the proposed storm drain outfalls will be accelerated by the addition of storm drain infrastructure and paved surfaces. The typical impact of drainage infrastructure on the rainfall run-off characteristics of a watershed is an increase in peak discharge rates at storm drain outfalls. For the Magee Ranches development, since all stormwater is proposed to be discharged into Green Valley Creek or its tributaries, the increase in run-off could raise the post-development flow rates and volumes in the creek, affecting the potential for downstream flooding.

In order to mitigate the impact of increased run-off from the development on downstream creek capacity, structural controls such as detention basins or pipes will be utilized to meter the water appropriately to the levels of pre-development flow for the 10-year event prior to discharge.

Detention prevents the receiving waters from being subjected to peak discharges higher than those historically carried by the creeks prior to development. Additionally, detention basins must have the capacity to pass the 100-year event without overtopping. A regional flood control study will also be conducted to verify that the detention and release of onsite flood flows will not raise peak flows in the Green Valley Creek watershed.

Performance Standard 1: The Magee Ranches project will be designed with structural detention controls in order to mitigate post-development downstream impacts from increases in water quantity or significant runoff timing for the 10-year and 100-year peak flow events in accordance with Contra Costa County Flood Control Standards.

Water Quality

As a result of the proposed development, stormwater pollutants such as oils, grease and heavy metals may become more abundant in the drainage systems, which discharge into the Green Valley creek, therefore, impacting downstream water quality. This impact can be mitigated for the proposed project by a series of long-term Integrated Management Practices (IMPs) specifically designed to remove pollutants from stormwater before discharging into the natural creek system. Both source controls and hydrologic design considerations are means of removing these materials from stormwater run-off and improving receiving water quality. Source controls keep these materials from washing into storm drains and nearby creeks, whereas hydrologic design considerations attempt to reduce the volume of run-off, or trap and break down pollutants prior to release.

An appropriate design approach emphasizes both source controls that prevent the mobilization of materials, and hydrologic designs that reduce and slow the volume of run-off that reaches natural surface waters. Examples of source controls that are likely to achieve these objectives include, but are not limited to, the following.

- Maximizing vegetated areas while minimizing impervious areas.
- Reducing irrigation practices.
- Reducing directly connected impervious areas.
- Educating the public on reducing herbicide, pesticide and fungicide use.
- Labeling all catch basins – “No Dumping – Drains to Creek”.

Solutions for water quality treatment at the site will be based on a combination of these practices, including design measures that reduce directly connected impervious areas, incorporate low-discharge areas, promote irrigation reduction, and provide other flow and volume-based controls. Various best management practices, including, but not limited to, water quality/detention ponds and vegetated swales are conceptually planned at the site to remove pollutants from stormwater once they are mobilized from their source areas. These IMPs provide appropriate active treatment for a minimum of 85 percent of average annual run-off from contributing tributary areas routed through the IMP facility in accordance with Regional Water Quality Control Board and Contra Costa County C3 requirements. These IMPs remove pollutants through (a) filtration, (b) adsorption to soil particles, (c) biological uptake by plants,

and (d) soil micro-organism activity. The IMPs also reduce peak run-off rates due to the increased amount of routed travel time before the water enters the storm drain system or downstream receiving waters.

The proposed site detention basin IMPs, as shown on the preliminary Stormwater Control Plan for the project prepared by Ruggeri-Jensen-Azar, Inc. will contain a sand filtering system in order to cleanse water outfalling into Grass Valley Creek prior to discharge. These swales will serve as both conveyance and water quality features, with the water quality portion of the swales containing soil media that will encourage infiltration of smaller storms. The water quality swale surface area will be sized at approximately 7 percent of the project impervious surfaces areas, as required by Contra Costa County C.3 standards for appropriate water quality and hydromodification function.

Performance Standard 2: The Magee Ranches project will be designed with a series of water quality IMPs to address any post-development downstream impacts in accordance with Contra Costa County Clean Water Program and Regional Water Quality Control Board Standards.

Creek Corridor Bridge Crossing

The proposed development will require a bridge crossing to provide access to the large development parcel across Green Valley Creek. The bridge will need to be designed to pass flood flows in Green Valley Creek up to the 100-year event while preserving the habitat values of the creek system as a linear biological feature.

The existing concrete stabilization that has been put in place near this location will be improved with natural rock grade control structures, which will restore sediment transport equilibrium conditions in the channel and lessen concerns regarding erosion. Creek banks near the bridge will be flattened and stabilized with biotechnical plantings upstream and downstream of the proposed bridge structure, which will enhance riparian habitat in the creek corridor while maintaining long-term stability of the creek banks. The proposed restoration scheme is included on Figure 3.

Performance Standard 3: Any proposed bridge crossing will be sufficiently designed to pass the 100-year recurrence interval flow event in Green Valley Creek. The bridge foundation system will be designed to withstand temporary loss of axial or lateral capacity (scour) up to a 100-year recurrence interval event. Any foundation system scour countermeasure design will minimize impacts to the creek to the maximum extent.

Hydromodification

In addition to flood control detention facilities and water quality IMPs, additional measures are anticipated in order to maintain the integrity of smaller flow volumes and rates-of-change released from the site, which may impact the receiving channel characteristics and geomorphology. Since Green Valley Creek is an intermittent system, this includes providing structural controls that prevent summer nuisance flows from discharging from the site and implementing flood-control and water-quality facilities that mimic pre-development hydrograph conditions in the creek for more frequent rainfall run-off events.

Since the existing onsite clayey soils infiltrate very little rainfall when saturated, replacing the native soil material with impervious surfaces will have a smaller effect on the post-development run-off hydrograph for smaller recurrence interval storms than for a similar development on sandier soils. To mitigate the impact of increased run-off from the development on downstream creek channel characteristics and geomorphology, structural controls including vegetated swales will be utilized in conjunction with measures to slow the release of small-storm run-off for the post-development condition. These measures will prevent the receiving creeks from being subjected to geomorphic changes such as accelerated erosion that could be attributed to changes in flow rates, volumes and durations for more frequent rainfall events discharging from the proposed project as well as summer nuisance flows. Based on our reconnaissance of the creek, it is our opinion that adherence to this standard will not aggravate existing conditions downstream of the proposed project.

Performance Standard 4: The Magee Ranches project will be designed with structural controls to lessen concerns of downstream impacts associated with watershed hydrograph modification specifically addressing frequent rainfall events as well as summer nuisance flows in accordance with Contra Costa County Clean Water Program, Regional Water Quality Control Board and California Department of Fish and Game, United States Fish and Wildlife Service Standards.

Tentative Features incorporated into the project are shown on Figures 2A and 2B.

5.2 CONCLUSIONS

In closing, both source controls and structural facilities will be incorporated into project designs in order to address stormwater considerations related to the project requirements for Regional Water Quality Control Board (RWQCB) permitting and Contra Costa County C3 NPDES requirements as well as Contra Costa County Flood Control and Water Conservation District guidelines. All proposed stormwater detention and water quality features will be sized to accommodate hydrologic conditions based upon calculations and modeling performed during future preparation of the project Stormwater Control Plan and Drainage Report. The Stormwater Control Plan can be included in the environmental documentation submitted to the RWQCB for Water Quality Certification/Waste Discharge Requirements and also to the County to meet their new NPDES Permit C.3 requirements. The drainage report can be included in submittals of improvement plans.

Water-balance calculations will provide for attenuation of peak discharge for the 10-year storm such that it is maintained at or below pre-project levels. Routing flows from the facilities and open space areas to Green Valley Creek will be undertaken to maintain adequate flow in the receiving creeks approximately at current levels.

The water quality facilities will also provide water quality treatment for the first rainfall run-off from the project and reduce summer “nuisance flows” from residential activities, such as car washing and lawn irrigation. Instead of draining directly into streams, the conveyance system will collect nuisance flows and direct them to roadside swales to allow for the removal or reduction of any nuisance flows through evapotranspiration, infiltration and evaporation.

6.0 LIMITATIONS AND UNIFORMITY OF CONDITIONS

This report is issued with the understanding that it is the responsibility of the owner to transmit the information and recommendations of this report to developers, contractors, buyers, architects, engineers, and designers for the project so that the necessary steps can be taken by the contractors and subcontractors to carry out such recommendations in the field. The conclusions and recommendations contained in this report are solely professional opinions.

The professional staff of ENGEO Incorporated strives to perform its services in a proper and professional manner with reasonable care and competence but is not infallible. There are risks of earth movement and property damages inherent in land development. We are unable to eliminate all risks or provide insurance; therefore, we are unable to guarantee or warrant the results of our work.

This report is based upon field and other conditions discovered at the time of preparation of ENGEO's work. This document must not be subject to unauthorized reuse, that is, reuse without written authorization of ENGEO. Such authorization is essential because it requires ENGEO to evaluate the document's applicability given new circumstances, not the least of which is passage of time. Actual field or other conditions will necessitate clarifications, adjustments, modifications or other changes to ENGEO's work. Therefore, ENGEO must be engaged to prepare the necessary clarifications, adjustments, modifications or other changes before construction activities commence or further activity proceeds. If ENGEO's scope of services does not include onsite construction observation, or if other persons or entities are retained to provide such services, ENGEO cannot be held responsible for any or all claims, including, but not limited to claims arising from or resulting from the performance of such services by other persons or entities, and any or all claims arising from or resulting from clarifications, adjustments, modifications, discrepancies or other changes necessary to reflect changed field or other conditions.

SELECTED REFERENCES

Chanson, Hubert.; "The Hydraulics of Open Channel Flow," Boston: Butterworth and Heinemann, 1999.

Chow, V. T., 1959, "Open Channel Hydraulics," McGraw-Hill, New York.

Contra Costa County Public Works Department, 1977. Mean Seasonal Isohyets Compiled From Precipitation Records 1879-1973. Drawing Number B-166.

Dibblee, T.W.; Preliminary Geologic Map of the Livermore Quadrangle, Alameda and Contra Costa Counties, California; USGS Open File Report 80-533B, 1980.

ENGEO, 1993, Preliminary Geotechnical Field Exploration for the TVPOA Planning Area, Contra Costa County, California; Project No. 3283-W4.

National Resource Conservation Service; Web Soil Survey, New Farm Project; 2009.

Rosgen, Dave, 1996. Applied River Morphology. Wildland Hydrology Press.

Sycamore Associates; Preliminary Wetland Delineation and Jurisdictional Determination for the 785 Acre Kawar Project; October 2006.

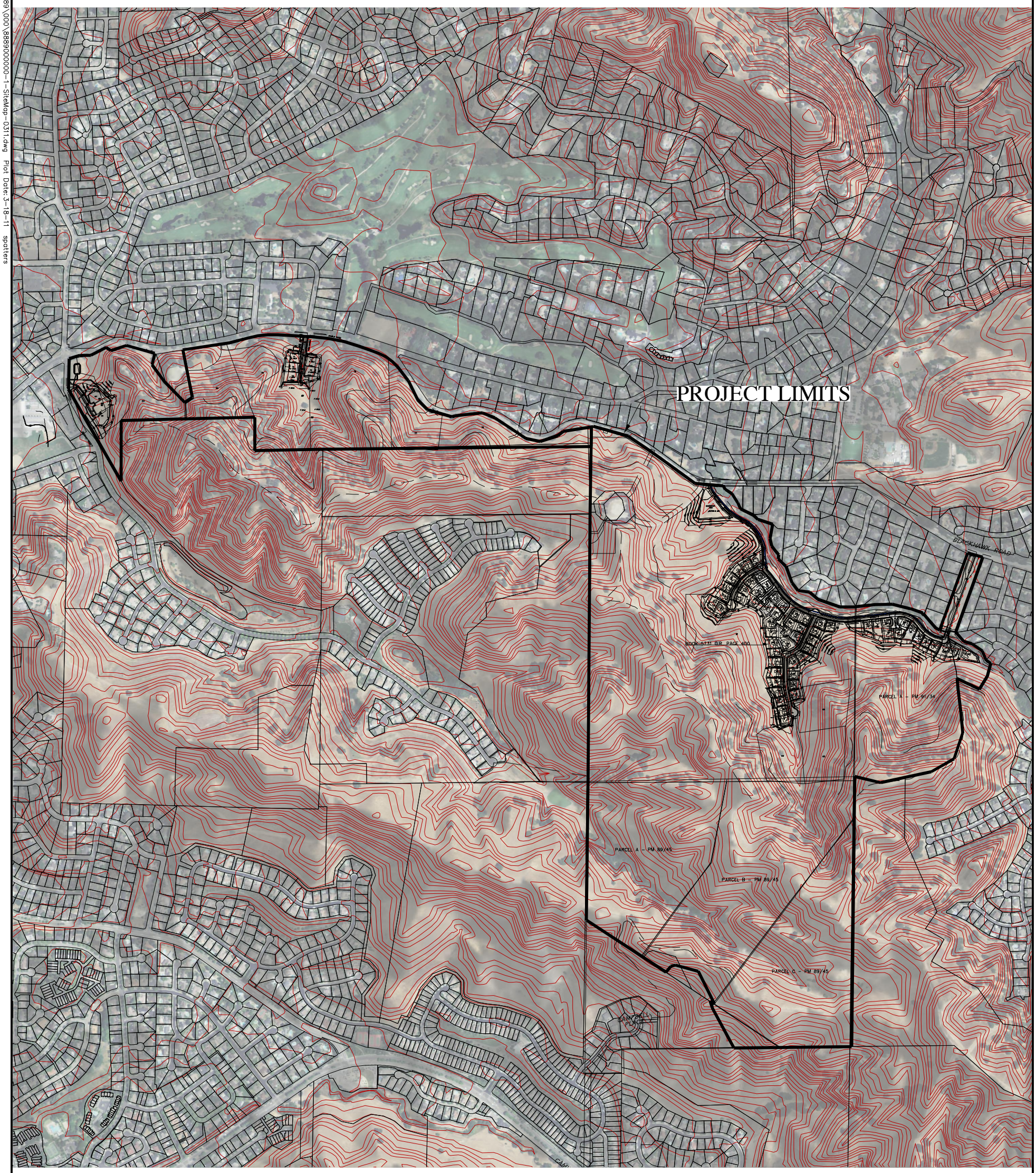
Thorne, C.R., S.R. Abt, and S.T. Maynord. Prediction of Near-Bank Velocity and Scour Depth in Meander Bends for Design of Riprap Revetments". River, Coastal and Shoreline Protection: Erosion Control Using Riprap Armourstone, 1995.

United States Army Corps of Engineers, Flood Control Engineering Manual, Hydraulic Design of Flood Control Channels, EM-1110-2-1601, June 30, 1994.

Yang, C.T., 1996, Sediment Transport: Theory and Practice, McGraw-Hill, New York.

COPYRIGHT © 2011 BY ENGEO INCORPORATED. THIS DOCUMENT MAY NOT BE REPRODUCED IN WHOLE OR IN PART BY ANY MEANS WHATSOEVER, NOR MAY IT BE QUOTED OR EXCERPTED WITHOUT THE EXPRESS WRITTEN CONSENT OF ENGEO INCORPORATED.

G:\Drafting\DRAFTING2_Dwg\8889\000\8889000000-1-SiteMap-0311.dwg Plot Date:3-18-11 spotters



N

0 FEET 1000

0 METERS 500

BASE MAP SOURCE: UNKNOWN

ENGEO Expect Excellence

SITE MAP

MAGEE RANCHES

DANVILLE, CALIFORNIA

PROJECT NO.: 8889.000.000	FIGURE NO.
SCALE: AS SHOWN	1
DRAWN BY: SRP / CHECKED BY: PCG	

ORIGINAL FIGURE PRINTED IN COLOR

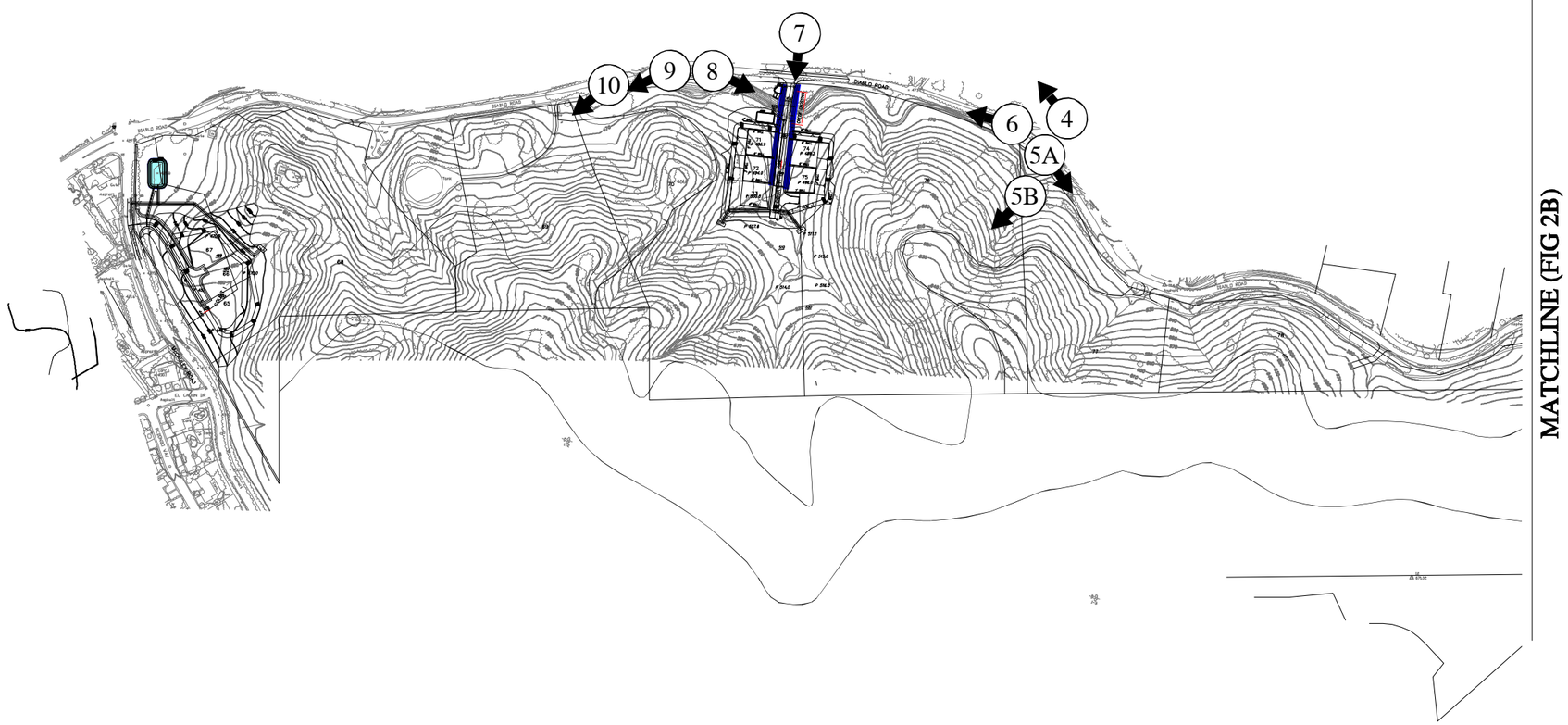
COPYRIGHT © 2011 BY ENGEO INCORPORATED. THIS DOCUMENT MAY NOT BE REPRODUCED IN WHOLE OR IN PART BY ANY MEANS WHATSOEVER, NOR MAY IT BE QUOTED OR EXCERPTED WITHOUT THE EXPRESS WRITTEN CONSENT OF ENGEO INCORPORATED.

EXPLANATION

APPROXIMATE LOCATION OF BIO FILTRATION SWALES

10 PHOTOGRAPH LOCATION AND DIRECTION

BIORETENTION/FLOW CONTROL BASIN



N

0 FEET 500

0 METERS 250

BASE MAP SOURCE: UNKNOWN

ENGEO Expect Excellence

PHOTOPOINTS AND STORMWATER MITIGATION MAP

MAGEE RANCHES

DANVILLE, CALIFORNIA

PROJECT NO.: 8889.000.000		FIGURE NO
SCALE: AS SHOWN		2A
DRAWN BY: SRP	CHECKED BY: PCG	

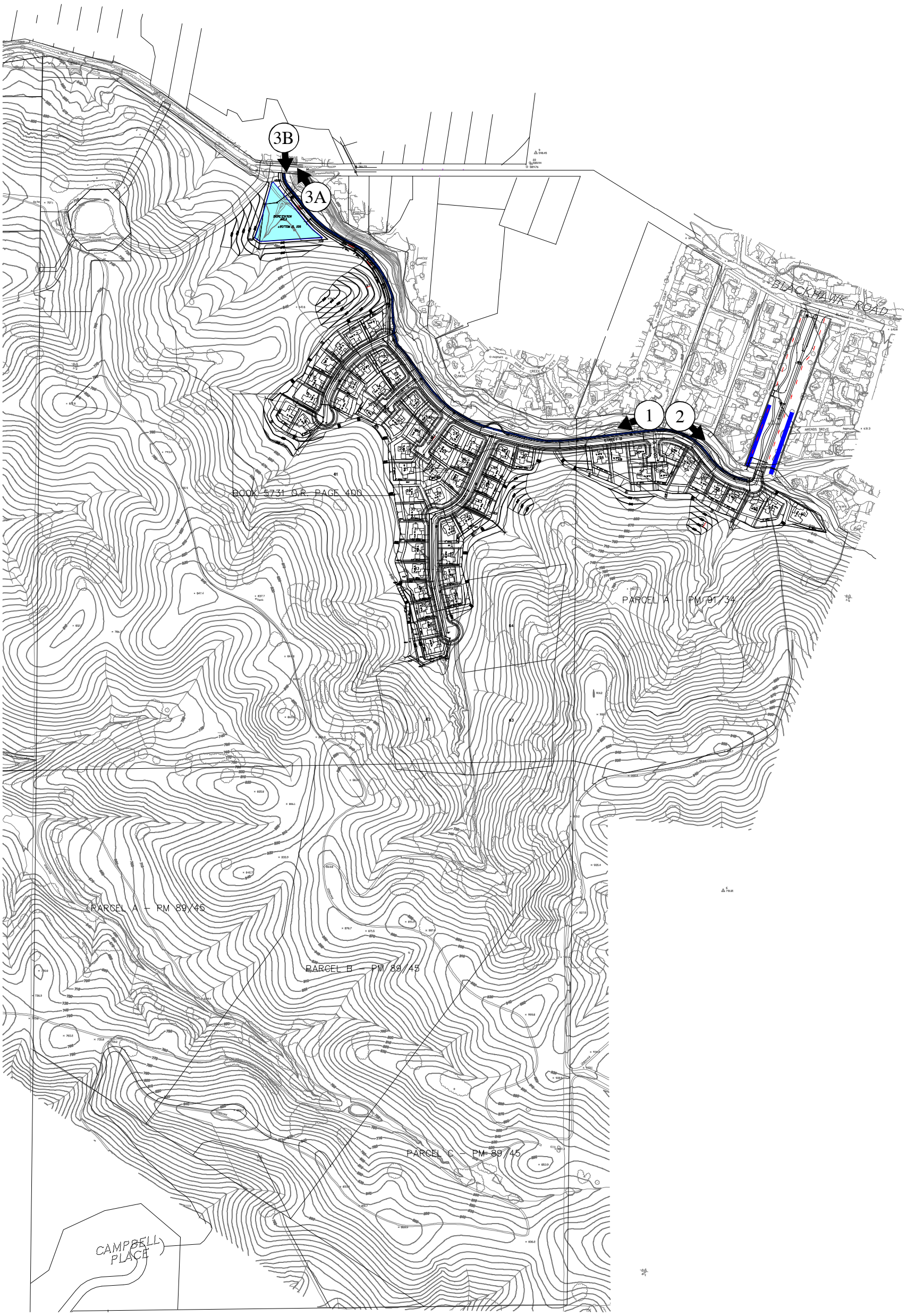
G:\Drafting\DRAFTING2_Dwg\8889\000\8889000000-2-StormWaterMitigation-0311.dwg Plot Date: 3-18-11 spatters

ORIGINAL FIGURE PRINTED IN COLOR

COPYRIGHT © 2011 BY ENGEO INCORPORATED. THIS DOCUMENT MAY NOT BE REPRODUCED IN WHOLE OR IN PART BY ANY MEANS WHATSOEVER, NOR MAY IT BE QUOTED OR EXCERPTED WITHOUT THE EXPRESS WRITTEN CONSENT OF ENGEO INCORPORATED.

G:\Drafting\DRAFTING2_Dwg\8889\000\88890000000-2-StormWaterMitigation-0311.dwg Plot Date: 3-18-11 spotters

MATCHLINE (SEE FIG 2A)



EXPLANATION

APPROXIMATE LOCATION OF BIO FILTRATION SWALES

3B PHOTOGRAPH LOCATION AND DIRECTION

BIORETENTION/FLOW CONTROL BASIN

N

0 FEET 500

0 METERS 250

BASE MAP SOURCE: UNKNOWN

ENGEO Expect Excellence

PHOTOPOINTS AND STORMWATER MITIGATION MAP

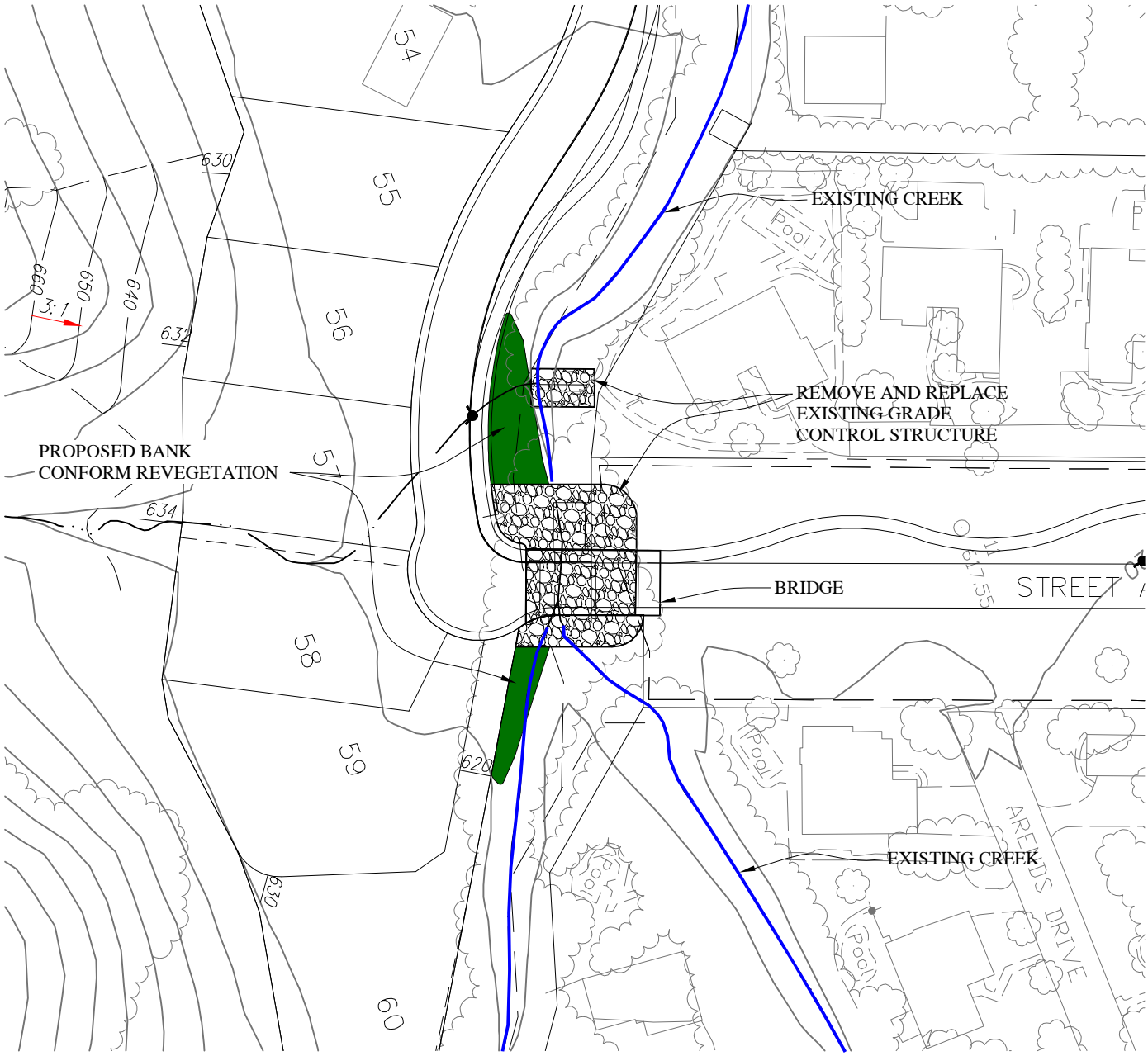
MAGEE RANCHES

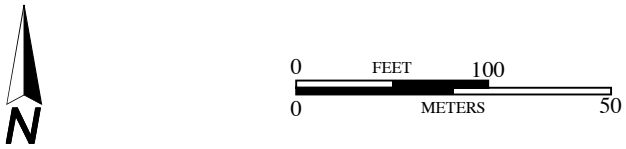
DANVILLE, CALIFORNIA

PROJECT NO.: 8889.000.000	FIGURE NO.
SCALE: AS SHOWN	2B
DRAWN BY: SRP	CHECKED BY: PCG

ORIGINAL FIGURE PRINTED IN COLOR

COPYRIGHT © 2011 BY ENGEO INCORPORATED. THIS DOCUMENT MAY NOT BE REPRODUCED IN WHOLE OR IN PART BY ANY MEANS WHATSOEVER, NOR MAY IT BE QUOTED OR EXCERPTED WITHOUT THE EXPRESS WRITTEN CONSENT OF ENGEO INCORPORATED.





BASE MAP SOURCE: RJA

ENGEO
Expect Excellence

CREEK RESTORATION AND CROSSING
MAGEE RANCHES PROJECT
DANVILLE, CALIFORNIA

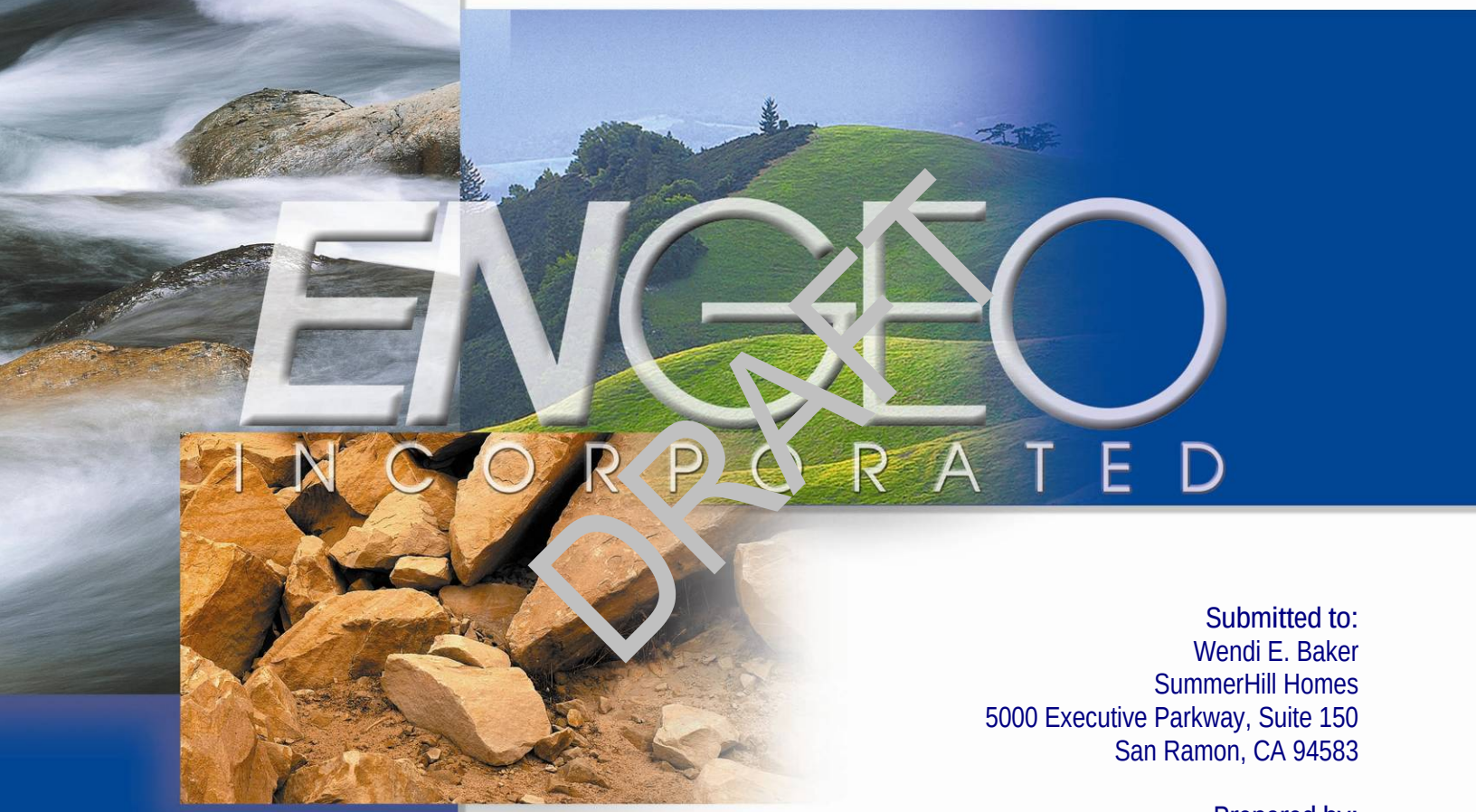
PROJECT NO.: 8889.000.000	FIGURE NO. 3
SCALE: AS SHOWN	
DRAWN BY: PC	CHECKED BY: PG

G:\Drafting\DRAFTING2_Dwg\8889\000\8889000000-3-BridgeCreek-0511.dwg Plot Date: 5-20-11 pcrockett

ORIGINAL FIGURE PRINTED IN COLOR

REGIONAL HYDROLOGIC ANALYSIS

MAGEE RANCHES PROJECT
DANVILLE, CALIFORNIA



DRAFT

Submitted to:
Wendi E. Baker
SummerHill Homes
5000 Executive Parkway, Suite 150
San Ramon, CA 94583

Prepared by:
ENGEO Incorporated

June 8, 2011
Revised April 17, 2012

Project No:
8889.000.000

Copyright © 2012 By ENGEO Incorporated. This Document May Not Be Reproduced In Whole Or In Part By Any Means Whatsoever, Nor May It Be Quoted Or Excerpted Without The Express Written Consent Of ENGEO Incorporated

- Expect Excellence -

Project No.
8889.000.000

June 8, 2011
Revised April 17, 2012

Ms. Wendi E. Baker
Land Acquisition Manager
SummerHill Homes
5000 Executive Parkway, Suite 150
San Ramon, CA 94583

Subject: Magee Ranches Project
Danville, California

REGIONAL HYDROLOGIC ANALYSIS

DRAFT

Dear Ms. Baker:

At your request, we are pleased to submit this regional hydrologic analysis for the watersheds located within your proposed Magee Ranches project in Danville, California. The objectives of this study are to evaluate the effect of development of the project on peak flows in the Green Valley Creek watershed and to verify that proposed flood control facilities will not increase flooding potential for downstream receiving waters.

If you have any questions regarding this report, please do not hesitate to contact us.

Sincerely,

ENGEO Incorporated

Scott Johns, PE

Jonathan D. Buck, GE

sj/jdb/pcg/jf:hydro

TABLE OF CONTENTS

Letter of Transmittal

1.0 INTRODUCTION 1

2.0 GEOLOGIC SETTING 1

3.0 HYDROLOGIC CALCULATIONS 2

- **3.1 RAINFALL DATA 2**
- **3.2 HYDROLOGIC METHODS 3**
- **3.3 ROUTING 5**
- **3.4 RECURRENCE INTERVAL 6**
- **3.5 POST-DEVELOPMENT HYDROLOGY 6**
- **3.6 DETENTION BASIN SIZING 7**
- **3.7 TIMING OF POST-DEVELOPMENT PEAK DISCHARGES 9**
- **3.8 TIMING OF MAGEE RANCHES OPEN SPACE WATER 10**
- **3.9 POST-DEVELOPMENT PEAK DISCHARGE COMPARISON BASED ON CONDITION OF EXISTING MAGEE RANCH BASIN. 12**

4.0 REGIONAL IMPACTS AND WESTERN MAGEE PARCEL 13

- **4.1 MAGEE RANCH EAST PROJECT 13**
- **4.2 MAGEE RANCH WEST PROJECT 14**

5.0 CONCLUSION 15

6.0 MAINTENANCE OF FACILITIES 15

7.0 LIMITATIONS AND UNIFORMITY OF CONDITIONS 16

SELECTED REFERENCES

APPENDIX A: Figures
APPENDIX B: Hydrologic Calculations
APPENDIX C: Supporting Watershed Photographs
APPENDIX D: Project Tentative Map Sheets – Ruggeri-Jensen-Azar
APPENDIX E: Project Stage-Storage-Discharge Table
APPENDIX F: Other Plans

DRAFT

1.0 INTRODUCTION

The proposed Magee Ranches project is located at the headwaters of San Ramon Creek in Danville, California, at the southern periphery of the East Branch of Green Valley Creek watershed. San Ramon Creek is part of the Walnut Creek watershed and eventually drains through the cities of Walnut Creek and Concord and then into San Francisco Bay.

The Magee Ranches property encompasses roughly 410 acres located south of Diablo Road in Danville, California (Figure 1). Current elevations range from a high of about 960 feet above mean sea level (msl) at a ridge-top peak near the center of the property to a low of about 425 feet above msl at the intersection of Diablo Road and McCauley Road. The East Branch of Green Valley Creek is located along the northern boundary of the project.

The Magee Ranches property is generally characterized by open, rolling, grass-covered hills with scattered trees. Currently, the property is used for beef cattle operations. The overall property began subdivision in the 1950s when several walnut orchards were sold and further subdivided in the 1980s. The existing Magee Ranch development is located just east of the subject property. The proposed Magee Ranches development consists of approximately 78 residential lots, access roads, utilities and a stormwater detention basin near the undercrossing of Green Valley Creek at Diablo Road.

Based on the Tentative Map prepared by Ruggeri-Jensen-Azar (RJA) for the project, the majority of the proposed development will be concentrated on a 198-acre parcel upstream of the Diablo Road overcrossing of Green Valley Creek. This portion of the proposed project is referred to as Magee Ranches East in this report. The project also proposes several low density dispersed custom homes further downstream of the Diablo Road overcrossing near Mount Diablo Scenic Boulevard, which are herein referred to as the Magee Ranches West project. Given the distance between the two proposed development areas, hydrologic considerations for the Western and Eastern portions of the project are discussed separately in this report.

The objective of this study is to evaluate the peak flow hydrology in the subwatersheds where development is proposed in order to estimate if discharge into Green Valley Creek from the proposed project would coincide with the timing of the existing flood hydrograph in Green Valley Creek, or would otherwise result in the raising of peak flow rates downstream of the proposed project.

2.0 GEOLOGIC SETTING

The Magee Ranches project is located in Green Valley within the Mount Diablo fold-and-thrust belt on the south flank of the Mount Diablo uplift. The bedrock formations in the area south of Mount Diablo and north of the Livermore Valley have been folded and cut by thrust faults that typically dip toward the north, according to recent geologic mapping by Crane (1995) and Graymer, et al. (1996). The site is underlain by Pliocene non-marine sedimentary rock consisting of weakly indurated claystone, siltstone and thin beds of sandstone and pebble conglomerate.

DRAFT

Soil mapping of the watershed prepared by the National Resource Conservation Service (NRCS) indicates that surficial soil materials are primarily comprised of montmorillonitic clay soils with a hydrologic group rating of 'D.' Group 'D' soils are defined as having a very slow infiltration rate when thoroughly saturated. As a result, the watershed is characterized by rapid run-off characteristics after saturation has occurred.

3.0 HYDROLOGIC CALCULATIONS

For the Magee Ranches East project, where development is concentrated, we have evaluated the installation of a proposed detention basin to attenuate peak flows from the project before discharging into Green Valley creek. We conducted our hydrologic calculations in accordance with methodologies set forth by Contra Costa County. The Magee Ranches West project is evaluated under the regional impacts discussion in Section 4.0.

3.1 RAINFALL DATA

Published hydrologic mapping of the area prepared by the Contra Costa County Public Works Department (December 1977 – updated 2010) indicates that approximately 17.5 to 20 inches of annual precipitation occurs in the area of the creek watershed located within Contra Costa County based on precipitation records collected between 1879 and 1973 (Figure 2). The total watershed area draining into the local creek segments upstream of the box culvert at Diablo Road is approximately 2.27 square miles. On the USGS Diablo Quadrangle, the headwater channel of East Branch of Green Valley Creek terminates approximately 2 miles upstream within Mount Diablo State Park. Actual rainfall depths used in the hydrologic modeling are summarized below and are based on the 1977 Contra Costa County method of converting annual precipitation depth to a recurrence interval event based on duration.

DRAFT

TABLE 3.1-1
Rainfall Depth 10-Year Storm

Area	Mean Seasonal Precipitation (inches)	3-hour 10-year Storm (inches)	6-hour 10-year Storm (inches)	12-hour 10-year Storm (inches)	24-hour 10-year Storm (inches)
Subwatershed 1	19.1	1.42	1.97	2.71	3.66
Subwatershed 2A	19.8	1.46	2.02	2.79	3.77
Subwatershed 2B	19.1	1.42	1.97	2.71	3.66
Subwatershed 2C	19.5	1.44	2.00	2.76	3.72
Subwatershed 3A	19.9	1.46	2.03	2.80	3.79
Subwatershed 3B	19.2	1.42	1.98	2.72	3.68
Subwatershed 3C	19.2	1.42	1.98	2.72	3.68
Subwatershed 4	18.9	1.41	1.96	2.69	3.63

TABLE 3.1-2
Rainfall Depth 100-Year Storm

Area	Mean Seasonal Precipitation (inches)	3-hour 100-year Storm (inches)	6-hour 100-year Storm (inches)	12-hour 100-year Storm (inches)	24-hour 100-year Storm (inches)
Subwatershed 1	19.1	2.07	2.90	4.01	5.46
Subwatershed 2A	19.8	2.12	2.98	4.12	5.62
Subwatershed 2B	19.1	2.07	2.90	4.01	5.46
Subwatershed 2C	19.5	2.10	2.94	4.07	5.55
Subwatershed 3A	19.9	2.13	2.99	4.14	5.65
Subwatershed 3B	19.2	2.08	2.91	4.02	5.48
Subwatershed 3C	19.2	2.08	2.91	4.02	5.48
Subwatershed 4	18.9	2.06	2.88	3.97	5.41

The 1977 (updated 2010) Contra Costa County average annual rainfall isohyets are shown on Figure 2 of this report. Representative rainfall depths are measured from the centroid of each watershed.

3.2 HYDROLOGIC METHODS

The hydrologic method to develop peak flow hydrographs within the watersheds of the East Branch of Green Valley Creek is based on a method described in the document "HEC-HMS Guidance for the Contra Costa County Flood Control and Water Conservation District Unit Hydrograph Method" (April 13, 2010). We understand that the intent of this document is to use the Contra Costa County HYDRO6 synthetic hydrograph methodology input files within the framework of the Hydrologic Engineer Center-Hydrologic Modeling System program (HEC-HMS). ENGEO makes no representation regarding the appropriateness of the HYDRO6 proprietary methodology in predicting peak flows in watersheds within Contra Costa County. The HYDRO6 synthetic hydrograph method is dependent of the following parameters for each subwatershed.

1. Size of subwatershed.

2. Subwatershed infiltration rate.

3. Overall watershed slope.

4. Lag Time – which is a function of longest channel length within the subwatershed as well as the subwatershed geometry

DRAFT

Appendix B contains several excerpts from the Hydrograph method, which describes portions of the Contra Costa County technique. Table 3.2-1 lists infiltration rates for various land uses encountered within the study based on rates published by Contra Costa County:

TABLE 3.2-1

Land Use Type	Infiltration Rate (inch/hour)
Open Space	0.18
R-40 Housing	0.14
R-20 Housing	0.11
R-10 Housing	0.08
R-6 Housing	0.05

The delineation of subbasins used for the regional study of the East Branch of Green Valley Creek was based on input from RJA and tentative site development files as well as Contra Costa County Geographic Information System Metadata based on May 2000 aerial photographs. Figures depicting the watershed in terms of land use types and infiltration rates are included in Appendix A as Figures 3 and 4. Infiltration calculations weighted specifically for each hydrologic subwatershed are included in Appendix B.

Two developments upstream of the Magee Ranches project contain detention basins that may affect the timing of peak flows concentrating in Green Valley Creek near the Magee Ranches project outfall. These basins are described as follows:

1. The Blackhawk subdivision contains three debris catchment basins which are located upstream of the development footprint and collect open space run-on. The three basins each contain large at-ground debris catchment structures that do not appear to have been designed to substantially attenuate flood control peak flows. We understand that these basins are maintained by the Contra Costa County Flood Control District through funding from the Blackhawk Geologic Hazard Abatement District (BGHAD). Based on a site reconnaissance conducted on September 2, 2011, the three basins appear to be well maintained. We discussed the performance of the basins with Mike Sands of the BGHAD, and he stated that he is unaware of any prolonged ponding that has occurred in these basins that might appreciably affect downstream hydrologic timing. The basins have been added to the HEC-HMS model based on the stage-storage-discharge curves shown on the original improvement plans prepared for the project by Brian Murphy Associates, dated September 1976. In order for HEC-HMS to properly detain flows in the basins given the information shown on the September 1976 plans, the stage-storage-discharge values were extrapolated slightly above the volumes indicated on the drawings.

2. The Magee Ranch project also contains a detention basin, which collects and attenuates flood flows from the developed area of the project as well as open space run-on. We have added the Magee Ranch project to our pre- and post-development hydrologic models to account for

DRAFT

a delay in peak discharge from that portion of the upstream watershed. The stage-storage-discharge curve for the basin used in our modeling is based on the original plans for the basin prepared by DK Associates with a revised date of January 22, 1990. The basin appears to contain woody riparian vegetation and some sediment deposition based on a site reconnaissance conducted in October 2011. Since maintenance of the stormwater basins generally occurs periodically, we are providing a sensitivity analysis to demonstrate that the proposed Magee Ranches detention basin would provide attenuation of peak discharges downstream of the proposed project for both a fully and partially maintained condition in the Magee Ranch basin. This is discussed further in Section 3.9.

Plans for these basins are included in Appendix F of this document. We have included pictures of the Blackhawk basins in Appendix C taken in September 2011 that show that they are currently adequately maintained to pass flood flows without obstruction.

TABLE 3.2-2
Existing Conditions – East Branch of Green Valley Creek Watershed Basin Characteristics

Subwatershed	Area (sq mi)	Longest Channel Length (miles)	Lca (miles)	Infiltration Rate (inch/hr)	Slope (feet/mi)	Weighted N Value	Elevation Change (feet)	Lag Time (hours)
1	0.265	1.06	0.34	0.180	378.83	0.075	400	0.39
2A	0.344	1.14	0.55	0.180	910.04	0.075	1040	0.41
2B	0.481	1.57	0.82	0.144	322.61	0.052	505	0.46
2C	0.105	0.61	0.27	0.180	953.72	0.075	580	0.25
3A	0.311	1.28	0.52	0.180	783.27	0.075	1000	0.43
3B	0.287	1.19	0.47	0.138	419.65	0.047	500	0.29
3C	0.071	0.62	0.54	0.116	97.09	0.033	60	0.22
4	0.404	1.10	0.53	0.154	328.74	0.059	360	0.38

Specific lag time calculations are furnished in Appendix B of this document. Figures 5 and 6 graphically depict the pre- and post-development watersheds**.**

3.3 ROUTING

Hydrologic routing was performed between each subwatershed and previously mentioned basins to account for channel roughness and floodplain storage through various reaches in the stream and conveyance channels as flows move through the watershed. The routing method selected for this hydrologic model, the Muskingum-Cunge method, is a widely accepted approach that uses reach length, channel slope and cross-sectional geometry to attenuate the flood hydrograph as it moves through each reach. Roughness coefficients are based on Manning's method. Based on our experience with creek hydraulics in southern Contra Costa County, a Manning's 'n' value of 0.035 was selected to represent open channel roughness. A Manning's 'n' value of 0.015 was selected to represent pipe and/or concrete-lined channel roughness by the Handbook of

Hydraulics, sixth edition by Brater and King. The table below summarizes our assumptions. Typical channel geometry was determined upstream of the Magee Ranches project through field reconnaissance and interpretation of aerial photographs. The pipe diameters were determined based on a Service Area 23 Contra Costa County Public Works Department storm drain map for the project area included dated June 29, 1982 included in Appendix F. In general, the Green Valley creek maintains an incised trapezoidal shape through most of the reach through the proposed project. A photograph is provided in Appendix C of this report depicting a reference reach, which characterizes typical channel geometry used in the selected routing method.

TABLE 3.3-1
Muskingum-Cunge Routing Coefficients – Green Valley Creek Watershed Basin

Reach	Watershed Connections	Average Length (feet)	Average Slope (ft/ft)	Circle Diameter (feet)	Bottom Width (feet)	Sideslopes (H:V)	Mannings "n" value
1	East Basin and Subjunction 2A/ 2C	3,534	0.040	2.5	NA	NA	0.015
2	Middle Basin and Subjunction 2A/2C	2,405	0.037	3.5	NA	NA	0.015
3	Subjunction 2A/2C and Junction 1	2,785	0.027	NA	15	2	0.035
4	Magee Pond and Junction 1	839	0.018	NA	15	2	0.035
5	Junction 1 and Junction 2	419	0.036	NA	15	2	0.035
6	West Basin and Reach 7	1,998	0.040	NA	15	2	0.035
7	Reach 6 and Junction 2	4,735	0.011	4	NA	NA	0.015
8	Junction 2 and Junction 3	2,725	0.018	NA	15	2	0.035

3.4 RECURRENCE INTERVAL

For this report, the 10-year and 100-year recurrence interval storm events were analyzed in conformance with Contra Costa County Flood Control methods regarding new development detention basin sizing standards. The modeling indicates that the 10-year and 100-year flows pass through the detention basins included in the model without overtopping.

These flows represent maximum flows in the pre-project condition and provide a baseline for designing post-construction flow control features for the developed scenario.

3.5 POST-DEVELOPMENT HYDROLOGY

Subwatershed 1 in the existing conditions model has been modified to reflect the post-project conditions for purposes of comparison. In general, the Magee Ranches project is characterized by low-density development, which does not greatly decrease the existing infiltration potential of

the portions of East Branch of Green Valley Creek in which the project is located. The subbasins listed in the table below, therefore, have been altered in the post-project model to reflect the addition of the Magee Ranches project in the watershed (Figures 4 and 6).

TABLE 3.5-1
Post-Project Conditions
East Branch Of Green Valley Creek

Subwatershed	Area (sq miles)	Longest Channel Length (miles)	Lca (miles)	Infiltration Rate (inch/hour)	Slope (ft/mi)	Weighted N Value	Elevation Change (feet)	Lag Time (hour)
1A	0.201	1.06	0.34	0.180	378.83	0.065	400	0.34
1B	0.064	0.71	0.35	0.080	93.45	0.034	66	0.20

3.6 DETENTION BASIN SIZING

In order to offset the increase of imperviousness proposed by the Magee Ranches East project, a detention basin has been proposed towards the western portion of the Magee Ranches East project near Diablo Road as shown on the files provided by RJA where development is proposed (Figure 7). The geometry of the pond shown on the RJA plans was entered into the HEC-HMS model, and a concrete box structure with several orifices was sized to attenuate flood flows in the basin before discharging into Green Valley Creek. An elevation-area table is included in Appendix E.

No tailwater condition was assumed based on the pipe invert outfall elevation of 560 feet at the outfall of the basin. Calculations performed using a flow rate of 1,550 cubic feet per second indicate a stage elevation of approximately 8 feet above the invert elevation of the creek for a 100-year, 24-hour rainfall event, using a 10-foot-wide creek channel bottom and 2:1 side slopes, a manning's 'n' value of 0.035 and a bed slope of 0.005 ft/ft. The approximate invert elevation of the channel is 543 feet, indicating that the water surface elevation in the creek should not rise as high as the detention basin outfall.

TABLE 3.6-1
Post-Development Hydrology
Detention Basin Sizing

Subwatershed	Detention Basin Area (acre) at Elevation 569	Orifice Size	Orifice Center Distance from Concrete Box Structure Bottom (Elevation 564) (feet)	Orifice Size (square feet)
1B	5.12	Top of 4' x 4' Concrete Box Structure	5.0	4.0
		Upper Orifice (2.5' dia)	3.0	4.91
		Lower Orifice (0.5' dia)	0.25	0.20

DRAFT

The outfall structure is thus assumed to be a 4-foot by 4-foot reinforced concrete box standpipe with 6-inch-thick walls and with two openings on the side of the structure with a two-square-foot emergency spill way and a 4.0-square-foot trash rack at the top as shown on Figure 8. An elevation-area relationship is provided in the table below and shown graphically in Appendix E.

TABLE 3.6-2
Post-Development Hydrology
Elevation-Area Relationship

Elevation	Area (ac)
564	0
565	0.906
566	0.963
567	1.022
568	1.082
569	1.143

Rock scour protection at the creek outfall location is anticipated and will be provided in conformance with Town of Danville as well as San Francisco Bay Regional Water Quality Control Board, United States Army Corps of Engineers, California Department of Fish and Game and United States Fish and Wildlife Service standards.

It should be noted that a stormwater management plan published under separate cover describes several stormwater best management practices that detain runoff from smaller event storms and that will be placed alongside many roads in the proposed project. These areas have been neglected from the hydrologic calculations shown below. However, we would assume that the stormwater features would provide some detention function during smaller storms. The proposed detention of water should further reduce the flow rates released from developed portions of the proposed project. The HEC-HMS model output summary reports are attached in Appendix B. Based on the addition of the detention basin, the results of the regional analysis are summarized below.

DRAFT

TABLE 3.6-3
Comparison of Flows
East Branch of Green Valley Creek Watershed 10-Year Peak Flows

NODE	10-Year Peak Flows (cfs)			
	3-hr	6-hr	12-hr	24-hr
2 – Junction along Diablo Road (Pre-Development)	530	535	537	597
2 – Junction along Diablo Road (Post-Development)	530	535	537	597
3 – Point of Compliance near Detention Basin (Pre-Development)	642	645	636	731
3 – Point of Compliance near Detention Basin (Post-Development)	624	634	621	716

TABLE 3.6-4
Comparison of Flows
East Branch of Green Valley Creek Watershed 100-Year Peak Flows

NODE	100-Year Peak Flows (cfs) Pre-Project			
	3-hr	6-hr	12-hr	24-hr
2 – Junction along Diablo Road (Pre-Development)	1,023	984	1,045	1,395
2 – Junction along Diablo Road (Post-Development)	1,023	984	1,045	1,395
3 – Point of Compliance near Detention Basin (Pre-Development)	1,175	1,145	1,211	1,574
3 – Point of Compliance near Detention Basin (Post-Development)	1,161	1,133	1,198	1,558

The above tables demonstrate that the addition of the proposed Magee Ranches East detention basin would reduce peak flows in the watershed downstream of the proposed project (Node 3) if the project is implemented, for all of the design storms evaluated in this study.

3.7 TIMING OF POST-DEVELOPMENT PEAK DISCHARGES

The following table summarizes the timing of peak discharges from the Magee Ranches East project in regard to regional timing of the Green Valley Creek watershed.

TABLE 3.7-1
Comparison of Timing
East Branch of Green Valley Creek Watershed 10- and 100-Year Peak Flows (Hours:Minutes)

NODE	Time of Concentration of Peak Flow (10-year)				Time of Concentration of Peak Flow (100-year)			
	3-hr	6-hr	12-hr	24-hr	3-hr	6-hr	12-hr	24-hr
Green Valley Creek at Node 3 (Pre-Development)	3:00	4:30	6:15	10:15	3:00	4:30	6:15	10:15
Green Valley Creek at Node 3 (Post-Development)	3:00	4:30	6:15	10:15	3:00	4:30	6:15	10:15
Outfall of Project Detention Basin (Post-Development)	3:15	4:45	6:45	10:45	3:15	4:45	6:30	10:30

As noted in Table 3.7-1 above, peak discharges into Green Valley Creek from the developed portion of the Magee Ranches project will be delayed by the incorporation of a detention basin into the proposed Magee Ranch project. The basin, however, will attenuate peak flows which will reduce peak discharges in Green Valley Creek downstream of the project.

3.8 TIMING OF MAGEE RANCHES OPEN SPACE WATER

As shown on the Tentative Map prepared for Ruggeri-Jensen-Azar for the project included in Appendix D of this report, the project intends to route open space run-on water through the development area and discharge into Green Valley Creek without co-mingling flows with stormwater from the development footprint. Open space run-on water is modeled as Subwatershed 1A in the HEC-HMS software. Although the Contra Costa County Hydrology method used here would prescribe an 'N' value of 0.075 for open space, based on watershed roughness, we have provided a sensitivity analysis to demonstrate the effect of lowering the 'N' value for this watershed to account for decreased travel time into Green Valley creek caused by the proposed storm drain routing.

The following tables show the difference in timing of peak discharge from the proposed development as compared to the peak discharge from Green Valley Creek.

DRAFT

TABLE 3.8-1
(N=0.075 for Watershed 1A)
Comparison of Timing
East Branch of Green Valley Creek Watershed 10- and 100-Year Peak Flows

NODE	Time of Concentration of Peak Flow (10-year)				Time of Concentration of Peak Flow (100-year)			
	3-hr	6-hr	12-hr	24-hr	3-hr	6-hr	12-hr	24-hr
Green Valley Creek at Node 3 (Pre-Development)	3:00	4:30	6:15	10:15	3:00	4:30	6:15	10:15
Green Valley Creek at Node 3 (Post-Development)	3:00	4:30	6:15	10:15	3:00	4:30	6:15	10:15
Subwatershed 1 (Pre-Development)	2:45	4:30	6:15	10:00	2:45	4:30	6:15	10:00
Subwatershed 1A (Post-Development)	2:45	4:30	6:15	10:00	2:45	4:30	6:15	10:00

DRAFT

TABLE 3.8-2
(N=0.065 for Watershed 1A)
Comparison of Timing
East Branch of Green Valley Creek Watershed 10- and 100-Year Peak Flows

NODE	Time of Concentration of Peak Flow (10-year)				Time of Concentration of Peak Flow (100-year)			
	3-hr	6-hr	12-hr	24-hr	3-hr	6-hr	12-hr	24-hr
Green Valley Creek at Node 3 (Pre-Development)	3:00	4:30	6:15	10:15	3:00	4:30	6:15	10:15
Green Valley Creek at Node 3 (Post-Development)	3:00	4:30	6:15	10:15	3:00	4:30	6:15	10:15
Subwatershed 1 (Pre-Development)	2:45	4:30	6:15	10:00	2:45	4:30	6:15	10:00
Subwatershed 1A (Post-Development)	2:45	4:15	6:15	10:00	2:45	4:15	6:00	10:00

TABLE 3.8-3
Comparison of Flows with varying N value
East Branch of Green Valley Creek Watershed 10- and100- Year Peak Flows

NODE	10-Year Peak Flows (cfs)				100-Year Peak Flows (cfs)			
	3-hr	6-hr	12-hr	24-hr	3-hr	6-hr	12-hr	24-hr
Green Valley Creek at Node 3 (Pre-Development)	642	645	636	731	1175	1145	1211	1574
Green Valley Creek at Node 3 (Post-Development) (N=0.075 for Watershed 1A)	627	635	620	718	1164	1135	1197	1562
Green Valley Creek at Node 3 (Post-Development) (N=0.065 for Watershed 1-A)	624	634	621	716	1161	1133	1198	1558

DRAFT

As can be seen in the tables above, variation of the 'N' value only slightly changes the timing of discharge for the long duration storm from the open space run-on water into Green Valley Creek. The lower N value, which is more representative of the actual Magee Ranches project open-space run-on storm drain system, produces lower peak flows for the 100-year storm event. With the 'N' value lowered to 0.065, representing a faster travel time for flood flows to the creek, the 10- and 100-year peak flows are generally slightly lower than for an 'N' value of 0.075; however, final results show attenuation over pre-development levels for either case. Final calculations in this report use the lower N value for Subwatershed 1A.

3.9 POST-DEVELOPMENT PEAK DISCHARGE COMPARISON BASED ON CONDITION OF EXISTING MAGEE RANCH BASIN.

As mentioned in Section 3.2, the Magee Ranch basin upstream of the project appears to be functioning at less than full storage capacity between maintenance intervals due to the intrusion of willow tree growth and sediment deposition. Based on our discussions with the Contra Costa County Flood Control and Water Conservation District, basin maintenance does occur as reported to them by the Magee Ranch Homeowners Association. We have provided a sensitivity analysis in the table below to demonstrate that the proposed Magee Ranches project will reduce downstream impacts with the installation of the proposed detention basin for either a partially maintained or fully maintained Magee Ranch Basin. For this analysis, we assume for purposes of comparison that growth of riparian vegetation would reduce the storage volume of the pond by 20 percent, while the stage and discharge relationships would remain the same as for the fully maintained condition. Table 3-9.1 summarizes the results

TABLE 3.9-1
Comparison of Flows Varying Maintenance Conditions in Magee Ranch Detention Basin
East Branch of Green Valley Creek Watershed - 10- and 100-Year Peak Flows

NODE	10-Year Peak Flows (cfs)				100-Year Peak Flows (cfs)			
	3-hr	6-hr	12-hr	24-hr	3-hr	6-hr	12-hr	24-hr
Green Valley Creek at Node 3 (Pre-Development, partially maintained Magee Ranches basin)	647	649	641	737	1182	1153	1218	1620
Green Valley Creek at Node 3 (Post-Development, partially maintained Magee Ranches basin)	628	639	627	722	1168	1141	1205	1603
Green Valley Creek at Node 3 Pre-Development, fully maintained Magee Ranches basin)	642	645	636	731	1175	1145	1211	1574
Green Valley Creek at Node 3 Post-Development, fully maintained Magee Ranches basin)	624	634	621	716	1161	1133	1198	1558

The results demonstrate that for either case, peak flows will be attenuated with development of the Magee Ranches project and that 20 percent assumed reduction in capacity increases the modeled flow by less than 1 percent. The maintained condition shows slightly lower flows as expected.

4.0 REGIONAL IMPACTS AND WESTERN MAGEE PARCEL

4.1 MAGEE RANCH EAST PROJECT

The Magee Ranches East project is located in the easternmost portion of the Green Valley Creek watershed, which contains the most hydrologically distant point of the watershed as measured from its confluence with San Ramon Creek. We assume that peak discharges from other downstream tributary channels which flow into the Main Stem of Green Valley Creek between the Magee Ranches project and the San Ramon Creek confluence would occur prior to the peak discharges occurring from the portion of the watershed studied herein. Therefore, by detaining peak discharges from the proposed Magee Ranches project and releasing them into Green Valley

Creek after the peak discharge occurs in the upper portion of the watershed, regional impacts from the Magee Ranch East project are considered to be negligible.

4.2 MAGEE RANCH WEST PROJECT

As shown on the Vesting Tentative Map for the project prepared by RJA, the Magee Ranches West project proposes to develop several dispersed parcels to the South of Diablo Road as well as several custom homes. Small clustered development is proposed near the intersection of McCauley Road and Diablo Road as well as near the intersection of Fairway Drive and Diablo Road. These areas are approximately 0.9 and 1.3 miles downstream of the proposed Magee Ranches East detention basin outfall, respectively, and are situated in a portion of the watershed downstream of the confluence with the branch of Green Valley Creek that extends into Dan Cook Canyon. According to the preliminary stormwater plan for the project prepared by RJA, approximately 1.2 acres of impervious surface are proposed for Magee Ranches West project for a subwatershed the size of 120 acres.

Hydrologic impacts have been studied by others in the vicinity of the Western Magee Ranch parcel. A study by Questa Engineers dated October 2006 for the Matadera Subdivision, which is located in the Green Valley watershed near the westerly boundary of the Magee Ranches West project, concluded that detention of flood flows for that project would raise peak flows in Green Valley Creek based on watershed timing of flood discharges. This conclusion is based on a hydrograph timing computation, which demonstrates that the direct release of water from that project would occur approximately 30 minutes before the peak flood flows of Green Valley creek would concentrate at the project point of discharge. Therefore, the detention of project flood waters would actually exacerbate downstream flooding concerns by storing waters and releasing them at the same time the peak discharges in the creek occur.

Based on our study of the upper watershed for Magee Ranches East, where peak discharges in the watershed occur nearly simultaneously with proposed project runoff into Green Valley Creek, we conclude that the limited development proposed for the Magee Ranches West project should develop the same strategy as the Matadera Subdivision in terms of peak hydrologic discharge. Based on watershed timing, flood flows for these parcels should not be detained in flood control storage facilities, but rather released directly into the creek channel before peak flows concentrate at the point of discharge. We note that these parcels will be subject to Provision C3 requirements through the Contra Costa County Clean Water Program, which will require a reduction of discharge for stormwater runoff up to the 10-year recurrence interval storm event to pre-development levels. However, storms larger than the 10-year recurrence interval should be designed to pass through the stormwater facilities and discharge directly into the Green Valley Creek. Given the proximity of these parcels to the Matadera project, we would assume watershed timing to be approximately the same as detailed in that study with a variation of up to 10 minutes to account for the distance between the Matadera outfall and the most upstream Magee Ranches West outfall.

DRAFT

TABLE 4.2-1
Comparison of Timing
East Branch of Green Valley Creek Watershed 100-Year 24-hour Peak Flows

NODE	Timing of Peak Discharge at Outfall as Compared to Timing of Peak Discharge in Green Valley Creek (minutes)
Magee Ranches East	-15
Magee Ranches West	+30

5.0 CONCLUSION

Based on the results of our modeling, the Magee Ranches project will not increase peak flows in the East Branch of the Green Valley Creek watershed downstream of the project if built in accordance with the project plans prepared by RJA and recommendations made herein. We expect this hydrologic model will need to be updated prior to approval of the final map of the project in order to assess any future modifications to the land plan.

6.0 MAINTENANCE OF FACILITIES

Maintenance of the proposed detention pond and other drainage facilities will be performed by a Geologic Hazard Abatement District (GHAD).

The GHAD, within the Plan of Control, would establish a comprehensive plan to maintain the project detention and stormwater facilities and provide corrective measures if needed. Funding for the GHAD is through assessments of property owners within the District. The GHAD can also issue bonds at tax-exempt rates to fund planning, design and construction if any failure were to ever occur in the Magee Ranches GHAD limits that would require maintenance.

As a public agency, the GHAD would have the authority to levy assessments on the property owners within its boundaries. The amount of the assessments would be based on the special benefits to the property assessed. The assessment amount would be determined during the preparation of an Engineer's Report and based on the projected GHAD expenses. The GHAD could borrow money from the city, other public agencies, or issue its own debt. The Plan of Control would be the basis for prioritizing improvement projects within the GHAD. Before levying any assessments to pay for a project, each property owner would be told how much they would pay.

DRAFT

We anticipate the following items would be included in the GHAD plan of control for this project:

1. Monitoring, maintenance and repair of landslide features as needed.

2. Maintenance and monitoring of stormwater and hydromodification BMP facilities (Bioretention Cells and other BMPs).

3. Maintenance and monitoring of stormwater detention facilities (Detention Basin).

4. Open space surface drainage improvements and storm drain maintenance.

5. Creek monitoring and bank or channel erosion.

6. Maintenance of subdrains and other geotechnical improvements.

7.0 LIMITATIONS AND UNIFORMITY OF CONDITIONS

DRAFT

This report is issued with the understanding that it is the responsibility of the owner to transmit the information and recommendations of this report to developers, contractors, buyers, architects, engineers, and designers for the project so that the necessary steps can be taken by the contractors and subcontractors to carry out such recommendations in the field. The conclusions and recommendations contained in this report are solely professional opinions.

The professional staff of ENGEO Incorporated strives to perform its services in a proper and professional manner with reasonable care and competence but is not infallible. There are risks of earth movement and property damages inherent in land development. We are unable to eliminate all risks or provide insurance; therefore, we are unable to guarantee or warrant the results of our work.

This report is based upon field and other conditions discovered at the time of preparation of ENGEO's report. This document must not be subject to unauthorized reuse; that is, reuse without written authorization of ENGEO. Such authorization is essential because it requires ENGEO to evaluate the document’s applicability given new circumstances, not the least of which is passage of time. Actual field or other conditions will necessitate clarifications, adjustments, modifications or other changes to ENGEO’s documents. Therefore, ENGEO must be engaged to prepare the necessary clarifications, adjustments, modifications or other changes before construction activities commence or further activity proceeds. If ENGEO’s scope of services does not include onsite construction observation, or if other persons or entities are retained to provide such services, ENGEO cannot be held responsible for any or all claims, including, but not limited to claims arising from or resulting from the performance of such services by other persons or entities, and any or all claims arising from or resulting from clarifications, adjustments, modifications, discrepancies or other changes necessary to reflect changed field or other conditions.

SELECTED REFERENCES

Brater and King, Handbook of Hydraulics, 7th addition, MacGraw Hill, 1997.

Contra Costa County Public Works Department. 1977. *Mean Seasonal Isohyets Compiled from Precipitation Records 1879-1973*. Drawing Number B-166. Revised January 1, 2010.

Contra Costa County Flood Control and Water Conservation District, April 13, 2010. *HEC-HMS Guidance for the Contra Costa County Flood Control and Water Conservation District Unit Hydrograph Method.*

Contra Costa County Flood Control and Water Conservation District, June 3, 2009. Request for Information; File 001-04

Dibblee, T.W. 1980. Preliminary Geologic Map of the Livermore Quadrangle, Alameda and Contra Costa Counties, California. USGS Open File Report 80-533B.

National Resource Conservation Service. 2009. Web Soil Survey, Danville, CA.

Rosgen, D. 1996. *Applied River Morphology*. Fort Collins, CO: Wildland Hydrology Books.

Ruggeri-Jensen-Azar. Subdivision 9291, Magee Ranches, Stormwater Treatment Sheets 11-13, Danville, California. March 15, 2011.

Ruggeri-Jensen-Azar. Subdivision 9291, Magee Ranches, Preliminary Stormwater Management Plan, Danville, California. October 5, 2011

Questa Engineering Corporation, Proposed Matadera Subdivision Danville, California. October 16, 2006.

DRAFT

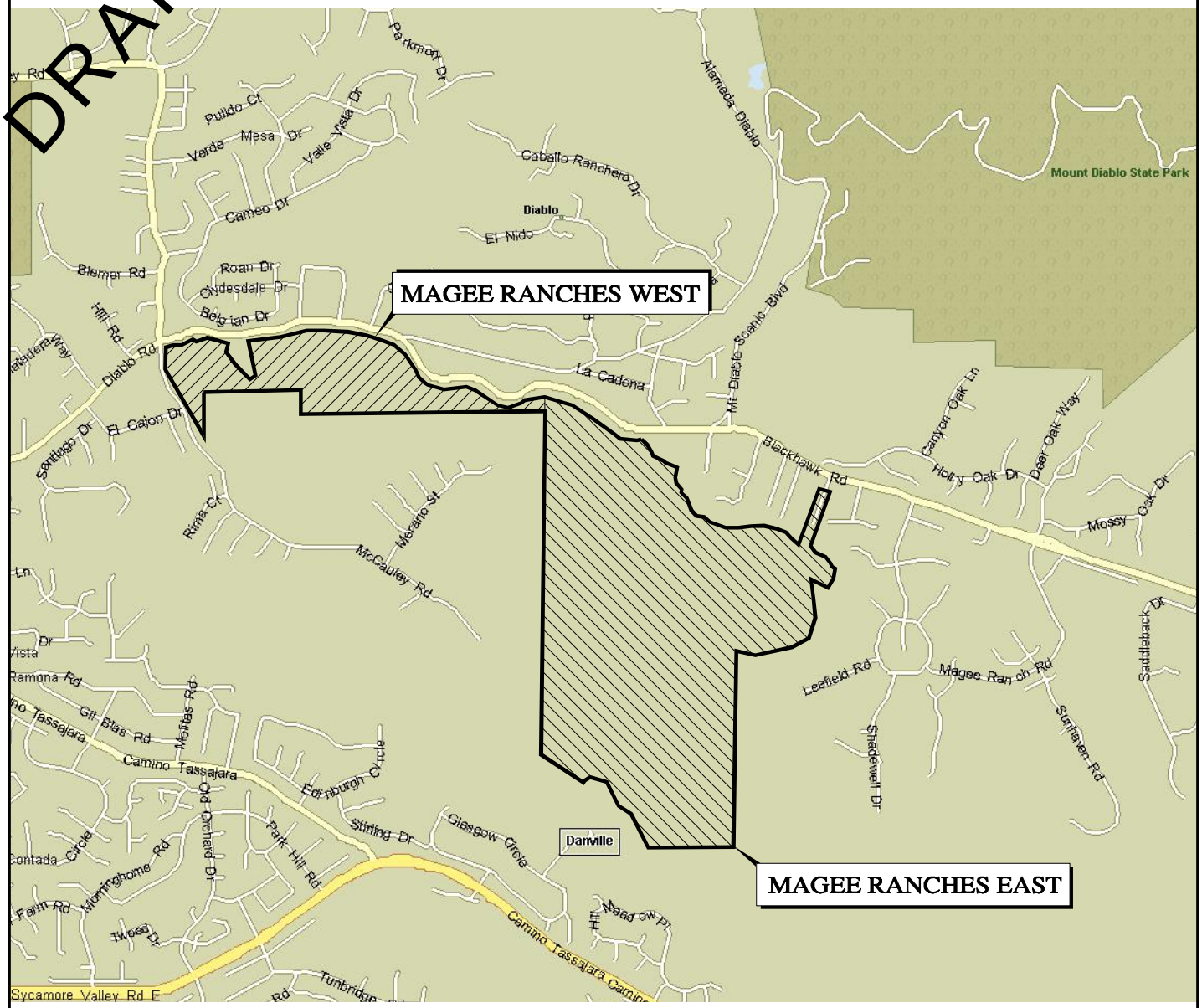
APPENDIX A

Figure 1 – Vicinity Map
Figure 2 – Isohyetal Map of Danville Area
Figure 3 – Pre-Development Infiltration Map
Figure 4 – Post-Development Infiltration Map
Figure 5 – Pre-Development Watershed Map
Figure 6 – Post-Development Watershed Map
Figure 6.1- Post-Development Watershed Map – Subwatershed 1
Figure 7 – Proposed Detention Basin.
Figure 8 – Detention Basin Standpipe

DRAFT

COPYRIGHT © 2010 BY ENGEO INCORPORATED. THIS DOCUMENT MAY NOT BE REPRODUCED IN WHOLE OR IN PART BY ANY MEANS WHATSOEVER, NOR MAY IT BE QUOTED OR EXCERPTED WITHOUT THE EXPRESS WRITTEN CONSENT OF ENGEO INCORPORATED.

DRAFT



N

0 FEET 2000

0 METERS 1000

DRAFT

BASE MAP SOURCE: MS STREETS AND TRIPS

ENGEO Expect Excellence

VICINITY MAP

MAGEE RANCHES PROJECT

DANVILLE, CALIFORNIA

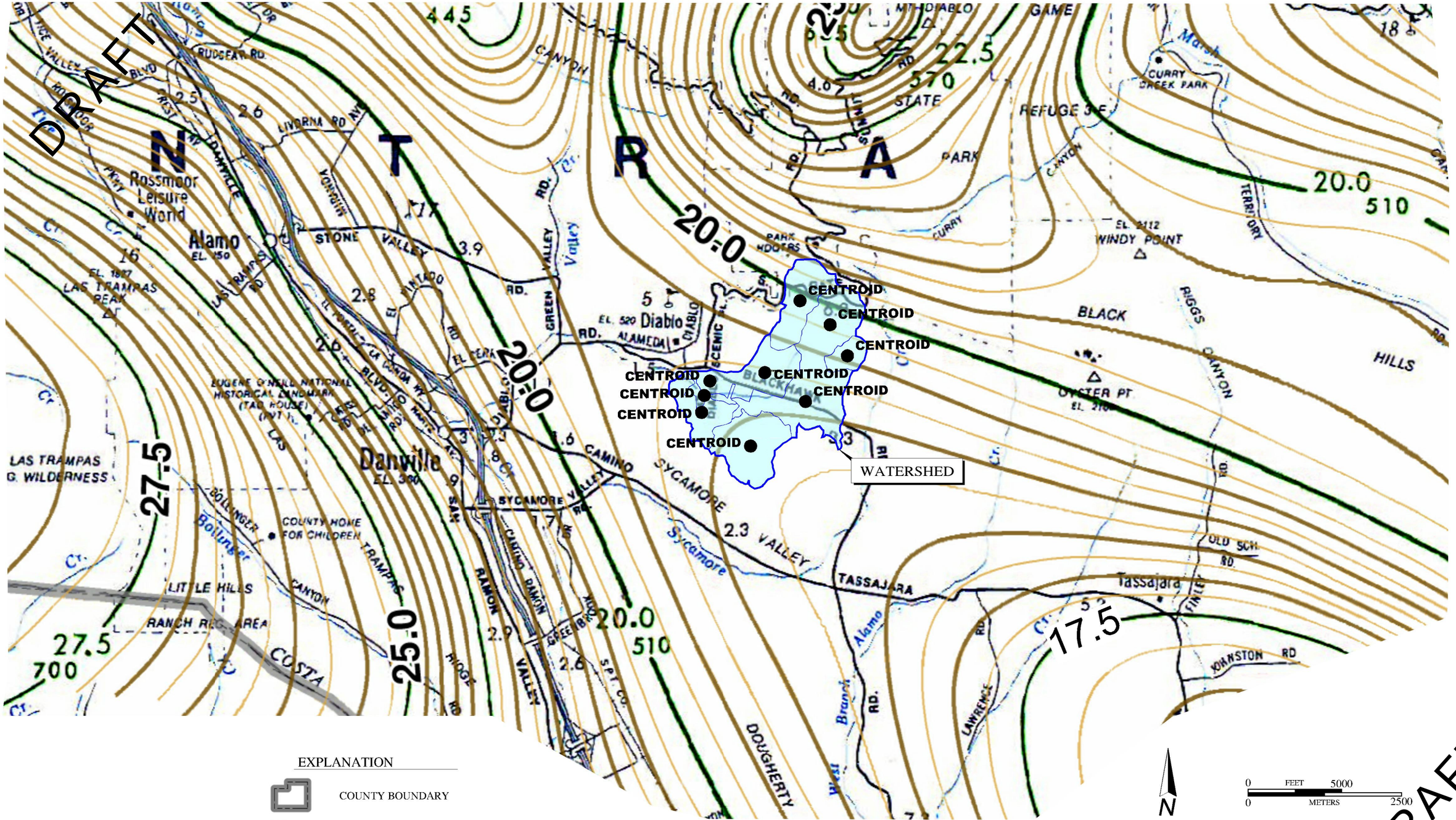
PROJECT NO.:	8889.000.000
SCALE:	AS SHOWN
DRAWN BY: PC	CHECKED BY: PCG

FIGURE NO. 1

G:\Drafting\DRAFTING2_Dwg\8889\000\Reg Hydrology update\8889000000-1-VicMap-0412.dwg 4-17-12 09:33:35 AM spatters

ORIGINAL FIGURE PRINTED IN COLOR

COPYRIGHT © 2011 BY ENGEO INCORPORATED. THIS DOCUMENT MAY NOT BE REPRODUCED IN WHOLE OR IN PART BY ANY MEANS WHATSOEVER, NOR MAY IT BE QUOTED OR EXCERPTED WITHOUT THE EXPRESS WRITTEN CONSENT OF ENGEO INCORPORATED.



EXPLANATION

COUNTY BOUNDARY

0.50" ISOHYETS

0.25" ISOHYETS

BASE MAP SOURCE: CONTRA COSTA COUNTY PUBLIC WORKS

ENGEO
Expect Excellence

ISOHYETAL MAP OF DANVILLE AREA
MAGEE RANCHES PROJECT
DANVILLE, CALIFORNIA

PROJECT NO.: 8889.000.000
SCALE: AS SHOWN
DRAWN BY: PC
CHECKED BY: PCG

FIGURE NO. 2

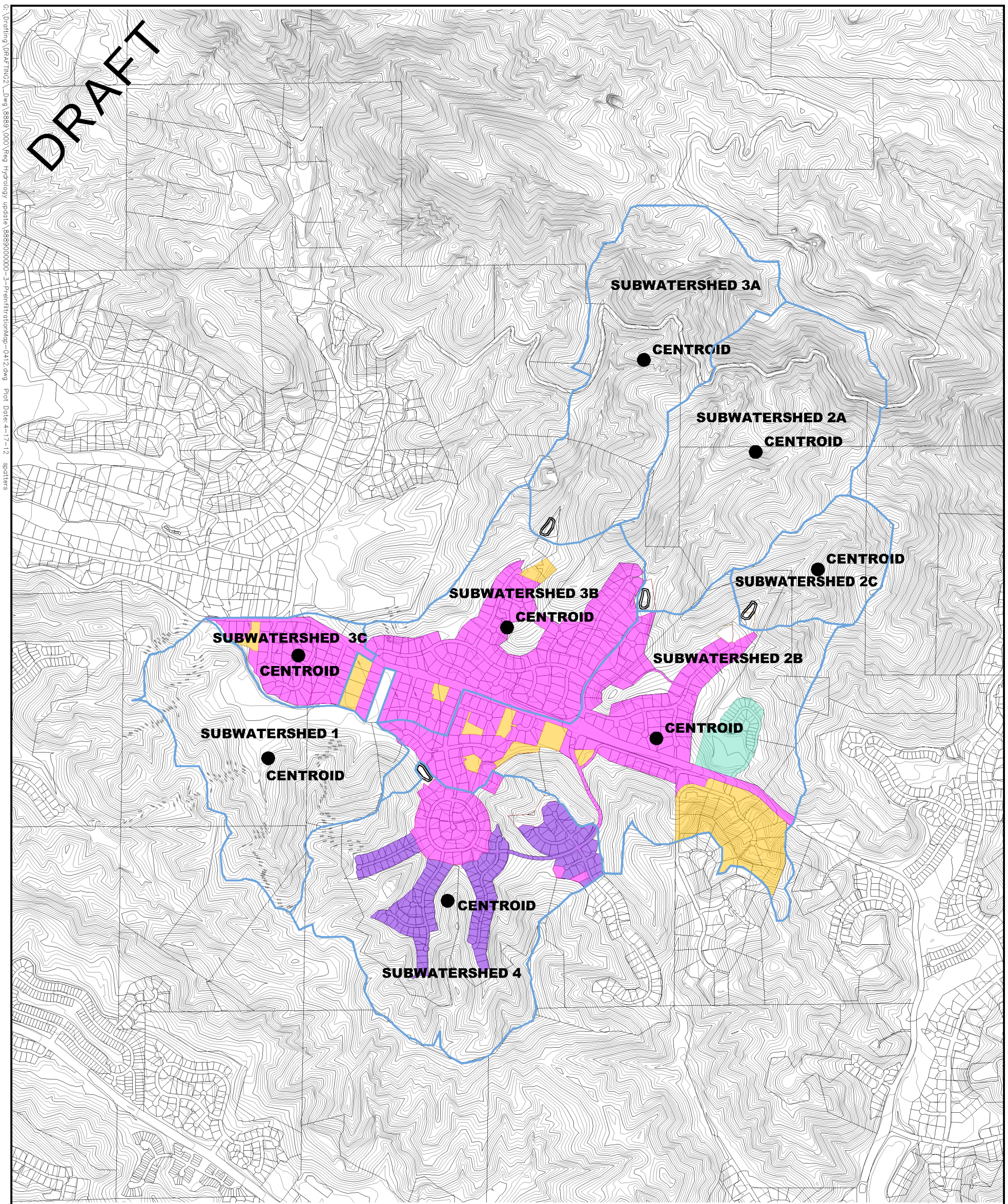
DRAFT

G:\Drafting\DRAFTING2_Dwg\8889\000\Reg Hydrology update\8889000000-2-IsohyetalMap-0412.dwg Plot Date: 4-17-12 spatters

ORIGINAL FIGURE PRINTED IN COLOR

COPYRIGHT © 2011 BY ENGEO INCORPORATED. THIS DOCUMENT MAY NOT BE REPRODUCED IN WHOLE OR IN PART BY ANY MEANS WHATSOEVER, NOR MAY IT BE QUOTED OR EXCERPTED WITHOUT THE EXPRESS WRITTEN CONSENT OF ENGEO INCORPORATED.

S:\Drafting\DRAFTING2_Dwg\8889\000\Reg Hydrology update\8889000000-3-PreInfiltrationMap-0412.dwg Plot Date:4-17-12 spotters



EXPLANATION

APPROXIMATE LOCATION OF WATERSHED BOUNDARY

	R-40 AREA	I=0.14
	R-20 AREA	I=0.11
	R-10 AREA	I=0.08
	R-6 AREA	I=0.05
	OPEN SPACE	I=0.18

N

0 FEET 1400
0 METERS 700

DRAFT

BASE MAP SOURCE: CONTRA COSTA COUNTY GIS (TOPO AND PARCEL LINES) / RJA (SUDIVISION BASE MAP)

ENGEO Expect Excellence

PRE-DEVELOPMENT INFILTRATION MAP
MAGEE RANCHES PROJECT
DANVILLE, CALIFORNIA

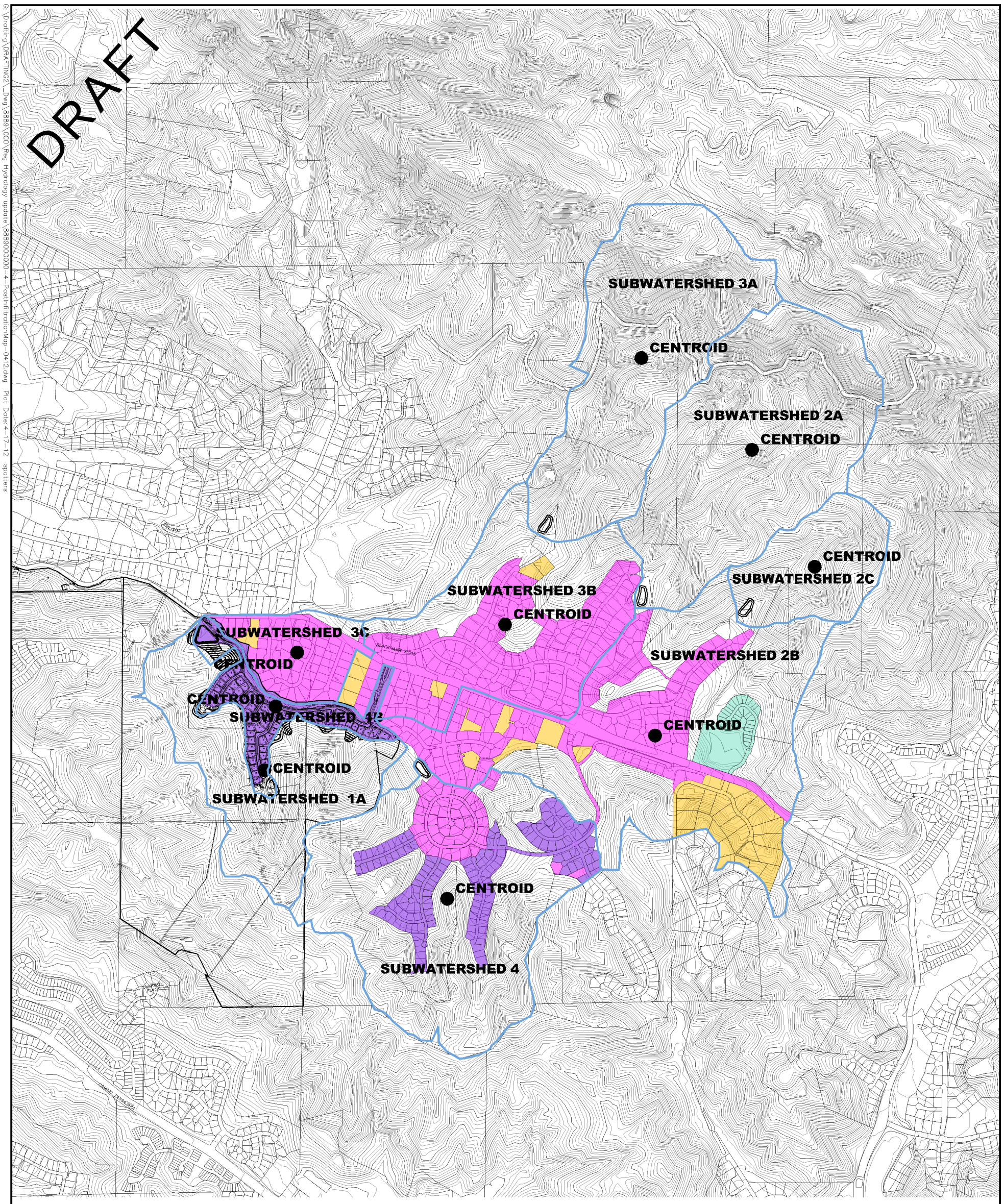
PROJECT NO.: 8889.000.000
SCALE: AS SHOWN
DRAWN BY: PC
CHECKED BY: PCG

FIGURE NO. 3

ORIGINAL FIGURE PRINTED IN COLOR

COPYRIGHT © 2011 BY ENGEO INCORPORATED. THIS DOCUMENT MAY NOT BE REPRODUCED IN WHOLE OR IN PART BY ANY MEANS WHATSOEVER, NOR MAY IT BE QUOTED OR EXCERPTED WITHOUT THE EXPRESS WRITTEN CONSENT OF ENGEO INCORPORATED.

S:\Drafting\DRAFTING2_Dwg\8889\000\Reg Hydrology update\8889000000-4-PostinfiltrationMap-0412.dwg Plot Date:4-17-12 spotters



EXPLANATION

	APPROXIMATE LOCATION OF WATERSHED BOUNDARY	
	R-40 AREA	I=0.14
	R-20 AREA	I=0.11
	R-10 AREA	I=0.08
	R-6 AREA	I=0.05
	OPEN SPACE	I=0.18

N

0 FEET 1400
0 METERS 700

DRAFT

BASE MAP SOURCE: CONTRA COSTA COUNTY GIS (TOPO AND PARCEL LINES) / RJA (SUDIVISION BASE MAP)

ENGEO
Expect Excellence

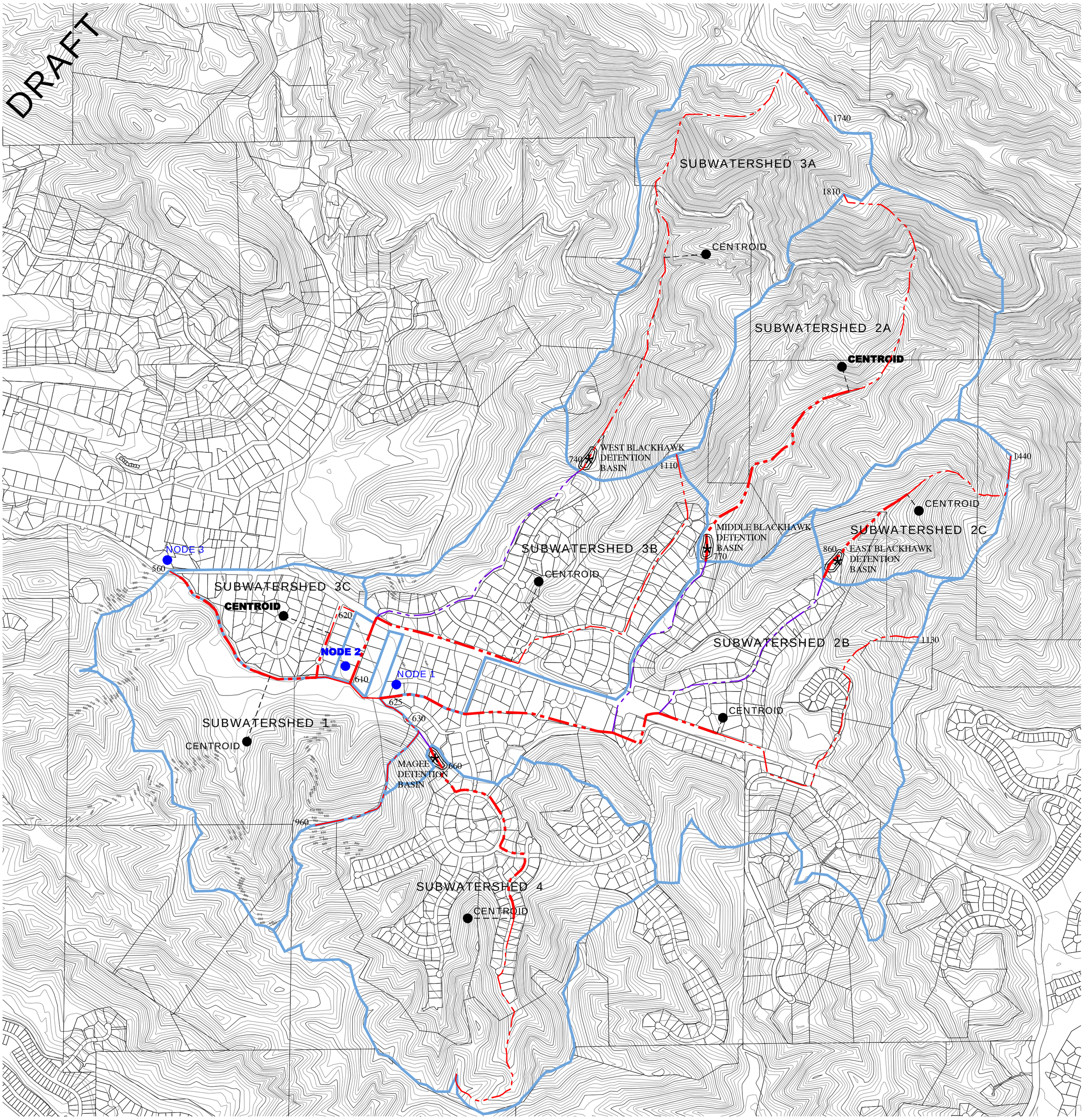
POST-DEVELOPMENT INFILTRATION MAP
MAGEE RANCHES PROJECT
DANVILLE, CALIFORNIA

PROJECT NO.: 8889.000.000
SCALE: AS SHOWN
DRAWN BY: PC
CHECKED BY: PCG

FIGURE NO. 4

ORIGINAL FIGURE PRINTED IN COLOR

COPYRIGHT © 2011 BY ENGEO INCORPORATED. THIS DOCUMENT MAY NOT BE REPRODUCED IN WHOLE OR IN PART BY ANY MEANS WHATSOEVER, NOR MAY IT BE QUOTED OR EXCERPTED WITHOUT THE EXPRESS WRITTEN CONSENT OF ENGEO INCORPORATED.



FOR PRE-DEVELOPMENT CONDITIONS

Subwatershed	1	2A	2B	2C	3A	3B	3C	4
Drainage Area (Square Miles)	0.264	0.344	0.481	0.105	0.311	0.287	0.071	0.404
Mean Seasonal Rainfall (Inches)	19.1	19.8	19.1	19.5	19.9	19.2	19.2	18.9
Storm Frequencey (Year)	10, 100	10, 100	10, 100	10, 100	10, 100	10, 100	10, 100	10, 100
Storm Duration (Hour)	3, 6, 12, 24	3, 6, 12, 24	3, 6, 12, 24	3, 6, 12, 24	3, 6, 12, 24	3, 6, 12, 24	3, 6, 12, 24	3, 6, 12, 24
Infiltration Rate (Inches/Hour)	0.180	0.180	0.144	0.180	0.180	0.138	0.116	0.154
Longest Channel Length (Miles)	1.06	1.14	1.57	0.61	1.28	1.19	0.62	1.10
Channel Length from Centroid (Miles)	0.34	0.54	0.82	0.27	0.52	0.47	0.54	0.53
Elevation Difference (Feet)	400	1040	505	580	1000	500	60	360
N Value (Dimensionless)	0.075	0.075	0.052	0.075	0.075	0.047	0.033	0.059
Time Interval (Minutes)	15	15	15	15	15	15	15	15
Lag Time (Hour)	0.39	0.41	0.46	0.25	0.43	0.29	0.22	0.38

EXPLANATION

- APPROXIMATE LOCATION OF WATERSHED BOUNDARY
- APPROXIMATE LOCATION OF LONGEST DRAINAGE PATH
- APPROXIMATE LOCATION OF REACH
- APPROXIMATE PROJECTION FROM WATERSHED CENTROID TO LONGEST DRAINAGE PATH

N

0 FEET 800
0 METERS 400

DRAFT

BASE MAP SOURCE: RJA

ENGEO Expect Excellence

PRE-DEVELOPMENT WATERSHEDS
MAGEE RANCHES PROJECT
DANVILLE, CALIFORNIA

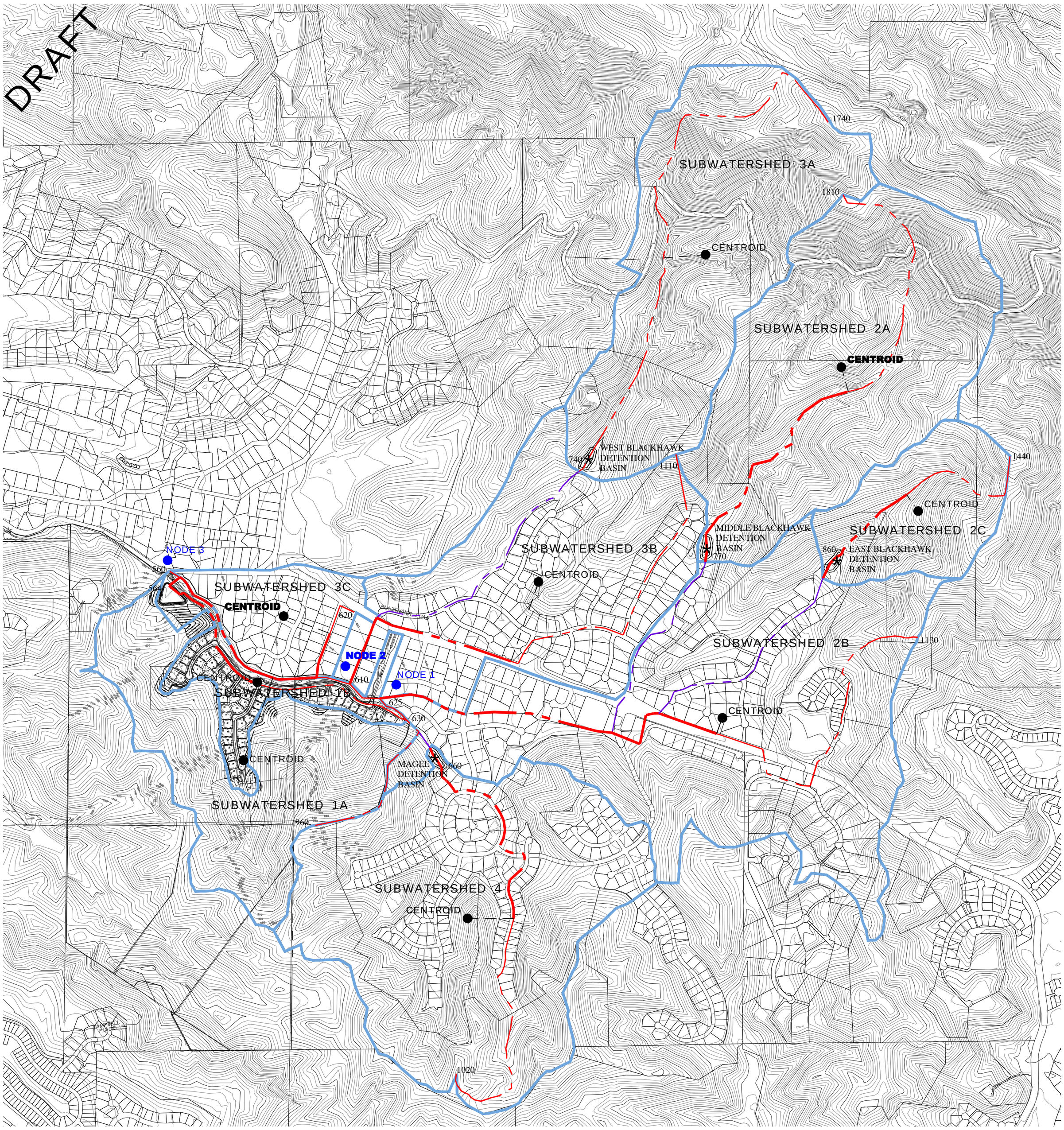
PROJECT NO.: 8889.000.000
SCALE: AS SHOWN
DRAWN BY: PC
CHECKED BY: PCG

FIGURE NO. 5

G:\Drafting\DRAFTING2_Dwg\8889\000\Reg Hydrology update\8889000000-5-PreDevWatershedMap-0412.dwg Plot Date: 4-17-12 spatters

ORIGINAL FIGURE PRINTED IN COLOR

COPYRIGHT © 2011 BY ENGEO INCORPORATED. THIS DOCUMENT MAY NOT BE REPRODUCED IN WHOLE OR IN PART BY ANY MEANS WHATSOEVER, NOR MAY IT BE QUOTED OR EXCERPTED WITHOUT THE EXPRESS WRITTEN CONSENT OF ENGEO INCORPORATED.



FOR POST-DEVELOPMENT CONDITIONS

Subwatershed	1A (open)	1B (development)	2A	2B	2C	3A	3B	3C	4
Drainage Area (Square Miles)	0.201	0.064	0.344	0.481	0.105	0.311	0.287	0.071	0.404
Mean Seasonal Rainfall (Inches)	19.1	19.1	19.8	19.1	19.5	19.9	19.2	19.2	18.9
Storm Frequencey (Year)	10, 100	10, 100	10, 100	10, 100	10, 100	10, 100	10, 100	10, 100	10, 100
Storm Duration (Hour)	3, 6, 12, 24	3, 6, 12, 24	3, 6, 12, 24	3, 6, 12, 24	3, 6, 12, 24	3, 6, 12, 24	3, 6, 12, 24	3, 6, 12, 24	3, 6, 12, 24
Infiltration Rate (Inches/Hour)	0.180	0.080	0.180	0.144	0.180	0.180	0.138	0.116	0.154
Longest Channel Length (Miles)	1.06	0.71	1.14	1.57	0.61	1.28	1.19	0.62	1.10
Channel Length from Centroid (Miles)	0.34	0.35	0.55	0.82	0.27	0.52	0.47	0.54	0.53
Elevation Difference (Feet)	400	66	1040	505	580	1000	500	60	360
N Value (Dimensionless)	0.065	0.034	0.075	0.052	0.075	0.075	0.047	0.033	0.059
Time Interval (Minutes)	15	15	15	15	15	15	15	15	15
Lag Time (Hour)	0.34	0.20	0.41	0.46	0.25	0.43	0.29	0.22	0.38

EXPLANATION

- APPROXIMATE LOCATION OF WATERSHED BOUNDARY
- APPROXIMATE LOCATION OF LONGEST DRAINAGE PATH
- APPROXIMATE LOCATION OF REACH
- APPROXIMATE PROJECTION FROM WATERSHED CENTROID TO LONGEST DRAINAGE PATH

N

0 FEET 800
0 METERS 400

DRAFT

BASE MAP SOURCE: RJA

ENGEO Expect Excellence

POST-DEVELOPMENT WATERSHEDS
MAGEE RANCHES PROJECT
DANVILLE, CALIFORNIA

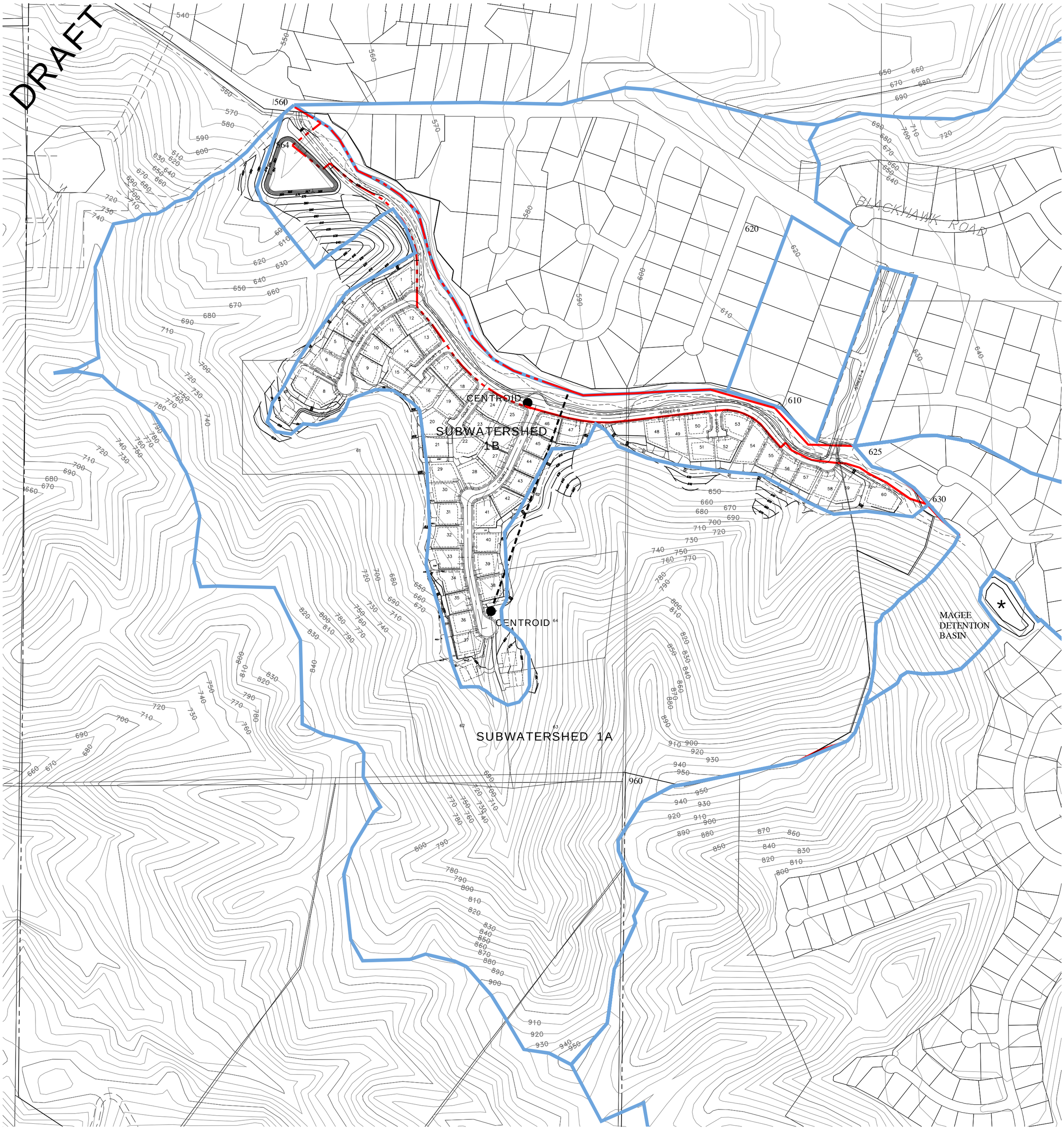
PROJECT NO.: 8889.000.000
SCALE: AS SHOWN
DRAWN BY: PC
CHECKED BY: PCG

FIGURE NO. 6

G:\Drafting\DRAFTING2_Dwg\8889\000\Reg Hydrology update\8889000000-6-PostDevWatershedMap-0412.dwg Plot Date: 4-17-12 spatters

ORIGINAL FIGURE PRINTED IN COLOR

COPYRIGHT © 2011 BY ENGEO INCORPORATED. THIS DOCUMENT MAY NOT BE REPRODUCED IN WHOLE OR IN PART BY ANY MEANS WHATSOEVER, NOR MAY IT BE QUOTED OR EXCERPTED WITHOUT THE EXPRESS WRITTEN CONSENT OF ENGEO INCORPORATED.



FOR POST-DEVELOPMENT CONDITIONS

Subwatershed	1A (open)	1B (development)
Drainage Area (Square Miles)	0.201	0.064
Mean Seasonal Rainfall (Inches)	19.10	19.10
Storm Frequencey (Year)	10, 100	10, 100
Storm Duration (Hour)	3, 6, 12, 24	3, 6, 12, 24
Infiltration Rate (Inches/Hour)	0.180	0.080
Longest Channel Length (Miles)	1.06	0.71
Channel Length from Centroid (Miles)	0.34	0.35
Elevation Difference (Feet)	400	66
N Value (Dimensionless)	0.065	0.034
Time Interval (Minutes)	15	15
Lag Time (Hour)	0.34	0.20

N

0 FEET 300
0 METERS 150

EXPLANATION

APPROXIMATE LOCATION OF WATERSHED BOUNDARY

APPROXIMATE LOCATION OF LONGEST DRAINAGE PATH (L)

APPROXIMATE LENGTH ALONG THE DRAINAGE PATH FROM A POINT OPPOSITE THE CENTROID OF THE WATERSHED (LCA)

DRAFT

BASE MAP SOURCE: RJA

ENGEO Expect Excellence

POST-DEVELOPMENT WATERSHEDS
MAGEE RANCHES PROJECT
DANVILLE, CALIFORNIA

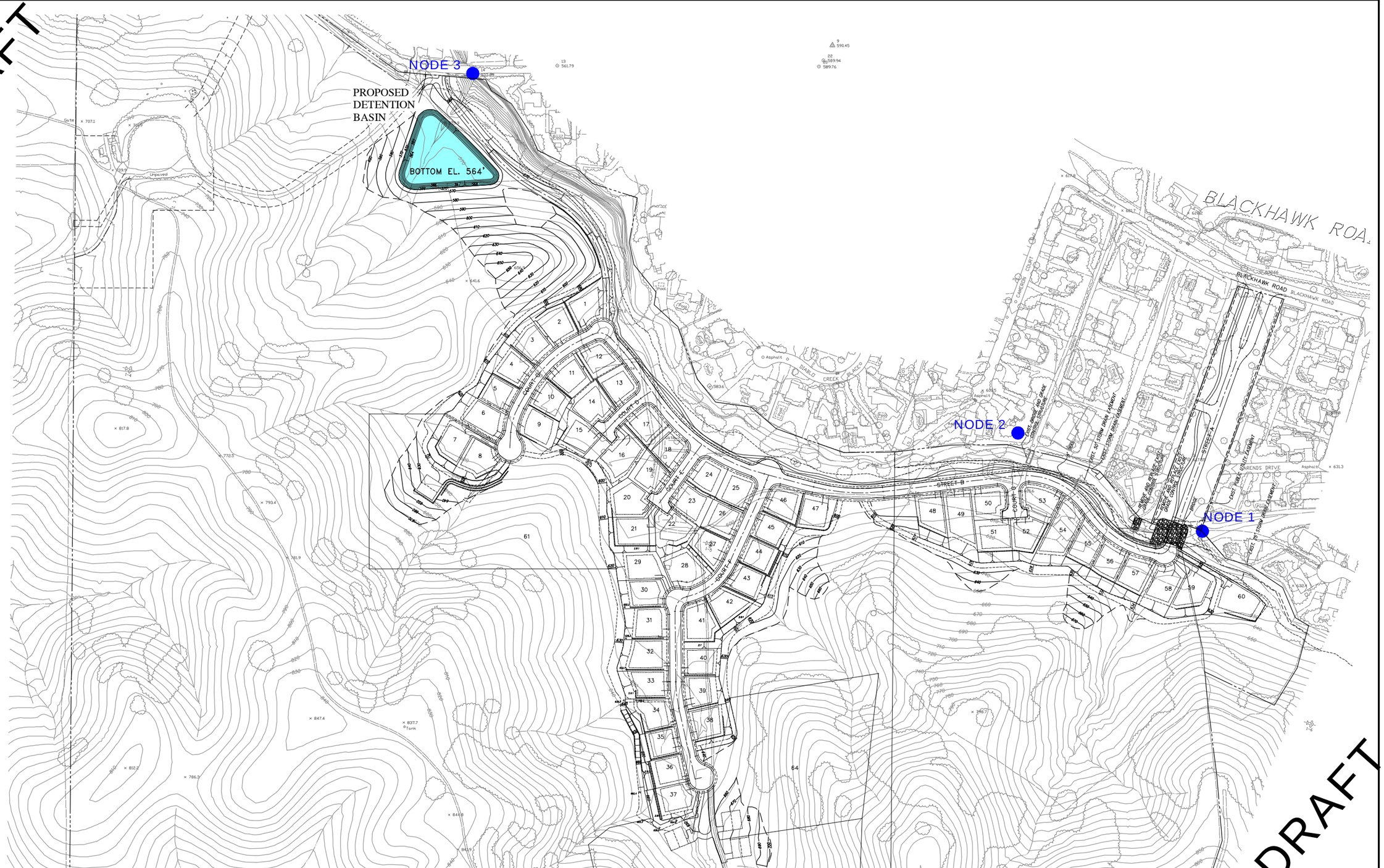
PROJECT NO.: 8889.000.000
SCALE: AS SHOWN
DRAWN BY: PC
CHECKED BY: PCG

FIGURE NO. 6.1

G:\Drafting\DRAFTING2_Dwg\8889\000\Reg Hydrology update\8889000000-6.1-PostDevWatershedMap-0412.dwg Plot Date: 4-17-12 spatters

ORIGINAL FIGURE PRINTED IN COLOR

DRAFT



DRAFT

BASE MAP SOURCE: RJA

N

0 FEET 300
0 METERS 150

ENGEO
Expect Excellence

PROPOSED DETENTION BASIN
MAGEE RANCHES PROJECT
DANVILLE, CALIFORNIA

PROJECT NO.: 8889.000.000	FIGURE NO. 7
SCALE: AS SHOWN	
DRAWN BY: PC	CHECKED BY: PCG

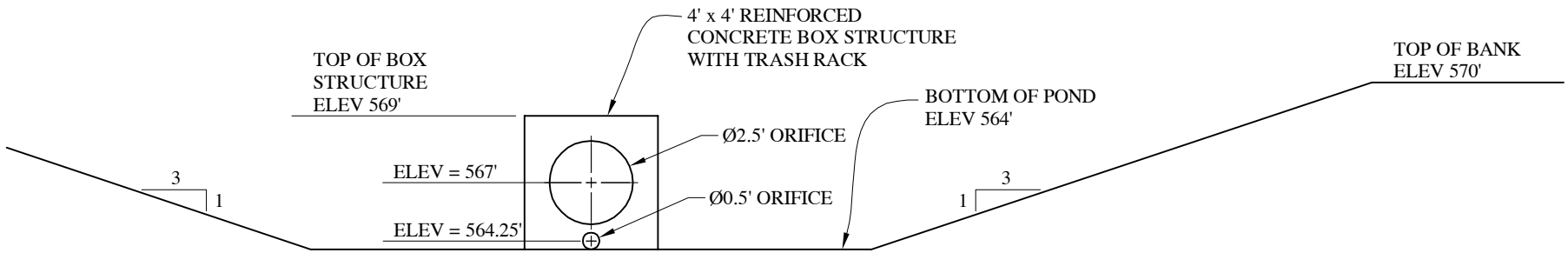
ORIGINAL FIGURE PRINTED IN COLOR

COPYRIGHT © 2011 BY ENGEO INCORPORATED. THIS DOCUMENT MAY NOT BE REPRODUCED IN WHOLE OR IN PART BY ANY MEANS WHATSOEVER, NOR MAY IT BE QUOTED OR EXCERPTED WITHOUT THE EXPRESS WRITTEN CONSENT OF ENGEO INCORPORATED.

G:\Drafting\DRAFTING2_Dwg\8889\000\Reg Hydrology update\8889000000-7-PrDetBasinLoc-0412.dwg Plot Date: 4-17-12 spatters

COPYRIGHT © 2011 BY ENGEO INCORPORATED. THIS DOCUMENT MAY NOT BE REPRODUCED IN WHOLE OR IN PART BY ANY MEANS WHATSOEVER, NOR MAY IT BE QUOTED OR EXCERPTED WITHOUT THE EXPRESS WRITTEN CONSENT OF ENGEO INCORPORATED.

G:\Drafting\DRAFTING2_Dwg\8889\000\Reg Hydrology update\8889000000-8-DetentionBasinStandpipe-0512.dwg Plot Date:5-15-12 pcrockett



ENGEO
Expect Excellence

DETENTION BASIN BOX STRUCTURE

MAGEE RANCHES PROJECT

DANVILLE, CALIFORNIA

PROJECT NO.: 8889.000.000	FIGURE NO.
SCALE: NO SCALE	8
DRAWN BY: PC / CHECKED BY: PCG	

ORIGINAL FIGURE PRINTED IN COLOR

APPENDIX B

Hydrologic Calculations

DRAFT

Excerpts from Contra Costa County HYDRO-6 Method

DRAFT

Contra Costa County
Flood Control
& Water Conservation District

HEC-HMS Guidance

for the Contra Costa County Flood Control & Water Conservation District Unit Hydrograph Method

Draft

by Mark Boucher

April 13, 2010

APPENDIX A Storm Depth Equations

The design rainfall depth is dependent on the design storm duration and storm frequency. The duration-frequency-depth curves published by the District embody the District's standard for design rainfall depth. You can purchase these at the Contra Costa County Public Works Department office (255 Glacier Drive) or downloaded from County's website. The rainfall depth calculated in the HYDRO6 program is based on tables built into the FORTRAN code. These very closely match the Districts duration-frequency-depth curves.

HYDRO6 Tables

The HYDRO6 program uses the following equation and associated tables in calculating the storm rainfall depth:

D = (MR1/100)-(10-MSP) · (MR2- MR1)/2500

Where:

D = storm rainfall depth (inches)
MSP = mean seasonal precipitation depth (inches) from the District Isohyet map. The value of MSP should be within the range of 10 and 35 inches/year.
MR1 = constant based on rainfall duration and frequency from Table A-1
MR2 = constant based on rainfall duration and frequency from Table A-2

Table A-1 MR1 Constants for Storm Rainfall Depths - HYDRO6

MR1	3-hour	6-hour	12-hour	24-hour	96-hour
2-year	55	73	97	124	200
5-Year	81	108	142	186	302
10-Year	95	128	170	222	366
25-Year	110	150	200	262	436
50-Year	128	171	228	300	498
100-Year	138	188	252	332	552

Table A-2 MR2 Constants for Storm Rainfall Depths - HYDRO6

MR2	3-hour	6-hour	12-hour	24-hour	96-hour
2-year	131	184	257	345	621
5-Year	190	270	374	512	900
10-Year	224	318	448	618	1110
25-Year	262	379	530	733	1300
50-Year	300	430	606	840	1480
100-Year	328	468	660	920	1660

Simplified Tables

If we simplify the above equation, we can substitute two other constants into the equation and reduce the number of operations in the equation to two instead of six.

D = C1 + MSP · C2

Where:

D = storm rainfall depth (inches)
MSP = mean seasonal precipitation depth (inches) from the District Isohyet map. (The value of MSP should be within the range of 10 and 35 inches/year.)
C1 = constant based on rainfall duration and frequency from Table A-3
= MR1/100
C2 = constant based on rainfall duration and frequency from Table A-4
= (MR1/100) - (MR2- MR1)/250

This second configuration of the equation allows for faster calculations.

Table A-3 C1 Constants for Storm Rainfall Depths - Simplified

C1	3-hour	6-hour	12-hour	24-hour	96-hour
2-year	0.246	0.286	0.330	0.356	0.316
5-Year	0.374	0.432	0.492	0.556	0.628
10-Year	0.434	0.520	0.588	0.636	0.684
25-Year	0.492	0.584	0.680	0.736	0.904
50-Year	0.592	0.674	0.768	0.840	1.052
100-Year	0.620	0.760	0.888	0.968	1.088

Table A-4 C2 Constants for Storm Rainfall Depths - Simplified

C2	3-hour	6-hour	12-hour	24-hour	96-hour
2-year	0.0304	0.0444	0.0640	0.0884	0.1684
5-Year	0.0436	0.0648	0.0928	0.1304	0.2392
10-Year	0.0516	0.0760	0.1112	0.1584	0.2976
25-Year	0.0608	0.0916	0.1320	0.1884	0.3456
50-Year	0.0688	0.1036	0.1512	0.2160	0.3928
100-Year	0.0760	0.1120	0.1632	0.2352	0.4432

Use the number of decimal places shown for C1 and C2 to produce the same results as the more complicated equation using MR1 and MR2.

Example Storm Depth Calculation

For a watershed with a mean seasonal precipitation of 18 inches (MSP = 18) we can find the 100-year 12-hour storm depth as follows:

MSP	=	**18** inches
Return Period	=	**100**-years
Duration	=	**12**-hours

HYDRO6

MR1	=	**252** from Table A-1
MR2	=	**660** from Table A-2

D = (MR1/100)-(10-MSP) · (MR2- MR1)/2500

D = (**252**/100)-(10-**18**) · (**660**- **252**)/2500

D = 3.83 inches

OR

Simplified

C1	=	**0.888** from Table A-3
C2	=	**0.1632** from Table A-4

D = C1 + MSP · C2

D = **0.888** + **18** · **0.1632**

D = 3.83 inches

APPENDIX B Rainfall Distribution Curves

Please note that the time interval for the rainfall distribution curves is not the same for all storm durations. The time interval for each rainfall distribution curve is displayed in the second row of the table. The tabulated numbers are in percentages.

Table B-1 Rainfall Distribution Curves

Duration	3-HR	6-HR	12-HR	24-HR	96-H
Interval / Index	15-MIN	15-MIN	15-MIN	30-MIN	2-HR
1	3.0	2.1	0.9	0.87	-
2	2.0	2.5	0.9	0.87	0.1
3	5.0	3.8	1.0	0.88	0.7
4	2.8	4.5	1.0	0.88	1.6
5	8.8	6.0	1.1	0.92	1.4
6	10.2	3.0	1.1	0.98	3.6
7	5.5	2.3	1.1	1.07	5.6
8	7.0	2.5	1.2	1.13	4.1
9	10.5	4.8	1.2	1.18	2.0
10	11.0	4.3	1.2	1.22	0.6
11	27.7	2.6	1.3	1.23	0.4
12	6.5	2.5	1.5	1.27	-
13		2.2	1.6	1.41	0.1
14		2.5	1.6	1.69	0.2
15		5.0	1.7	1.86	-
16		7.9	1.7	1.94	-
17		19.0	1.9	2.50	-
18		6.3	2.0	3.50	-
19		4.0	2.3	4.90	-
20		3.0	3.0	21.20	1.1
21		2.5	3.2	6.80	0.4
22		2.4	4.1	4.00	4.7
23		2.2	4.9	3.25	3.0
24		2.1	14.6	2.85	3.6
25			6.1	2.52	2.4
26			3.6	2.28	3.6
27			3.1	2.03	5.0
28			2.8	1.77	4.4
29			2.6	1.62	4.4
30			2.1	1.58	4.4
31			2.0	1.53	3.3
32			1.8	1.47	4.7
33			1.7	1.42	13.7
34			1.7	1.38	3.6
35			1.6	1.33	4.6
36			1.6	1.27	4.4
37			1.3	1.22	3.4
38			1.2	1.18	1.5
39			1.2	1.12	0.9
40			1.2	1.08	-
41			1.2	1.03	0.2
42			1.1	0.97	1.2
43			1.1	0.93	1.1
44			1.1	0.87	-
45			1.0	0.83	-
46			1.0	0.77	-
47			0.9	0.73	-
48			0.9	0.67	-
Total %	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

APPENDIX C Depth Area Reduction Factor (DARF)

The following table is the District's adopted Depth Area Reduction Factor (DARF) table. The purpose of the DARF is to account for the size of the watershed. A smaller watershed could experience relatively uniform rainfall over its entire area. A larger watershed is less likely to experience uniform rainfall depth over its entire area. Therefore, the DARF decreases as the watershed areas get larger.

The DARF is used only for watersheds larger than 3 square miles. The storm rainfall depth is multiplied by the DARF before the rainfall is distributed over time using the distribution curves.

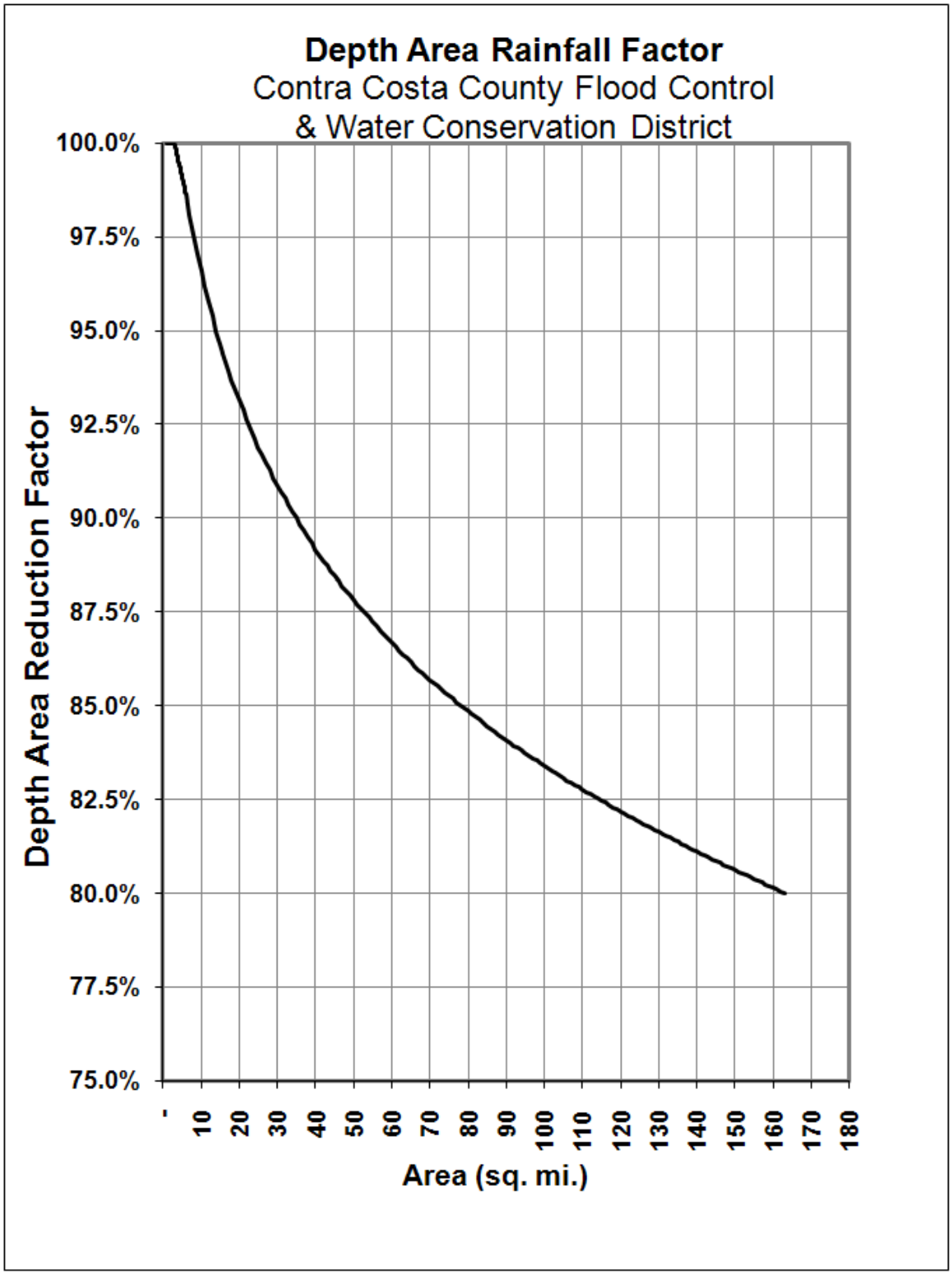
In the event that several large tributaries are being analyzed, a storm might be "centered" over the primary watershed and its DARF would be high, where as the other watersheds would have a lower DARF because they are farther away from the main tributary.

Table C-1: Areal Rainfall Reduction Factor Table

Interpolate as needed.

Area Square Miles	DARF %
0.0	100%
3.0	100%
5.3	99%
7.2	98%
9.1	97%
11.4	96%
14.0	95%
16.8	94%
20.5	93%
24.5	92%
29.3	91%
35.0	90%
41.0	89%
48.5	88%
57.0	87%
66.5	86%
78.0	85%
91.0	84%
106.0	83%
123.0	82%
142.0	81%
163.0	80%
184.0	79%
205.0	78%
226.0	77%
247.0	76%
268.0	75%
289.0	74%
310.0	73%
331.0	72%

Figure C-1 Areal Rainfall Reduction Factor Standard



APPENDIX D Lag Time Equation

The Corps used the April 1958 storm rainfall records and flood hydrograph recorded at the USGS San Ramon Creek at San Ramon gage to derive the unit hydrograph for that un-urbanized watershed. An equation for lag time (T_{lag}) and one for the time-rate of change of runoff were also developed for the construction of synthetic unit hydrograph for an un-urbanized watershed. The lag equation used here is very similar to the Snyder Method[9], but was customized by the Corps. This customization introduced the "N" values and related the effect of development on the lag time. The lag time (in hours) is expressed by the following equation:

$$\mathbf{T_{lag} = Lag\ time = 24 \times N \times \left(\frac{L \cdot L_{ca}}{S^{0.5}} \right)^{0.38}}$$

Where: T_{lag} = Elapsed time from the beginning of an assumed continuous series of unit effective rainfalls over and area to the instant at which the rate of the resulting run-off at the area concentration point equals 50 percent of the maximum (ultimate) rate of the resulting run-off at that point. This therefore corresponds to the Time = 100% and volume = 50%

L = length of the main drainage path (miles)

L_{ca} = length along the drainage path from a point opposite10 the centroid of the watershed to the outlet point (miles)

S = overall slope of the main watercourse (feet/mile),

N = weighted watershed Manning coefficient (dimensionless)

The parameters used in the T_{lag} equation are explained in the HYDRO6 input requirements on the District's website under "Hydrology Requests" at http://www.cccounty.us/index.aspx?nid=893.

[9] Franklin F. Snyder, "Synthetic Unit-Graphs", Transactions, American Geophysical Union, 1938. See publication at http://www.cccounty.us/DocumentView.aspx?DID=3687.

[10] Opposite – This term was used by Franklin F. Snyder in his 1938 report. It has been interpreted to mean a point on the main watercourse or channel determined by the perpendicular projection of the centroid to the main watercourse or channel.

Supporting Hydrologic Calculations

DRAFT

PRE

Subbasin	Area (sq ft)	Area (sq mi)	Lag Calcs L (ft)	Lag Calcs L_{CA} (ft)	Lag Calcs L (mi)	Lag Calcs L_{CA} (mi)	Slope (ft/mi)	Weighted N Value	LAG TIME Calculated T_{lag} (hr)
1	7,373,548.77	0.265	5,575	1,779	1.06	0.34	378.83	0.075	0.39
1A									
1B									
2	25,939,881.00	0.930							
2A	9,604,081	0.344	6,034	2,891	1.14	0.55	910.04	0.075	0.41
2B	13,418,341	0.481	8,265	4,341	1.57	0.82	322.61	0.052	0.46
2C	2,917,458	0.105	3,211	1,411	0.61	0.27	953.72	0.075	0.25
3	18,656,050.35	0.669							
3A	8,671,839	0.311	6,741	2,737	1.28	0.52	783.27	0.075	0.43
3B	7,991,221	0.287	6,291	2,480	1.19	0.47	419.65	0.047	0.29
3C	1,992,991	0.071	3,263	2,869	0.62	0.54	97.09	0.033	0.22
4	11,259,454.00	0.404	5,782	2,808	1.10	0.53	328.74	0.059	0.38
4A	7,997,354	0.287							
4B	3,262,100	0.117							

POST

Subbasin	Area (sq ft)	Area (sq mi)	Lag Calcs L (ft)	Lag Calcs L_{CA} (ft)	Lag Calcs L (mi)	Lag Calcs L_{CA} (mi)	Slope (ft/mi)	Weighted N Value	LAG TIME Calculated T_{lag} (hr)
1	7,373,548.77	0.265							
1A	5,602,374	0.201	5,575	1,814	1.06	0.34	378.83	0.065	0.34
1B	1,771,175	0.064	3,729	1,827	0.71	0.35	93.45	0.034	0.20
2	25,939,881.00	0.930							
2A	9,604,081	0.344	6,034	2,891	1.14	0.55	910.04	0.075	0.41
2B	13,418,341	0.481	8,265	4,341	1.57	0.82	322.61	0.052	0.46
2C	2,917,458	0.105	3,211	1,411	0.61	0.27	953.72	0.075	0.25
3	18,656,050.35	0.669							
3A	8,671,839	0.311	6,741	2,737	1.28	0.52	783.27	0.075	0.43
3B	7,991,221	0.287	6,291	2,480	1.19	0.47	419.65	0.047	0.29
3C	1,992,991	0.071	3,263	2,869	0.62	0.54	97.09	0.033	0.22
4	11,259,454.00	0.404	5,782	2,808	1.10	0.53	328.74	0.059	0.38
4A	7,997,354	0.287							
4B	3,262,100	0.117							

Infiltration Rates - Subbasin 1				
	I	Area (sq ft)	I*Area (sq ft)	
R-40	0.14	0	0	
R-20	0.11	0	0	
R-10	0.08	0	0	
R-6	0.05	0	0	
Openspace	0.18	7,373,549	1327238.78	
Weighted I				0.180

Infiltration Rates - Subbasin 1a (openspace)				
	I	Area (sq ft)	I*Area (sq ft)	
R-40	0.14	0	0	
R-20	0.11	0	0	
R-10	0.08	0	0	
R-6	0.05	0	0	
Openspace	0.18	5,602,374	1008427.289	
Weighted I				0.18

Infiltration Rates - Subbasin 1b (development)				
	I	Area (sq ft)	I*Area (sq ft)	
R-40	0.14	0	0	
R-20	0.11	0	0	
R-10	0.08	1,771,175	141693.995	
R-6	0.05	0	0	
Openspace	0.18	0	0	
Weighted I				0.08

Infiltration Rates - Subbasin 2a				
	I	Area (sq ft)	I*Area (sq ft)	
R-40	0.14	0	0	
R-20	0.11	0	0	
R-10	0.08	0	0	
R-6	0.05	0	0	
Openspace	0.18	9,604,081	1728734.58	
Weighted I				0.18

Infiltration Rates - Subbasin 2b				
	I	Area (sq ft)	I*Area (sq ft)	
R-40	0.14	1,968,969	275655.66	
R-20	0.11	4,529,552	498250.72	
R-10	0.08	0	0	
R-6	0.05	695,261	34763.05	
Openspace	0.18	6,224,559	1120420.62	
Weighted I				0.144

Infiltration Rates - Subbasin 2c				
	I	Area (sq ft)	I*Area (sq ft)	
R-40	0.14	0	0	
R-20	0.11	0	0	
R-10	0.08	0	0	
R-6	0.05	0	0	
Openspace	0.18	2,917,458	525142.4824	
Weighted I				0.18

Infiltration Rates - Subbasin 3a				
	I	Area (sq ft)	I*Area (sq ft)	
R-40	0.14	0	0	
R-20	0.11	0	0	
R-10	0.08	0	0	
R-6	0.05	0	0	
Openspace	0.18	8,671,839	1560931.02	
Weighted I				0.18

Infiltration Rates - Subbasin 3b				
	I	Area (sq ft)	I*Area (sq ft)	
R-40	0.14	330,455	46263.6875	
R-20	0.11	4,646,696	511136.593	
R-10	0.08	0	0	
R-6	0.05	0	0	
Openspace	0.18	3,014,069	542532.506	
Weighted I				0.138

Infiltration Rates - Subbasin 3c				
	I	Area (sq ft)	I*Area (sq ft)	
R-40	0.14	71,116	9956.25246	
R-20	0.11	1,774,424	195186.6075	
R-10	0.08	0	0	
R-6	0.05	0	0	
Openspace	0.18	147,451	26541.15592	
Weighted I				0.116

Infiltration Rates - Subbasin 4				
	I	Area (sq ft)	I*Area (sq ft)	
R-40	0.14	0	0	
R-20	0.11	1,117,012	122871.32	
R-10	0.08	2,145,088	171607.04	
R-6	0.05	0	0	
Openspace	0.18	7,997,354	1439523.72	
Weighted I				0.154

N Value - Subbasin 1				
	N	Area (Acres)	N*Area	
R-10	0.034	0	0	
Openspace	0.075	169	12.6955041	
Weighted N				0.075

N Value - Subbasin 1A				
	N	Area (Acres)	N*Area	
R-10	0		0	
Openspace	0.075	129	9.645960447	
Weighted N				0.075

N Value - Subbasin 1B				
	N	Area (Acres)	N*Area	
R-10	0.034	41	1.38245978	
Openspace	0.075		0	
Weighted N				0.034

N Value - Subbasin 2A				
	N	Area (Acres)	N*Area	
R-40	0.0375	0	0	
R-20	0.032	0	0	
R-6	0.033	0	0	
Openspace	0.075	220	16.53595213	
Weighted N				0.075

N Value - Subbasin 2B				
	N	Area (Acres)	N*Area	
R-40	0.0395	45	1.78545169	
R-20	0.03	104	3.11952617	
R-6	0.034	16	0.54267388	
Openspace	0.075	143	10.7172159	
Weighted N				0.052

N Value - Subbasin 2C				
	N	Area (Acres)	N*Area	
R-40	0.0375	0	0	
R-20	0.032	0	0	
R-6	0.033	0	0	
Openspace	0.075	67	5.023171893	
Weighted N				0.075

N Value - Subbasin 3A				
	N	Area (Acres)	N*Area	
R-40	0.064	0	0	
R-20	0.028	0	0	
Openspace	0.075	199	14.93085227	
Weighted N				0.075

N Value - Subbasin 3B				
	N	Area (Acres)	N*Area	
R-40	0.064	8	0.48551686	
R-20	0.028	107	2.98685712	
Openspace	0.075	69	5.18951357	
Weighted N				0.047

N Value - Subbasin 3C				
	N	Area (Acres)	N*Area	
R-40	0.064	2	0.104486448	
R-20	0.028	41	1.140584567	
Openspace	0.075	3	0.253875458	
Weighted N				0.033

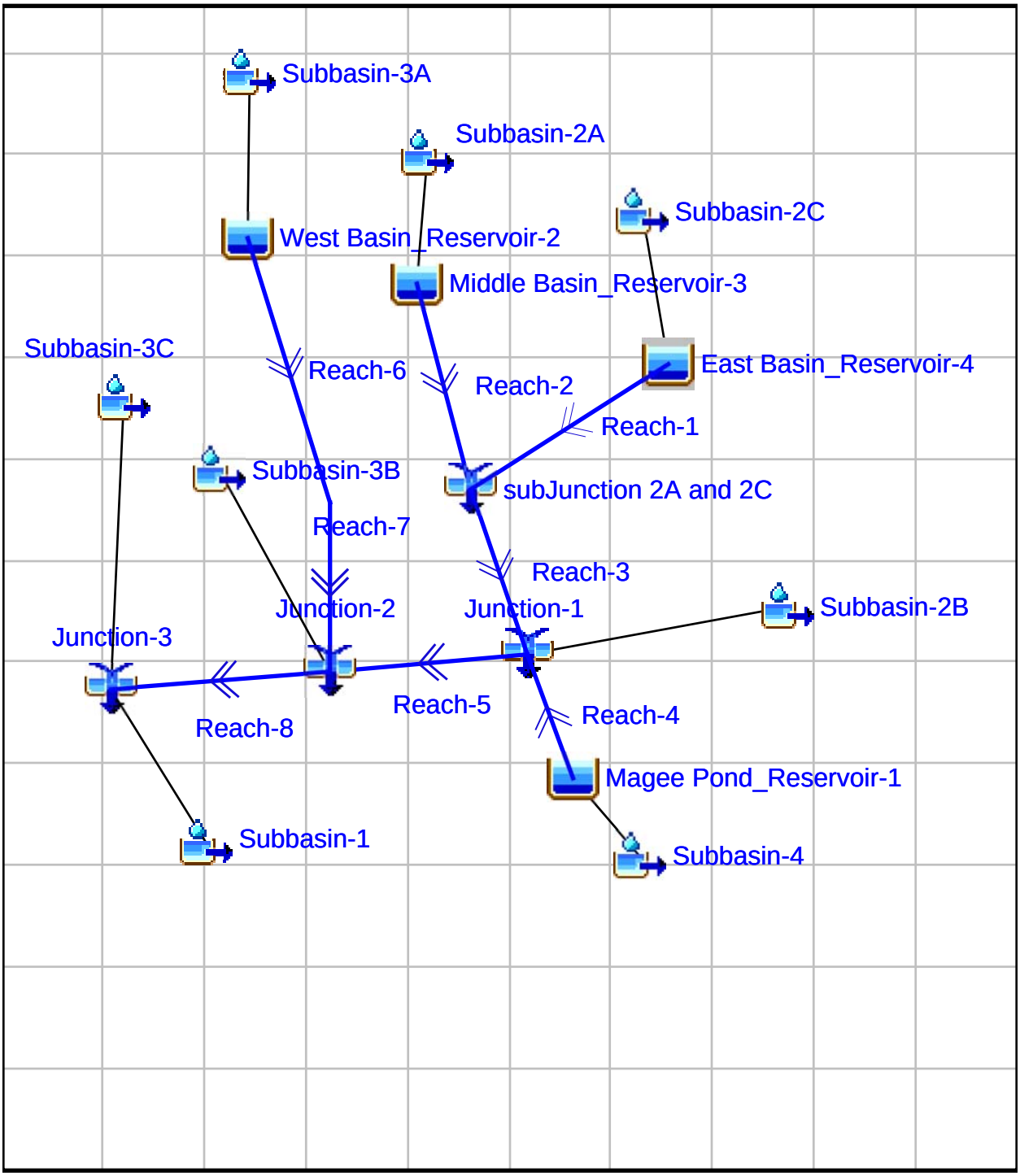
N Value - Subbasin 4				
	N	Area (Acres)	N*Area	
R-20	0.0385	26		
R-10	0.03	49	1.47733333	
Openspace	0.075	184	13.7695489	
Weighted N				0.059

HEC-HMS

Project : Magee Ranches PRE

Basin Model : Basin 1

Feb 29 16:59:49 PST 2012



10yr 3hr Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (Inches)
East Basin_Reservoir-4	0.105	12.8	01Jan2006, 03:30	0.85
Junction-1	1.334	409	01Jan2006, 03:00	0.9
Junction-2	1.932	529.8	01Jan2006, 03:00	0.9
Junction-3	2.268	642.2	01Jan2006, 03:00	0.9
Magee Pond_Reservoir-1	0.404	138.7	01Jan2006, 03:00	0.9
Middle Basin_Reservoir-3	0.344	82.3	01Jan2006, 03:15	0.87
Reach-1	0.105	12.8	01Jan2006, 03:30	0.85
Reach-2	0.344	81.9	01Jan2006, 03:15	0.87
Reach-3	0.449	93.7	01Jan2006, 03:30	0.87
Reach-4	0.404	136	01Jan2006, 03:00	0.9
Reach-5	1.334	407	01Jan2006, 03:00	0.9
Reach-6	0.311	71.9	01Jan2006, 03:15	0.88
Reach-7	0.311	62.4	01Jan2006, 03:30	0.88
Reach-8	1.932	523.6	01Jan2006, 03:00	0.9
Reservoir-5_Dev	0	0	01Jan2006, 00:15	
Subbasin-1	0.265	100.8	01Jan2006, 02:45	0.83
Subbasin-1A	0.201	86.1	01Jan2006, 02:45	0.83
Subbasin-1B	0.064	42.7	01Jan2006, 02:45	1.12
Subbasin-2A	0.344	129.9	01Jan2006, 02:45	0.87
Subbasin-2B	0.481	188.2	01Jan2006, 03:00	0.93
Subbasin-2C	0.105	56.8	01Jan2006, 02:45	0.85
Subbasin-3A	0.311	117	01Jan2006, 03:00	0.87
Subbasin-3B	0.287	147.5	01Jan2006, 02:45	0.95
Subbasin-3C	0.071	43.8	01Jan2006, 02:45	1.01
Subbasin-4	0.404	163.7	01Jan2006, 02:45	0.9
subJunction 2A and 2C	0.449	94.5	01Jan2006, 03:15	0.87
West Basin_Reservoir-2	0.311	86.9	01Jan2006, 03:15	0.87
10yr 6hr				
East Basin_Reservoir-4	0.105	12.7	01Jan2006, 05:00	0.86
Junction-1	1.334	407.6	01Jan2006, 04:30	0.97
Junction-2	1.932	535	01Jan2006, 04:30	0.97
Junction-3	2.268	644.5	01Jan2006, 04:30	0.97
Magee Pond_Reservoir-1	0.404	137.6	01Jan2006, 04:30	0.97

Middle Basin_Reservoir-3	0.344	81.8	01Jan2006, 04:45	0.88
Reach-1	0.105	12.7	01Jan2006, 05:15	0.86
Reach-2	0.344	81.4	01Jan2006, 04:45	0.88
Reach-3	0.449	93.4	01Jan2006, 05:00	0.88
Reach-4	0.404	134.1	01Jan2006, 04:30	0.97
Reach-5	1.334	404.9	01Jan2006, 04:30	0.97
Reach-6	0.311	68.7	01Jan2006, 05:00	0.89
Reach-7	0.311	57.9	01Jan2006, 05:00	0.89
Reach-8	1.932	519.6	01Jan2006, 04:30	0.97
Reservoir-5_Dev	0	0	01Jan2006, 00:15	
Subbasin-1	0.265	97.7	01Jan2006, 04:30	0.83
Subbasin-1A	0.201	82.5	01Jan2006, 04:15	0.83
Subbasin-1B	0.064	41	01Jan2006, 04:15	1.43
Subbasin-2A	0.344	131.8	01Jan2006, 04:30	0.88
Subbasin-2B	0.481	191.3	01Jan2006, 04:30	1.04
Subbasin-2C	0.105	54.9	01Jan2006, 04:15	0.86
Subbasin-3A	0.311	120.2	01Jan2006, 04:30	0.89
Subbasin-3B	0.287	142.7	01Jan2006, 04:15	1.09
Subbasin-3C	0.071	42.2	01Jan2006, 04:15	1.22
Subbasin-4	0.404	156.8	01Jan2006, 04:15	0.97
subJunction 2A and 2C	0.449	93.8	01Jan2006, 04:45	0.88
West Basin_Reservoir-2	0.311	74.7	01Jan2006, 05:00	0.89
10yr 12hr				
East Basin_Reservoir-4	0.105	12.7	01Jan2006, 07:15	0.88
Junction-1	1.334	401.5	01Jan2006, 06:15	0.98
Junction-2	1.932	537.2	01Jan2006, 06:15	0.99
Junction-3	2.268	635.8	01Jan2006, 06:15	0.99
Magee Pond_Reservoir-1	0.404	135.5	01Jan2006, 06:30	0.99
Middle Basin_Reservoir-3	0.344	80	01Jan2006, 06:45	0.9
Reach-1	0.105	12.7	01Jan2006, 07:15	0.88
Reach-2	0.344	80	01Jan2006, 06:45	0.9
Reach-3	0.449	92.1	01Jan2006, 06:45	0.9
Reach-4	0.404	135.3	01Jan2006, 06:30	0.99
Reach-5	1.334	397.2	01Jan2006, 06:15	0.99
Reach-6	0.311	54.3	01Jan2006, 07:00	0.91
Reach-7	0.311	54.2	01Jan2006, 07:00	0.91

Reach-8	1.932	504.9	01Jan2006, 06:15	0.99
Reservoir-5_Dev	0	0	01Jan2006, 00:15	
Subbasin-1	0.265	98.9	01Jan2006, 06:15	0.85
Subbasin-1A	0.201	75.8	01Jan2006, 06:15	0.85
Subbasin-1B	0.064	43.1	01Jan2006, 06:00	1.69
Subbasin-2A	0.344	134.4	01Jan2006, 06:15	0.9
Subbasin-2B	0.481	197.8	01Jan2006, 06:15	1.06
Subbasin-2C	0.105	50.9	01Jan2006, 06:00	0.88
Subbasin-3A	0.311	121.5	01Jan2006, 06:15	0.91
Subbasin-3B	0.287	140.4	01Jan2006, 06:00	1.11
Subbasin-3C	0.071	43.5	01Jan2006, 06:00	1.29
Subbasin-4	0.404	162.6	01Jan2006, 06:15	0.99
subJunction 2A and 2C	0.449	92.5	01Jan2006, 06:45	0.9
West Basin_Reservoir-2	0.311	64.9	01Jan2006, 06:45	0.91
10yr 24hr				
East Basin_Reservoir-4	0.105	13.7	01Jan2006, 11:15	1.04
Junction-1	1.334	455.2	01Jan2006, 10:15	1.13
Junction-2	1.932	596.9	01Jan2006, 10:15	1.14
Junction-3	2.268	730.9	01Jan2006, 10:15	1.13
Magee Pond_Reservoir-1	0.404	153.8	01Jan2006, 10:15	1.12
Middle Basin_Reservoir-3	0.344	92.5	01Jan2006, 10:30	1.07
Reach-1	0.105	13.7	01Jan2006, 11:15	1.04
Reach-2	0.344	91.4	01Jan2006, 10:30	1.07
Reach-3	0.449	103.7	01Jan2006, 10:45	1.07
Reach-4	0.404	151.1	01Jan2006, 10:15	1.12
Reach-5	1.334	453.5	01Jan2006, 10:15	1.13
Reach-6	0.311	117.3	01Jan2006, 10:30	1.09
Reach-7	0.311	86.3	01Jan2006, 10:45	1.09
Reach-8	1.932	592.2	01Jan2006, 10:15	1.14
Reservoir-5_Dev	0	0	01Jan2006, 00:15	
Subbasin-1	0.265	116.4	01Jan2006, 10:00	1.01
Subbasin-1A	0.201	97.8	01Jan2006, 10:00	1.01
Subbasin-1B	0.064	50.3	01Jan2006, 10:00	1.79
Subbasin-2A	0.344	154.3	01Jan2006, 10:00	1.07
Subbasin-2B	0.481	215.5	01Jan2006, 10:15	1.19
Subbasin-2C	0.105	63	01Jan2006, 10:00	1.04

Subbasin-3A	0.311	135.4	01Jan2006, 10:00	1.08
Subbasin-3B	0.287	174.4	01Jan2006, 10:00	1.24
Subbasin-3C	0.071	51.4	01Jan2006, 10:00	1.39
Subbasin-4	0.404	194.3	01Jan2006, 10:00	1.12
subJunction 2A and 2C	0.449	104.5	01Jan2006, 10:30	1.06
West Basin_Reservoir-2	0.311	140.4	01Jan2006, 10:30	1.08
100yr 3hr				
East Basin_Reservoir-4	0.105	57.4	01Jan2006, 03:15	1.5
Junction-1	1.334	686.6	01Jan2006, 03:00	1.54
Junction-2	1.932	1022.6	01Jan2006, 03:00	1.55
Junction-3	2.268	1174.8	01Jan2006, 03:00	1.55
Magee Pond_Reservoir-1	0.404	194.1	01Jan2006, 03:15	1.53
Middle Basin_Reservoir-3	0.344	237.5	01Jan2006, 03:00	1.52
Reach-1	0.105	49.3	01Jan2006, 03:15	1.5
Reach-2	0.344	222.2	01Jan2006, 03:00	1.52
Reach-3	0.449	208.9	01Jan2006, 03:15	1.52
Reach-4	0.404	193.9	01Jan2006, 03:15	1.54
Reach-5	1.334	682.3	01Jan2006, 03:00	1.54
Reach-6	0.311	209.7	01Jan2006, 03:00	1.53
Reach-7	0.311	175.1	01Jan2006, 03:00	1.54
Reach-8	1.932	982.4	01Jan2006, 03:00	1.55
Reservoir-5_Dev	0	0	01Jan2006, 00:15	
Subbasin-1	0.265	164.9	01Jan2006, 02:45	1.47
Subbasin-1A	0.201	139.1	01Jan2006, 02:45	1.47
Subbasin-1B	0.064	64	01Jan2006, 02:45	1.77
Subbasin-2A	0.344	211.3	01Jan2006, 02:45	1.52
Subbasin-2B	0.481	298.3	01Jan2006, 03:00	1.57
Subbasin-2C	0.105	90	01Jan2006, 02:45	1.5
Subbasin-3A	0.311	190.1	01Jan2006, 03:00	1.53
Subbasin-3B	0.287	231.2	01Jan2006, 02:45	1.6
Subbasin-3C	0.071	67.2	01Jan2006, 02:45	1.67
Subbasin-4	0.404	262.1	01Jan2006, 02:45	1.53
subJunction 2A and 2C	0.449	236.8	01Jan2006, 03:00	1.52
West Basin_Reservoir-2	0.311	225.9	01Jan2006, 03:00	1.53
100yr 6hr				

East Basin_Reservoir-4	0.105	34.3	01Jan2006, 04:45	1.8
Junction-1	1.334	640.5	01Jan2006, 04:30	1.9
Junction-2	1.932	984.2	01Jan2006, 04:30	1.91
Junction-3	2.268	1145.3	01Jan2006, 04:30	1.9
Magee Pond_Reservoir-1	0.404	192.5	01Jan2006, 04:45	1.89
Middle Basin_Reservoir-3	0.344	181.4	01Jan2006, 04:45	1.84
Reach-1	0.105	32.1	01Jan2006, 05:00	1.8
Reach-2	0.344	180.8	01Jan2006, 04:45	1.84
Reach-3	0.449	202.8	01Jan2006, 04:45	1.83
Reach-4	0.404	192	01Jan2006, 04:45	1.89
Reach-5	1.334	636.2	01Jan2006, 04:30	1.9
Reach-6	0.311	200.1	01Jan2006, 04:30	1.85
Reach-7	0.311	173.8	01Jan2006, 04:30	1.85
Reach-8	1.932	943.6	01Jan2006, 04:30	1.91
Reservoir-5_Dev	0	0	01Jan2006, 00:15	
Subbasin-1	0.265	159.4	01Jan2006, 04:30	1.76
Subbasin-1A	0.201	133.3	01Jan2006, 04:15	1.76
Subbasin-1B	0.064	61.7	01Jan2006, 04:15	2.36
Subbasin-2A	0.344	214.6	01Jan2006, 04:30	1.84
Subbasin-2B	0.481	303.6	01Jan2006, 04:30	1.97
Subbasin-2C	0.105	86.2	01Jan2006, 04:15	1.8
Subbasin-3A	0.311	195.3	01Jan2006, 04:30	1.85
Subbasin-3B	0.287	221.2	01Jan2006, 04:15	2.02
Subbasin-3C	0.071	64.4	01Jan2006, 04:15	2.15
Subbasin-4	0.404	250.1	01Jan2006, 04:15	1.89
subJunction 2A and 2C	0.449	210.9	01Jan2006, 04:45	1.83
West Basin_Reservoir-2	0.311	211.1	01Jan2006, 04:30	1.85
100yr 12hr				
East Basin_Reservoir-4	0.105	47.3	01Jan2006, 06:30	1.9
Junction-1	1.334	691.1	01Jan2006, 06:15	2.08
Junction-2	1.932	1045.4	01Jan2006, 06:15	2.09
Junction-3	2.268	1210.9	01Jan2006, 06:15	2.08
Magee Pond_Reservoir-1	0.404	203.5	01Jan2006, 06:30	2.07
Middle Basin_Reservoir-3	0.344	204.6	01Jan2006, 06:30	1.94
Reach-1	0.105	41.2	01Jan2006, 06:45	1.9
Reach-2	0.344	204.2	01Jan2006, 06:30	1.94

Reach-3	0.449	234.5	01Jan2006, 06:30	1.94
Reach-4	0.404	202.4	01Jan2006, 06:30	2.07
Reach-5	1.334	685.9	01Jan2006, 06:15	2.08
Reach-6	0.311	224.9	01Jan2006, 06:15	1.97
Reach-7	0.311	184.2	01Jan2006, 06:30	1.97
Reach-8	1.932	1015.6	01Jan2006, 06:30	2.1
Reservoir-5_Dev	0	0	01Jan2006, 00:15	
Subbasin-1	0.265	176.3	01Jan2006, 06:15	1.85
Subbasin-1A	0.201	136.2	01Jan2006, 06:00	1.85
Subbasin-1B	0.064	65.2	01Jan2006, 06:00	2.99
Subbasin-2A	0.344	236.2	01Jan2006, 06:15	1.94
Subbasin-2B	0.481	331	01Jan2006, 06:15	2.22
Subbasin-2C	0.105	90.4	01Jan2006, 06:00	1.9
Subbasin-3A	0.311	214.1	01Jan2006, 06:15	1.96
Subbasin-3B	0.287	231.3	01Jan2006, 06:00	2.3
Subbasin-3C	0.071	67.9	01Jan2006, 06:00	2.56
Subbasin-4	0.404	274.7	01Jan2006, 06:15	2.07
subJunction 2A and 2C	0.449	245	01Jan2006, 06:30	1.93
West Basin_Reservoir-2	0.311	263.5	01Jan2006, 06:15	1.96
100yr 24hr				
East Basin_Reservoir-4	0.105	66.3	01Jan2006, 10:30	2.09
Junction-1	1.334	986.8	01Jan2006, 10:15	2.25
Junction-2	1.932	1395.4	01Jan2006, 10:15	2.26
Junction-3	2.268	1574.4	01Jan2006, 10:15	2.26
Magee Pond_Reservoir-1	0.404	303.7	01Jan2006, 10:15	2.23
Middle Basin_Reservoir-3	0.344	347.3	01Jan2006, 10:15	2.14
Reach-1	0.105	64.1	01Jan2006, 10:30	2.09
Reach-2	0.344	327	01Jan2006, 10:15	2.14
Reach-3	0.449	321.5	01Jan2006, 10:15	2.13
Reach-4	0.404	294.4	01Jan2006, 10:15	2.23
Reach-5	1.334	980.2	01Jan2006, 10:15	2.25
Reach-6	0.311	276.6	01Jan2006, 10:15	2.16
Reach-7	0.311	229.7	01Jan2006, 10:30	2.17
Reach-8	1.932	1331.7	01Jan2006, 10:15	2.27
Reservoir-5_Dev	0	0	01Jan2006, 00:15	
Subbasin-1	0.265	227.7	01Jan2006, 10:00	2.03

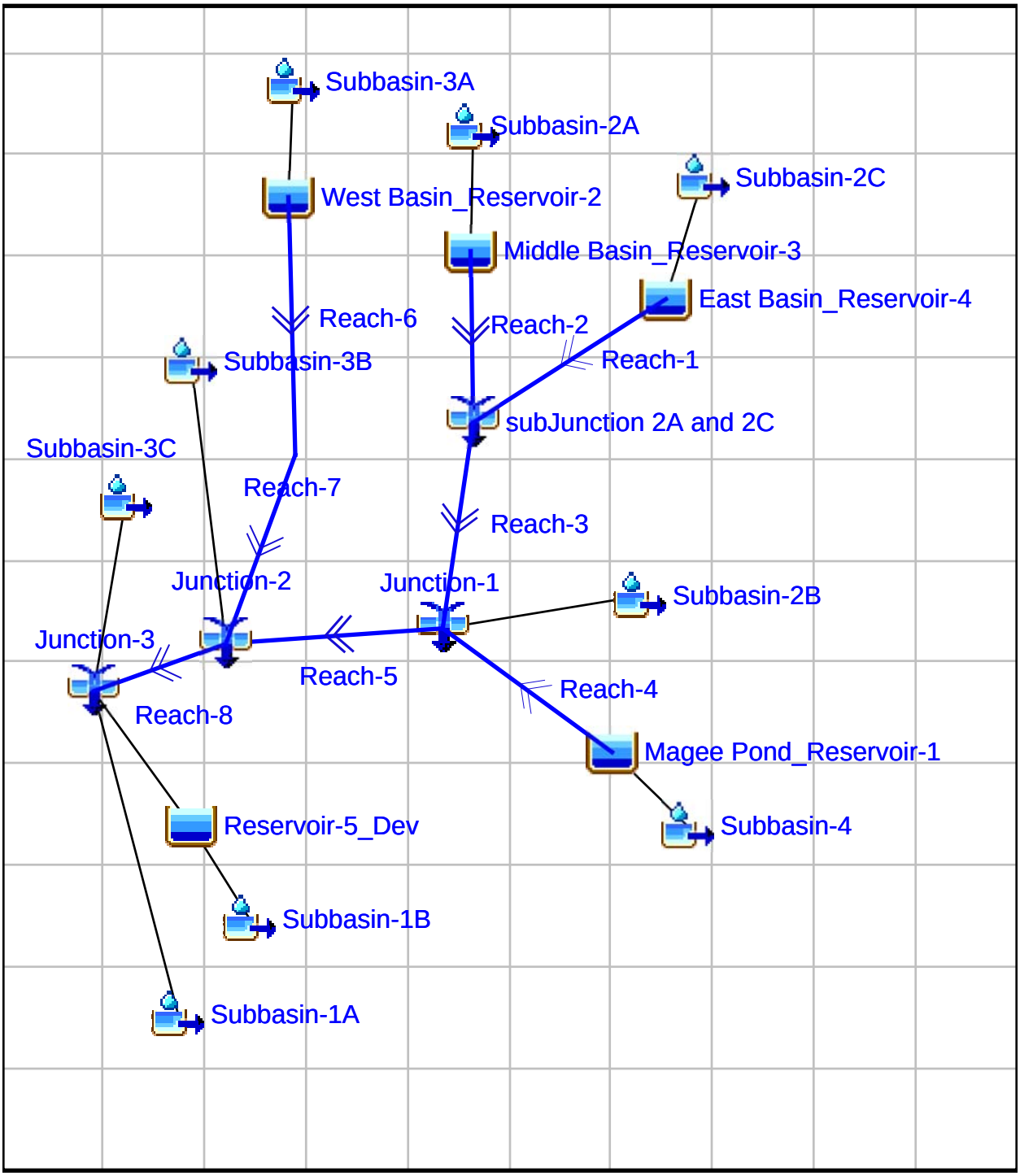
Subbasin-1A	0.201	185.2	01Jan2006, 10:00	2.03
Subbasin-1B	0.064	77.2	01Jan2006, 10:00	3.48
Subbasin-2A	0.344	298	01Jan2006, 10:00	2.14
Subbasin-2B	0.481	391.2	01Jan2006, 10:00	2.37
Subbasin-2C	0.105	112.1	01Jan2006, 10:00	2.09
Subbasin-3A	0.311	263.6	01Jan2006, 10:00	2.16
Subbasin-3B	0.287	297.1	01Jan2006, 10:00	2.46
Subbasin-3C	0.071	82.1	01Jan2006, 10:00	2.78
Subbasin-4	0.404	358.4	01Jan2006, 10:00	2.23
subJunction 2A and 2C	0.449	373.2	01Jan2006, 10:15	2.13
West Basin_Reservoir-2	0.311	312	01Jan2006, 10:15	2.16

HEC-HMS

Project : Magee Ranches POST

Basin Model : Basin 1

Feb 29 16:44:31 PST 2012



10yr_3hr Hydraulic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (Inches)
East Basin_Reservoir-4	0.105	12.8	01Jan2006, 03:30	0.85
Junction-1	1.334	409	01Jan2006, 03:00	0.9
Junction-2	1.932	529.8	01Jan2006, 03:00	0.9
Junction-3	2.268	623.8	01Jan2006, 03:00	0.9
Magee Pond_Reservoir-1	0.404	138.7	01Jan2006, 03:00	0.9
Middle Basin_Reservoir-3	0.344	82.3	01Jan2006, 03:15	0.87
Reach-1	0.105	12.8	01Jan2006, 03:30	0.85
Reach-2	0.344	81.9	01Jan2006, 03:15	0.87
Reach-3	0.449	93.7	01Jan2006, 03:30	0.87
Reach-4	0.404	136	01Jan2006, 03:00	0.9
Reach-5	1.334	407	01Jan2006, 03:00	0.9
Reach-6	0.311	71.9	01Jan2006, 03:15	0.88
Reach-7	0.311	62.4	01Jan2006, 03:30	0.88
Reach-8	1.932	523.6	01Jan2006, 03:00	0.9
Reservoir-5_Dev	0.064	13.1	01Jan2006, 03:15	0.98
Subbasin-1	0.265	100.8	01Jan2006, 02:45	0.83
Subbasin-1A	0.201	86.1	01Jan2006, 02:45	0.83
Subbasin-1B	0.064	42.7	01Jan2006, 02:45	1.12
Subbasin-2A	0.344	129.9	01Jan2006, 02:45	0.87
Subbasin-2B	0.481	188.2	01Jan2006, 03:00	0.93
Subbasin-2C	0.105	56.8	01Jan2006, 02:45	0.85
Subbasin-3A	0.311	117	01Jan2006, 03:00	0.87
Subbasin-3B	0.287	147.5	01Jan2006, 02:45	0.95
Subbasin-3C	0.071	43.8	01Jan2006, 02:45	1.01
Subbasin-4	0.404	163.7	01Jan2006, 02:45	0.9
subJunction 2A and 2C	0.449	94.5	01Jan2006, 03:15	0.87
West Basin_Reservoir-2	0.311	86.9	01Jan2006, 03:15	0.87
10yr 6hr				
East Basin_Reservoir-4	0.105	12.7	01Jan2006, 05:00	0.86
Junction-1	1.334	407.6	01Jan2006, 04:30	0.97
Junction-2	1.932	535	01Jan2006, 04:30	0.97
Junction-3	2.268	634.1	01Jan2006, 04:30	0.98
Magee Pond_Reservoir-1	0.404	137.6	01Jan2006, 04:30	0.97

Middle Basin_Reservoir-3	0.344	81.8	01Jan2006, 04:45	0.88
Reach-1	0.105	12.7	01Jan2006, 05:15	0.86
Reach-2	0.344	81.4	01Jan2006, 04:45	0.88
Reach-3	0.449	93.4	01Jan2006, 05:00	0.88
Reach-4	0.404	134.1	01Jan2006, 04:30	0.97
Reach-5	1.334	404.9	01Jan2006, 04:30	0.97
Reach-6	0.311	68.7	01Jan2006, 05:00	0.89
Reach-7	0.311	57.9	01Jan2006, 05:00	0.89
Reach-8	1.932	519.6	01Jan2006, 04:30	0.97
Reservoir-5_Dev	0.064	16.6	01Jan2006, 04:45	1.24
Subbasin-1	0.265	97.7	01Jan2006, 04:30	0.83
Subbasin-1A	0.201	82.5	01Jan2006, 04:15	0.83
Subbasin-1B	0.064	41	01Jan2006, 04:15	1.43
Subbasin-2A	0.344	131.8	01Jan2006, 04:30	0.88
Subbasin-2B	0.481	191.3	01Jan2006, 04:30	1.04
Subbasin-2C	0.105	54.9	01Jan2006, 04:15	0.86
Subbasin-3A	0.311	120.2	01Jan2006, 04:30	0.89
Subbasin-3B	0.287	142.7	01Jan2006, 04:15	1.09
Subbasin-3C	0.071	42.2	01Jan2006, 04:15	1.22
Subbasin-4	0.404	156.8	01Jan2006, 04:15	0.97
subJunction 2A and 2C	0.449	93.8	01Jan2006, 04:45	0.88
West Basin_Reservoir-2	0.311	74.7	01Jan2006, 05:00	0.89
10yr 12hr				
East Basin_Reservoir-4	0.105	12.7	01Jan2006, 07:15	0.88
Junction-1	1.334	401.5	01Jan2006, 06:15	0.98
Junction-2	1.932	537.2	01Jan2006, 06:15	0.99
Junction-3	2.268	621.2	01Jan2006, 06:15	1
Magee Pond_Reservoir-1	0.404	135.5	01Jan2006, 06:30	0.99
Middle Basin_Reservoir-3	0.344	80	01Jan2006, 06:45	0.9
Reach-1	0.105	12.7	01Jan2006, 07:15	0.88
Reach-2	0.344	80	01Jan2006, 06:45	0.9
Reach-3	0.449	92.1	01Jan2006, 06:45	0.9
Reach-4	0.404	135.3	01Jan2006, 06:30	0.99
Reach-5	1.334	397.2	01Jan2006, 06:15	0.99
Reach-6	0.311	54.3	01Jan2006, 07:00	0.91
Reach-7	0.311	54.2	01Jan2006, 07:00	0.91

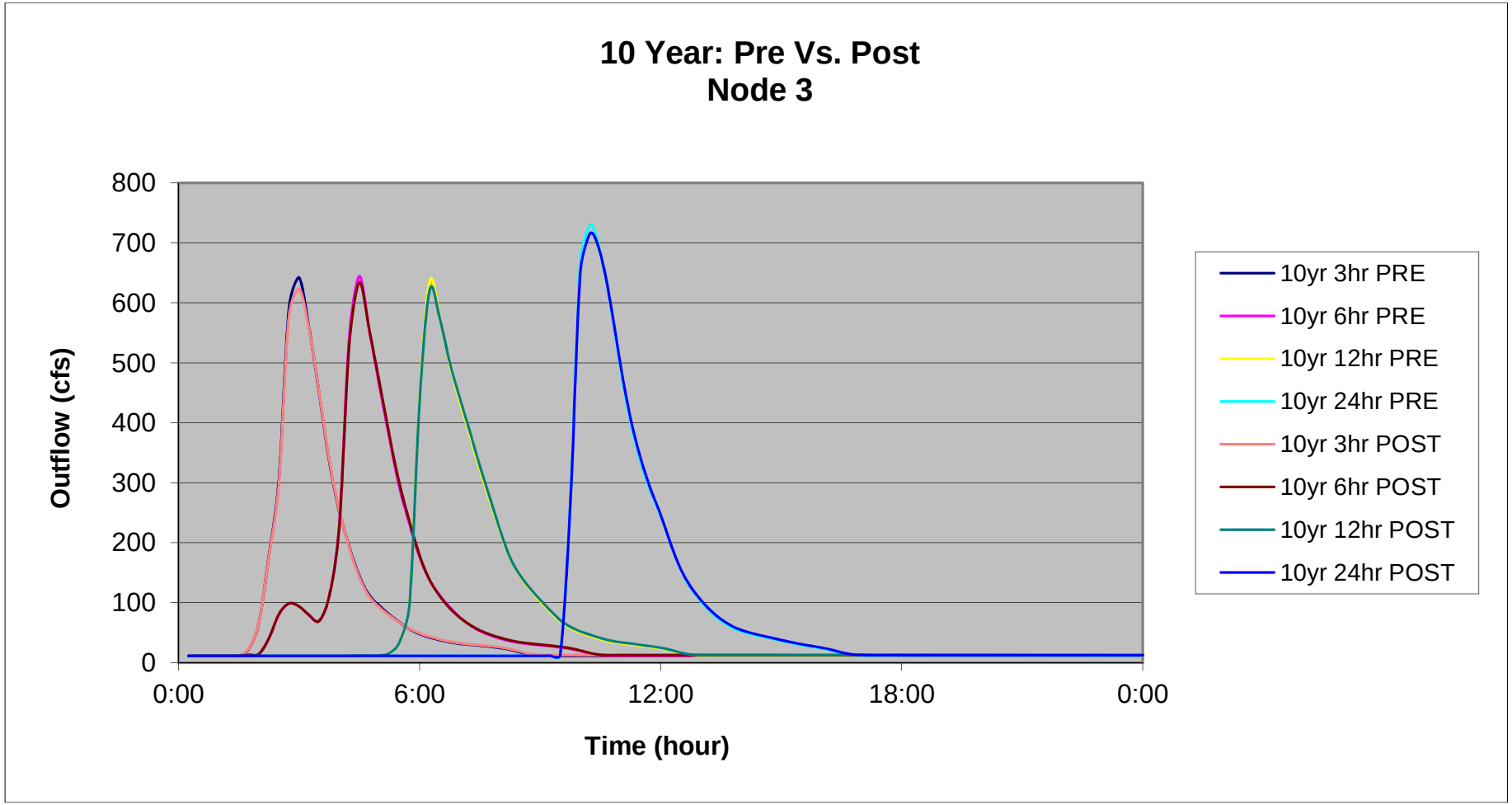
Reach-8	1.932	504.9	01Jan2006, 06:15	0.99
Reservoir-5_Dev	0.064	16.3	01Jan2006, 06:45	1.4
Subbasin-1	0.265	98.9	01Jan2006, 06:15	0.85
Subbasin-1A	0.201	75.8	01Jan2006, 06:15	0.85
Subbasin-1B	0.064	43.1	01Jan2006, 06:00	1.69
Subbasin-2A	0.344	134.4	01Jan2006, 06:15	0.9
Subbasin-2B	0.481	197.8	01Jan2006, 06:15	1.06
Subbasin-2C	0.105	50.9	01Jan2006, 06:00	0.88
Subbasin-3A	0.311	121.5	01Jan2006, 06:15	0.91
Subbasin-3B	0.287	140.4	01Jan2006, 06:00	1.11
Subbasin-3C	0.071	43.5	01Jan2006, 06:00	1.29
Subbasin-4	0.404	162.6	01Jan2006, 06:15	0.99
subJunction 2A and 2C	0.449	92.5	01Jan2006, 06:45	0.9
West Basin_Reservoir-2	0.311	64.9	01Jan2006, 06:45	0.91
10yr 24hr				
East Basin_Reservoir-4	0.105	13.7	01Jan2006, 11:15	1.04
Junction-1	1.334	455.2	01Jan2006, 10:15	1.13
Junction-2	1.932	596.9	01Jan2006, 10:15	1.14
Junction-3	2.268	716	01Jan2006, 10:15	1.14
Magee Pond_Reservoir-1	0.404	153.8	01Jan2006, 10:15	1.12
Middle Basin_Reservoir-3	0.344	92.5	01Jan2006, 10:30	1.07
Reach-1	0.105	13.7	01Jan2006, 11:15	1.04
Reach-2	0.344	91.4	01Jan2006, 10:30	1.07
Reach-3	0.449	103.7	01Jan2006, 10:45	1.07
Reach-4	0.404	151.1	01Jan2006, 10:15	1.12
Reach-5	1.334	453.5	01Jan2006, 10:15	1.13
Reach-6	0.311	117.3	01Jan2006, 10:30	1.09
Reach-7	0.311	86.3	01Jan2006, 10:45	1.09
Reach-8	1.932	592.2	01Jan2006, 10:15	1.14
Reservoir-5_Dev	0.064	18.2	01Jan2006, 10:45	1.38
Subbasin-1	0.265	116.4	01Jan2006, 10:00	1.01
Subbasin-1A	0.201	97.8	01Jan2006, 10:00	1.01
Subbasin-1B	0.064	50.3	01Jan2006, 10:00	1.79
Subbasin-2A	0.344	154.3	01Jan2006, 10:00	1.07
Subbasin-2B	0.481	215.5	01Jan2006, 10:15	1.19
Subbasin-2C	0.105	63	01Jan2006, 10:00	1.04

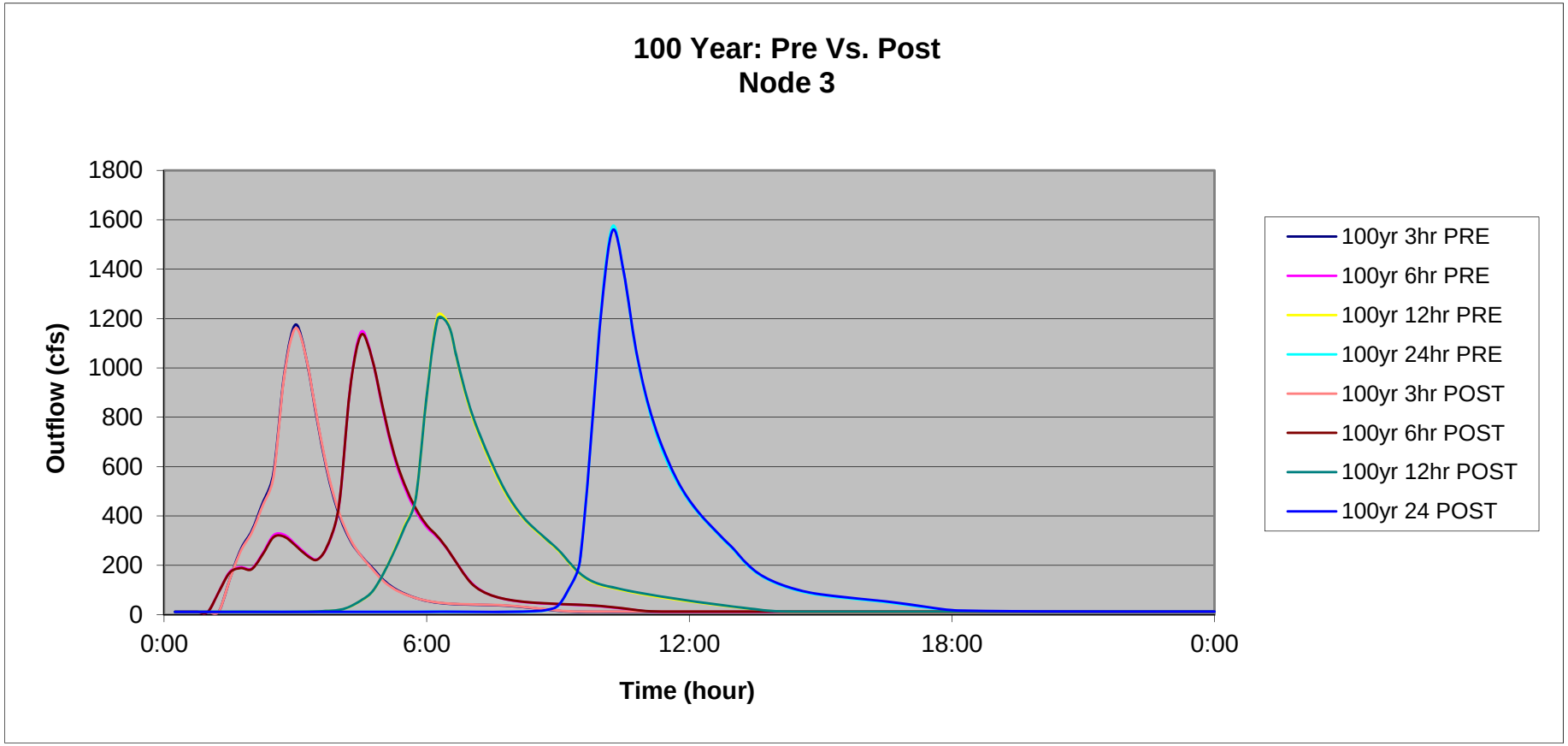
Subbasin-3A	0.311	135.4	01Jan2006, 10:00	1.08
Subbasin-3B	0.287	174.4	01Jan2006, 10:00	1.24
Subbasin-3C	0.071	51.4	01Jan2006, 10:00	1.39
Subbasin-4	0.404	194.3	01Jan2006, 10:00	1.12
subJunction 2A and 2C	0.449	104.5	01Jan2006, 10:30	1.06
West Basin_Reservoir-2	0.311	140.4	01Jan2006, 10:30	1.08
100yr 3hr				
East Basin_Reservoir-4	0.105	57.4	01Jan2006, 03:15	1.5
Junction-1	1.334	686.6	01Jan2006, 03:00	1.54
Junction-2	1.932	1022.6	01Jan2006, 03:00	1.55
Junction-3	2.268	1160.5	01Jan2006, 03:00	1.55
Magee Pond_Reservoir-1	0.404	194.1	01Jan2006, 03:15	1.53
Middle Basin_Reservoir-3	0.344	237.5	01Jan2006, 03:00	1.52
Reach-1	0.105	49.3	01Jan2006, 03:15	1.5
Reach-2	0.344	222.2	01Jan2006, 03:00	1.52
Reach-3	0.449	208.9	01Jan2006, 03:15	1.52
Reach-4	0.404	193.9	01Jan2006, 03:15	1.54
Reach-5	1.334	682.3	01Jan2006, 03:00	1.54
Reach-6	0.311	209.7	01Jan2006, 03:00	1.53
Reach-7	0.311	175.1	01Jan2006, 03:00	1.54
Reach-8	1.932	982.4	01Jan2006, 03:00	1.55
Reservoir-5_Dev	0.064	26.9	01Jan2006, 03:15	1.61
Subbasin-1	0.265	164.9	01Jan2006, 02:45	1.47
Subbasin-1A	0.201	139.1	01Jan2006, 02:45	1.47
Subbasin-1B	0.064	64	01Jan2006, 02:45	1.77
Subbasin-2A	0.344	211.3	01Jan2006, 02:45	1.52
Subbasin-2B	0.481	298.3	01Jan2006, 03:00	1.57
Subbasin-2C	0.105	90	01Jan2006, 02:45	1.5
Subbasin-3A	0.311	190.1	01Jan2006, 03:00	1.53
Subbasin-3B	0.287	231.2	01Jan2006, 02:45	1.6
Subbasin-3C	0.071	67.2	01Jan2006, 02:45	1.67
Subbasin-4	0.404	262.1	01Jan2006, 02:45	1.53
subJunction 2A and 2C	0.449	236.8	01Jan2006, 03:00	1.52
West Basin_Reservoir-2	0.311	225.9	01Jan2006, 03:00	1.53
100yr 6hr				

East Basin_Reservoir-4	0.105	34.3	01Jan2006, 04:45	1.8
Junction-1	1.334	640.5	01Jan2006, 04:30	1.9
Junction-2	1.932	984.2	01Jan2006, 04:30	1.91
Junction-3	2.268	1133.1	01Jan2006, 04:30	1.91
Magee Pond_Reservoir-1	0.404	192.5	01Jan2006, 04:45	1.89
Middle Basin_Reservoir-3	0.344	181.4	01Jan2006, 04:45	1.84
Reach-1	0.105	32.1	01Jan2006, 05:00	1.8
Reach-2	0.344	180.8	01Jan2006, 04:45	1.84
Reach-3	0.449	202.8	01Jan2006, 04:45	1.83
Reach-4	0.404	192	01Jan2006, 04:45	1.89
Reach-5	1.334	636.2	01Jan2006, 04:30	1.9
Reach-6	0.311	200.1	01Jan2006, 04:30	1.85
Reach-7	0.311	173.8	01Jan2006, 04:30	1.85
Reach-8	1.932	943.6	01Jan2006, 04:30	1.91
Reservoir-5_Dev	0.064	29.1	01Jan2006, 04:45	2.15
Subbasin-1	0.265	159.4	01Jan2006, 04:30	1.76
Subbasin-1A	0.201	133.3	01Jan2006, 04:15	1.76
Subbasin-1B	0.064	61.7	01Jan2006, 04:15	2.36
Subbasin-2A	0.344	214.6	01Jan2006, 04:30	1.84
Subbasin-2B	0.481	303.6	01Jan2006, 04:30	1.97
Subbasin-2C	0.105	86.2	01Jan2006, 04:15	1.8
Subbasin-3A	0.311	195.3	01Jan2006, 04:30	1.85
Subbasin-3B	0.287	221.2	01Jan2006, 04:15	2.02
Subbasin-3C	0.071	64.4	01Jan2006, 04:15	2.15
Subbasin-4	0.404	250.1	01Jan2006, 04:15	1.89
subJunction 2A and 2C	0.449	210.9	01Jan2006, 04:45	1.83
West Basin_Reservoir-2	0.311	211.1	01Jan2006, 04:30	1.85
100yr 12hr				
East Basin_Reservoir-4	0.105	47.3	01Jan2006, 06:30	1.9
Junction-1	1.334	691.1	01Jan2006, 06:15	2.08
Junction-2	1.932	1045.4	01Jan2006, 06:15	2.09
Junction-3	2.268	1197.6	01Jan2006, 06:15	2.11
Magee Pond_Reservoir-1	0.404	203.5	01Jan2006, 06:30	2.07
Middle Basin_Reservoir-3	0.344	204.6	01Jan2006, 06:30	1.94
Reach-1	0.105	41.2	01Jan2006, 06:45	1.9
Reach-2	0.344	204.2	01Jan2006, 06:30	1.94

Reach-3	0.449	234.5	01Jan2006, 06:30	1.94
Reach-4	0.404	202.4	01Jan2006, 06:30	2.07
Reach-5	1.334	685.9	01Jan2006, 06:15	2.08
Reach-6	0.311	224.9	01Jan2006, 06:15	1.97
Reach-7	0.311	184.2	01Jan2006, 06:30	1.97
Reach-8	1.932	1015.6	01Jan2006, 06:30	2.1
Reservoir-5_Dev	0.064	30.5	01Jan2006, 06:30	2.68
Subbasin-1	0.265	176.3	01Jan2006, 06:15	1.85
Subbasin-1A	0.201	136.2	01Jan2006, 06:00	1.85
Subbasin-1B	0.064	65.2	01Jan2006, 06:00	2.99
Subbasin-2A	0.344	236.2	01Jan2006, 06:15	1.94
Subbasin-2B	0.481	331	01Jan2006, 06:15	2.22
Subbasin-2C	0.105	90.4	01Jan2006, 06:00	1.9
Subbasin-3A	0.311	214.1	01Jan2006, 06:15	1.96
Subbasin-3B	0.287	231.3	01Jan2006, 06:00	2.3
Subbasin-3C	0.071	67.9	01Jan2006, 06:00	2.56
Subbasin-4	0.404	274.7	01Jan2006, 06:15	2.07
subJunction 2A and 2C	0.449	245	01Jan2006, 06:30	1.93
West Basin_Reservoir-2	0.311	263.5	01Jan2006, 06:15	1.96
100yr 24hr				
East Basin_Reservoir-4	0.105	66.3	01Jan2006, 10:30	2.09
Junction-1	1.334	986.8	01Jan2006, 10:15	2.25
Junction-2	1.932	1395.4	01Jan2006, 10:15	2.26
Junction-3	2.268	1557.6	01Jan2006, 10:15	2.28
Magee Pond_Reservoir-1	0.404	303.7	01Jan2006, 10:15	2.23
Middle Basin_Reservoir-3	0.344	347.3	01Jan2006, 10:15	2.14
Reach-1	0.105	64.1	01Jan2006, 10:30	2.09
Reach-2	0.344	327	01Jan2006, 10:15	2.14
Reach-3	0.449	321.5	01Jan2006, 10:15	2.13
Reach-4	0.404	294.4	01Jan2006, 10:15	2.23
Reach-5	1.334	980.2	01Jan2006, 10:15	2.25
Reach-6	0.311	276.6	01Jan2006, 10:15	2.16
Reach-7	0.311	229.7	01Jan2006, 10:30	2.17
Reach-8	1.932	1331.7	01Jan2006, 10:15	2.27
Reservoir-5_Dev	0.064	34.3	01Jan2006, 10:30	2.94
Subbasin-1	0.265	227.7	01Jan2006, 10:00	2.03

Subbasin-1A	0.201	185.2	01Jan2006, 10:00	2.03
Subbasin-1B	0.064	77.2	01Jan2006, 10:00	3.48
Subbasin-2A	0.344	298	01Jan2006, 10:00	2.14
Subbasin-2B	0.481	391.2	01Jan2006, 10:00	2.37
Subbasin-2C	0.105	112.1	01Jan2006, 10:00	2.09
Subbasin-3A	0.311	263.6	01Jan2006, 10:00	2.16
Subbasin-3B	0.287	297.1	01Jan2006, 10:00	2.46
Subbasin-3C	0.071	82.1	01Jan2006, 10:00	2.78
Subbasin-4	0.404	358.4	01Jan2006, 10:00	2.23
subJunction 2A and 2C	0.449	373.2	01Jan2006, 10:15	2.13
West Basin_Reservoir-2	0.311	312	01Jan2006, 10:15	2.16


10 Year: Pre Vs. Post
Node 3
Outflow (cfs)
800
700
600
500
400
300
200
100
0
0:00
6:00
12:00
18:00
0:00
Time (hour)
10yr 3hr PRE
10yr 6hr PRE
10yr 12hr PRE
10yr 24hr PRE
10yr 3hr POST
10yr 6hr POST
10yr 12hr POST
10yr 24hr POST


100 Year: Pre Vs. Post
Node 3
Outflow (cfs)
1800
1600
1400
1200
1000
800
600
400
200
0
0:00
6:00
12:00
18:00
0:00
Time (hour)
100yr 3hr PRE
100yr 6hr PRE
100yr 12hr PRE
100yr 24hr PRE
100yr 3hr POST
100yr 6hr POST
100yr 12hr POST
100yr 24 POST

APPENDIX C

Supporting Watershed Photographs

DRAFT

APPENDIX C

COPYRIGHT © 2011 BY ENGEO INCORPORATED. THIS DOCUMENT MAY NOT BE REPRODUCED IN WHOLE OR IN PART BY ANY MEANS WHATSOEVER, NOR MAY IT BE QUOTED OR EXCERPTED WITHOUT THE EXPRESS WRITTEN CONSENT OF ENGEO INCORPORATED.

BLACKHAWK EAST BASIN

MIDDLE RETENTION BASIN

ENGEO
Expect Excellence

SITE PHOTOGRAPHS
MAGEE RANCHES PROJECT
DANVILLE, CALIFORNIA

PROJECT NO.: 8889.000.000	FIGURE NO.
SCALE: NO SCALE	C1
DRAWN BY: PC / CHECKED BY: PCG	

G:\Drafting\DRAFTING2_Dwg\8889\000\Reg Hydrology update\8889000000-C1-SitePhoto-0911.dwg Plot Date: 9-29-11 pcrockett

ORIGINAL FIGURE PRINTED IN COLOR

COPYRIGHT © 2011 BY ENGEO INCORPORATED. THIS DOCUMENT MAY NOT BE REPRODUCED IN WHOLE OR IN PART BY ANY MEANS WHATSOEVER, NOR MAY IT BE QUOTED OR EXCERPTED WITHOUT THE EXPRESS WRITTEN CONSENT OF ENGEO INCORPORATED.

BLACKHAWK WEST BASIN

TYPICAL GEOMETRIC CROSS SECTION OF
CHANNEL USED IN ROUTING

ENGEO
Expect Excellence

SITE PHOTOGRAPHS
MAGEE RANCHES PROJECT
DANVILLE, CALIFORNIA

PROJECT NO.: 8889.000.000	FIGURE NO.
SCALE: NO SCALE	C2
DRAWN BY: PC / CHECKED BY: PCG	

G:\Drafting\DRAFTING2_Dwg\8889\000\Reg Hydrology update\8889000000-C2-SitePhoto-0911.dwg Plot Date: 9-29-11 pcrockett

ORIGINAL FIGURE PRINTED IN COLOR

APPENDIX D

Project Tentative Map Sheets – Ruggeri-Jensen-Azar

DRAFT

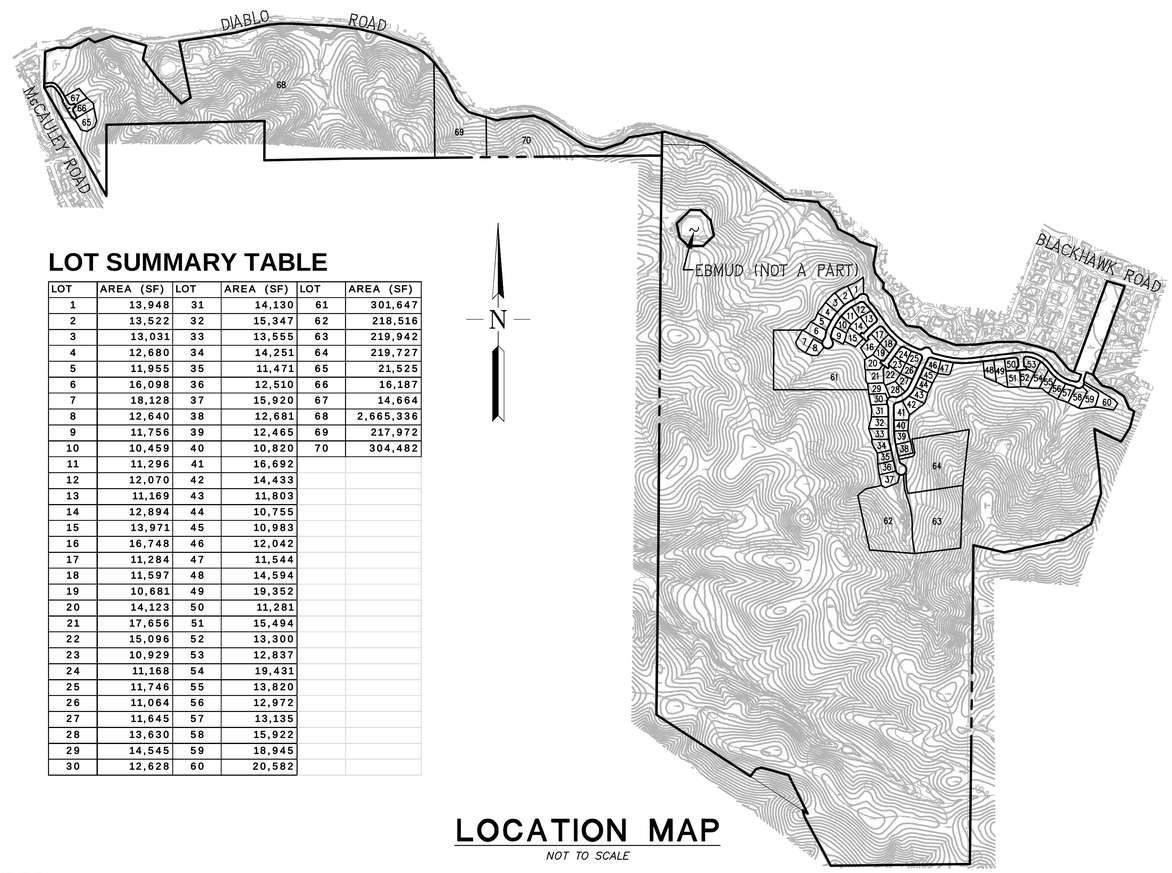
VESTING TENTATIVE MAP
SUBDIVISION 9291 - MAGEE RANCHES
TOWN OF DANVILLE, CONTRA COSTA COUNTY, CALIFORNIA

BENCHMARK

CONTRA COSTA COUNTY BENCHMARK # 1560
STANDARD CONTRA COSTA COUNTY BENCHMARK PLATE SET IN TOP OF CONCRETE HEADWALL OF DOUBLE BOX CULVERT, EAST SIDE OF GREEN VALLEY ROAD AT THE INTERSECTION OF DIABLO ROAD AND GREEN VALLEY ROAD.
ELEVATION = 429.118 1964 ADJ.

LEGEND

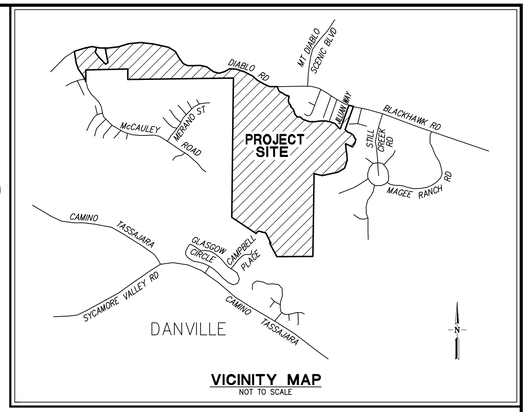
PROPOSED	DESCRIPTION	EXISTING
	TRACT BOUNDARY	
	LOT LINE	
	RIGHT OF WAY	
	CENTER LINE	
	RETAINING WALL	
	EASEMENT LINE	
12"SD	STORM DRAIN	EX 12"SD
8"SS	SANITARY SEWER	EX 8"SS
8"W	WATER	EX 8"W
	CURB & GUTTER	EX FC
	SIDEWALK	
	CONCRETE DITCH	
	SCENIC HILLSIDE LINE	
	RIDGE LINE	
	BUILDABLE AREA	
	STORM WATER INLET	
	FIELD INLET	
	MANHOLE	
	FIRE HYDRANT	
	BLOW OFF	
	WATER VALVE	
	WATER LATERAL WITH METER	
	STREET LIGHT	
	FENCE	
	SLOPE	
	HANDICAP RAMP	
	SAVE TREE	20" OAK (S)
	REMOVE TREE	10" OLIVE (R)
130	CONTOUR ELEVATIONS	130
x 525.2	SPOT ELEVATION	x525.2



LOCATION MAP
NOT TO SCALE

LOT SUMMARY TABLE

LOT	AREA (SF)	LOT	AREA (SF)	LOT	AREA (SF)
1	13,948	31	14,130	61	301,647
2	13,522	32	15,347	62	218,516
3	13,031	33	13,555	63	219,942
4	12,680	34	14,251	64	219,727
5	11,955	35	11,471	65	21,525
6	16,098	36	12,510	66	16,187
7	18,128	37	15,920	67	14,664
8	12,640	38	12,681	68	2,665,336
9	11,756	39	12,465	69	217,972
10	10,459	40	10,820	70	304,482
11	11,296	41	16,692		
12	12,070	42	14,433		
13	11,169	43	11,803		
14	12,894	44	10,755		
15	13,971	45	10,983		
16	16,748	46	12,042		
17	11,284	47	11,544		
18	11,597	48	14,594		
19	10,681	49	19,352		
20	14,123	50	11,281		
21	17,656	51	15,494		
22	15,096	52	13,300		
23	10,929	53	12,837		
24	11,168	54	19,431		
25	11,746	55	13,820		
26	11,064	56	12,972		
27	11,645	57	13,135		
28	13,630	58	15,922		
29	14,545	59	18,945		
30	12,628	60	20,582		



VICINITY MAP
NOT TO SCALE

GENERAL NOTES:

1. OWNER: TEARDROP PARTNERS, L.P. AND
MAGEE INVESTMENT COMPANY
3189 DANVILLE BOULEVARD #240
ALAMO, CA 94507-1956
CONTACT: C/O WENDI BAKER (925) 244-7534

2. DEVELOPER: SUMMERHILL HOMES
5000 EXECUTIVE PARKWAY, SUITE 150
SAN RAMON, CA 94583
CONTACT: WENDI BAKER (925) 244-7534

3. CIVIL ENGINEER: RUGGERI-JENSEN-AZAR
4690 CHABOT DRIVE, SUITE 200
PLEASANTON, CA 94588
CONTACT: MARK FALGOUT (925) 227-9100

4. SOILS ENGINEER: ENGEO, INCORPORATED
2010 CROW CANYON PLACE, SUITE 250
SAN RAMON, CA 94583
CONTACT: PHILIP STUCCHELI (925) 866-9000

5. ASSESSOR'S PARCEL NUMBERS: 202-050-071-2, 202-050-073-8, 202-050-074-6, 202-050-078-7, 202-050-079-5, 202-050-080-3, 202-100-017-5, 202-100-019-1, 202-100-038-1, 202-100-040-7, 215-040-002-2

6. CURRENT USE: AGRICULTURE

7. CURRENT ZONING: A-2 AGRICULTURAL, A-4 AGRICULTURAL, P-1 PLANNED UNIT DISTRICT

8. PROPOSED USE: RESIDENTIAL

9. PROPERTY DESCRIPTION: A PORTION OF THE SOUTHWEST 1/4 OF SECTION 23, TOWNSHIP 1 SOUTH, RANGE 1 WEST, MOUNT DIABLO BASE AND MERIDIAN, AND NEW LOT 3 AS SHOWN ON LOT LINE ADJUSTMENT LLA 2005-02 RECORDED OCTOBER 20, 2005 AS INSTURMENT NO. 2005-406420 O.R., AND THE PARCEL DESCRIBED IN PARCEL MERGER 00-01, RECORDED MAY 15 2000 AS SERIES NO. 2000-0098839 O.R., AND LOT 2 AS SHOWN ON THE LOT LINE ADJUSTMENT LLA 91-6, RECORDED OCTOBER 15, 1991, AS SERIES NO. 91-216873 O.R.,

10. GROSS AREA: 410.1± ACRES

11. TOTAL NO. OF PROPOSED RESIDENTIAL LOTS: 70

12. UTILITIES:
- WATER: EAST BAY MUNICIPAL UTILITY DISTRICT
- GAS & ELECTRIC: PACIFIC GAS & ELECTRIC
- SANITARY SEWER: CENTRAL CONTRA COSTA SANITARY DISTRICT
- STORM DRAIN: CITY OF SAN RAMON, CONTRA COSTA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
- FIRE: SAN RAMON VALLEY FIRE PROTECTION DISTRICT
- TELEPHONE: AT&T
- CABLE TV: COMCAST

13. BOUNDARY AS SHOWN IS COMPILED FROM RECORD INFORMATION.

14. ALL EROSION CONTROL MEASURES SHALL BE IN CONFORMANCE WITH THE CRITERIA AND STANDARDS OF THE TOWN OF DANVILLE.

15. AERIAL TOPOGRAPHY WAS FLOWN IN APRIL 2010.

16. THE PROPERTY LIES WITHIN ZONE X (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN PER FLOOD INSURANCE RATE MAP COMMUNITY-PANEL NUMBER 06013C 0455F, DATED JUNE 16, 2009.

17. MULTIPLE FINAL MAPS TO BE FILED AT THE DISCRETION OF THE OWNER/DEVELOPER.

ABBREVIATIONS

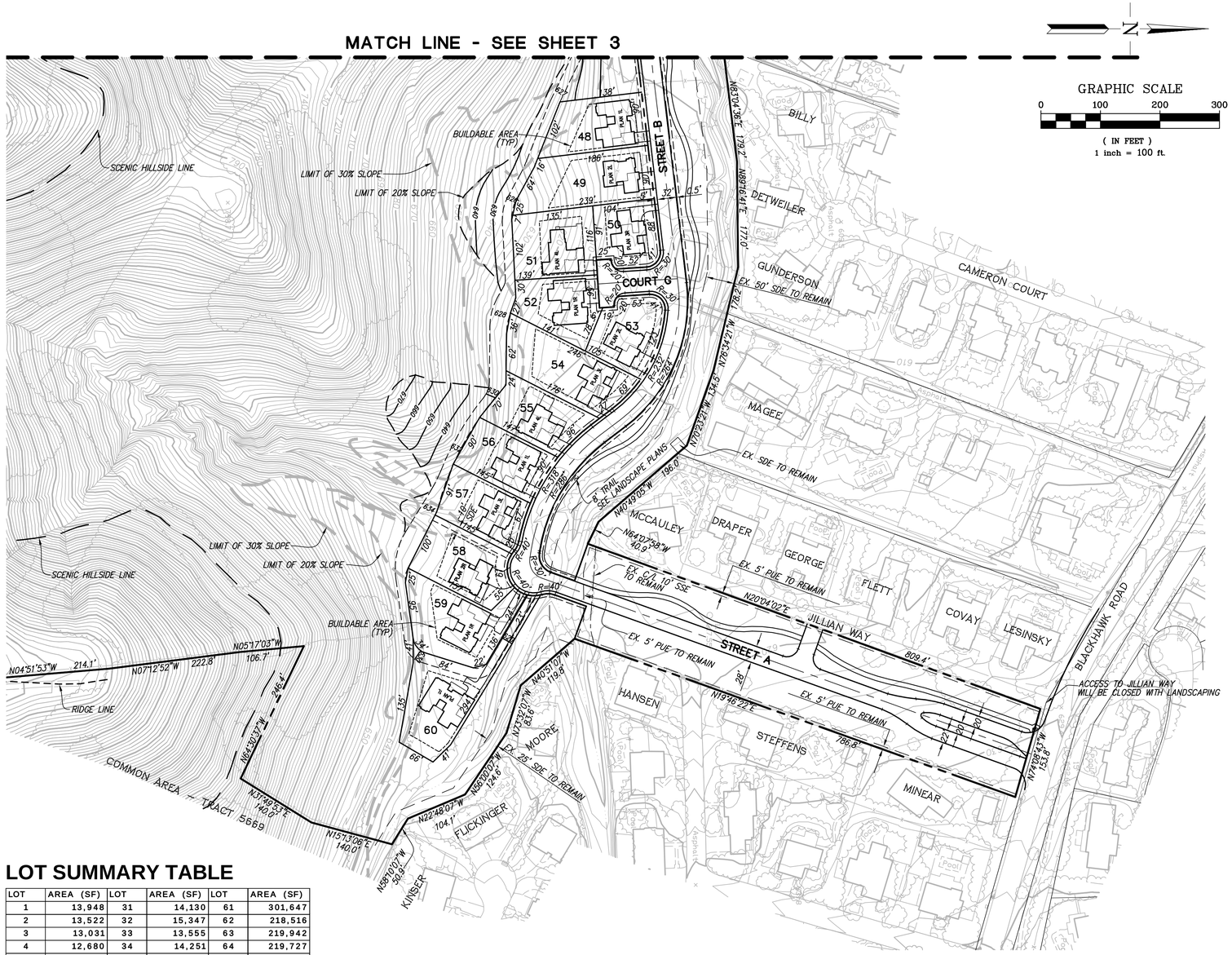
AB	AGGREGATE BASE
AC	ASPHALT CONCRETE
AD	AREA DRAIN
BC	BEGINNING OF CURVE
BO	BLOW OFF
BW	BOTTOM OF WALL
CCCSD	CENTRAL CONTRA COSTA SANITARY DISTRICT
CL	CENTER LINE
CMP	CORRUGATED METAL PIPE
CP	CENTER POINT
CS	CURB STATION
DWY	DRIVEWAY
DIP	DUCTILE IRON PIPE
EC	END OF CURVE
EVAE	EMERGENCY VEHICLE ACCESS EASEMENT
EX	EXISTING
FC	FACE OF CURB
FG	FINISHED GRADE
FI	FIELD INLET
FL	FLOW LINE
GB	GRADE BREAK
GR	GRATE
HP	HIGH POINT
INV	INVERT ELEVATION
LP	LOW POINT
MH	MANHOLE
PAE	PRIVATE ACCESS EASEMENT
PCC	POINT OF COMPOUND CURVE
PL	PROPERTY LINE
PRC	POINT OF REVERSE CURVE
PSDE	PRIVATE STORM DRAIN EASEMENT
PSE	PUBLIC SERVICE EASEMENT
PVC	POLYVINYL CHLORIDE PIPE
RCP	REINFORCED CONCRETE PIPE
RET	CURB RETURN
RW	RIGHT OF WAY
SDE	STORM DRAIN EASEMENT
SNS	STREET NAME SIGN
SO	SIDE OPENING INVERT
SSCO	SANITARY SEWER CLEAN OUT
STA	STATION
SWI	STORM WATER INLET
SWK	SIDEWALK
TC	TOP OF CURB
TW	TOP OF WALL
WM	WATER METER

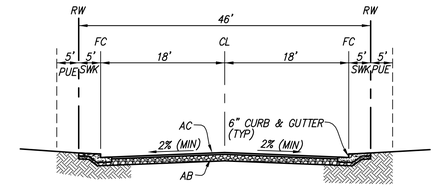
SHEET INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	SITE PLAN
3	SITE PLAN
4	SITE PLAN
5	GRADING PLAN
6	GRADING PLAN
7	GRADING PLAN
8	UTILITY PLAN
9	UTILITY PLAN
10	UTILITY PLAN
11	STORM WATER TREATMENT
12	STORM WATER TREATMENT
13	STORM WATER TREATMENT

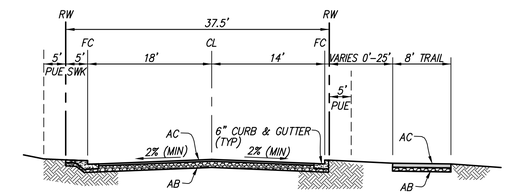
RUGGERI-JENSEN-AZAR
ENGINEERS ▪ PLANNERS ▪ SURVEYORS
4690 CHABOT DRIVE, SUITE 200 PLEASANTON, CA 94588
PHONE: (925) 227-9100 FAX: (925) 227-9300

G:\JOBS2009\091015\SAVE\2012-04-04 TENT MAP\091015-TM01-T.DWG 4/13/2012 2:37:07 PM ANN LE

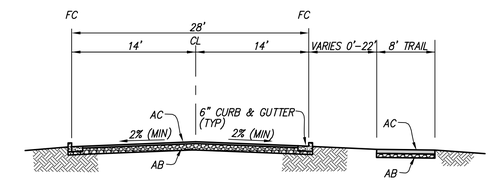




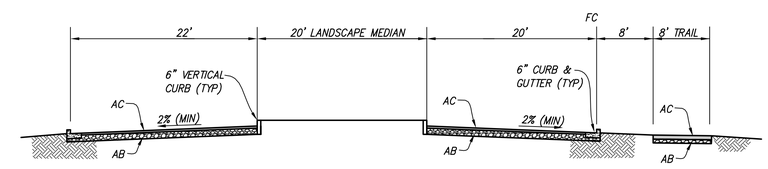
COURT G
NOT TO SCALE



STREET B
NOT TO SCALE



STREET A
NOT TO SCALE



STREET A (AT BLACKHAWK ROAD)
NOT TO SCALE

LOT SUMMARY TABLE

LOT	AREA (SF)	LOT	AREA (SF)	LOT	AREA (SF)
1	13,948	31	14,130	61	301,647
2	13,522	32	15,347	62	218,516
3	13,031	33	13,555	63	219,942
4	12,680	34	14,251	64	219,727
5	11,955	35	11,471	65	21,525
6	16,098	36	12,510	66	16,187
7	18,128	37	15,920	67	14,664
8	12,640	38	12,681	68	2,665,336
9	11,756	39	12,465	69	217,972
10	10,459	40	10,820	70	304,482
11	11,296	41	16,692		
12	12,070	42	14,433		
13	11,169	43	11,803		
14	12,894	44	10,755		
15	13,971	45	10,983		
16	16,748	46	12,042		
17	11,284	47	11,544		
18	11,597	48	14,594		
19	10,681	49	19,352		
20	14,123	50	11,281		
21	17,656	51	15,494		
22	15,096	52	13,300		
23	10,929	53	12,837		
24	11,168	54	19,431		
25	11,746	55	13,820		
26	11,064	56	12,972		
27	11,645	57	13,135		
28	13,630	58	15,922		
29	14,545	59	18,945		
30	12,628	60	20,582		

SITE PLAN
SUBDIVISION 9291 - MAGEE RANCHES

TOWN OF DANVILLE, CONTRA COSTA COUNTY, CALIFORNIA

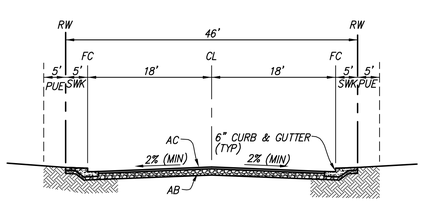
RJA
RUGGERI-JENSEN-AZAR
ENGINEERS ▪ PLANNERS ▪ SURVEYORS
4690 CHABOT DRIVE, SUITE 200 PLEASANTON, CA 94588
PHONE: (925) 227-9100 FAX: (925) 227-9300

G:\JOB2009\091015\SAVE\2012-04-04 TENT MAP\091015-TM02-S.DWG 4/3/2012 8:22:09 AM ANN LE

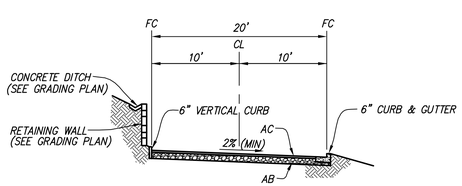
MATCH LINE - SEE SHEET 2

LOT SUMMARY TABLE

LOT	AREA (SF)	LOT	AREA (SF)	LOT	AREA (SF)
1	13,948	31	14,130	61	301,647
2	13,522	32	15,347	62	218,516
3	13,031	33	13,555	63	219,942
4	12,680	34	14,251	64	219,727
5	11,955	35	11,471	65	21,525
6	16,098	36	12,510	66	16,187
7	18,128	37	15,920	67	14,664
8	12,640	38	12,681	68	2,665,336
9	11,756	39	12,465	69	217,972
10	10,459	40	10,820	70	304,482
11	11,296	41	16,692		
12	12,070	42	14,433		
13	11,169	43	11,803		
14	12,894	44	10,755		
15	13,971	45	10,983		
16	16,748	46	12,042		
17	11,284	47	11,544		
18	11,597	48	14,594		
19	10,681	49	19,352		
20	14,123	50	11,281		
21	17,656	51	15,494		
22	15,096	52	13,300		
23	10,929	53	12,837		
24	11,168	54	19,431		
25	11,746	55	13,820		
26	11,064	56	12,972		
27	11,645	57	13,135		
28	13,630	58	15,922		
29	14,545	59	18,945		
30	12,628	60	20,582		



COURT C,D,E,F
NOT TO SCALE



EVA ROAD
NOT TO SCALE

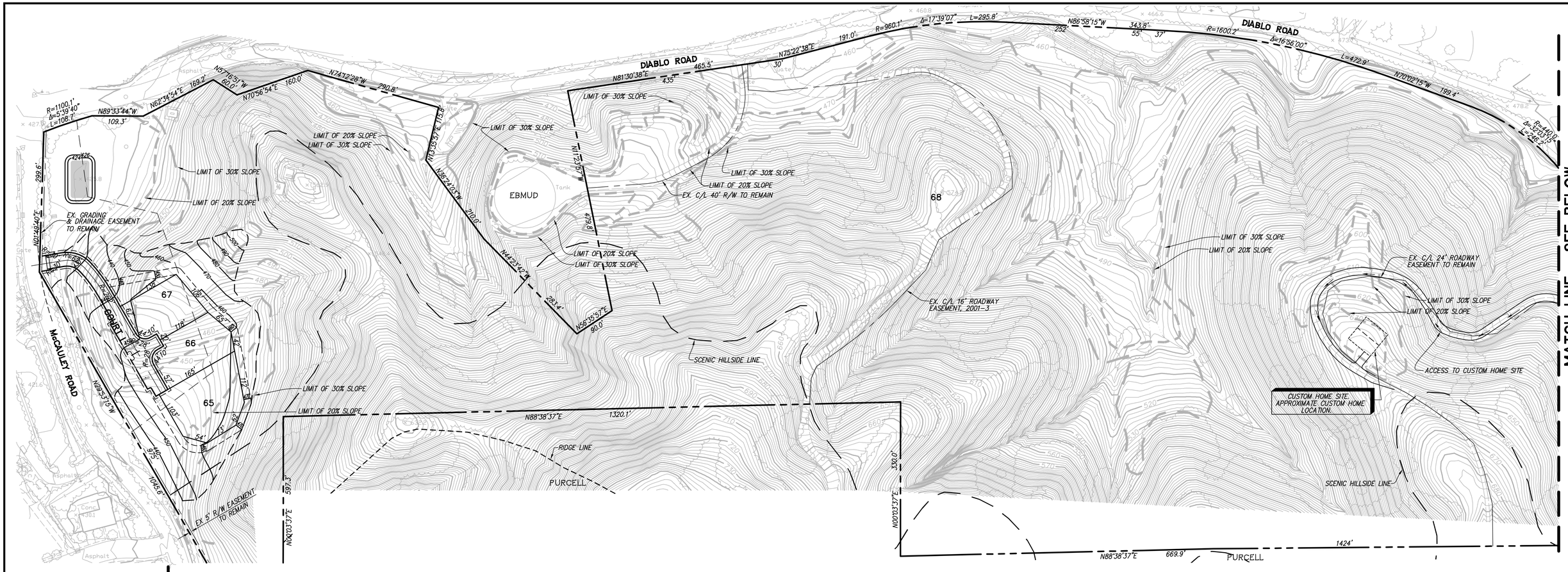
SITE PLAN
SUBDIVISION 9291 - MAGEE RANCHES

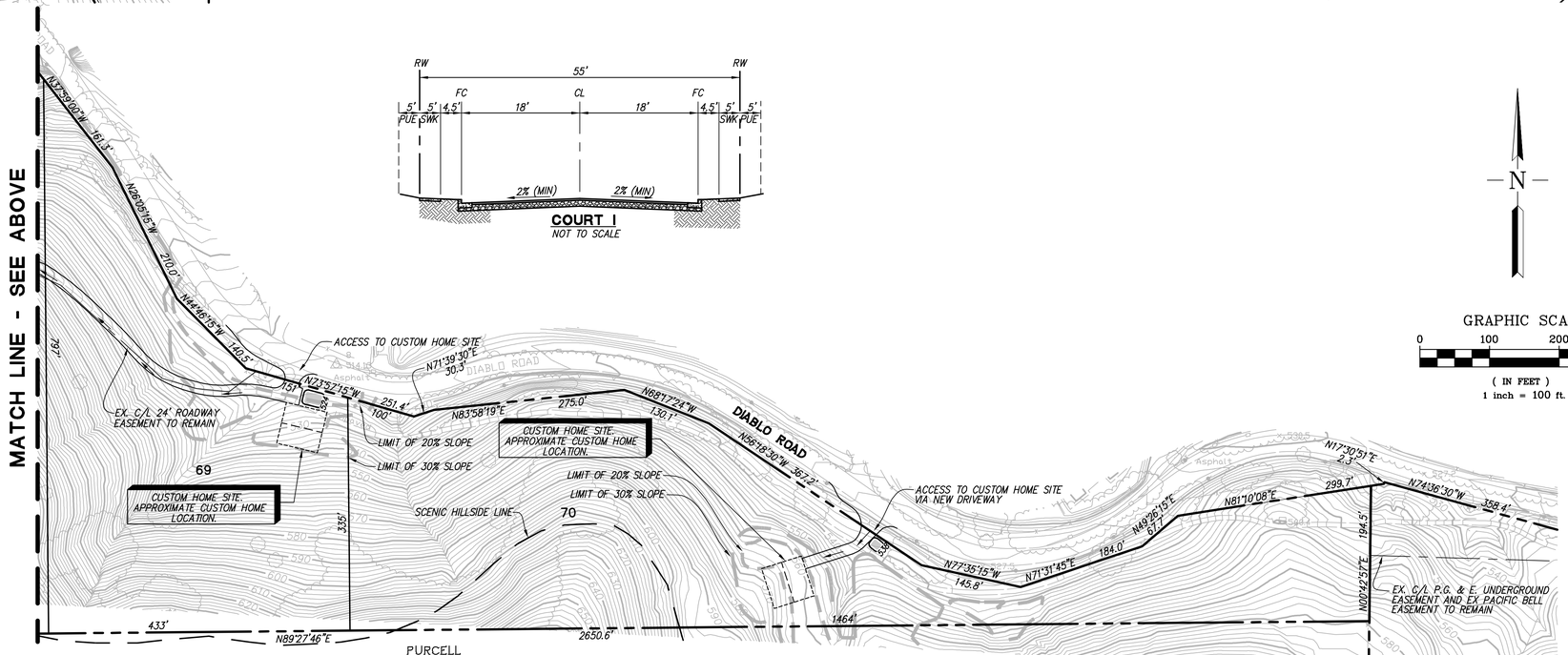
TOWN OF DANVILLE, CONTRA COSTA COUNTY, CALIFORNIA

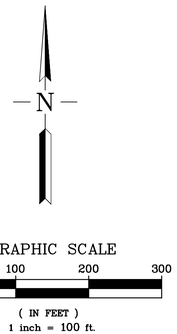
RJA
RUGGERI-JENSEN-AZAR
ENGINEERS ▪ PLANNERS ▪ SURVEYORS
4690 CHABOT DRIVE, SUITE 200 PLEASANTON, CA 94588
PHONE: (925) 227-9100 FAX: (925) 227-9300

DATE: APRIL 3, 2012 JOB NO. 091015 SHEET 3 OF 13 SHEETS

G:\JOB2009\091015\SAVE\2012-04-04 TENT MAP\091015-TM03-S.DWG 4/3/2012 8:21:58 AM ANN LE







LOT SUMMARY TABLE

LOT	AREA (SF)	LOT	AREA (SF)	LOT	AREA (SF)
1	13,948	31	14,130	61	301,647
2	13,522	32	15,347	62	218,516
3	13,031	33	13,555	63	219,942
4	12,680	34	14,251	64	219,727
5	11,955	35	11,471	65	21,525
6	16,098	36	12,510	66	16,187
7	18,128	37	15,920	67	14,664
8	12,640	38	12,681	68	2,665,336
9	11,756	39	12,465	69	217,972
10	10,459	40	10,820	70	304,482
11	11,296	41	16,692		
12	12,070	42	14,433		
13	11,169	43	11,803		
14	12,894	44	10,755		
15	13,971	45	10,983		
16	16,748	46	12,042		
17	11,284	47	11,544		
18	11,597	48	14,594		
19	10,681	49	19,352		
20	14,123	50	11,281		
21	17,656	51	15,494		
22	15,096	52	13,300		
23	10,929	53	12,837		
24	11,168	54	19,431		
25	11,746	55	13,820		
26	11,064	56	12,972		
27	11,645	57	13,135		
28	13,630	58	15,922		
29	14,545	59	18,945		
30	12,628	60	20,582		

SITE PLAN

SUBDIVISION 9291 - MAGEE RANCHES

TOWN OF DANVILLE, CONTRA COSTA COUNTY, CALIFORNIA

RJA
RUGGERI-JENSEN-AZAR
ENGINEERS ▪ PLANNERS ▪ SURVEYORS
4690 CHABOT DRIVE, SUITE 200 PLEASANTON, CA 94588
PHONE: (925) 227-9100 FAX: (925) 227-9300

DATE: APRIL 3, 2012 JOB NO. 091015 SHEET 4 OF 13 SHEETS

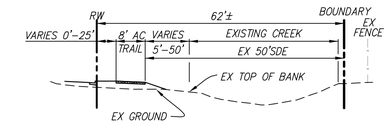
G:\JOBS09\091015\SAVE\2012-04-04 TENT MAP\091015-TM04-SDMC 4/3/2012 8:25:44 AM ANN LE

MATCH LINE - SEE SHEET 6

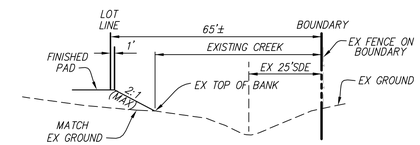
GRAPHIC SCALE

0 100 200 300

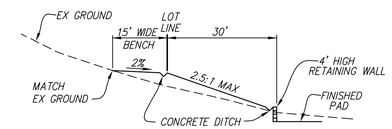
(IN FEET)
1 inch = 100 ft.



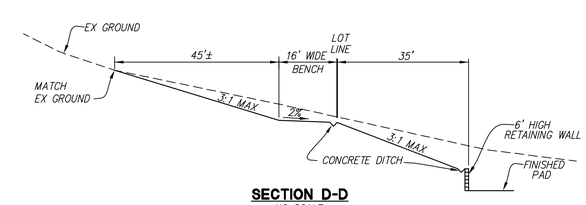
SECTION A-A
NO SCALE



SECTION B-B
NO SCALE



SECTION C-C
NO SCALE



SECTION D-D
NO SCALE

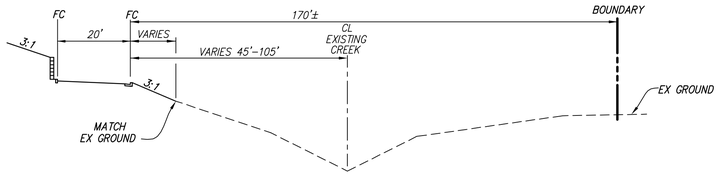
GRADING PLAN

SUBDIVISION 9291 - MAGEE RANCHES

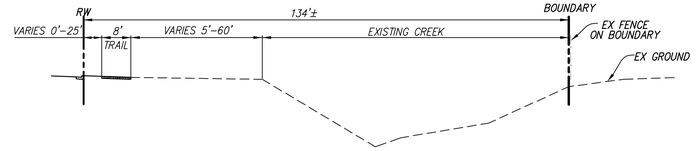
TOWN OF DANVILLE, CONTRA COSTA COUNTY, CALIFORNIA

RUGGERI-JENSEN-AZAR
ENGINEERS ▪ PLANNERS ▪ SURVEYORS
4690 CHABOT DRIVE, SUITE 200 PLEASANTON, CA 94588
PHONE: (925) 227-9100 FAX: (925) 227-9300

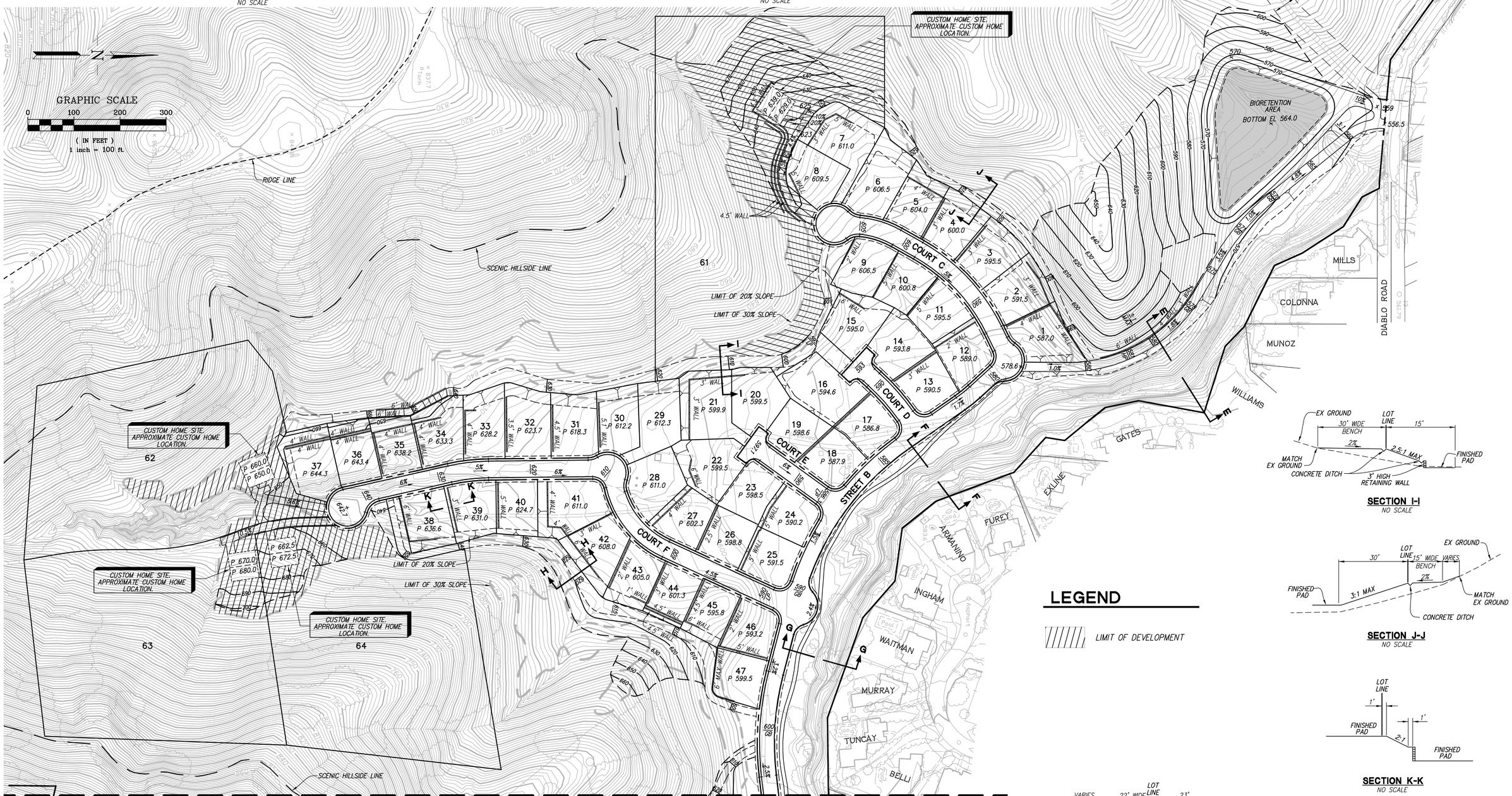
G:\2012\091015\SAKE\2012-04-04 TENT MAP\091015-TM05-G.DWG 4/3/2012 8:27:05 AM ANN LE



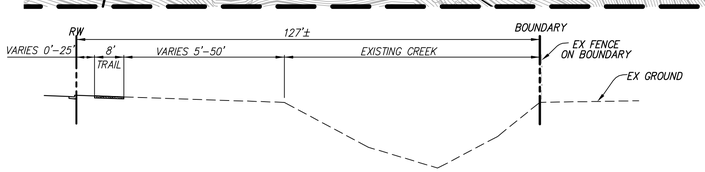
SECTION E-E
NO SCALE



SECTION F-F
NO SCALE



MATCH LINE - SEE SHEET 5



SECTION G-G
NO SCALE

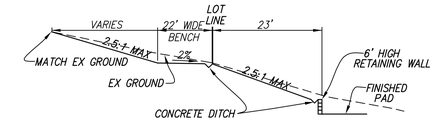
SECTION I-I
NO SCALE

SECTION J-J
NO SCALE

SECTION K-K
NO SCALE

LEGEND

LIMIT OF DEVELOPMENT



SECTION H-H
NO SCALE

GRADING PLAN

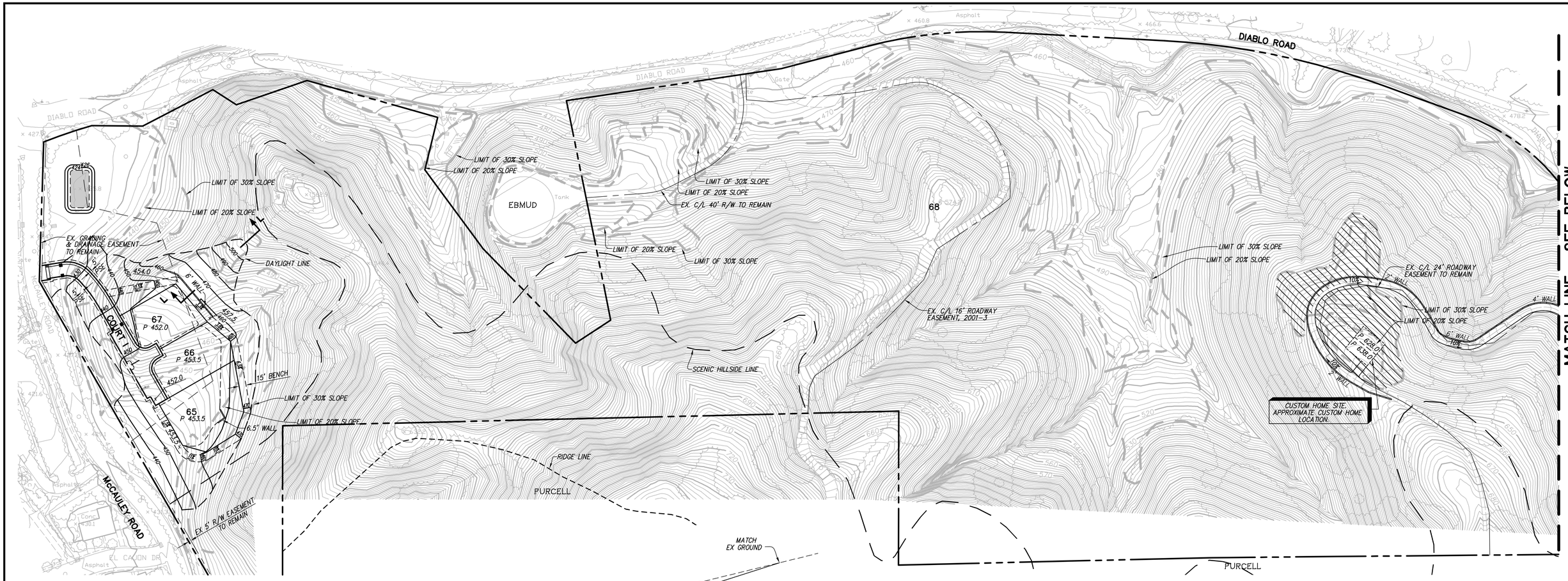
SUBDIVISION 9291 - MAGEE RANCHES

TOWN OF DANVILLE, CONTRA COSTA COUNTY, CALIFORNIA

RUGGERI-JENSEN-AZAR
ENGINEERS ▪ PLANNERS ▪ SURVEYORS
4690 CHABOT DRIVE, SUITE 200 PLEASANTON, CA 94588
PHONE: (925) 227-9100 FAX: (925) 227-9300

DATE: APRIL 3, 2012 JOB NO. 091015 SHEET 6 OF 13 SHEETS

G:\JOB2009\091015\SAVE\2012-04-04 TENT MAP\091015-TM06-G.DWG 4/3/2012 8:29:16 AM ANN LE



LEGEND

LIMIT OF DEVELOPMENT

GRADING PLAN

SUBDIVISION 9291 - MAGEE RANCHES

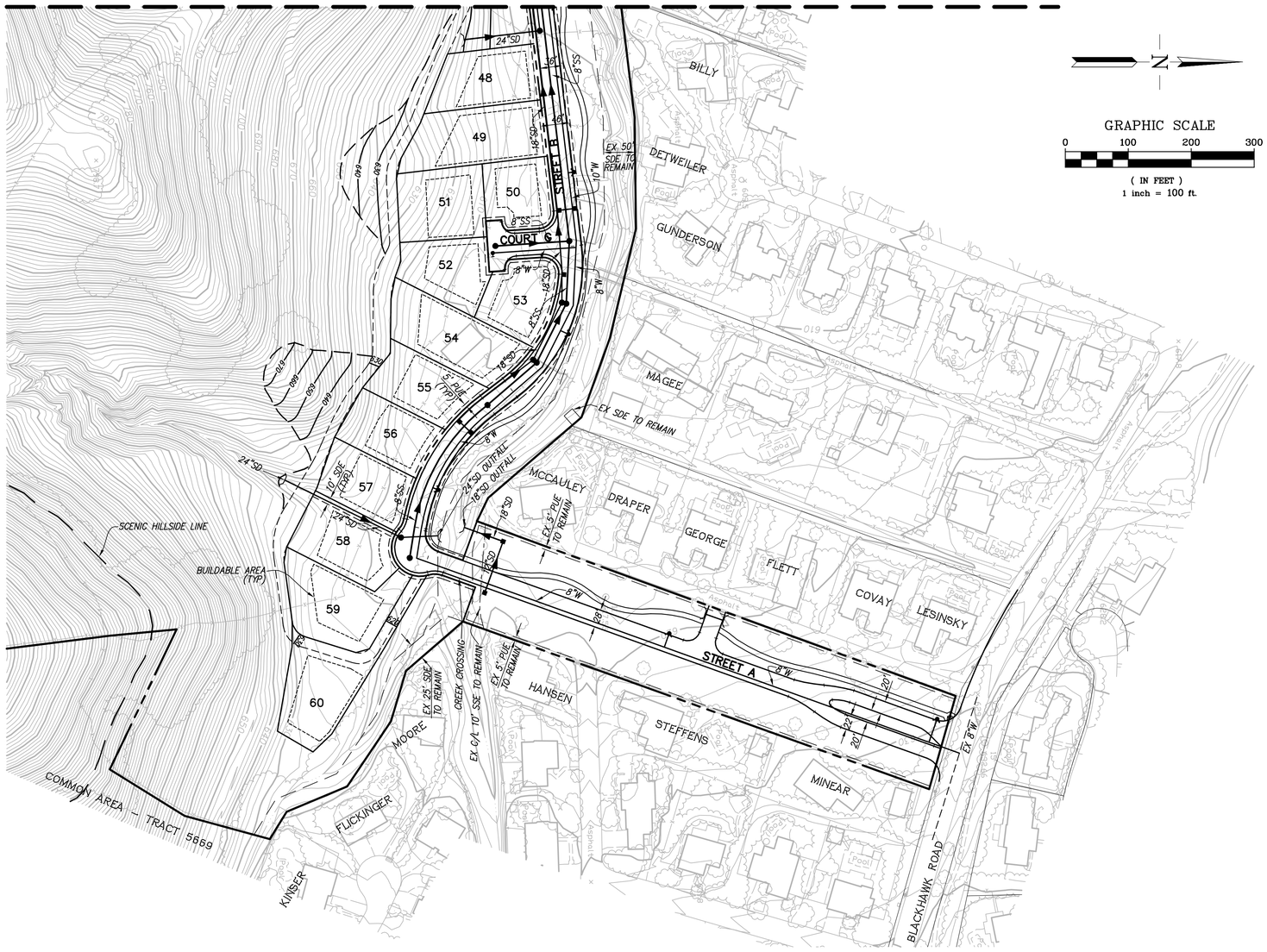
TOWN OF DANVILLE, CONTRA COSTA COUNTY, CALIFORNIA

RUGGERI-JENSEN-AZAR
ENGINEERS ▪ PLANNERS ▪ SURVEYORS
4690 CHABOT DRIVE, SUITE 200 PLEASANTON, CA 94588
PHONE: (925) 227-9100 FAX: (925) 227-9300

DATE: APRIL 3, 2012 JOB NO. 091015 SHEET 7 OF 13 SHEETS

G:\JOBS2009\091015\SAVE\2012-04-04 TENT MAP\091015-TM07-G.DWG 4/3/2012 8:31:08 AM ANN LE

MATCH LINE - SEE SHEET 9



NOTES:

1. PROJECT SHALL HAVE A "PUBLIC" DUAL STORM DRAIN SYSTEM AS SHOWN ON THE UTILITY PLANS. STORM DRAIN SYSTEM CONSISTS OF A "CLEAN WATER PIPE" TO COLLECT AND CONVEY STORM WATER RUNOFF FROM THE HILLSIDE TO THE CREEK, AND A STORM DRAIN PIPE TO COLLECT AND CONVEY STORM WATER RUNOFF FROM IMPERVIOUS SURFACES TO STORM WATER TREATMENT AREAS "BIORETENTION AREAS".

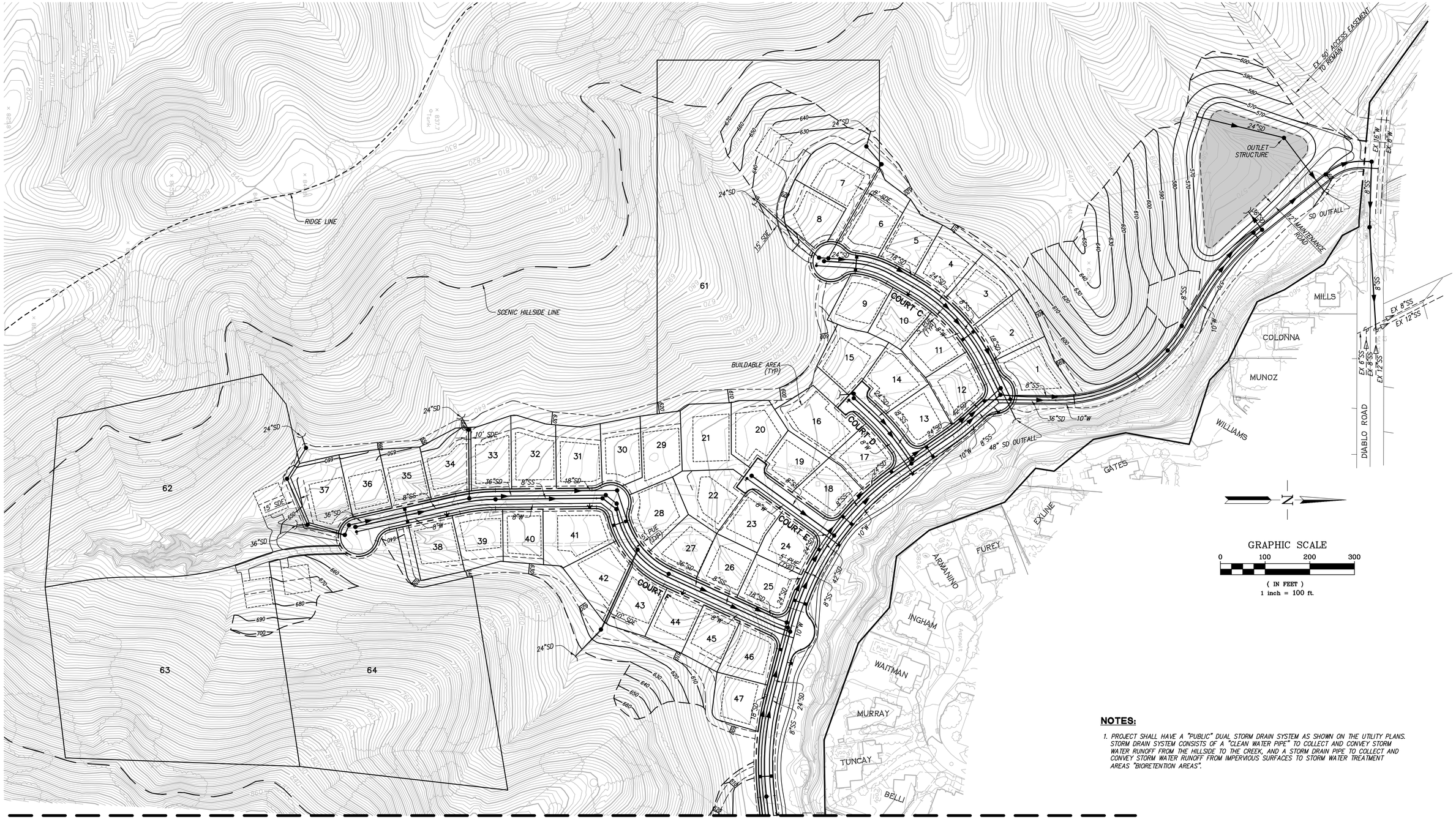
UTILITY PLAN

SUBDIVISION 9291 - MAGEE RANCHES

TOWN OF DANVILLE, CONTRA COSTA COUNTY, CALIFORNIA

RJA
RUGGERI-JENSEN-AZAR
ENGINEERS ▪ PLANNERS ▪ SURVEYORS
4690 CHABOT DRIVE, SUITE 200 PLEASANTON, CA 94588
PHONE: (925) 227-9100 FAX: (925) 227-9300

G:\JOBS2009\091015\SAVE\2012-04-04 TENT MAP\091015-TMOD-UTIL.DWG 4/3/2012 8:36:39 AM ANN LE



NOTES:

1. PROJECT SHALL HAVE A "PUBLIC" DUAL STORM DRAIN SYSTEM AS SHOWN ON THE UTILITY PLANS. STORM DRAIN SYSTEM CONSISTS OF A "CLEAN WATER PIPE" TO COLLECT AND CONVEY STORM WATER RUNOFF FROM THE HILLSIDE TO THE CREEK, AND A STORM DRAIN PIPE TO COLLECT AND CONVEY STORM WATER RUNOFF FROM IMPERVIOUS SURFACES TO STORM WATER TREATMENT AREAS "BIORETENTION AREAS".

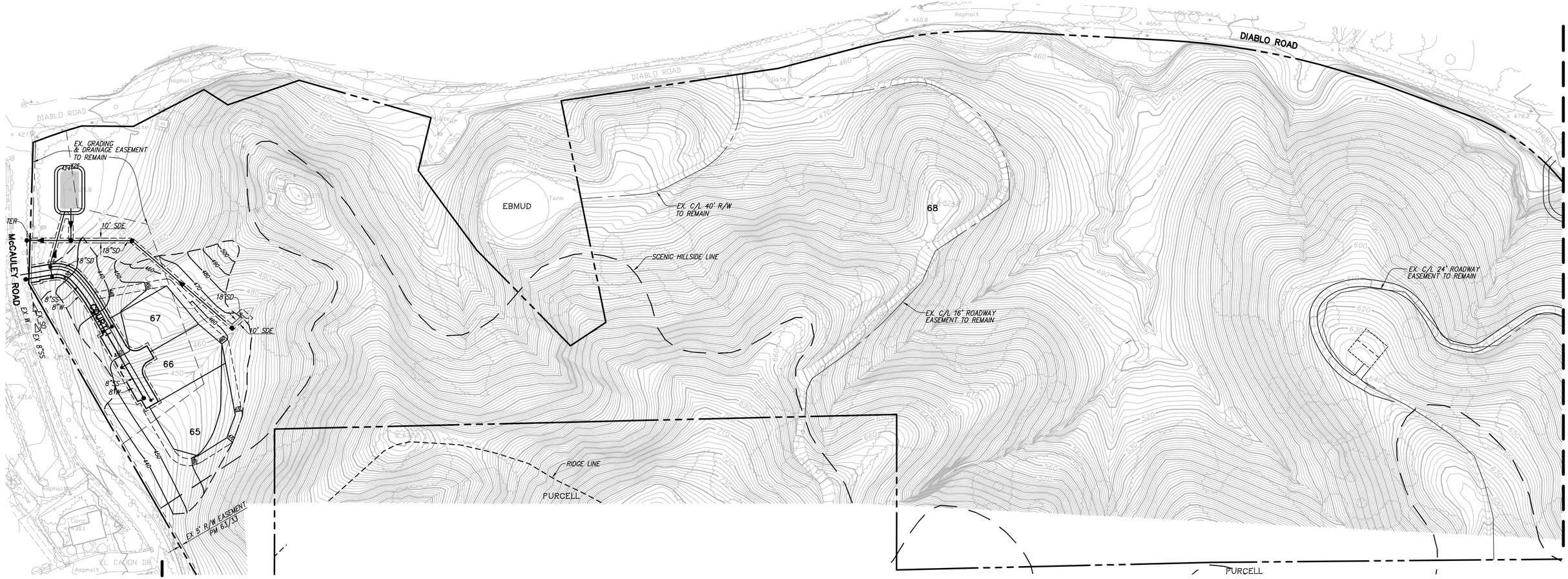
MATCH LINE - SEE SHEET 8

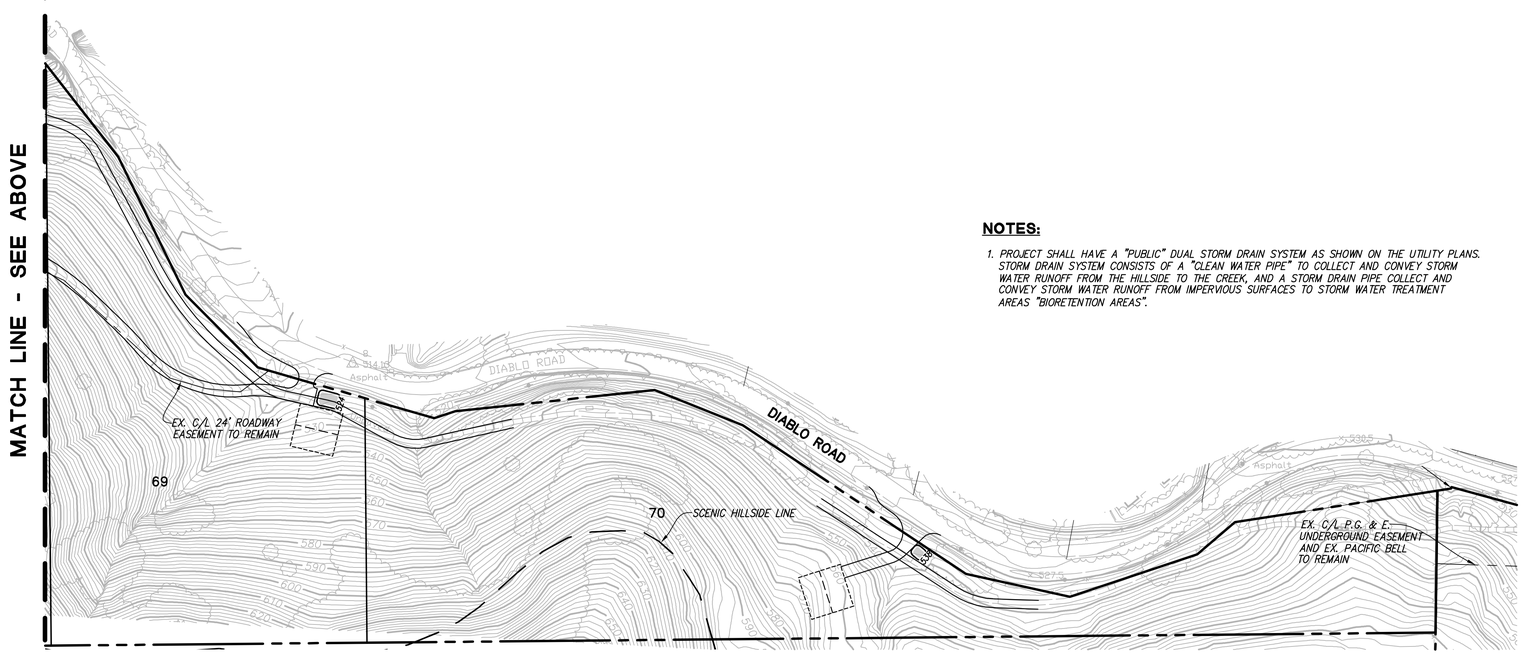
UTILITY PLAN
MAGEE RANCHES - EAST

TOWN OF DANVILLE, CONTRA COSTA COUNTY, CALIFORNIA

RUGGERI-JENSEN-AZAR
ENGINEERS ▪ PLANNERS ▪ SURVEYORS
4690 CHABOT DRIVE, SUITE 200 PLEASANTON, CA 94588
PHONE: (925) 227-9100 FAX: (925) 227-9300

G:\CD2009\091015\SAVE\2012-04-04 TENT MAP\091015-TM09-U.DWG 4/13/2012 2:56:32 PM ANN LE





NOTES:

1. PROJECT SHALL HAVE A "PUBLIC" DUAL STORM DRAIN SYSTEM AS SHOWN ON THE UTILITY PLANS. STORM DRAIN SYSTEM CONSISTS OF A "CLEAN WATER PIPE" TO COLLECT AND CONVEY STORM WATER RUNOFF FROM THE HILLSIDE TO THE CREEK, AND A STORM DRAIN PIPE COLLECT AND CONVEY STORM WATER RUNOFF FROM IMPERVIOUS SURFACES TO STORM WATER TREATMENT AREAS "BIORETENTION AREAS".

N

GRAPHIC SCALE

0 100 200 300

(IN FEET)
1 inch = 100 ft.

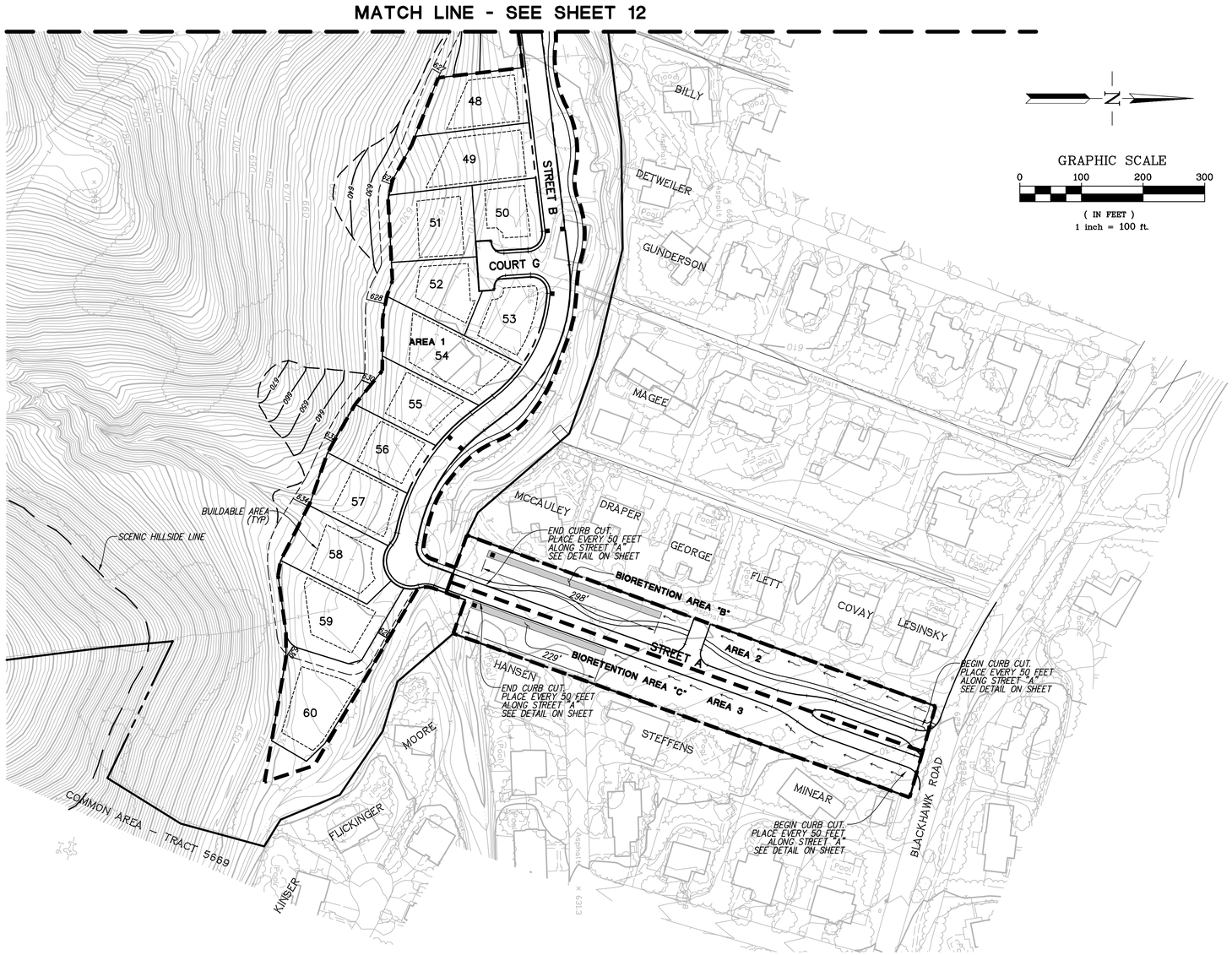
UTILITY PLAN

SUBDIVISION 9291 - MAGEE RANCHES

TOWN OF DANVILLE, CONTRA COSTA COUNTY, CALIFORNIA

RJA
RUGGERI-JENSEN-AZAR
ENGINEERS ▪ PLANNERS ▪ SURVEYORS
4690 CHABOT DRIVE, SUITE 200 PLEASANTON, CA 94588
PHONE: (925) 227-9100 FAX: (925) 227-9300

G:\2009\091015\SAVE\2012-04-04 TENT MAP\091015-TMTO-U.DWG 4/3/2012 8:42:44 AM ANN LE



LEGEND

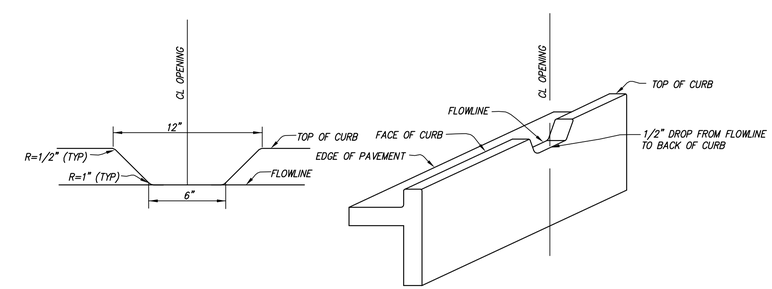
- STORM WATER TREATMENT AREA
- TRACT BOUNDARY
- FLOW DIRECTION
- BIORETENTION

STORM WATER TREATMENT CALCULATION

AREA ID	SURFACE	AREA (SF)	BMP USED	VOLUME REQUIRED (CF)	VOLUME PROVIDED (CF)
AREA 1	PAVING	281,420	BIO–RETENTION AREA "A"	88,800	94,900
	ROOF	240,000			
	LANDSCAPING	512,500			
AREA 2	PAVING	22,725	BIO–RETENTION AREA "B"	5,187	6,009
	LANDSAPING	41,015			
AREA 3	PAVING	14,654	BIO–RETENTION AREA "C"	4,750	5,550
	LANDSCAPING	46,353			
AREA 4	PAVING	15,610	BIO–RETENTION AREA "D"	5,725	6,461
	ROOF	15,000			
	LANDSCAPING	37,376			

NOTES:

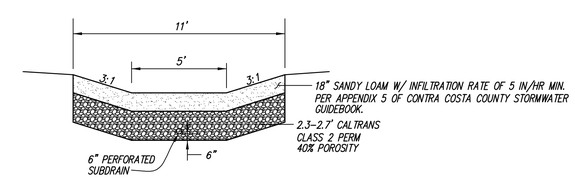
1. THE VOLUMES ARE BASED ON THE CONTRA COSTA COUNTY CLEAN WATER PROGRAM, C.3 STORMWATER TECHNICAL GUIDANCE, 5TH EDITION, DATED OCTOBER 2010 FOR TREATMENT+FLOW CONTROL.
2. ASSUME EACH LOT = 4,000 SF IMPERVIOUS SURFACE
3. CUSTOM LOTS #61–64, 68–70 SHALL HAVE INDIVIDUAL ON LOT STORM WATER TREATMENT. SEE DETAIL ON SHEET 12 FOR CUSTOM LOT BIORETENTION DETAIL.



PROFILE
NOT TO SCALE

ISOMETRIC VIEW
NOT TO SCALE

CURB OPENING FOR BIO-RETENTION ADJACENT TO CURB
NOT TO SCALE



BIORETENTION AREAS "B" & "C"
NOT TO SCALE

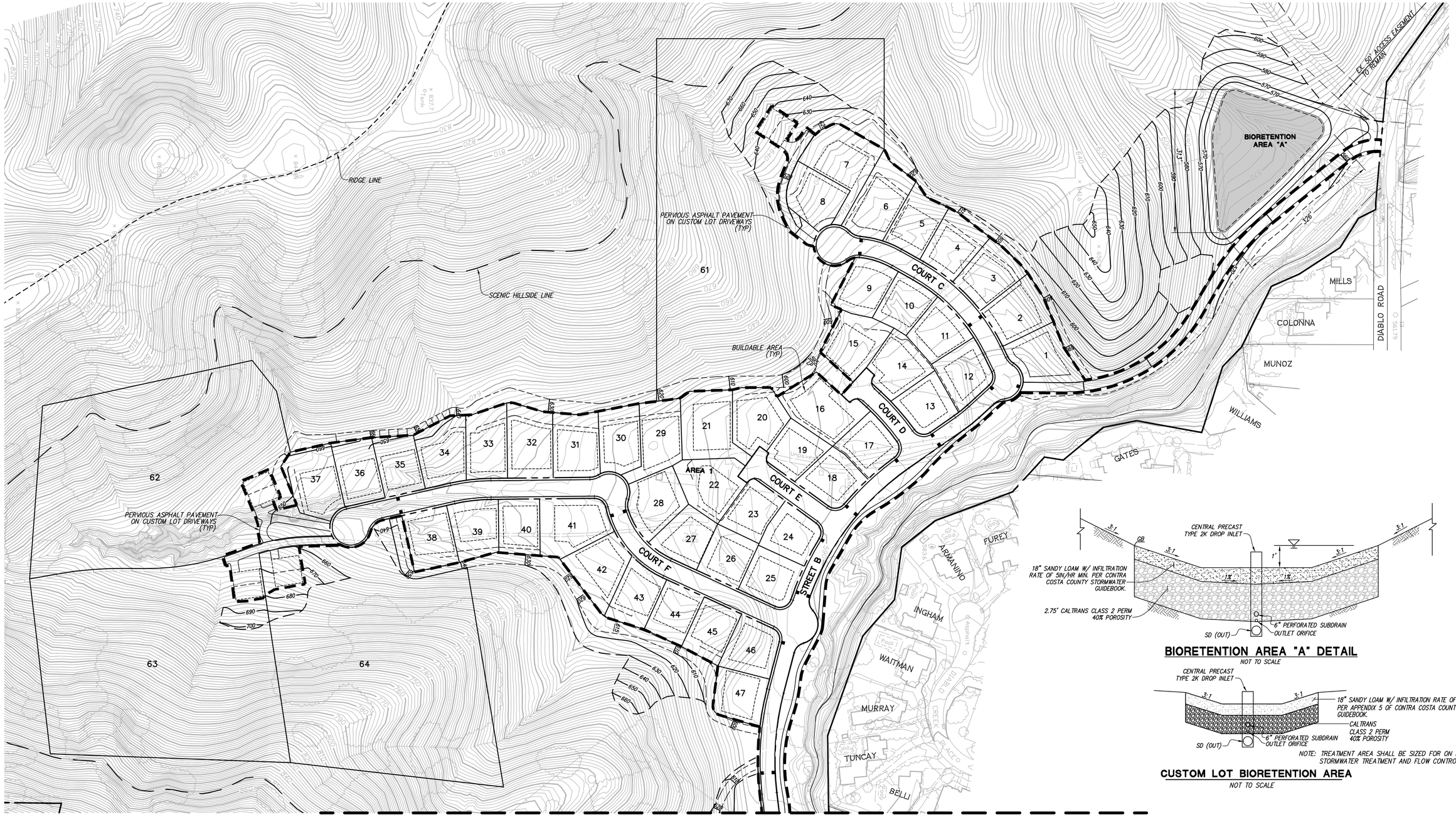
STORM WATER TREATMENT

SUBDIVISION 9291 - MAGEE RANCHES

TOWN OF DANVILLE, CONTRA COSTA COUNTY, CALIFORNIA

RUGGERI-JENSEN-AZAR
ENGINEERS ▪ PLANNERS ▪ SURVEYORS
4690 CHABOT DRIVE, SUITE 200 PLEASANTON, CA 94588
PHONE: (925) 227–9100 FAX: (925) 227–9300

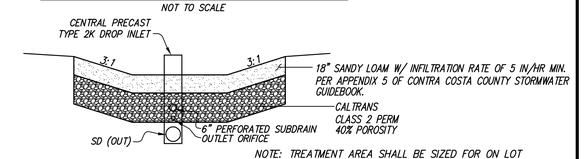
G:\JOBZ009\091015\SAVE\2012-04-04 TENT MAP\091015-TM11-SWTDWG 4/3/2012 9:12:11 AM ANN LE



MATCH LINE - SEE SHEET 11

BIORETENTION AREA "A" DETAIL

NOT TO SCALE



NOTE: TREATMENT AREA SHALL BE SIZED FOR ON LOT STORMWATER TREATMENT AND FLOW CONTROL.

CUSTOM LOT BIORETENTION AREA

NOT TO SCALE

LEGEND

- STORM WATER TREATMENT AREA
- TRACT BOUNDARY
- BIORETENTION

GRAPHIC SCALE

0 100 200 300

(IN FEET)
1 inch = 100 ft.

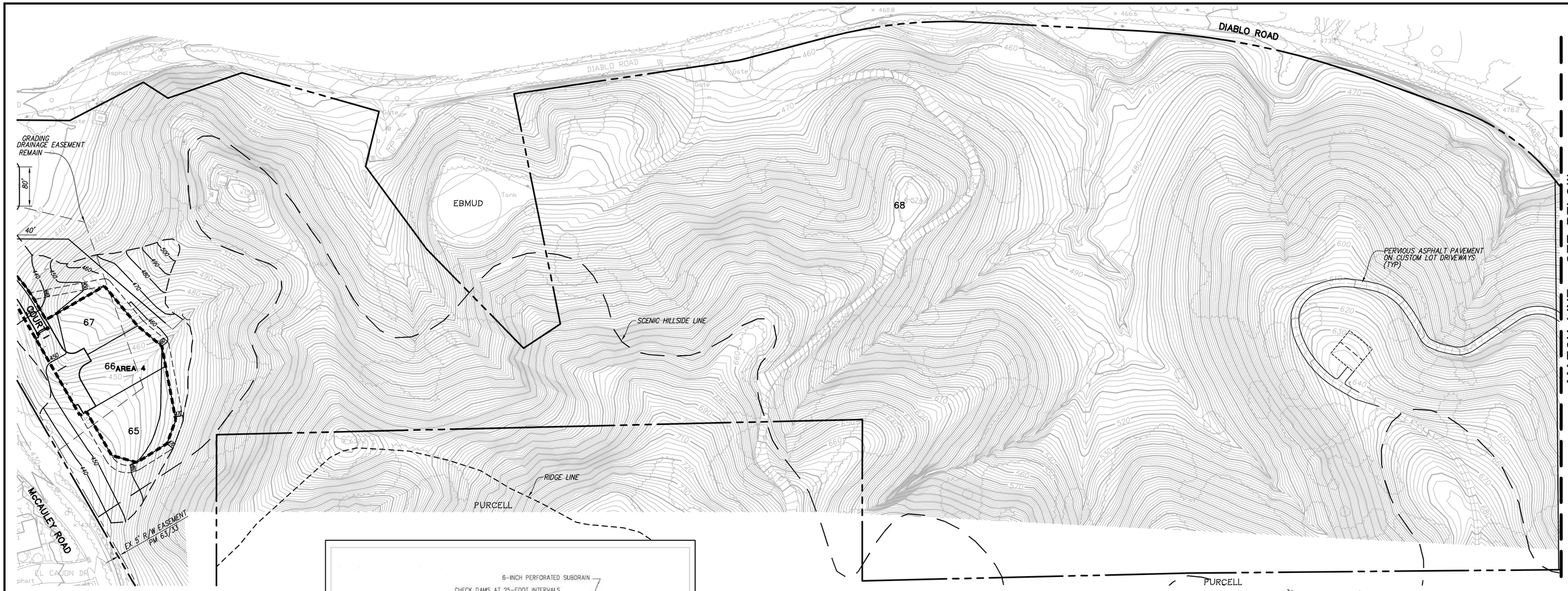
STORM WATER TREATMENT
SUBDIVISION 9291 - MAGEE RANCHES

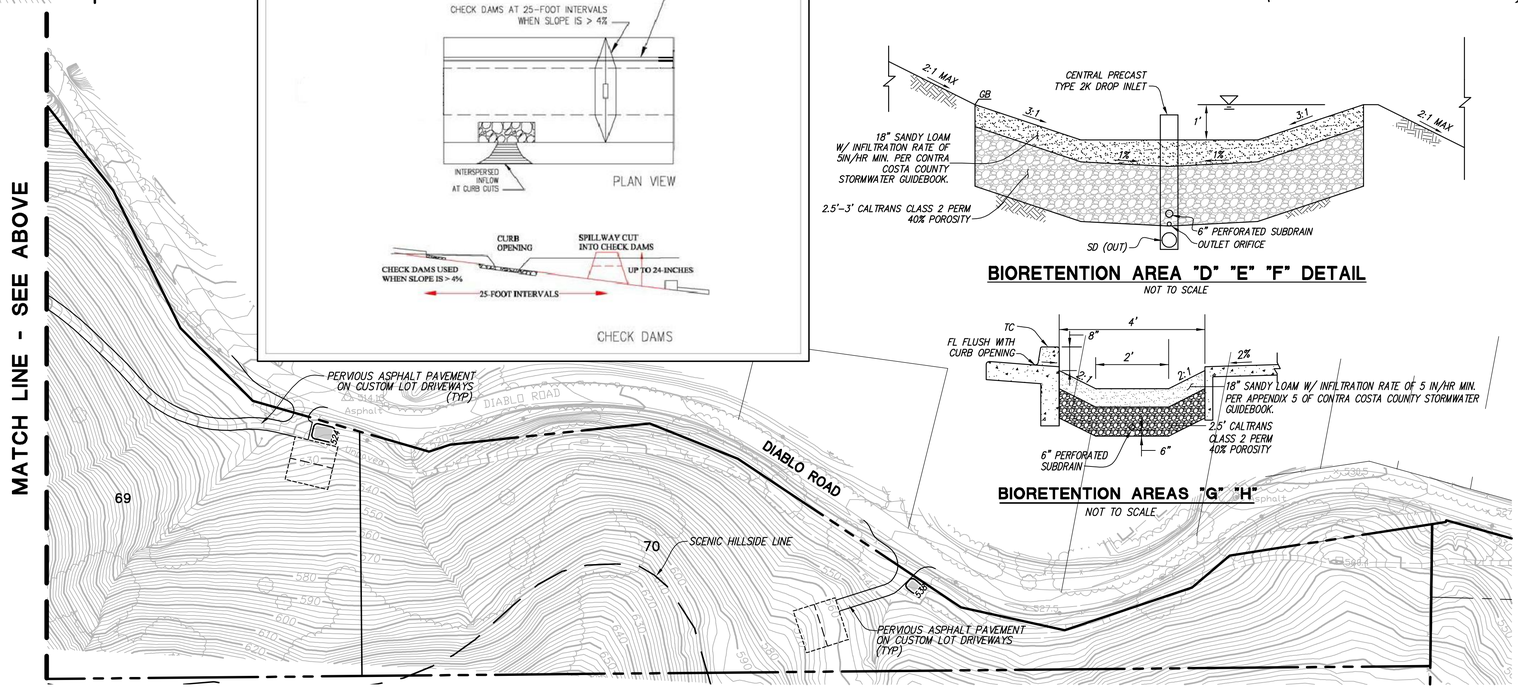
TOWN OF DANVILLE, CONTRA COSTA COUNTY, CALIFORNIA

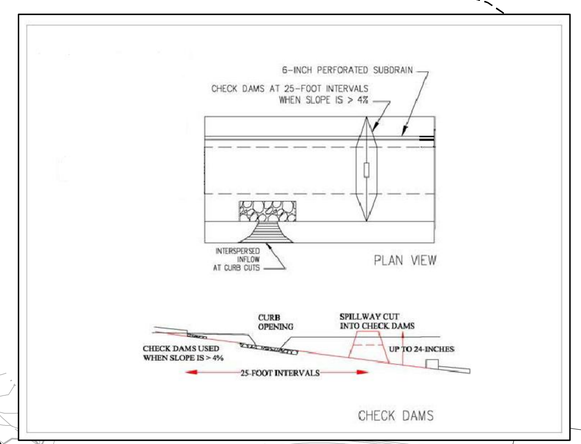
RJA
RUGGERI-JENSEN-AZAR
ENGINEERS ▪ PLANNERS ▪ SURVEYORS
4690 CHABOT DRIVE, SUITE 200 PLEASANTON, CA 94588
PHONE: (925) 227-9100 FAX: (925) 227-9300

DATE: APRIL 3, 2012 JOB NO. 091015 SHEET 12 OF 13 SHEETS

G:\JOBS2009\091015\SAVE\2012-04-04 TENT MAP\091015-TM12-SW.DWG 4/3/2012 9:19:40 AM ANN LE





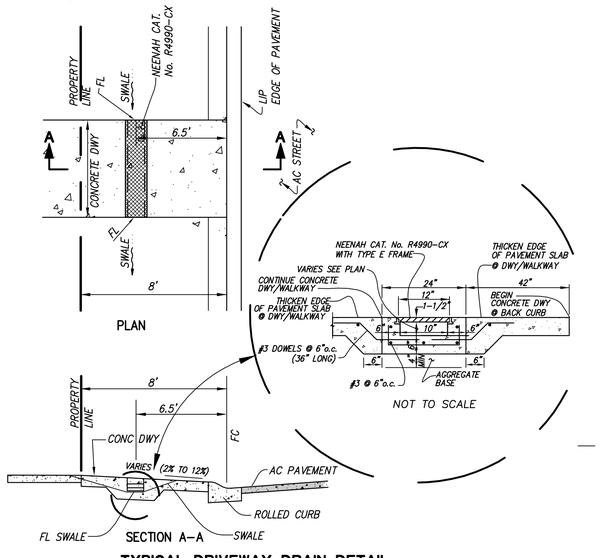


BIORETENTION AREA "D" "E" "F" DETAIL

NOT TO SCALE

BIORETENTION AREAS "G" "H"

NOT TO SCALE



TYPICAL DRIVEWAY DRAIN DETAIL

NOT TO SCALE

N

GRAPHIC SCALE

0 100 200 300

(IN FEET)
1 inch = 100 ft.

LEGEND

- STORM WATER TREATMENT AREA
- TRACT BOUNDARY
- BIORETENTION

STORM WATER TREATMENT

SUBDIVISION 9291 - MAGEE RANCHES

TOWN OF DANVILLE, CONTRA COSTA COUNTY, CALIFORNIA

RJA
RUGGERI-JENSEN-AZAR
ENGINEERS ▪ PLANNERS ▪ SURVEYORS
4690 CHABOT DRIVE, SUITE 200 PLEASANTON, CA 94588
PHONE: (925) 227-9100 FAX: (925) 227-9300

DATE: APRIL 3, 2012 JOB NO. 091015 SHEET 13 OF 13 SHEETS

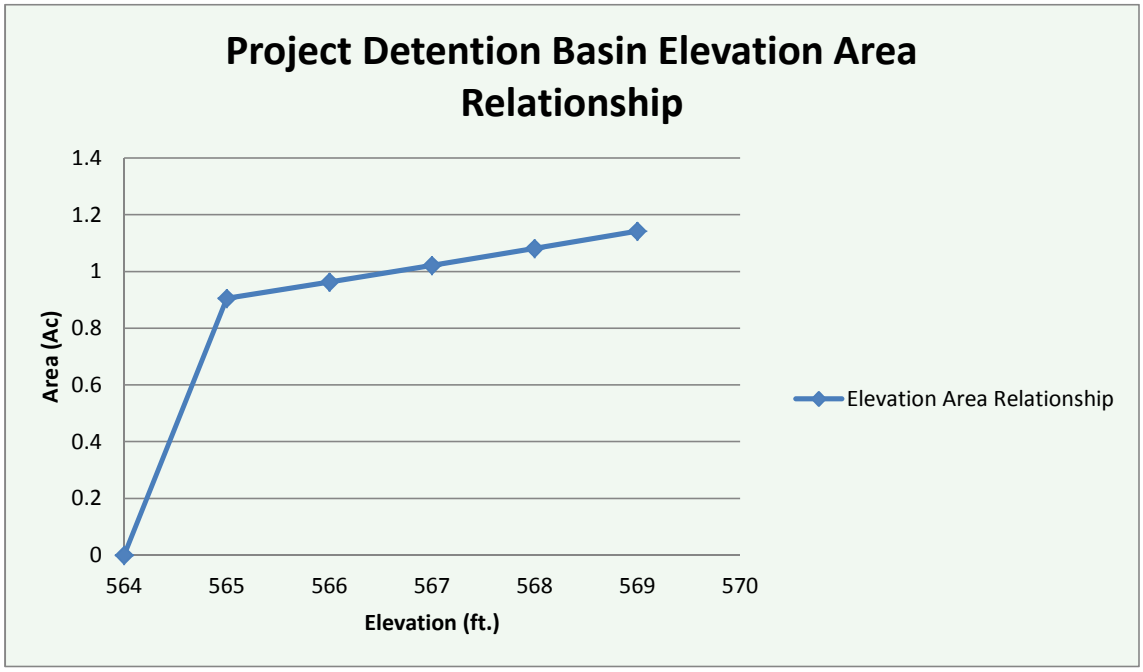
© \\R2K2003\091015\SAVE\2012-04-04 TENT MAP\091015-TM13-SWTMC 4/3/2012 9:21:10 AM ANN LE

APPENDIX E

Project Elevation-Area Table

DRAFT

Elevation (f	Area (Ac)
564	0
565	0.906
566	0.963
567	1.022
568	1.082
569	1.143



APPENDIX F

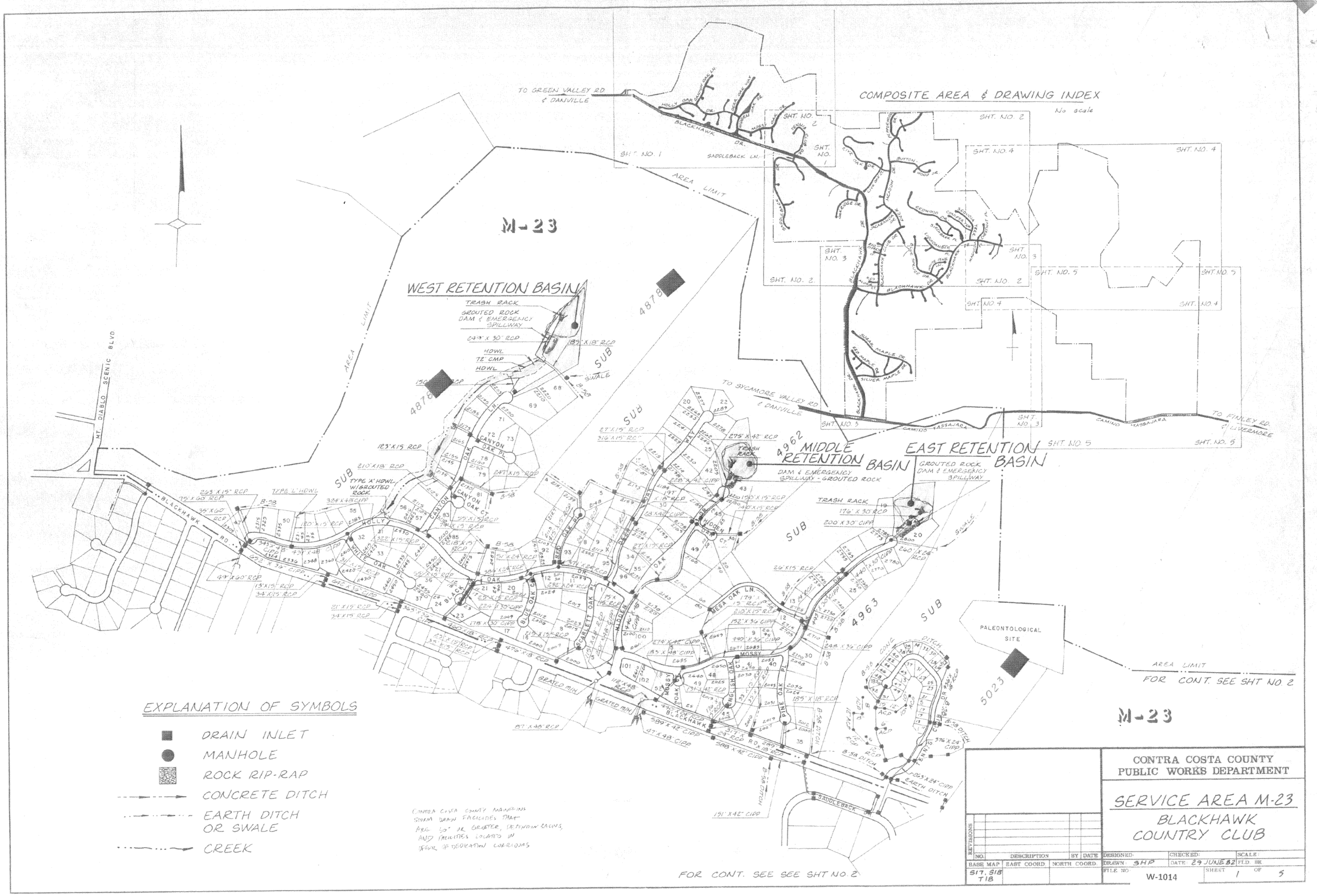
Other Plans

DRAFT

APPENDIX F

Blackhawk Debris Catchment Basin Plans

DRAFT


COMPOSITE AREA & DRAWING INDEX
No scale
M-23
WEST RETENTION BASIN
TRASH RACK
GROUTED ROCK DAM & EMERGENCY SPILLWAY
MIDDLE RETENTION BASIN
DAM & EMERGENCY SPILLWAY - GROUTED ROCK
EAST RETENTION BASIN
GROUTED ROCK DAM & EMERGENCY SPILLWAY
TO GREEN VALLEY RD & DANVILLE
TO SYCAMORE VALLEY RD & DANVILLE
TO FINLEY RD & LIVERMORE
AREA LIMIT
MT. DIABLO SCENIC BLVD
BLACKHAWK RD.
CAMINO TASSAJARA
PALEONTOLOGICAL SITE
FOR CONT. SEE SHT NO. 2
EXPLANATION OF SYMBOLS
DRAIN INLET
MANHOLE
ROCK RIP-RAP
CONCRETE DITCH
EARTH DITCH OR SWALE
CREEK
CONTRA COSTA COUNTY MAINTAINS STORM DRAIN FACILITIES THAT ARE 50" OR GREATER, DETENTION BASINS, AND FACILITIES LOCATED IN FEE OR DEDICATION CORRIDORS
FOR CONT. SEE SEE SHT NO. 2
CONTRA COSTA COUNTY
PUBLIC WORKS DEPARTMENT
SERVICE AREA M-23
BLACKHAWK COUNTRY CLUB
REVISIONS
NO. DESCRIPTION BY DATE
BASE MAP EAST COORD. NORTH COORD.
S17, S18 T1S
DESIGNED:
DRAWN: SHP
CHECKED:
DATE: 29 JUNE 82
SCALE:
FLD. BK.
FILE NO. W-1014
SHEET 1 OF 5

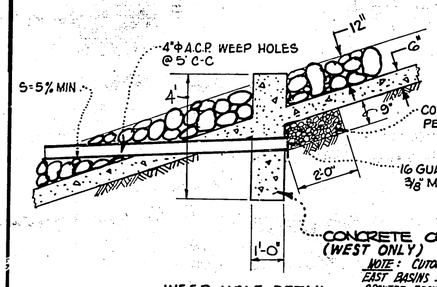
Magee Ranch Detention Basins

DRAFT

MICROFILM — PUBLIC WORKS DEPARTMENT — CONTRA COSTA COUNTY — MICROFILM

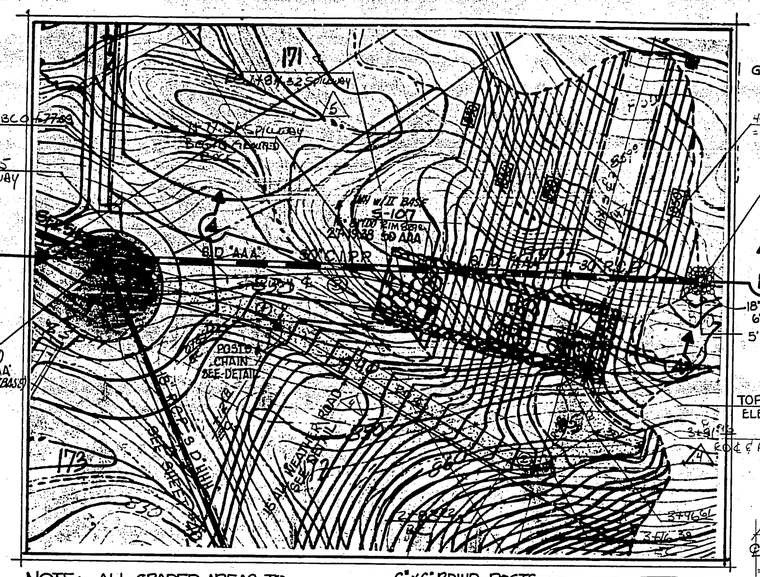
BORROW AREAS SHOWN ON SHEET 7 OF GRADING PLAN.

NOTE: RETENTION BASIN CONSTRUCTION SHALL CONFORM TO SECTION 19 (MISCELLANEOUS CONSTRUCTION RETENTION BASINS) OF THE "GENERAL CONDITIONS, QUANTITY LIST, STANDARD DETAILS AND SPECIAL SPECIFICATIONS" FOR SUBDIVISION #878 - HIDDEN OAKS AT BLACKHAWK, DATED FEBRUARY 1977. SAID "GENERAL CONDITIONS - - -" ARE HEREBY MADE A PART OF THESE PLANS.



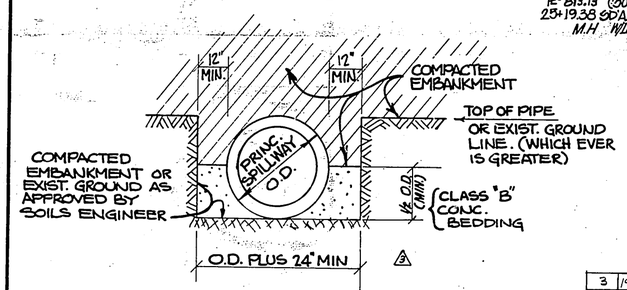
NOTE: CUTOFF WALL FOR MIDDLE AND EAST BASINS SHALL BE CONSTRUCTED OF GROUTED ROCK RIP RAP TWO FEET THICK AND 4' DEEP.

WEEP HOLE DETAIL
SCALE: 1/2" = 1'-0"



NOTE: ALL GRADED AREAS TO BE SEEDED IN ACCORDANCE WITH C.C.C. GRADING ORDINANCE.

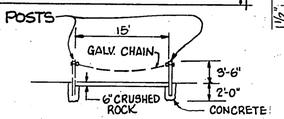
PLAN EAST BASIN
SCALE: 1" = 40'



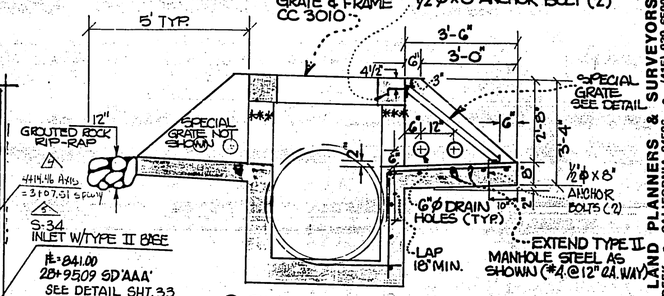
PRINCIPAL SPILLWAY
DETAIL OF TRENCH, BEDDING & BACKFILL
N.T.S.

#	Δ	R	L
3	19° 12' 03"	320	107.24
2	63° 24' 40"	29.5	32.65
1	15° 07' 29"	100	26.40

CURVE TABLE

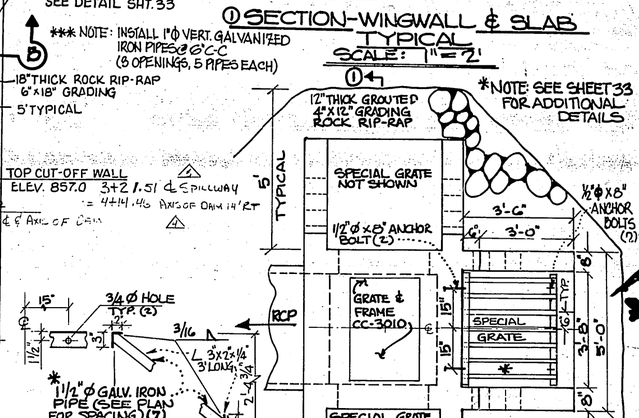


ALL WEATHER ROAD (N.T.S.)

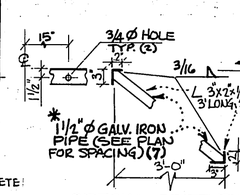


*** NOTE: INSTALL 1"ϕ VERT. GALVANIZED IRON PIPES @ 6' C.C. (6 OPENINGS, 5 PIPES EACH)

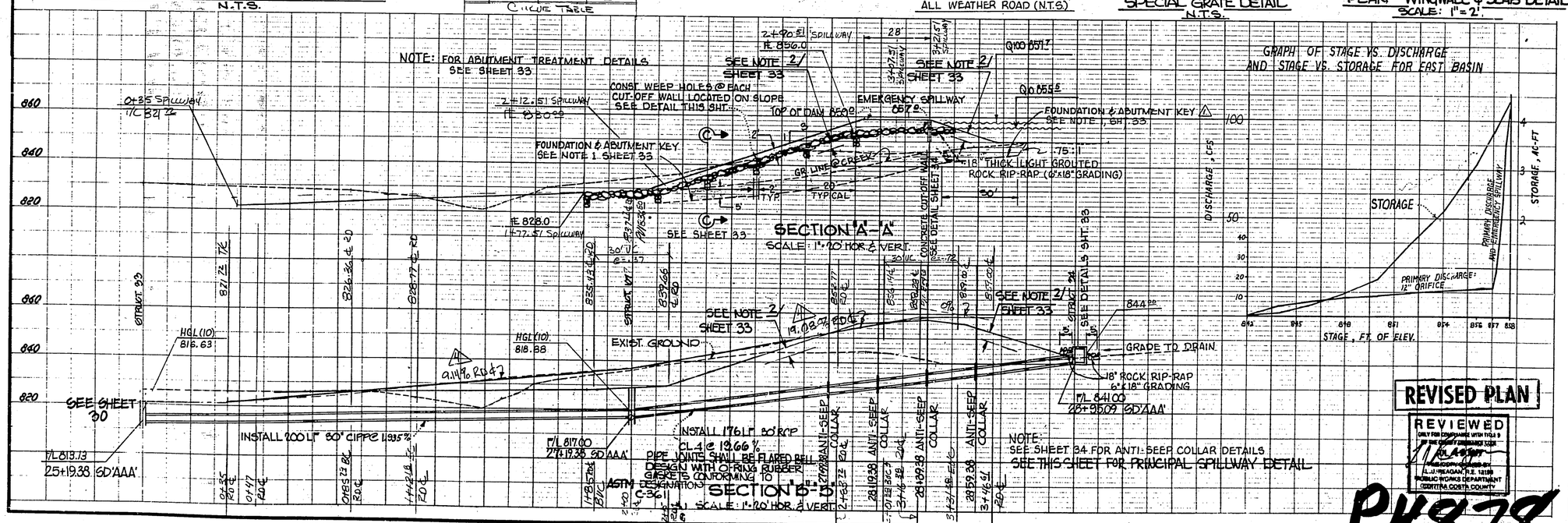
① SECTION-WINGWALL & SLAB TYPICAL
SCALE: 1" = 2'



PLAN - WINGWALL & SLAB DETAIL
SCALE: 1" = 2'



SPECIAL GRATE DETAIL
N.T.S.



REVISED PLAN

REVIEWED
ONLY FOR COMPLIANCE WITH TITLE 9 OF THE CONTRA COSTA COUNTY ORDINANCE CODE
A.J. MAGAN, R.E. 12198
PUBLIC WORKS DEPARTMENT
CONTRA COSTA COUNTY

P4878

NO.	BY	DATE	REVISIONS
1		7-7-77	RECORD SPILLWAY & ESTATE CAL
2		7-7-77	REVISED ROAD & PROFILE & STATION
3		4-5-77	REVISED PRINC. SPWY. DETAILS & SHEET 33
4		4-5-77	REVISED TOP OF DAM & SPWY.
5		1-6-77	ADDED DONATION KEY & GENERAL REV.

PRINTED JUL 7 1977

BRYAN & MURPHY ASSOCIATES, INC.

CIVIL ENGINEERS • LAND PLANNERS & SURVEYORS
1233 ALPINE ROAD • WALNUT CREEK • CALIFORNIA 94596 • (415) 939-6500

BRYAN & MURPHY ASSOCIATES, INC.

IMPROVEMENT PLAN
SUBDIVISION 4878
DETAIL EAST RETENTION BASIN
CONTRA COSTA COUNTY, CALIFORNIA

SCALE: AS SHOWN
DATE: DEC., '76
DRAWN BY: RC
ENG.: W. B.
F.B.: P.

REGISTERED PROFESSIONAL ENGINEER — R. C. E. 6131 — CIVIL DIVISION — BRYAN

32 OF 57

SHEET NO. 35 OF 46 SHEETS

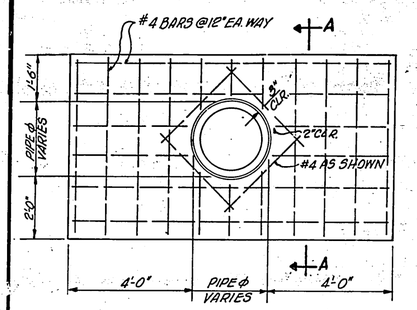
JOB NO. 5031-1

MICROFILM - PUBLIC WORKS DEPARTMENT - CONTRA COSTA COUNTY - MICROFILM

NOTE:

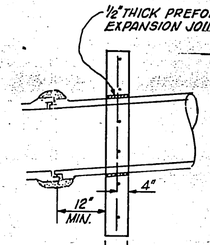
RETENTION BASIN CONSTRUCTION SHALL CONFORM TO SECTION 19 (MISCELLANEOUS CONSTRUCTION - RETENTION BASINS) OF THE "GENERAL CONDITIONS, QUANTITY LIST, STANDARD DETAILS AND SPECIAL SPECIFICATIONS" FOR SUBDIVISION #878 - HIDDEN OAKS AT BLACKHAWK, DATED FEBRUARY 1977. SAID "GENERAL CONDITIONS" ARE HEREBY MADE A PART OF THESE PLANS.

BORROW AREA SHOWN ON SHEET 6 OF GRADING PLAN

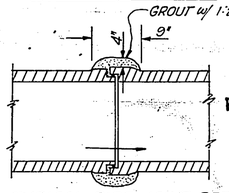


ELEVATION

COLLAR DETAIL

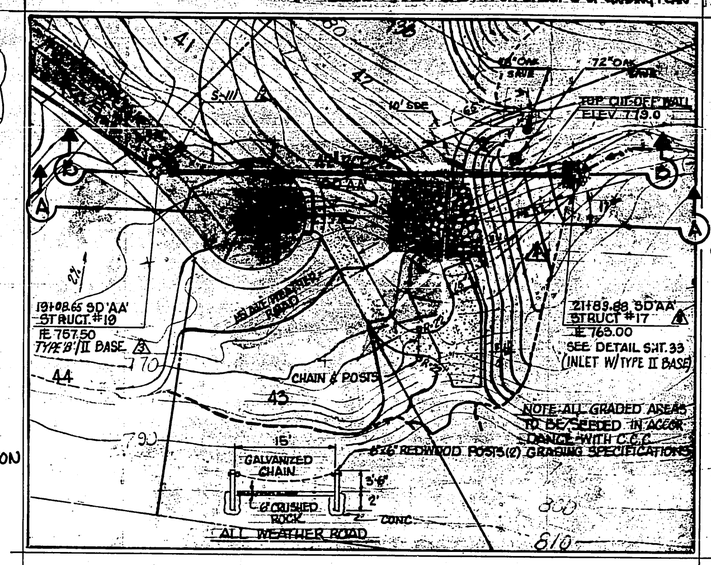


SECTION A-A



NOTE: PIPE JOINTS SHALL BE FLARED BELL TYPE DESIGN WITH O-RING RUBBER GASKETS CONFORMING TO ASTM DESIGNATION C-361.

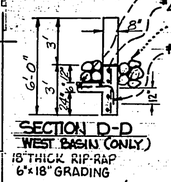
TYPICAL PIPE JOINT DETAIL



PLAN - MIDDLE BASIN

SCALE 1"=40'

(SEE SHEET 24 OF IMPROVEMENT PLANS)



SECTION D-D

WEST BASIN (ONLY)

18" THICK RIP-RAP

6"x18" GRADING

REVISED PLAN

REVIEWED

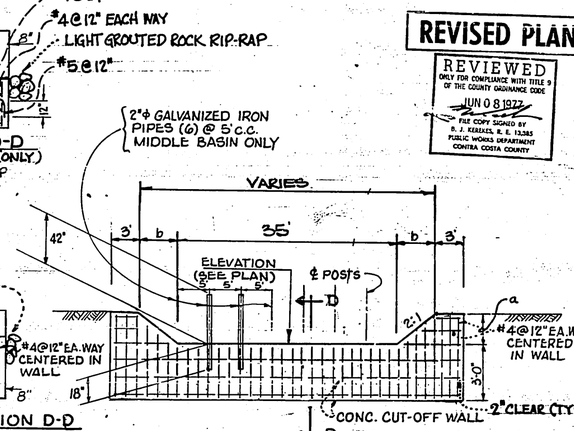
ONLY FOR COMPLIANCE WITH TITLE 9 OF THE COUNTY ORDINANCE CODE

JUN 08 1977

FILE COPY SIGNED BY R. J. KERKES, R. E. 13,385

PUBLIC WORKS DEPARTMENT

CONTRA COSTA COUNTY



SECTION D-D

MIDDLE & EAST BASIN (ONLY)

TYPICAL GROUTED ROCK SPILLWAY & CUT-OFF WALL

NOT TO SCALE

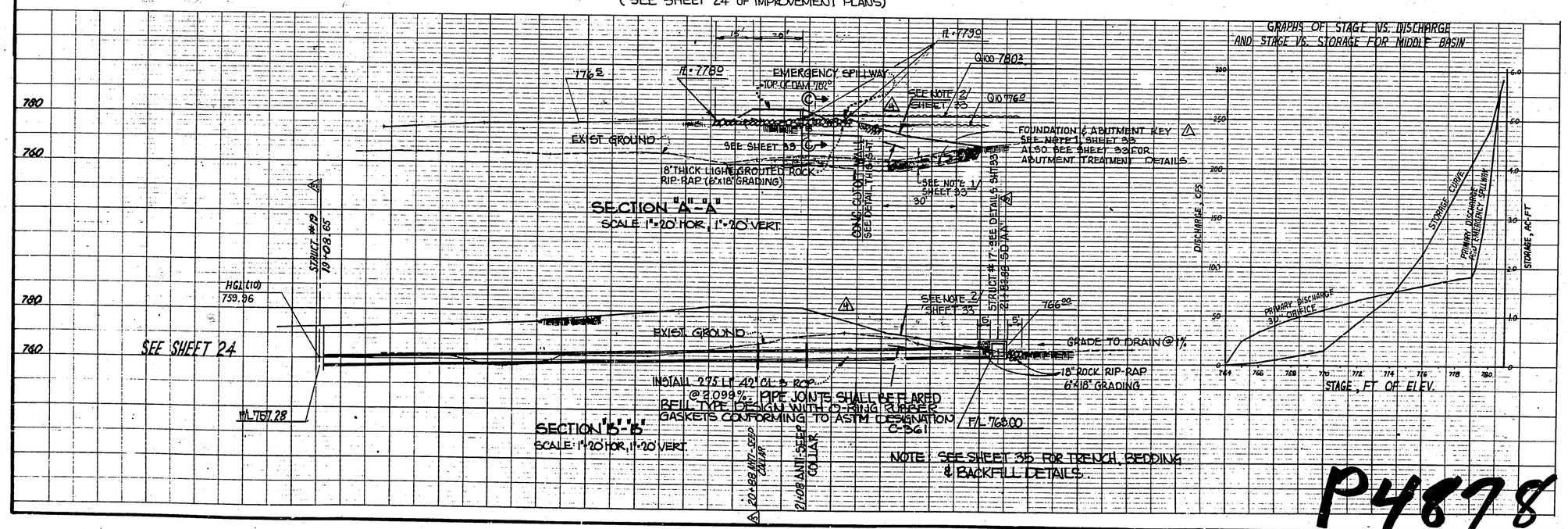
WEST, MIDDLE & EAST BASIN

NOTE:

LIGHT GROUTED ROCK RIP-RAP SHALL CONFORM TO THE COUNTY ORDINANCES SPECIFICATIONS (6"x18" GRADING)

DIMENSION SCHEDULE

BASIN	a	b
WEST	3'-6"	7'-0"
MIDDLE	3'-0"	6'-0"
EAST	2'-0"	4'-0"



P4878

BRYAN & MURPHY ASSOCIATES, INC.

CIVIL ENGINEERS • LAND PLANNERS & SURVEYORS

1233 ALPINE ROAD • WALNUT CREEK • CALIFORNIA 94596 • (415) 939-6500

NO.	BY	DATE	REVISIONS
7	BRMA	5-17-77	CORRECTED ANTI-SEEP COLLAR STA'S
6	SMA	4-20-77	REVISED ENGINEERING LAYOUT
5	—	—	1 ϕ PIPE (GAVE 48" & 72" ORG.)
4	SF	4-4-77	CORRECTED STA. OF S-19 & S-33
3	SF	3-17-77	ADDED STRUCT. #S-11
2	BRMA	1-6-77	ADDED FOUNDATION KEY & GEN. REVISIONS
1			

PRINTED MAY 18 1977 BRYAN & MURPHY ASSOCIATES, INC.

IMPROVEMENT PLAN

SUBDIVISION 4878

DETAIL MIDDLE RETENTION BASIN

CONTRA COSTA COUNTY, CALIFORNIA

SCALE: AS SHOWN

DATE: DEC., 1976

DRAWN BY: R.C.

ENG. W.B.

F.B. P.

REGISTERED PROFESSIONAL ENGINEER FRANCIS E. BRYAN NO. 6131 CIVIL STATE OF CALIFORNIA

F. E. BRYAN R.C.E. 6131

31 OF 37

SHEET NO. 34 OF 46 SHEETS

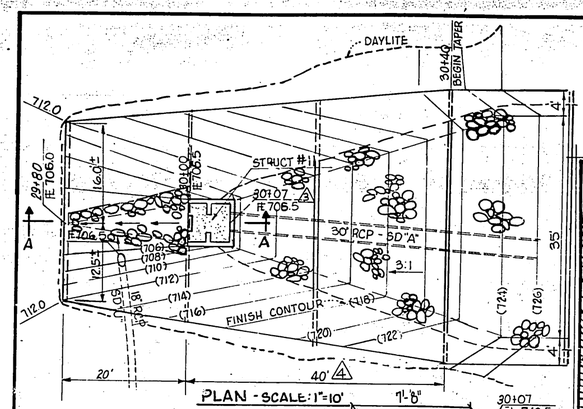
JOB NO. 5034-1

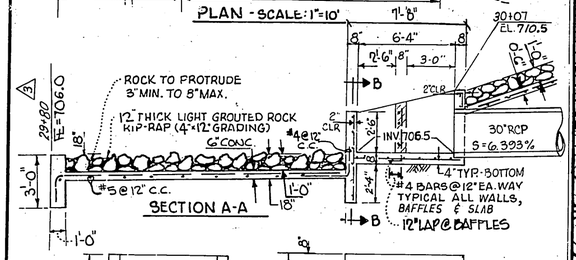
MICROFILM - PUBLIC WORKS DEPARTMENT - CONTRA COSTA COUNTY - MICROFILM

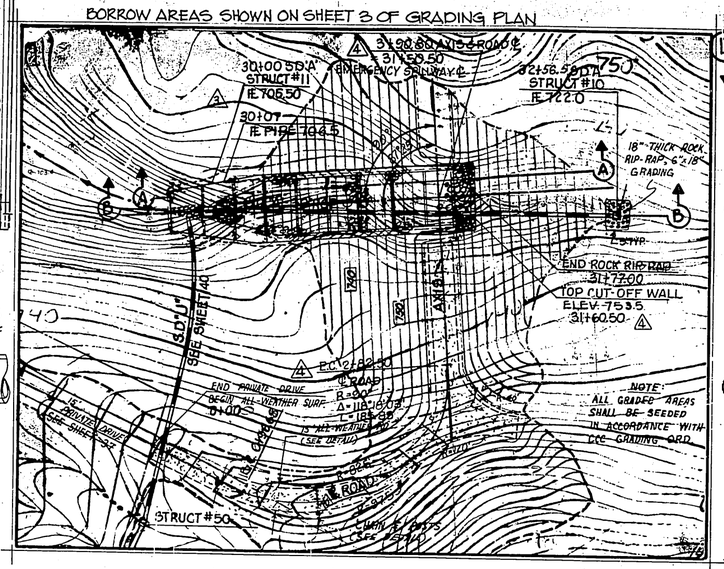
NOTE:

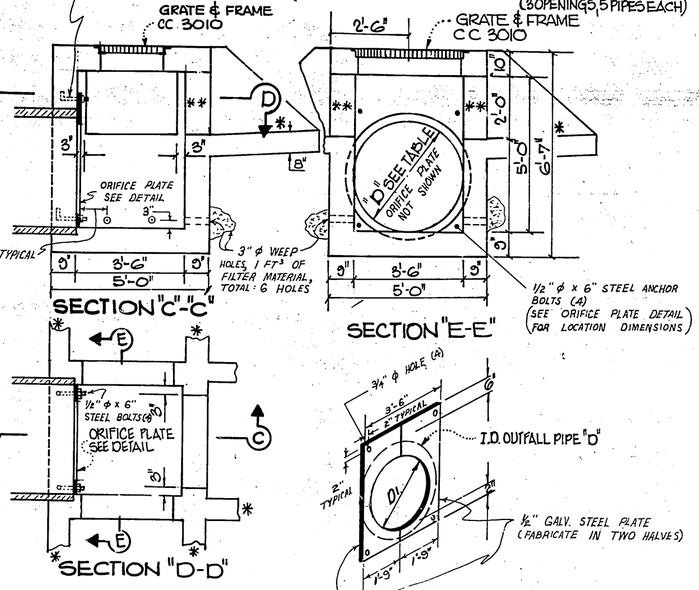
RETENTION BASIN CONSTRUCTION SHALL CONFORM TO SECTION 19 (MISCELLANEOUS CONSTRUCTION - RETENTION BASINS) OF THE "GENERAL CONDITIONS, QUANTITY LIST, STANDARD DETAILS AND SPECIAL SPECIFICATIONS" FOR SUBDIVISION 4878 - HIDDEN OAKS AT BLACKHAWK; DATED FEBRUARY 1977. SAID "GENERAL CONDITIONS - - -" ARE HEREBY MADE A PART OF THESE PLANS.

BORROW AREAS SHOWN ON SHEET 3 OF GRADING PLAN

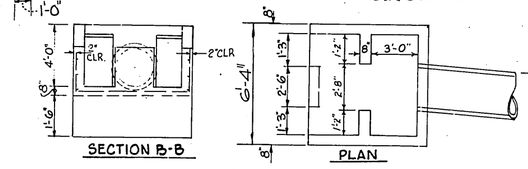




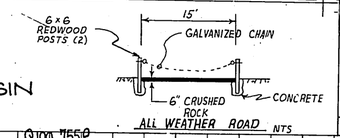




DETAIL ORIFICE PLATE
NO SCALE



STRUCTURE #11 - ENERGY DISSIPATOR DETAILS
SCALE 1/4"=1'-0"

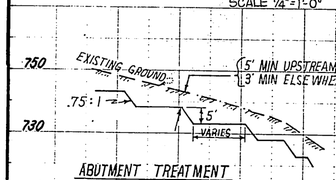


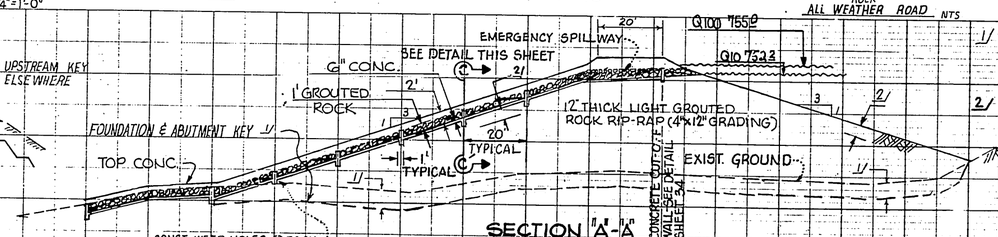
PLAN WEST BASIN
SCALE 1"=40'

D=30" WEST BASIN
D=42" MIDDLE BASIN
D=30" EAST BASIN
D1=12" WEST BASIN
D1=30" MIDDLE BASIN
D1=12" EAST BASIN

ORIFICE PLATE TABLE

DETAIL INLET STRUCTURE TYPICAL ALL THREE BASINS (TYPE II MH BASE PER CC 3021)
SCALE: 1/2"=1'-0"

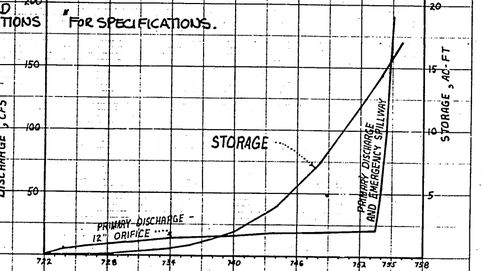


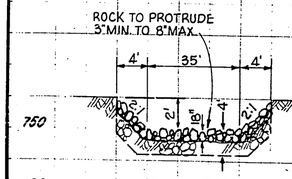


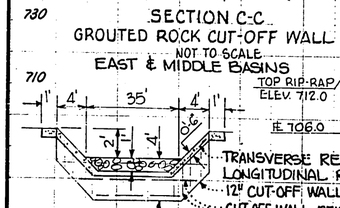
1/ 5' MINIMUM OR AS DIRECTED BY THE SOILS ENGINEER. ACTUAL FOUNDATION & ABUTMENT KEY PENETRATION TO BE DETERMINED DURING CONSTRUCTION.

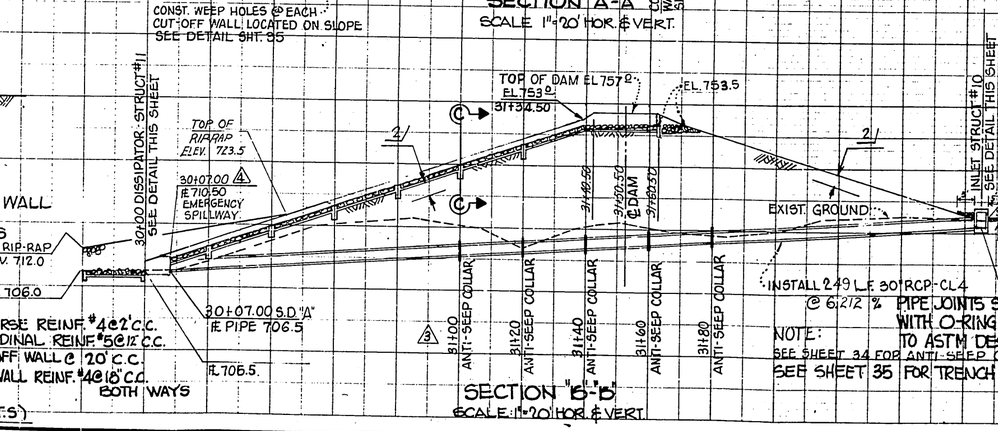
2/ THE OUTER FOUR (4') FEET OF SLOPES AND CREST SHALL BE CONSTRUCTED OF SOILS MADE UP OF NON SWELL SOILS (PI 1/15). OR ALTERNATIVELY THE NATIVE SOIL SHALL BE LIME TREATED TO THE DEPTH DESCRIBED ABOVE. (SEE "GENERAL CONDITIONS" FOR SPECIFICATIONS.

GRAPH OF STAGE VS. DISCHARGE AND STAGE VS. STORAGE FOR WEST BASIN









NOTE:
SEE SHEET 34 FOR ANTI-SEEP COLLAR DETAILS
SEE SHEET 35 FOR TRENCH, BEDDING & BACKFILL DETAILS

REVISED PLAN

REVIEWED
ONLY FOR CONSISTENCE WITH TITLE 9 OF THE COUNTY ORDINANCE CODE
MAR 04 1977
FILE COPY REVIEWED BY
A.J. PEDERSON/R.S. 13140
PUBLIC WORKS DEPARTMENT
CONTRA COSTA COUNTY

P4878

BRYAN & MURPHY ASSOCIATES, INC.
CIVIL ENGINEERS • LAND PLANNERS & SURVEYORS
1233 ALPINE ROAD • WALNUT CREEK • CALIFORNIA 94596 • (415) 939-8500

NO.	BY	DATE	REVISIONS
4	RAND	6-8-77	ADDED RD & DAM AXIS & STA.
3	BRAND	4-21-77	CORRECTED STATIONING
2	S.P.	4-4-77	CORRECTED STATION FOR STRUCT #11
1	BRAND	1-6-77	ADDED FOUND KEY & GENERAL REVISIONS

IMPROVEMENT PLAN
SUBDIVISION 4878
DETAIL WEST RETENTION BASIN
CONTRA COSTA COUNTY, CALIFORNIA

SCALE: AS SHOWN
DATE: DEC., 1976
DRAWN BY: R.C.
ENG. W.B.
FB. P.
BRYAN & MURPHY ASSOCIATES, INC.
R. C. E. 6131
PRINTED 12/22/77
REGISTERED PROFESSIONAL ENGINEER BRYAN No. 6131 CIVIL STATE OF CALIFORNIA

SHEET NO. 33 OF 46 SHEETS
JOB NO. 5034-1

30 OF 57

APPENDIX H

NOISE ASSESSMENT

SUBDIVISION 9291 – MAGEE RANCH ENVIRONMENTAL NOISE ASSESSMENT DANVILLE, CALIFORNIA

October 20, 2011

♦ ♦ ♦

Prepared for:

Leianne Humble
Denise Duffy & Associates, Inc.
947 Cass Street, Suite 5
Monterey, CA 93940

Prepared by:

Fred M. Svinth, INCE, Assoc AIA

ILLINGWORTH & RODKIN, INC.
Acoustics · Air Quality
505 Petaluma Boulevard South
Petaluma, CA 94952
(707) 766-7700

Job No. 10-138

INTRODUCTION

This report presents the results of an assessment of potential environmental noise impacts resulting from the development of single-family homes on a portion of the 410 +/- acre Magee Ranch property in Danville, California. The Magee Ranch property is located south of Diablo Road and Blackhawk Road and is surrounded by single-family residential neighborhoods and public and private open space. The development would include up to 78 single-family homes on minimum 10,000 square foot lots, which would be clustered on the flatter portions of the site. Several larger estate lots are included in the plan. The project site would be accessed by a new driveway from Blackhawk Road just east of Jillian Way, a second driveway from Diablo Road near Fairway Drive, and a third driveway from McCauley Road. The Setting Section of this report presents the fundamentals of environmental noise, describes regulatory criteria that are applicable in the project's assessment, and summarizes the results of a survey of the existing noise environment at the project site and vicinity. The Impacts and Mitigation Measures Section describes the significance criteria used to evaluate project impacts, provides a discussion of each project impact, and presents mitigation measures, where necessary, allow for the development to be compatible with surrounding land uses and to comply with applicable regulatory criteria.

SETTING

FUNDAMENTALS OF ENVIRONMENTAL NOISE

Noise may be defined as unwanted sound. Noise is usually objectionable because it is disturbing or annoying. The objectionable nature of sound could be caused by its pitch or its loudness. Pitch is the height or depth of a tone or sound, depending on the relative rapidity (frequency) of the vibrations by which it is produced. Higher pitched signals sound louder to humans than sounds with a lower pitch. Loudness is intensity of sound waves combined with the reception characteristics of the ear. Intensity may be compared with the height of an ocean wave in that it is a measure of the amplitude of the sound wave.

In addition to the concepts of pitch and loudness, there are several noise measurement scales which are used to describe noise in a particular location. A *decibel (dB)* is a unit of measurement which indicates the relative amplitude of a sound. The zero on the decibel scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Sound levels in decibels are calculated on a logarithmic basis. An increase of 10 decibels represents a ten-fold increase in acoustic energy, while 20 decibels is 100 times more intense, 30 decibels is 1,000 times more intense, etc. There is a relationship between the subjective noisiness or loudness of a sound and its intensity. Each 10-decibel increase in sound level is perceived as approximately a doubling of loudness over a fairly wide range of intensities. Technical terms are defined in Table 1.

There are several methods of characterizing sound. The most common in California is the A-weighted sound level or dBA. This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. Representative outdoor and indoor noise levels in units of dBA are shown in Table 2. Because sound levels can vary markedly over a short period of time, a method for describing either the average character of the sound or the statistical behavior of the variations must be utilized. Most commonly, environmental sounds are described in terms of an average level that has the same acoustical energy as the summation of all the time-varying events. This energy-equivalent sound/noise descriptor is called L_{eq}. The most common averaging period is hourly, but L_{eq} can describe any series of noise events of arbitrary duration.

The scientific instrument used to measure noise is the sound level meter. Sound level meters can accurately measure environmental noise levels to within about plus or minus 1 dBA. Various computer models are used to predict environmental noise levels from sources, such as roadways and airports. The accuracy of the predicted models depends upon the distance the receptor is from the noise source. Close to the noise source, the models are accurate to within about plus or minus 1 to 2 dBA.

TABLE 1: Definitions of Acoustical Terms Used in this Report

Term	Definition
Decibel, dB	A unit describing, the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure. The reference pressure for air is 20.
Sound Pressure Level	Sound pressure is the sound force per unit area, usually expressed in micro Pascals (or 20 micro Newtons per square meter), where 1 Pascal is the pressure resulting from a force of 1 Newton exerted over an area of 1 square meter. The sound pressure level is expressed in decibels as 20 times the logarithm to the base 10 of the ratio between the pressures exerted by the sound to a reference sound pressure (e.g., 20 micro Pascals). Sound pressure level is the quantity that is directly measured by a sound level meter.
Frequency, Hz	The number of complete pressure fluctuations per second above and below atmospheric pressure. Normal human hearing is between 20 Hz and 20,000 Hz. Infrasonic sound are below 20 Hz and Ultrasonic sounds are above 20,000 Hz.
A-Weighted Sound Level, dBA	The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise.
Equivalent Noise Level, L_{eq}	The average A-weighted noise level during the measurement period.
L_{max}, L_{min}	The maximum and minimum A-weighted noise level during the measurement period.
L_{01}, L_{10}, L_{50}, L_{90}	The A-weighted noise levels that are exceeded 1%, 10%, 50%, and 90% of the time during the measurement period.
Day/Night Noise Level, L_{dn} or DNL	The average A-weighted noise level during a 24-hour day, obtained after addition of 10 decibels to levels measured in the night between 10:00 pm and 7:00 am.
Community Noise Equivalent Level, CNEL	The average A-weighted noise level during a 24-hour day, obtained after addition of 5 decibels in the evening from 7:00 pm to 10:00 pm and after addition of 10 decibels to sound levels measured in the night between 10:00 pm and 7:00 am.
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Intrusive	That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.

Source: Handbook of Acoustical Measurements and Noise Control, Harris, 1998.

Since the sensitivity to noise increases during the evening and at night -- because excessive noise interferes with the ability to sleep -- 24-hour descriptors have been developed that incorporate artificial noise penalties added to quiet-time noise events. The Community Noise Equivalent

Level, CNEL, is a measure of the cumulative noise exposure in a community, with a 5 dB penalty added to evening (7:00 pm - 10:00 pm) and a 10 dB addition to nocturnal (10:00 pm - 7:00 am) noise levels. The Day/Night Average Sound Level, DNL or L_{dn}, is essentially the same as CNEL, with the exception that the evening time period is dropped and all occurrences during this three-hour period are grouped into the daytime period.

TABLE 2 Typical Noise Levels in the Environment

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	110 dBA	Rock band
Jet fly-over at 1,000 feet		
	100 dBA	
Gas lawn mower at 3 feet		
	90 dBA	
Diesel truck at 50 feet at 50 mph		Food blender at 3 feet
	80 dBA	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawn mower, 100 feet	70 dBA	Vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	60 dBA	
		Large business office
Quiet urban daytime	50 dBA	Dishwasher in next room
Quiet urban nighttime	40 dBA	Theater, large conference room
Quiet suburban nighttime		
	30 dBA	Library
Quiet rural nighttime		Bedroom at night, concert hall
	20 dBA	
		Broadcast/recording studio
	10 dBA	
	0 dBA	

Source: Technical Noise Supplement (TeNS), Caltrans, November 2009.

Effects of Noise

Sleep and Speech Interference

The thresholds for speech interference indoors are about 45 dBA if the noise is steady and above 55 dBA if the noise is fluctuating. Outdoors the thresholds are about 15 dBA higher. Steady noise of sufficient intensity (above 35 dBA) and fluctuating noise levels above about 45 dBA have been shown to affect sleep. Interior residential standards for multi-family dwellings are set by the State of California at 45 dBA L_{dn}. Typically, the highest steady traffic noise level during the daytime is about equal to the L_{dn} and nighttime levels are 10 dBA lower. The standard is designed for sleep and speech protection and most jurisdictions apply the same criterion for all residential uses. Typical structural attenuation is 12-17 dBA with open windows. With closed windows in good condition, the noise attenuation factor is around 20 dBA for an older structure and 25 dBA for a newer dwelling. Sleep and speech interference is therefore possible when exterior noise levels are about 57-62 dBA L_{dn} with open windows and 65-70 dBA L_{dn} if the windows are closed. Levels of 55-60 dBA are common along collector streets and secondary arterials, while 65-70 dBA is a typical value for a primary/major arterial. Levels of 75-80 dBA are normal noise levels at the first row of development outside a freeway right-of-way. In order to achieve an acceptable interior noise environment, bedrooms facing secondary roadways need to be able to have their windows closed, those facing major roadways and freeways typically need special glass windows.

Annoyance

Attitude surveys are used for measuring the annoyance felt in a community for noises intruding into homes or affecting outdoor activity areas. In these surveys, it was determined that the causes for annoyance include interference with speech, radio and television, house vibrations, and interference with sleep and rest. The L_{dn} as a measure of noise has been found to provide a valid correlation of noise level and the percentage of people annoyed. People have been asked to judge the annoyance caused by aircraft noise and ground transportation noise. There continues to be disagreement about the relative annoyance of these different sources. When measuring the percentage of the population highly annoyed, the threshold for ground vehicle noise is about 50 dBA L_{dn}. At an L_{dn} of about 60 dBA, approximately 12 percent of the population is highly annoyed. When the L_{dn} increases to 70 dBA, the percentage of the population highly annoyed increases to about 25-30 percent of the population. There is, therefore, an increase of about 2 percent per dBA between an L_{dn} of 60-70 dBA. Between an L_{dn} of 70-80 dBA, each decibel increase increases by about 3 percent the percentage of the population highly annoyed. People appear to respond more adversely to aircraft noise. When the L_{dn} is 60 dBA, approximately 30-35 percent of the population is believed to be highly annoyed. Each decibel increase to 70 dBA adds about 3 percentage points to the number of people highly annoyed. Above 70 dBA, each decibel increase results in about a 4 percent increase in the percentage of the population highly annoyed.

FUNDAMENTALS OF GROUNDBORNE VIBRATION

Ground vibration consists of rapidly fluctuating motions or waves with an average motion of zero. Several different methods are typically used to quantify vibration amplitude. One is the Peak Particle Velocity (PPV) and another is the Root Mean Square (RMS) velocity. The PPV is defined as the maximum instantaneous positive or negative peak of the vibration wave. The RMS velocity is defined as the average of the squared amplitude of the signal. The PPV and RMS vibration velocity amplitudes are used to evaluate human response to vibration. In this

section, a PPV descriptor with units of mm/sec or in/sec is used to evaluate construction generated vibration for building damage and human complaints. Table 3 displays the reactions of people and the effects on buildings that continuous vibration levels produce. The annoyance levels shown in Table 3 should be interpreted with care since vibration may be found to be annoying at much lower levels than those shown, depending on the level of activity or the sensitivity of the individual. To sensitive individuals, vibrations approaching the threshold of perception can be annoying.

TABLE 3: Reaction of People and Damage to Buildings for Continuous Vibration Levels

Vibration Level, PPV (in/sec)	Human Reaction	Effect on Buildings
0.006 to 0.019	Threshold of perception, Possibility of intrusion	Vibration unlikely to cause damage of any type
0.08	Vibrations readily perceptible	Recommended upper level of the vibration to which ruins and ancient monuments should be subjected
0.10	Level at which continuous vibrations begin to annoy people	Virtually no risk of "architectural" damage to normal buildings
0.20	Vibrations annoying to people in buildings	Threshold at which there is a risk of "architectural" damage to normal dwellings such as plastered walls or ceilings.
0.4 to 0.6	Vibrations considered unpleasant by people subjected to continuous vibrations	Vibration at this level would cause "architectural" damage and possibly minor structural damage.

Source: Transportation Related Earthborne Vibrations (Caltrans Experiences), Technical Advisory, Vibration TAV-02-01-R9601, California Department of Transportation, February 20, 2002.

Low-level vibrations frequently cause irritating secondary vibration, such as a slight rattling of windows, doors or stacked dishes. The rattling sound can give rise to exaggerated vibration complaints, even though there is very little risk of actual structural damage. In high noise environments, which are more prevalent where groundborne vibration approaches perceptible levels, this rattling phenomenon may also be produced by loud airborne environmental noise causing induced vibration in exterior doors and windows.

Construction activities can cause vibration that varies in intensity depending on several factors. The use of pile driving and vibratory compaction equipment typically generate the highest construction related ground-borne vibration levels. Because of the impulsive nature of such activities, the use of the peak particle velocity descriptor (PPV) has been routinely used to measure and assess ground-borne vibration and almost exclusively to assess the potential of vibration to induce structural damage and the degree of annoyance for humans.

The two primary concerns with construction-induced vibration, the potential to damage a structure and the potential to interfere with the enjoyment of life are evaluated against different vibration limits. Studies have shown that the threshold of perception for average persons is in the range of 0.008 to 0.012 in/sec PPV. Human perception to vibration varies with the individual and is a function of physical setting and the type of vibration. Persons exposed to elevated ambient vibration levels such as people in an urban environment may tolerate a higher vibration level.

Structural damage can be classified as cosmetic only, such as minor cracking of building elements, or may threaten the integrity of the building. Safe vibration limits that can be applied to assess the potential for damaging a structure vary by researcher and there is no general consensus as to what amount of vibration may pose a threat for structural damage to the building. Construction-induced vibration that can be detrimental to the building is very rare and has only been observed in instances where the structure is at a high state of disrepair and the construction activity occurs immediately adjacent to the structure.

REGULATORY CRITERIA

The proposed project would be subject to noise-related regulations, plans, and policies established within documents prepared by the State of California and the Town of Danville. These planning documents are implemented during the environmental review process to limit noise exposure at existing and proposed noise sensitive land uses. Applicable planning documents include: (1) the California Environmental Quality Act (CEQA) Guidelines, Appendix G, (2) the Town of Danville General Plan, and (3) the Town of Danville Municipal Code. Regulations, plans, and policies presented within these documents form the basis of the significance criteria used to assess project impacts.

State CEQA Guidelines. CEQA requires an evaluation of the significance of potential project noise impacts. Potential noise effects from a project are considered to cause a significant environmental impact if any of the following occur:

a) exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;

b) exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels;

c) a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;

d) a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project;

e) for a project located within an airport land use plan or where such a plan has not been adopted within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels;

f) for a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

Checklist items (a), (b), (c), and (d) are relevant to the proposed project. The project is not located in the vicinity of a public or private airstrip; therefore, checklist items (e) and (f) are not carried forward in this analysis.

CEQA does not define what noise level increase would be considered substantial. Typically, project-generated noise level increases of 3 dBA L_{dn} or greater would be considered significant where exterior noise levels would exceed the normally acceptable noise level standard. Where noise levels would remain at or below the normally acceptable noise level standard with the project, noise level increases of 5 dBA L_{dn} or greater would be considered significant.

Town of Danville General Plan

The Town of Danville is currently updating the 2010 General Plan with the Danville 2025 General Plan, which is tentatively scheduled for adoption in 2012. Noise goals and policies in the update remain similar to those contained in the 2010 General Plan. Applicable policies contained in the current General Plan, in support of the Town's goal of protecting existing or future residents from excessive noise, include:

23.01 New residential development projects should meet acceptable noise level guidelines, as shown in Figure 24 (presented in Figure 1, following).

23.02 Require acoustical studies for major residential and other development projects, as appropriate, and impose noise mitigation measures accordingly.

23.03 The noise environment in existing residential areas shall be protected. Where acceptable noise levels in residential areas would be exceeded or further impacted as a result of new development or transportation improvements, require the use of noise mitigating measures, such as wall barriers, berms, mufflers, sound traps, and baffles to reduce noise intrusion.

23.04 Encourage the location of noise sensitive land uses away from noise sources or require appropriate noise screening.

23.05 Open space should be used, wherever practical, to provide an adequate spatial separator between noise sources and sensitive land uses.

23.10 Noise levels should generally not exceed 60 L_{dn} in areas where outdoor use is a major consideration, such as in residential backyards. Where the Town determines that this level cannot be achieved after reasonable mitigation has been applied, higher standards may be permitted at the discretion of the Town Council. In such cases, indoor noise levels should not exceed an L_{dn} of 45 dB.

23.11 If an area currently meets desired noise standards, an increase up to the maximum acceptable noise level should not necessarily be allowed. The potential for a proposed project to have adverse noise impacts should be evaluated based on the potential for adverse community response, regardless of the compatibility guidelines.

Town of Danville Municipal Code

Chapter IV 'POLICE REGULATIONS' of the Town of Danville Municipal Code contains the Town's noise ordinance. Section 4-2.3 states, "It is unlawful for a person to willfully make a loud, unnecessary or unusual noise which disturbs the peace or quiet of a neighborhood or which causes discomfort or annoyance to a reasonable person of normal sensitiveness residing in the area." Specific prohibitions include the operation of machinery, equipment, or a pump, fan, air-conditioner, spa or pool equipment, power tool, lawn mower or leaf blower or engine in a manner which causes excessive noise to nearby residents between the hours of 10:00 p.m. and 8:00 a.m., and performing construction or repair work (which creates noise) within or adjacent to a residential land use district except on Monday through Friday between the hours of 7:30 a.m. and 7:00 p.m., and on Saturdays, Sundays and holidays between the hours of 9:00 a.m. and 7:00 p.m.

Figure 1: Noise and Land Use Compatibility Table from 2010 General Plan

Figure 24.
Land Use Compatibility Guidelines for Exterior Noise Levels

LAND USE	EXTERIOR NOISE EXPOSURE (L_{dn} or CNEL, dB)					
	55	60	65	70	75	80
Residential, Schools, Libraries, Museums, Hospitals, Child Care, Churches, Meeting Halls, and similar uses						
Commercial Uses, Hotels and Motels, Office Buildings						
Outdoor Sports and Recreation, Neighborhood Parks and Playgrounds						
Controlled Manufacturing, Utilities, and Agriculture						

Normally Acceptable
Specified land use is satisfactory, based upon the assumption that any buildings involved are of conventional construction, without any special noise insulation requirements.

Conditionally Acceptable
Specified land use may be permitted only after a detailed analysis of the noise reduction requirements are conducted and the necessary noise insulation features are included in the project's design.

Unacceptable
New construction or development should generally not be undertaken because mitigation is usually not feasible to comply with General Plan noise policies.

EXISTING NOISE ENVIRONMENT

The Magee Ranch property is located in northeast Danville, on the south side of Diablo Road and Blackhawk Road (see Figure 2). The property is currently used for cattle ranching activities. The property is surrounded by single family residential neighborhoods, including the Belgian /Clydesdale /Fairway Drive neighborhoods opposite Diablo Road, the unincorporated community of Diablo to the north, the residential neighborhood between the east branch of Green Valley Creek and Blackhawk Drive to the north, the existing Magee Ranch residential development to the east, and residential uses located over Short Ridge to the south. Significant acreage of public and private open space is located in the vicinity.

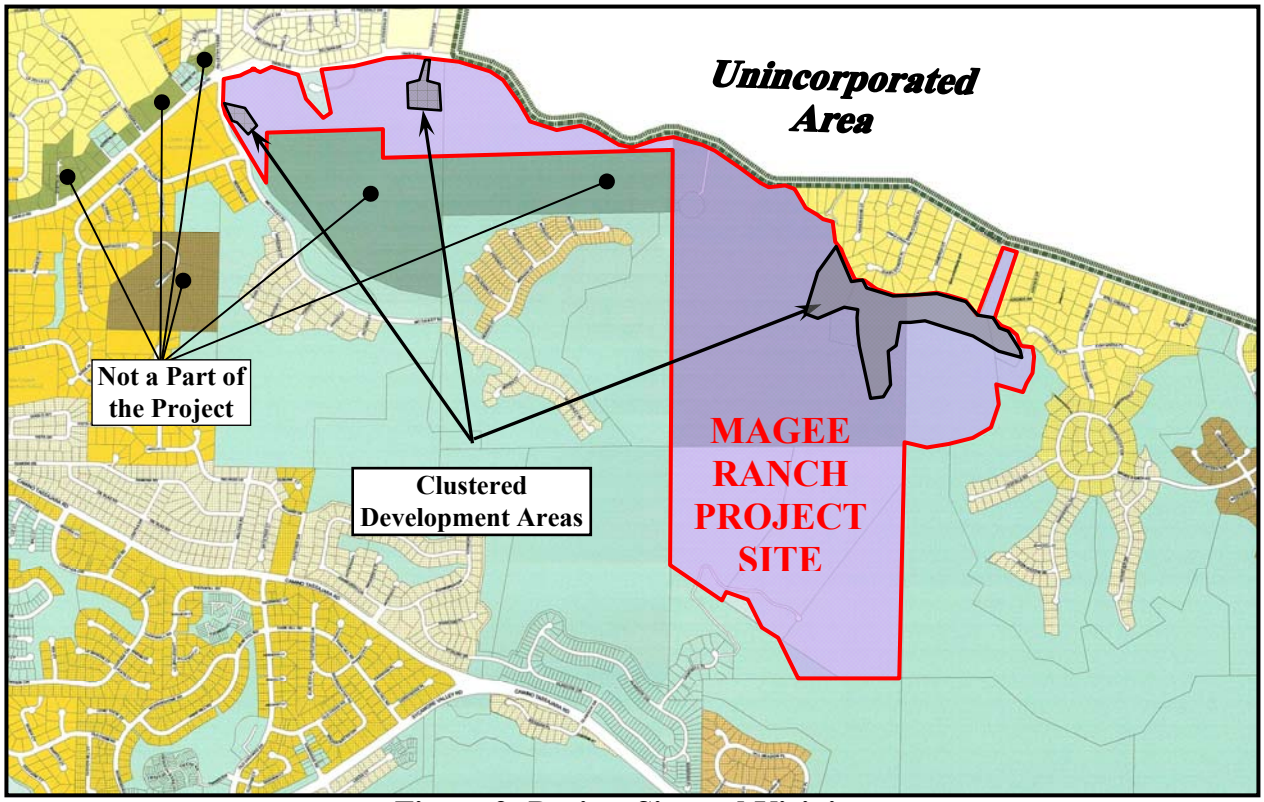


Figure 2: Project Site and Vicinity

The development would include up to 78 single-family homes on minimum 10,000 square foot lots, which would be clustered on the flatter portions of the site. Several larger estate lots are also included in the plan. The project site would be accessed by a new driveway from Blackhawk Road, just east of Jillian Way, by a new driveway from Diablo Road near Fairway Drive, and by a new driveway from McCauley Road.

The nearest noise sensitive receptors to project development include single-family homes opposite Diablo Road from the project site along Belgian, Clydesdale, and Fairway Drives, single-family homes between the east branch of Green Valley Creek and Blackhawk Drive along Jillian Way, San Andreas Dr, Cameron Ct, Diablo Creek Pl., and Creekedge Ct., and the single-family homes, elementary school, and assisted living center across McCauley Road from the project site.

A noise monitoring survey was completed between Friday March 11th and Monday March 14th, 2011 to quantify the existing noise environment. Three long-term (LT-1, LT-2 and LT-3) and three short-term (ST-1, ST-2, and ST-3) noise measurements were made on the site. The long-term noise measurements documented the existing trend in noise levels over a 24-hour period. The short-term noise measurements were made to supplement the long-term noise measurement data. The approximate locations of these noise measurements are shown in Figures 3, 4, and 5, following.

Noise Measurements LT-1 and ST-1 were made in the vicinity of the lots proposed along McCauley Road (see Figure 3). The long-term measurement (LT-1) was made in the branches of an olive tree at distance of 50 feet from the centerline of McCauley Road. The primary noise source at this location was traffic on McCauley Road, with background noise from Diablo Road traffic, bird songs, and occasional noise from activities at the Green Valley School parking area and play fields opposite McCauley Road. The hourly trends in noise levels measured at location LT-1, including the energy equivalent noise level (L_{eq}), and the noise levels exceeded 01, 10, 50 and 90 percent of the time (indicated as L_1, L_{10}, L_{50} and L_{90})[1], are shown on Chart 1.

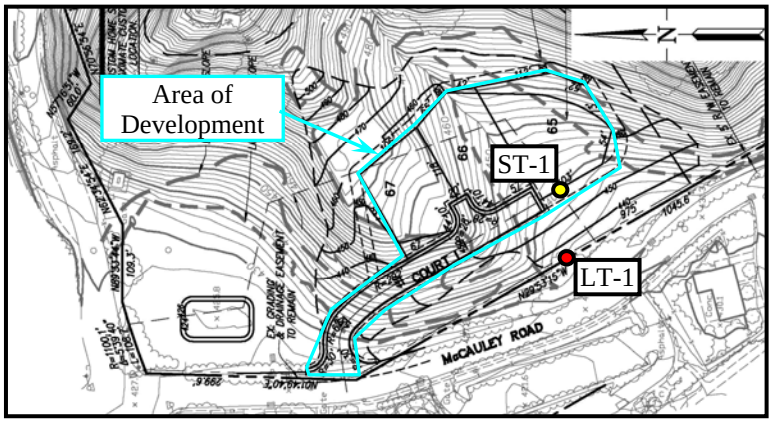
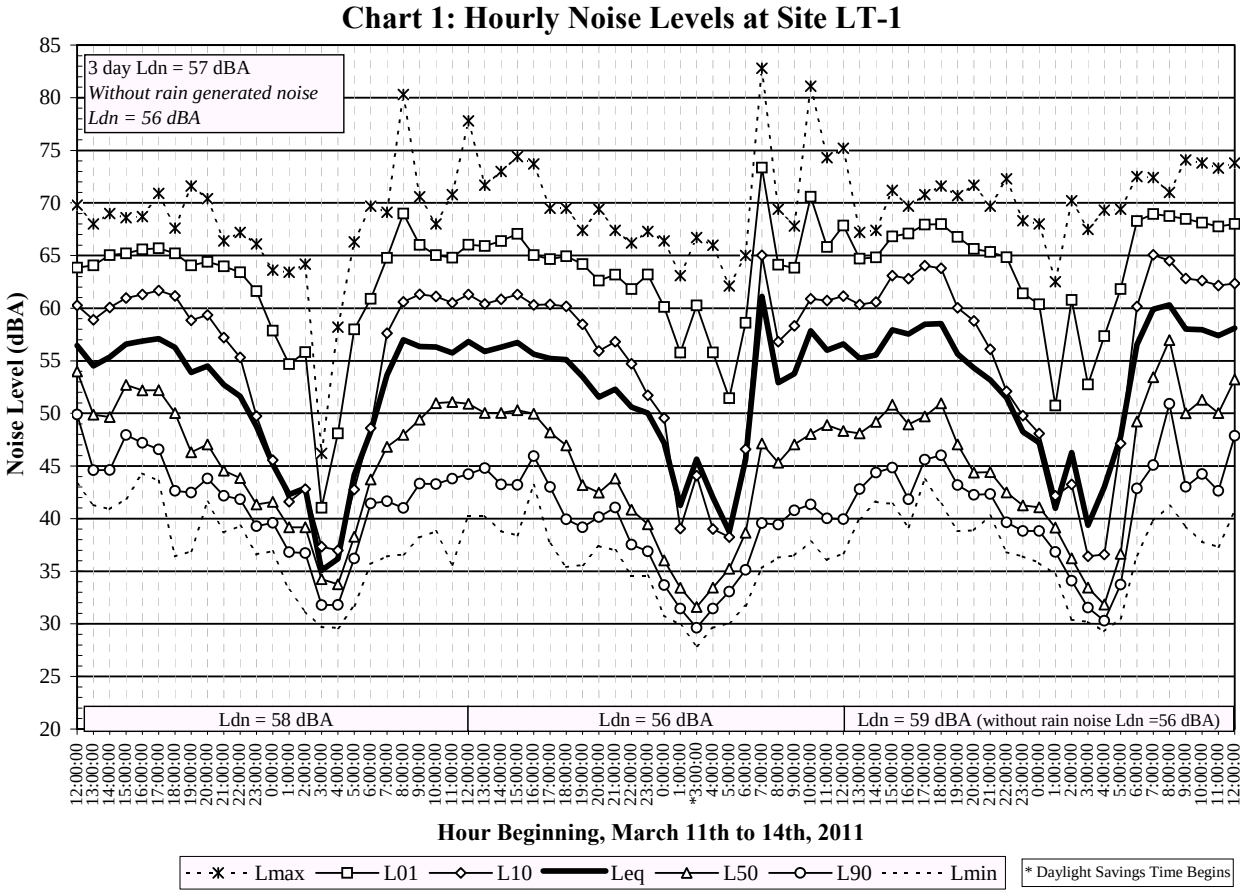


Figure 3: LT-1 and ST-1 Measurement Locations

A review of Chart 1 shows that the daytime and nighttime average (L_{eq}) noise levels measured at LT-1 ranged from 52 to 62 dBA and 35 to 57 dBA, respectively with an average daytime L_{eq} of 57 dBA and an average nighttime Leq of 48 dBA. The average day/night noise level (L_{dn}) at this location for the three-day measurement period was calculated to be 57 dBA, with daily L_{dn} levels of 56 dBA for both of the first two full day periods[2] and 59 dBA on the third full day period. The higher L_{dn} level measured on the third day (noon on Sunday March 13th and noon on Monday March 14th) was due to increased nighttime average noise levels between 10 pm and 3 am and again in the 6 am hour. These increased noise levels coincide with area rainfall and thus are likely due to raindrops impacting the measurement enclosure and surround foliage. When the increase noise levels due to rain are discounted the calculated L_{dn} for the third day drops to 56 dBA, reducing the L_{dn} for the three-day measurement period to 56 dBA.

[1] The L_{eq} noise level is typically considered the average noise level, while the L_1 is considered the intrusive level and the L_{90} is considered the background noise level.

[2] Note that the second full day noon on Saturday March 12th to noon on Sunday March 13th was actually only 23 hours period due to the daylight saving time - time change at 2am on March 13th.



Noise measurement ST-1 was conducted simultaneously with the measurement at LT-1 at a distance of 150 feet from the centerline of McCauley Road. This is the approximate setback of the closest residential lot to this roadway. As with the long term measurement the primary noise source at this location was traffic on McCauley Road, with background noise from Diablo Road traffic. The 10-minute equivalent noise level (L_{eq}) measured at this location was 53 dBA, with the simultaneous L_{eq} at the location LT-1 of 58 dBA. Based on the results of this measurement the estimated L_{dn} noise level at this location, with or without the rain-generated noise (as discussed above) is 52 dBA.

Noise Measurements LT-2 and ST-2 were made in the vicinity of the lots proposed along Diablo Road (see Figure 4). The long-term measurement (LT-2) was made on the trunk of an oak tree on a hillside about 50 vertical feet above and 350 horizontal feet distant from the centerline of Diablo Road. The primary noise source at this location was traffic on Diablo Road. The hourly trends in noise levels measured at location LT-2, including the energy equivalent noise level (L_{eq}), and the noise levels exceeded 01, 10, 50 and 90 percent of the time (indicated as L_1, L_{10}, L_{50} and L_{90}), are shown on Chart 2.

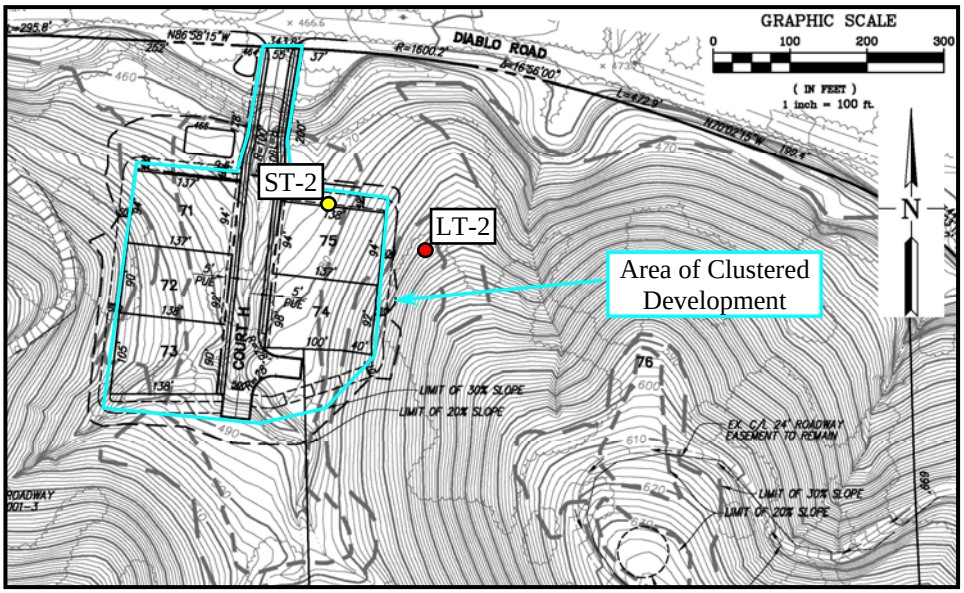
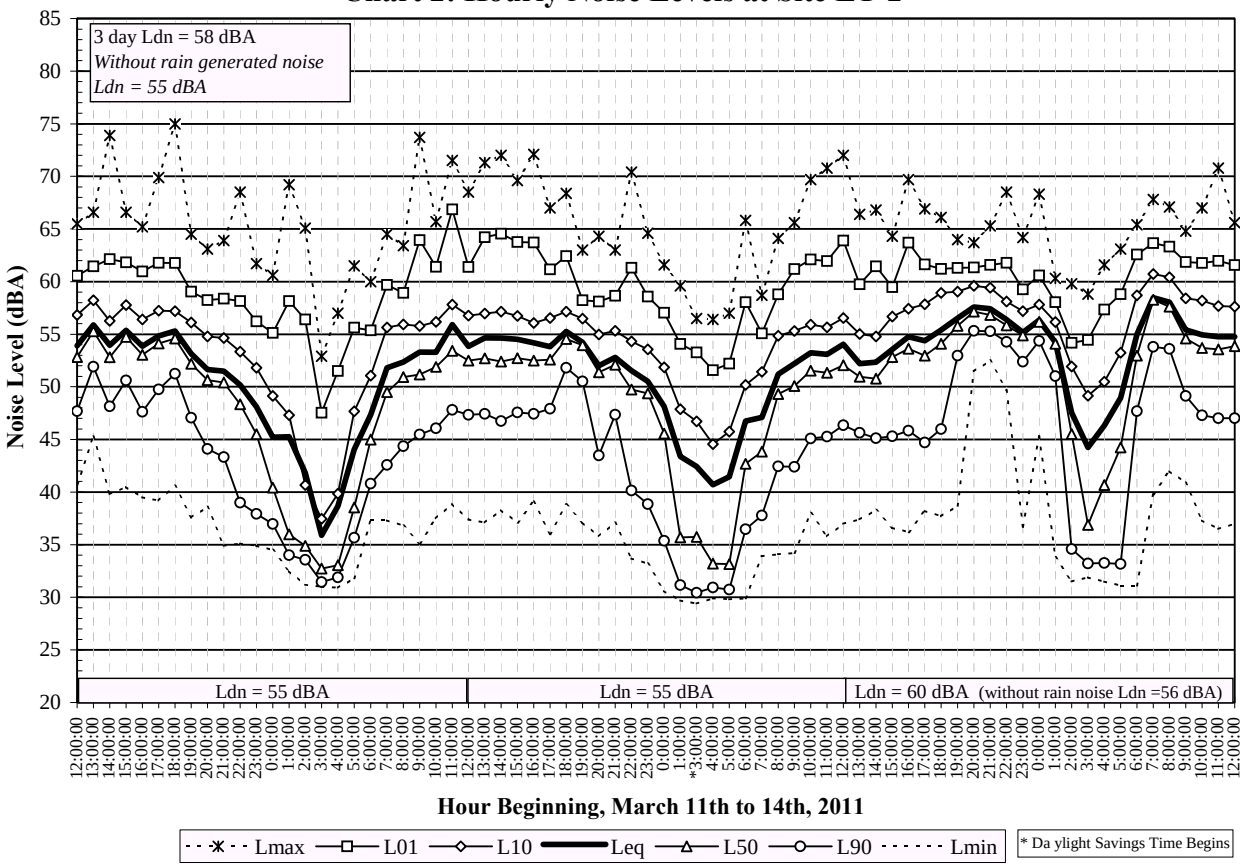


Figure 4: LT-2 and ST-2 Measurement Locations

Chart 2: Hourly Noise Levels at Site LT-2



A review of Chart 2 shows that the daytime and nighttime average (L_{eq}) noise levels measured at LT-2 ranged from 47 to 58 dBA and 36 to 56 dBA, respectively with an average daytime L_{eq} of 54 dBA and an average nighttime Leq of 50 dBA. The average day/night noise level (L_{dn}) at this location for the three-day measurement period was calculated to be 58 dBA, with daily L_{dn} levels of 55 dBA for both of the first two full day periods[3] and 60 dBA on the third full day period. As at measurement site LT-1, the higher L_{dn} level measured on the third day (noon on Sunday March 13th and noon on Monday March 14th) was due to increased nighttime average noise levels between 10 pm and 3 am and again in the 6 am hour. These increased noise levels coincide with area rainfall and thus are likely due to raindrops impacting the measurement enclosure and surround foliage. When the increased noise levels due to rain are discounted the calculated L_{dn} for the third day drops to 56 dBA, reducing the L_{dn} for the three-day measurement period to 55 dBA.

Noise measurement ST-2 was conducted simultaneously with the measurement at LT-2 at a horizontal distance of 210 feet from the centerline of Diablo Road in a valley approximately 40 vertical feet below the long-term meter position and 10 vertical feet above the roadway. As with the long term measurement the primary noise source at this location was traffic on Diablo Road, though due to the lower elevation and an observed greater terrain and foliage shielding of traffic noise, measured sound levels were lower at this position. Occasional noise from general aviation and jet over-flights and bird songs contributed to the measured noise environment. The 10-minute equivalent noise level (L_{eq}) measured at this location was 51 dBA, with the simultaneous L_{eq} at the location LT-2 of 53 dBA. Based on the results of this measurement the estimated L_{dn} noise level at this location, without the rain-generated noise (as discussed above) is 53 dBA.

Noise Measurements LT-3 and ST-3 were made in the vicinity of the eastern project entry and the lots proposed south of Green Valley Creek in this area (see Figure 5). The long-term measurement (LT-3)

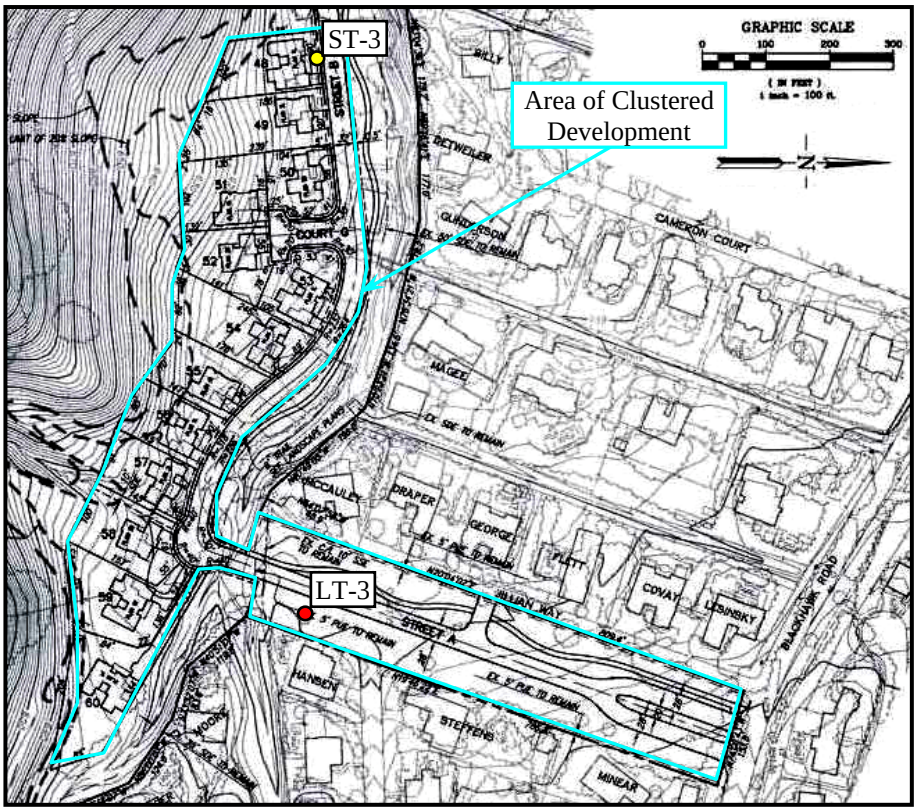
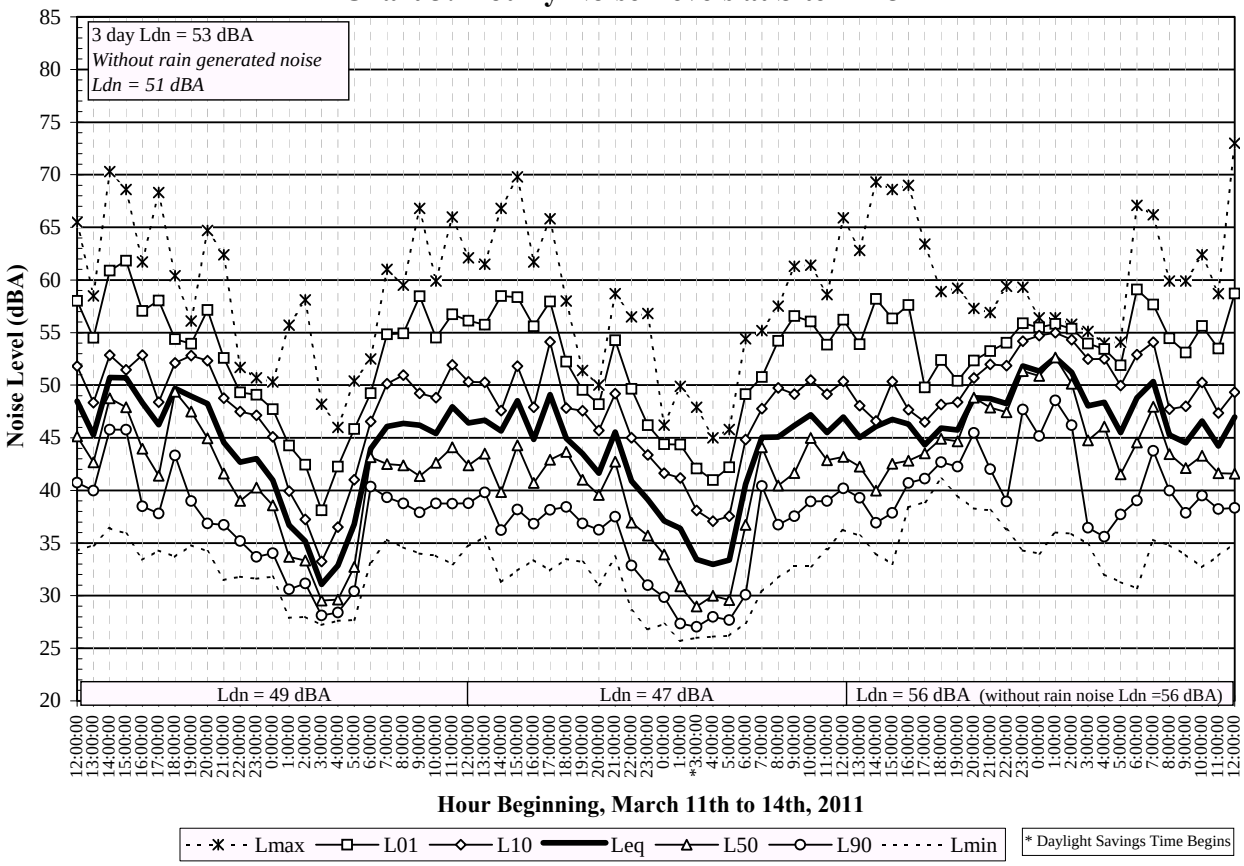


Figure 5: LT-3 and ST-3 Measurement Locations

[3] Note that the second full day noon on Saturday March 12th to noon on Sunday March 13th was actually only 23 hours period due to the daylight saving time - time change at 2am on March 13th.

was made on a tree trunk in the project entry area at the approximate set back of the homes bordering this area which are furthest from Blackhawk Road, at distance of approximately 725 feet from the centerline of the roadway. The primary noise source at this location was traffic on Blackhawk Road and bird songs. The hourly trends in noise levels measured at location LT-3, including the energy equivalent noise level (L_{eq}), and the noise levels exceeded 01, 10, 50 and 90 percent of the time (indicated as $L_{1,}$ L_{10}, L_{50} and L_{90}), are shown on Chart 3.

Chart 3: Hourly Noise Levels at Site LT-3



A review of Chart 3 shows that the daytime and nighttime average (L_{eq}) noise levels measured at LT-2 ranged from 42 to 51 dBA and 31 to 53 dBA, respectively with an average daytime L_{eq} of 47 dBA and an average nighttime Leq of 46 dBA. The average day/night noise level (L_{dn}) at this location for the three-day measurement period was calculated to be 53 dBA, with daily L_{dn} levels of 47 to 49 dBA for the first two full day periods[4] and 56 dBA on the third full day period. As at the other measurement sites, the higher L_{dn} level measured on the third day (noon on Sunday March 13th and noon on Monday March 14th) was judged to be due to increased nighttime average noise levels between 10 pm and 3 am and again in the 6 am hour. These increased noise levels coincide with area rainfall and thus are likely due to raindrops impacting the measurement enclosure and surround foliage, though at this site increases could also be due to increased insect or frog noise accompanying rain events. When these increases noise levels are discounted the calculated L_{dn} for the third day drops to 54 dBA, reducing the L_{dn} for the three-day measurement period to 51 dBA.

[4] Note that the second full day noon on Saturday March 12th to noon on Sunday March 13th was actually only 23 hours period due to the daylight saving time - time change at 2am on March 13th.

Noise measurement ST-3 was conducted simultaneously with the measurement at LT-3 south of Green Valley Creek in the footprint of proposed Lot 48. The primary noise sources at this location were due to bird songs and water rushing in the creek. General aviation and jet over flights along with residential activities, such as children playing and the wheels of trash bins or other such objects crunching on gravel driveways where also audible at this site. Traffic noise from Blackhawk Road was not distinctly audible at this location. The 10-minute equivalent noise level (L_{eq}) measured at this location was 43 dBA, with the simultaneous L_{eq} at the location LT-3 of 46 dBA. Based on the results of this measurement the estimated L_{dn} noise level at this location, without the rain-generated noise (as discussed above), is 48 dBA.

NOISE IMPACTS AND MITIGATION MEASURES

Significance Criteria

Paraphrasing from Appendix G of the CEQA Guidelines, a project would normally result in significant noise impacts if noise levels generated by the project conflict with adopted environmental standards or plans, if the project would generate excessive ground-borne vibration levels, or if ambient noise levels at sensitive receivers would be substantially increased over a permanent, temporary, or periodic basis. The following significance criteria were used to evaluate the significance of environmental noise resulting from the project:

1. A significant noise impact would result if the project would expose persons to, or generate, noise levels that would exceed applicable noise standards presented in the General Plan or Municipal Code.
2. A significant impact would result if the project would expose persons to groundborne vibration levels exceeding 0.20 in/sec PPV (peak particle velocity) would have the potential to result in “architectural” damage to normal buildings.
3. A significant impact would be identified if traffic generated by the project would substantially increase noise levels at sensitive receivers in the vicinity. A substantial increase would occur if noise levels with the project would be 3 dBA L_{dn} or greater above existing conditions.
4. A significant noise impact would be identified if construction related noise would temporarily increase ambient noise levels. Construction noise would be considered significant when noise from construction activities would exceed 60 dBA L_{eq} and the ambient noise environment by at least 5 dBA L_{eq} for a period of one year or more at exterior areas of uses sensitive to noise at the project or surround areas (e.g., residences, residential care facilities, schools).

Impact 1a: **Noise and Land Use Compatibility** Residential uses developed at portions of the project site would be exposed to “Conditionally Acceptable” noise levels based on the Town of Danville General Plan noise standards. **This is a potentially significant impact.**

The noise environment would exceed the City’s noise level goal for normally acceptable exterior noise (55 dBA L_{dn}) at residential outdoor use areas of custom home lot building sites 68, 69, 70, 77, and 78 near Diablo Road.

Existing noise levels measured along McCauley Road indicate that the lands within 75 feet of the centerline of this roadway would be exposed to an L_{dn} of greater than 55 dBA. The closest home lot proposed along McCauley Road would be as close as 150 feet from the centerline of the

roadway, and therefore all home lots along McCauley Road would be considered "Normally Acceptable" for residential uses.

Existing noise levels measured along Diablo Road indicate that the lands within 350 feet of the centerline that are elevated above the roadway (and thus do not receive any significant terrain and foliage shielding of traffic noise) would be exposed to and L_{dn} of greater than 55 dBA, while lands within 130 feet of the centerline that are either at street level or elevated less than 10 feet above the roadway would be exposed to an L_{dn} of greater than 55 dBA. The identified building sites for custom homes on lots 68, 69, 70, 77, and 78 are, respectively, proposed within approximately 50, 150, 45, 60, and 120 horizontal feet from the centerline of Diablo Road. Based on these horizontal distances to the centerline, the vertical relationship of the building sites to adjacent portions of Diablo Road, and the relative foliage and terrain shielding observed for each building site, the closest portions of the proposed building sites for custom homes on these lots (numbers 68, 69, 70, 77, and 78) to Diablo Road would be exposed to respective L_{dn} levels of 62 dBA, 61 dBA, 63 dBA, 64 dBA, and 61 dBA. These noise levels are considered "Conditionally Acceptable" for residential uses. The Town of Danville also requires project-specific acoustical analyses to achieve interior noise levels of 45 dBA L_{dn} or lower in residential units exposed to exterior noise levels greater than 60 dBA L_{dn}.

The remaining residential land uses proposed as part of the project would be located in areas exposed to an L_{dn} of 55 dBA or less, which are considered "Normally Acceptable" for residential development by the Town's General Plan noise standards would not require the incorporation of any noise insulation features.

Mitigation Measure 1a:
The following mitigation measures shall be included in the project to reduce this impact to a less-than-significant level:

- Site-specific, project level, acoustical analyses shall be required where proposed residences are located in noise environments exceeding 55 dBA L_{dn} (lots 68, 69, 70, 77, and 78). Exterior and interior noise levels at these residences shall be maintained in accordance with the standards presented in the General Plan and Municipal Code.
- The results of the site-specific acoustical analysis for each home site which is exposed to an L_{dn} exceeding 55 dBA, including the description of the necessary noise control treatments to meet interior and exterior standards, should be submitted to the City along with the building plans and approved prior to issuance of a building permit.
- Solid noise barriers shall be designed and constructed to interrupt the sound transmission path between roadway traffic and private outdoor use areas of lots 68, 69, 70, 77, and 78, which would be exposed to an L_{dn} greater than 55 dBA. The height of such barriers should be determined through the site-specific acoustical analyses to reduce the L_{dn} at the primary outdoor areas of these lots to an Ldn of 55 dBA or less. Barriers should be airtight over the surface and at the base, with a minimum surface weight of 3.0 lbs. per sq. ft. Acceptable materials include, but are not limited to, masonry block and pre-cast concrete panels. Wood may also be used. For a wood wall to meet these requirements it is recommended that a homogenous sheet material, such as 3/4" plywood, be used as a backing for typical 1" thick (nominal) wood fence slats. Using the plywood ensures the continued effectiveness of the barrier with age, since wood slats alone have a tendency to

warp and separate with age allowing gaps to form and the barrier effect of the wall to diminish.

- The Site-specific acoustical analysis should determine the need for of forced-air mechanical ventilation (to allow windows to be kept closed at the owners discretion to control noise), and any special building construction techniques (e.g., sound-rated windows and building facade treatments) that may be needed to meet the Town's interior standard. Such treatments may include, but are not limited to sound rated windows and doors, sound rated exterior wall assemblies, acoustical caulking, etc.

Significance After Mitigation:
With the implementation of the above measures, the impact would be less-than-significant.

Impact 1b: Project Noise Generation Noise due to the use and occupation of the project residences on adjacent noise sensitive uses is not expected to significantly increase or alter the existing noise environment at these uses. **This is a less-than-significant impact.**

The proposed project would place new residential uses adjacent to the existing residential uses along Blackhawk, Diablo and McCauley Roads, and senior living and school facilities along McCauley Road. The project would also place new residences in undeveloped, areas. The occupation and use of the proposed homes is expected to result in the typical noises associated with residential development, including voices of the new residents, home maintenance activities, barking dogs and children. Though the auditory content of the new sounds may change noticeably from those currently heard in project areas adjacent to existing residences, the typical sound levels produced by residential uses are expected to result in average daytime sound levels within the same range as those currently experienced at the existing residences adjacent to the project site. Changes in the existing noise environment at adjacent existing residences are expected to increase L_{dn} levels at these homes by less than 3 dBA. Noise levels in these areas will also to continue to comply with City General Plan or Municipal Code Noise Standards. Therefore, the noise associated with the proposed residences is not judged to result in a noise impact on existing uses in the project area.

Mitigation Measure 1b:
None Needed

Impact 2: Exposure to Groundborne Vibration. Residences in the vicinity of the project site could at times be exposed to perceptible vibration levels from construction activities, but vibration levels would not be considered excessive. **This is a less-than-significant impact.**

Construction activities would include site preparation work such as grading and the installation of utilities, foundation work, and new building framing. Construction techniques that generate the highest vibration levels, such as impact or vibratory pile driving, are not expected at this project. Construction activities would generally occur at distances of 100 feet or more from the nearest residential units. Activities associated with the Project Entryway from Blackhawk Road, Street A, would occur at distances of 50 feet or more from existing residential units.

For structural damage, the California Department of Transportation uses a vibration limit of 0.5 in/sec, PPV for buildings structurally sound and designed to modern engineering standards, 0.2 in/sec, PPV for buildings that are found to be structurally sound but where structural damage is a major concern, and a conservative limit of 0.08 in/sec, PPV for ancient buildings or buildings that are documented to be structurally weakened. A conservative threshold of 0.2 in/sec, PPV is used in this analysis assuming that adjacent residences are structurally sound.

Project construction activities such as drilling, the use of jackhammers, rock drills and other high-power or vibratory tools, and rolling stock equipment (tracked vehicles, compactors, etc.) may generate substantial vibration in the immediate vicinity. Building framing, exterior and interior finishing, and landscaping activities are not anticipated to be sources of substantial vibration. Construction activities may extend over several construction seasons, but construction vibration would not be substantial for most of this time except during vibration generating activities (as discussed above).

Table 4 presents vibration source levels for typical construction equipment at a distance of 25 feet. Jackhammers typically generate vibration levels of 0.035 in/sec PPV and drilling typically generates vibration levels of 0.09 in/sec PPV at a distance of 25 feet. Again, vibration levels would vary depending on soil conditions, construction methods, and equipment used. At distances greater than 50 feet, construction activities would be unlikely to generate vibration levels exceeding 0.08 in/sec PPV, and would be below 0.20 in/sec PPV significance criteria.

TABLE 4 Vibration Source Levels for Construction Equipment[5]

Equipment		PPV at 25 ft. (in/sec)
Pile Driver (Impact)	upper range	1.158
	typical	0.644
Pile Driver (Sonic)	upper range	0.734
	typical	0.170
Clam shovel drop		0.202
Hydromill (slurry wall)	in soil	0.008
	in rock	0.017
Vibratory Roller		0.210
Hoe Ram		0.089
Large bulldozer		0.089
Caisson drilling		0.089
Loaded trucks		0.076
Jackhammer		0.035
Small bulldozer		0.003

In areas where vibration would not be expected to cause structural damage, vibration levels may still be perceptible. However, as with any type of construction, this would be anticipated and it would not be considered significant given the intermittent and short duration of the phases that have the highest potential of producing vibration (jackhammers and other high power tools). By use of administrative controls such as notifying adjacent land uses of scheduled construction

[5] Transit Noise and Vibration Impact Assessment, United States Department of Transportation, Office of Planning and Environment, Federal Transit Administration, May 2006.

activities and scheduling construction activities with the highest potential to produce perceptible vibration to hours with least potential to affect nearby residences, perceptible vibration can be kept to a minimum and as such would not result in a significant impact with respect to perception.

Mitigation Measure 2:
None Needed

Impact 3: **Off-Site Traffic Noise Increases.** Project traffic would not substantially increase existing or cumulative traffic noise levels along area roadways. **This is a less-than-significant impact.**

Traffic data provided by Hexagon Transportation Consultants was reviewed to calculate potential project-related traffic noise level increases along roadways serving the project site. These data included turning movement counts at key area intersections for existing and cumulative conditions with and without projections for proposed project trips. Link volumes for the existing plus project scenario were compared to existing conditions, and link volumes for the cumulative plus project scenario were compared to cumulative conditions to calculate the noise increase attributable to the project on area roadways.

The turning movement data indicates that traffic volumes in the site vicinity will increase slightly on Diablo and Blackhawk Roads as a result of the proposed project. Traffic noise levels due to the proposed project are calculated to increase by 0 to 1 dBA L_{dn} above existing and cumulative conditions along these and other roadways serving the project site without the project (see Table 5). Table 5 also shows that noise levels will generally increase by 2 dBA over those produced by existing conditions under cumulative traffic conditions with or without the project. Because traffic noise increases resulting from the proposed project would increase ambient noise levels by less than 3 dBA L_{dn}, this is considered a less-than-significant impact.

TABLE 5: Increases in Traffic Noise Levels on Area Roadways

Roadway and Segment	Noise Increase Comparison Scenario		
	Existing No Project to Existing Plus Project	Existing No Project to Cumulative No Project	Cumulative No Project to Cumulative Plus Project
Blackhawk Road:			
East of Hidden Oak Dr	1 dBA L_{dn}	2 dBA L_{dn}	Less than 0.5 dBA L_{dn}
East Entry to Hidden Oak Dr	1 dBA L_{dn}	2 dBA L_{dn}	Less than 0.5 dBA L_{dn}
East Entry to Diablo Rd	Less than 0.5 dBA L_{dn}	2 dBA L_{dn}	Less than 0.5 dBA L_{dn}
Diablo Road:			
East of McCauley Rd	Less than 0.5 dBA L_{dn}	2 dBA L_{dn}	Less than 0.5 dBA L_{dn}
McCauley Rd to Matadera Rd	Less than 0.5 dBA L_{dn}	2 dBA L_{dn}	Less than 0.5 dBA L_{dn}
West of Matadera Rd	Less than 0.5 dBA L_{dn}	2 dBA L_{dn}	Less than 0.5 dBA L_{dn}
McCauley Road:			
South of Diablo Rd	Less than 0.5 dBA L_{dn}	2 dBA L_{dn}	Less than 0.5 dBA L_{dn}
Green Valley Road:			
North of Diablo Rd	Less than 0.5 dBA L_{dn}	2 dBA L_{dn}	Less than 0.5 dBA L_{dn}

Mitigation Measure 3:
None Needed**.**

Impact 4: **Construction Noise.** During project construction, adjacent homes in the vicinity of the clustered development sites would be intermittently exposed to high noise levels. **This is considered a significant, ~~and unavoidable~~ short-term noise impact.**

Project construction activities at each of the clustered development sites are expected to take place in two phases, the first phase involving the construction of the project access road, drainage infrastructure, and utilities, and the second phase involving the construction of individual residences. According to the developer's schedule the first phase (site work) will be completed in less than 1 year (about eight months). During the second phase of work (home building) the developer estimates that each home will take approximately seven (7) months to construct. Each home would be constructed individually and would have its own building permit. Construction activities during Phase 2, including the building, framing, and finishing of the proposed individual residences, would generally result in lower noise levels than the construction activities during Phase 1. However, project construction activities would generally generate noise levels that would exceed ambient noise levels at land uses in the vicinity of the project sites.

Noise impacts from construction activities depend on the various pieces of construction equipment in use, the timing and length of noise generating activities, the distance between the noise source and receiver. Noise generating construction activities for individual projects are typically carried out in stages. During each stage of construction, there would be a different mix of equipment operating. Construction noise levels would vary by stage and vary within stages based on the amount of equipment in operation and location where the equipment is operating. Typical construction noise levels at a distance of 50 feet are shown in Tables 6 and 7. Table 6 shows the average noise level ranges by phase for housing construction and Table 7 shows the maximum noise level ranges for different construction equipment. Most demolition and construction noise is in the range of 80 to 90 dBA at a distance of 50 feet from the source. Construction activities would generally occur at distances of 100 feet or more from the nearest residential units. Activities associated with the Project Entryway from Blackhawk Road, Street A, would occur at distances of 50 feet or more from existing residential units.

TABLE 6:
Typical Ranges of Noise Levels for Domestic Housing Construction at 50 Feet, L_{eq} in dBA

	Construction Equipment on Site	
Construction Stage	**All pertinent equipment present**	**Minimum required equipment present**
Ground Clearing	83	83
Excavation	88	75
Foundations	81	81
Erection	81	65
Finishing	88	72

Source: U.S.E.P.A., Legal Compilation on Noise, Vol. 1, p. 2-104, 1973.

The highest noise levels would be generated during demolition, excavation, and foundation construction. Large pieces of earth-moving equipment, such as graders, excavators, and bulldozers, generate maximum noise levels of 85 to 90 dBA at a distance of 50 feet. Residential land uses adjacent to the clustered home lots proposed south of Green Valley Creek may be

exposed to average noise levels of between 70 to 80 dBA during busy construction periods when construction activities occur at the portion of the project site nearest these homes. These noise levels drop off at a rate of about 6 dBA per doubling of distance between the noise source and receptor. Noise levels at homes, schools and residential care facilities adjacent to other site development areas along Diablo and McCauley Roads would exposed to lower noise levels during project construction activities due to increased distances and lower intensity of work in these areas, however some of these areas may be exposed to average noise levels of greater than 60 dBA during busy construction periods.

TABLE 7: Construction Equipment 50-foot Noise Emission Limits

Equipment Category	L_{max} Level (dBA)[1,2]	Impact/Continuous
Auger Drill Rig	85	Continuous
Backhoe	80	Continuous
Bar Bender	80	Continuous
Chain Saw	85	Continuous
Compressor[3]	70	Continuous
Compressor (other)	80	Continuous
Concrete Mixer	85	Continuous
Concrete Pump	82	Continuous
Concrete Saw	90	Continuous
Concrete Vibrator	80	Continuous
Crane	85	Continuous
Dozer	85	Continuous
Excavator	85	Continuous
Front End Loader	80	Continuous
Generator	82	Continuous
Generator (25 KVA or less)	70	Continuous
Gradall	85	Continuous
Grader	85	Continuous
Grinder Saw	85	Continuous
Horizontal Boring Hydro Jack	80	Continuous
Insitu Soil Sampling Rig	84	Continuous
Jackhammer	85	Impact
Paver	85	Continuous
Pneumatic Tools	85	Continuous
Pumps	77	Continuous
Rock Drill	85	Continuous
Scraper	85	Continuous
Slurry Trenching Machine	82	Continuous
Soil Mix Drill Rig	80	Continuous
Street Sweeper	80	Continuous
Tractor	84	Continuous
Truck (dump, delivery)	84	Continuous
Vacuum Excavator Truck (vac-truck)	85	Continuous
Vibratory Compactor	80	Continuous
Vibratory Pile Driver	95	Continuous
All other equipment with engines larger than 5 HP	85	Continuous

Notes: 1. Measured at 50 feet from the construction equipment, with a “slow” (1 sec.) time constant.
2. Noise limits apply to total noise emitted from equipment and associated components operating at full power while engaged in its intended operation.
3. Portable Air Compressor rated at 75 cfm or greater and that operates at greater than 50 psi.

Mitigation Measure 4:
The applicant shall develop a construction mitigation plan in close coordination with the Town of Danville staff along with input from adjacent noise-sensitive land uses so that construction activities can be scheduled to minimize noise disturbance. Considering the potential for substantial increases in noise at adjacent residences as a result of project construction, the following conditions shall be incorporated into contract agreements to reduce construction noise impacts to a less than significant level:

a) Muffle and maintain all equipment used on site. All internal combustion engine-driven equipment shall be fitted with mufflers, which are in good condition. Good mufflers shall result in non-impact tools generating a maximum noise level of 80 dB when measured at a distance of 50 feet.

b) Utilize "quiet" models of air compressors and other stationary noise sources where technology exists.

c) Locate stationary noise-generating equipment as far as possible from sensitive receptors when sensitive receptors adjoin or are near a construction project area.

d) Prohibit unnecessary idling of internal combustion engines.

e) Prohibit audible construction workers' radios on adjoining properties.

f) Restrict noise-generating activities at the construction site or in areas adjacent to the construction site to the hours between 8:00 a.m. and 5:00 p.m., Monday through Saturday.

g) Do not allow machinery to be cleaned or serviced past 6:00 p.m. or prior to 7:00 a.m. Monday through Friday

h) Limit the allowable hours for the delivery of materials or equipment to the site and truck traffic coming to and from the site for any purpose to Monday through Friday between 7:00 a.m. and 6:00 p.m.

i) Do not allow any construction or construction-related activities at the project site on Weekends and holidays.

j) Allowable construction hours shall be posted clearly on a sign at each construction site.

k) Designate a Disturbance Coordinator for each of the clustered development sites for the duration of the Phase 1 (site work) and for each home site during the Phase 2 (home building) construction. Because each home would be constructed individually and would have its own building permit, a Disturbance Coordinator should be designated during the construction of each home. The requirement for a Disturbance Coordinator for each home site should be incorporated in the CCRs of the development, such that responsibility of the Property Owners' Association and/or home builder to designate this Disturbance Coordinator for each lot for the duration of construction until full site buildout. The Disturbance Coordinator shall:

1. Receive and act on complaints about construction disturbances during infrastructure installation, landslide repair, road building, residential construction, and other construction activities.
2. Determine the cause(s) and implement remedial measures as necessary to alleviate significant problems.
3. Clearly post his/her name and phone number(s) on a sign at each clustered development and home building site.
4. Notify area residents of construction activities, schedules, and impacts.

Significance After Mitigation: The highest noise generating activities would occur during Phase 1 (site work) and would be completed within one building season. The combined construction noise exposure at adjacent residences due to Phase 2 (individual home) construction may extend beyond one building season. However, limiting construction hours and days to allow quiet mornings, evenings, and weekends would minimize the potential disturbance period. Additionally, designating a Disturbance Coordinator for each home site to provide an identifiable method of recourse in the event of noise problems would further mitigate noise disturbances at adjacent residences. The implementation of identified mitigation measures would ensure that the project meets the requirements of the Danville Municipal Code and reduces the effects of construction noise on neighboring residences in the area to a less than significant level.

APPENDIX I

TRANSPORTATION IMPACT ANALYSIS

HEXAGON TRANSPORTATION CONSULTANTS, INC.

Magee Ranch Residential Development

Transportation Impact Analysis

Prepared for:

Denise Duffy & Associates, Inc.

November 20, 2012

Hexagon Office: 4377 First Street, Suite A
Pleasanton, CA 94566
Hexagon Job Number: 10MN04
Phone: 925.225.1439

San Jose · Gilroy · **Pleasanton** · Marina Del Rey · **Phoenix** **www.hextrans.com**

Areawide Circulation Plans **Corridor Studies** Pavement Delineation Plans **Traffic Handling Plans** Impact Fees **Interchange Analysis** Parking Studies
Transportation Planning Neighborhood Traffic Calming **Traffic Operations** Traffic Impact Analysis **Traffic Signal Design** Travel Demand Forecasting

Table of Contents

Executive Summary iii
1. Introduction 1
2. Existing Conditions 13
3. Existing Plus Project Conditions 29
4. Cumulative Conditions 38
5. Other Transportation Issues 44
6. Cumulative Traffic Sensitivity Analysis 55

Appendices

Appendix A: Traffic Counts
Appendix B: Intersection Level of Service Calculations
Appendix C: Signal Warrants
Appendix D: Pending Trips Inventory
Appendix E: Cut-Through Survey Data
Appendix F: TRAFFIX Bus Memo
Appendix G: Exhibit A: Roadway Improvements

List of Tables

Table ES- 1 Signalized Intersection Level of Service Summary – HCM Methodology xi
Table ES- 2 Unsignalized Intersection Level of Service Summary – HCM Methodology xii
Table ES- 3 AM Summary of Analysis and Thresholds of Significance xiii
Table ES- 4 School PM Summary of Analysis and Thresholds of Significance xiii
Table ES- 5 PM Summary of Analysis and Thresholds of Significance xiv

Table 1 Signalized Intersection Level of Service Definitions Based on Average Delay 11
Table 2 Unsignalized Intersection Level of Service Definitions Based on Delay 12
Table 3 Diablo Cut-through Survey 17
Table 4 Existing Intersection Levels of Service – HCM Methodology 27
Table 5 Residential Trip Rate Comparisons 30
Table 6 Project Trip Generation Estimates 31
Table 7 Existing Plus Project Intersection Levels of Service – HCM Methodology 35
Table 8 Cumulative Intersection Levels of Service – HCM Methodology 39
Table 9 Vehicle Queuing and Storage Capacity at Intersections 45
Table 10 Peak Hour Traffic Signal Warrant Check Summary 47
Table 11 Unsignalized Intersections Level of Service – HCM Methodology 50
Table 12 Traffic Sensitivity Analysis for Cumulative Conditions – Signalized Intersections 57
Table 13 Traffic Sensitivity Analysis for Cumulative Conditions – Unsignalized Intersections 65
Table 14 Traffic Sensitivity Analysis for Cumulative Conditions – Signal Warrants 66
Table 15 Vehicle Queuing and Storage Capacity at Intersections 67
Table 16 Vehicle Queuing and Storage Capacity at Intersections 70

List of Figures

Figure 1 Site Location and Study Intersections 2
Figure 2 Site Plan 3
Figure 3 Existing Bicycle Facilities 15
Figure 4 Existing Lane Configurations 18
Figure 5 Existing AM & PM Peak Hour Traffic Volumes 25
Figure 6 Existing School PM Peak Hour Traffic Volumes 26
Figure 7 Trip Distribution Patterns 32
Figure 8 Project Trip Assignment 33
Figure 9 Project Driveway Trips 34
Figure 10 Existing Plus Project AM & PM Peak Hour Traffic Volumes 36
Figure 11 Existing Plus Project School PM Peak Hour Traffic Volumes 37
Figure 12 2030 Cumulative No Project AM & PM Peak Hour Traffic Volumes 40
Figure 13 2030 Cumulative No Project School PM Peak Hour Traffic Volumes 41
Figure 14 2030 Cumulative With Project AM & PM Peak Hour Traffic Volumes 42
Figure 15 2030 Cumulative With Project School PM Peak Hour Traffic Volumes 43
Figure 16 2030 Cumulative Scenario 2 and 5 AM & PM Peak Hour Traffic Volumes 58
Figure 17 2030 Cumulative Scenario 2 and 5 School PM Peak Hour Traffic Volumes 59
Figure 18 2030 Cumulative Scenarios 3 and 4 AM & PM Peak Hour Traffic Volumes 60
Figure 19 2030 Cumulative Scenarios 3 and 4 School PM Peak Hour Traffic Volumes 61

Executive Summary

This report presents the results of the transportation impact analysis conducted for the proposed Magee Ranch residential development located in Danville, California. The site is located in northeast Danville, on the south side of Diablo Road and Blackhawk Road. The project analyzed in this traffic report includes 78 single-family homes and a minimum of 25% of the properties were assumed to include second dwelling units. Vehicle access to and from the project site is provided via Diablo Road/Blackhawk Road and McCauley Road.

After the traffic report was prepared, the applicant revised the project to reflect 70 single family units with a minimum of 10% of the lots to include second units ("proposed project"). The traffic analysis was not revised to reflect the proposed project since the number of dwelling units was reduced. Accordingly, this traffic report represents a more conservative analysis (greater impact) of the project's impact than is expected to occur with the currently proposed project. Please note that references to "project" in the traffic study refer to the originally proposed 78 Unit Project.

The potential traffic impacts related to the proposed development were evaluated following the standards and methodologies set forth by the Town of Danville and the Contra Costa Transportation Authority (CCTA). Traffic impacts due to the project were determined based on AM, school PM, and PM peak hour levels of service for the study intersections.

This study includes an analysis of six signalized intersections and five unsignalized intersections, referred to as project "study intersections", in the vicinity of the project site. Peak-hour signal warrants were examined for the unsignalized intersections. Project impacts on other transportation facilities, such as bicycle facilities and transit service, were determined on the basis of engineering judgment.

Project Trip Generation

Most communities utilize standard trip generation rates published in the Institute of Transportation Engineers (ITE) manual entitled *Trip Generation,* Eighth Edition, 2008. These rates are derived from data collected through empirical research nationwide and correlated to common land uses that produce traffic. Thus, for the most common land uses, there are standard trip generation rates that can be applied to help predict the future traffic increases that would result from a new development. The magnitude of traffic added to the roadway system by a particular development is estimated by multiplying the applicable trip generation rates to the size of the development.

As an additional level of evaluation, the Town of Danville has also compiled its own more conservative residential trip generation rates within the Town ("Danville Rates"). Since these rates are collected locally, they more accurately reflect the predicted trip generation rates of a similar residential project in the Danville area. It should be noted that the Danville Rate reflects a trip generation rate that is a blend of residential projects, with and without second dwelling units.

Therefore, in response to comments raised at the EIR scoping meeting regarding the need for trip generation rates that reflect residential projects with proposed second dwelling units, the traffic consultant conducted traffic

counts of residential projects in Danville with second dwelling units (Victoria Place and Valerosa). The trip generation rates derived from this survey are referred to in the analysis as the "Danville Rate (With Second DU)." The projects reviewed were approved at the time when the Town allowed a minimum of 25% of the properties to include second units to satisfy the affordable housing requirements; these projects could build more than 25% of the properties with a second unit. The Town's current affordable housing requirements allow a project to include a minimum of 10% of the properties with second units.

The "Danville Rates (With Second DU)" are higher than the ITE trip generation rates (9.57 daily trips) and the standard "Danville Rate" (10.20 daily trips). Therefore, the "Danville Rates (With Second DU)" are the most conservative analysis of the project's potential impacts. A comparison of the trip generation rates is shown on Table 5 in Chapter 3.

Consistent with direction from the Town of Danville to conduct a traffic analysis using the most conservative assumptions, this report applies the "Danville Rates (With Second DU)" at 12.17 daily trips to the project's daily, AM, school PM, and PM peak hours as shown in Table 6 in Chapter 3. Based on these more conservative rates, the project would generate 949 daily trips, including 109 AM peak hour trips, 98 school PM peak hour trips, and 80 PM peak hour trips.

Level of Service Impacts – Signalized Intersections

Traffic conditions were evaluated for the six signalized study intersections under three scenarios: "Existing Conditions", "Existing Plus Project Conditions", and "Cumulative Conditions". Tables ES-1 and ES-2 summarize the results of the intersection level of service analysis under these project scenarios. In addition, Tables ES-3 thru ES-5 summarize the thresholds of significance criteria used to determine significant impacts at the study intersections.

All of the study intersections are located in the Town of Danville and Contra Costa County and are subject to the respective Level of Service standards. The Danville General Plan establishes a Level of Service (LOS) standard of mid-range "D" for signalized intersection on Basic Routes. The LOS standard for signalized intersection on Routes of Regional Significance is LOS "E," with a corresponding v/c ratio that is defined by the Tri-Valley Transportation Plan/Action Plan for Routes of Regional Significance. Mitigation is required for any intersection or roadway segment where project traffic causes the intersection to deteriorate from satisfactory or unsatisfactory operation.

While the Danville General Plan does not establish a level of service standard for unsignalized intersections, it is the Town's practice to include these intersections as a part of the operational analysis in an effort to fully understand the potential traffic impacts that may result from the proposed project.

If an intersection or roadway segment is already operating at an unsatisfactory level of service, an increase of 5 percent (addition of 0.05) to the v/c ratio would constitute a significant project impact. Based on input from the Town's traffic consultants, the Town's traffic engineering staff, and historic variations in daily traffic volume, it is determined that an increase of 0.05 in the v/c ratio (or a 5-percent threshold increase) is a conservative but appropriate measurement of an adverse change to an intersection.[1] This threshold applies to existing or projected conditions that are already unacceptable or are projected to be unacceptable under cumulative conditions even without the project. In order to provide a consistent methodology, this significance criteria is applied to both signalized and unsignalized intersections.

For purposes of the Magee Ranch residential development EIR, in accordance with the California Environmental Quality Act (CEQA) and the Town's significance criteria, the project would result in a significant adverse impact on the environment if it would:

[1] Due to normal fluctuation in daily traffic and motorist's perception of traffic conditions, a change in v/c of less that 0.05 is considered imperceptible.

1. Cause a signalized intersection on a Basic Route to fall from LOS D (or better) to LOS E (or worse); or

2. Cause a signalized intersection along a Route of Regional Significance to exceed the Multi-modal Transportation Service Objectives (MTSOs) established by the Tri-Valley Transportation Plan/Action Plan for Routes of Regional Significance; or

3. Cause an increase in the volume-to-capacity ratio (v/c) of 0.05 or more at a signalized or unsignalized intersection which is already, and projected to continue to, operate at LOS E (or worse); or

4. Cause unsafe conditions for pedestrians or bicyclists; or

5. Cause a substantial increase in hazards due to a design feature(s) (e.g., sharp curves, dangerous intersections, etc.) or incompatible use; or

6. Cause conflict with adopted policies, plans, or programs.

A significant impact at a signalized or unsignalized intersection is said to be satisfactorily mitigated when measures are implemented that would restore intersection levels of service to an acceptable LOS or restore the intersection to operating levels that are better than no project conditions.

Existing Conditions

Existing conditions are represented by existing peak hour traffic volumes, obtained from traffic counts, on the existing roadway network. The results show that the intersection of Green Valley Road and Blemer Road/Cameo Drive currently operates at an unacceptable LOS E during the AM Peak hour. All other study intersections operate at acceptable levels of service.

Existing Plus Project Conditions

Existing plus project conditions are derived by adding future traffic volumes generated by the project to the existing traffic volumes currently on the roadway network. As a conservative assumption, the traffic analysis assumed a trip generation rate that included the "Danville Rates (with Second DU)." The transportation network under existing plus project conditions was assumed to be the same as the existing transportation network, and does not assume the construction of the Weber project or the new Weber Lane connection.

The results show that the intersection of Green Valley Road and Blemer Road/Cameo Drive would continue to operate at an unacceptable LOS E. However, the project would add only 29 trips to the intersection during the AM peak hour and the addition of project traffic would not increase the V/C by 0.05 or more. Therefore, the project trips added would not constitute a significant impact.

All other study intersections would operate at an acceptable LOS D or better under existing plus project conditions during the AM, school PM, and PM peak hours.

Cumulative Conditions

Cumulative conditions represent forecasted long-term future (year 2030) traffic conditions, resulting primarily from background growth of the surrounding communities in the region. This scenario includes an evaluation of traffic conditions with and without the proposed project.

Cumulative No Project: This scenario did not assume the construction of the Weber project nor the new Weber Lane connection. Cumulative no project traffic volumes were estimated based on an annual growth factor of two percent per year, produced by CCTA's TransCAD travel forecasting model. The results show that two signalized study intersections would operate at an unacceptable LOS E or worse under cumulative no project conditions as indicated below:

Green Valley Rd and Diablo Rd (AM and school PM peak hours – LOS F, PM peak hour – LOS E)

Green Valley Rd and Blemer Rd/Cameo Dr (AM and PM peak hours – LOS F, school PM peak hour – LOS E)

All other study intersections would operate at an acceptable LOS D or better under cumulative no project conditions during the AM, school PM, and PM peak hours.

Cumulative With Project: Cumulative traffic volumes *with* the proposed project were estimated by adding the traffic generated by the proposed project to the 2030 cumulative no project traffic volumes. This scenario did not assume the construction of the Weber project nor the new Weber Lane connection. The results show that, measured against the level of service standards, two signalized study intersections would continue to operate at an unacceptable LOS E or worse with the addition of project traffic. They are:

Green Valley Rd and Diablo Rd (AM and school PM peak hours – LOS F, PM peak hour – LOS E)

Green Valley Rd and Blemer Rd/Cameo Dr (AM and PM peak hours – LOS F, school PM peak hour – LOS E)

At the intersection of Green Valley Road and Diablo Road, the project would add 91 trips during the AM peak hour, 83 trips during the school PM peak hour, and 59 trips during the PM peak hour. At the intersection of Green Valley Road and Blemer Road/Cameo Drive, the project would add 29 trips during the AM peak hour, 28 trips during the school PM peak hour, and 2 trips during the PM peak hour. However, the project trips added would not increase the V/C by 0.05 or more at the intersections. The V/C increase would be between 0.009 and 0.029 at both intersections. Therefore, the project trips added to the intersections would not constitute a significant impact.

Although the project would not create a significant impact at the Green Valley Road/Diablo Road intersection, the Town requested an analysis of the extension of the westbound right-turn and through lanes, to evaluate the effect of queue mitigation. With these improvements, the intersection of Green Valley and Diablo Road would still operate at LOS E but with less delay: 91 seconds of average delay during the AM peak hour (compared to 121.8 seconds), 89 seconds of average delay during the school PM peak hour (compared to 121.8 seconds), and 56 seconds of average delay during the PM peak hour (compared to 75.8 seconds).

All other study intersections would operate at an acceptable LOS D or better under cumulative with project conditions during the AM, school PM, and PM peak hours.

Traffic Operations Analysis

The traffic operations analysis is based on vehicle queuing for high-demand movements at the intersection of Diablo Road and Green Valley Road/McCauley Road. The analysis indicated that the estimated maximum vehicle queues for the northbound left turn lane at Diablo Road and Green Valley Road/McCauley Road would exceed the existing vehicle storage capacity under cumulative with project conditions during the AM peak hour. The identified deficient movement also would be deficient under cumulative no project conditions. The estimated maximum vehicle queues for the southbound shared through/left turn and westbound right turn lane at Diablo Road and Green Valley Road/McCauley Road would exceed the existing vehicle storage capacity under existing plus project and cumulative with project conditions during AM, school PM, and PM peak hours. The identified deficient movements also would be deficient under existing and cumulative no project conditions.

Diablo Road and Green Valley Road/McCauley Road – Northbound Left turn

While the northbound left turn pocket at the intersection of Green Valley Road/McCauley Road would not accommodate the 95th-percentile queue under cumulative conditions, the project would not increase the 95th percentile queue length. By definition, the 95th percentile queue at this intersection only occurs one out of every 20 traffic signal cycles, and the 95th percentile queue only occurs for a very brief period at the end of the signal cycle.

Diablo Road and Green Valley Road/McCauley Road – Southbound Shared Through/Left turn

While the southbound shared through/left turn movement at the intersection of Diablo Road would not accommodate the 95th-percentile queue under existing plus project or cumulative conditions, the project contribution to the 95th percentile queue would be only one vehicle or less. By definition, the 95th percentile

queue at this intersection only occurs one out of every 20 traffic signal cycles, and the 95th percentile queue only occurs for a very brief period at the end of the signal cycle.

Diablo Road and Green Valley Road/McCauley Road – Westbound Right turn

While the westbound right turn movement at the intersection of Green Valley Road/McCauley Road would not accommodate the 95th -percentile queue under existing plus project or cumulative project conditions, the project contribution to the 95th percentile queue would be only one vehicle or less. By definition, the 95th percentile queue at this intersection only occurs one out of every 20 traffic signal cycles, and the 95th percentile queue only occurs for a very brief period at the end of the signal cycle.

Unsignalized Intersection Analysis

Based on the Town's level of service criteria, the proposed project would not result in a significant impact at the following unsignalized intersections:

- *Green Valley Road/Stone Valley Road:* Although this intersection would operate at a poor LOS under existing and cumulative conditions, the project trips added would not increase the V/C by 0.05 or more and thus, the project's contribution would not be cumulatively considerable. Therefore, the project would not create a signficant impact at this location.
- *Blackhawk Road/Blackhawk Drive*: Although this intersection would operate at a poor LOS under cumulative conditions, the project trips added would not increase the V/C by 0.05 or more and thus, project's contribution would not be cumulatively considerable. Therefore, the project would not create a significant impact at this location.
- *Project Main Entrance/Blackhawk Road.* This intersection would operate at LOS A under existing plus project and cumulative plus project conditions. The intersection would not meet the peak hour signal warrant, the average overall delays at all intersection movements would be acceptable, and very few vehicles would experience long delays. Thus, the project would not cause a significant impact at this location.

Based on the Town's level of service criteria, the proposed project would result in a significant impact at the following unsignalized intersections:

Significant Impact 1: At the *Hidden Oaks Drive/Magee Ranch Road and Blackhawk Road* intersection, the project trips added during the cumulative plus project AM peak hour would increase the V/C by 0.13. Accordingly, the project's contribution would be cumulatively considerable and would constitute a significant impact.

> **Mitigation:** Consistent with the Town's existing plans, the intersection of Hidden Oaks Drive/Magee Ranch Road and Blackhawk Road should be signalized. Because the impact occurs under cumulative conditions and not under existing plus project conditions, the project is not the sole cause of the impact. For this reason, the mitigation for this impact would be for the project applicant to make a fair share contribution toward signalization at this intersection. Signalization of this intersection is identified as a project within the Town's Capital Improvement Program with funds collected for its installation as a part of the North East Roadway Improvement Assessment District (NERIAD). With signalization, the intersection would operate at LOS B or better under all scenarios. The project would add 18 AM peak hour trips, 14 school PM peak hour trips, and 21 PM peak hour trips to the intersection.

Significant Impact 2: At the *Mt. Diablo Scenic Boulevard/Diablo Road* intersection, the project trips added during the cumulative plus project AM peak hour and the cumulative plus project school PM peak hour would increase the V/C by 0.05 or more. Accordingly, the project's contribution would be cumulatively considerable and would constitute a significant impact. While the overall average delay is LOS C under existing conditions, the intersection intermittently experiences long eastbound and westbound vehicle queues of 300 feet and ½ mile, respectively. The long vehicle queues on Diablo Road/Blackhawk Road are due to the all-way stop. If the all-way stop were to be removed and only the minor street was stop controlled, the overall average delay would be

improved. However, if the removal of the all-way stop is not permitted by the County, then signalization of the intersection should be considered.

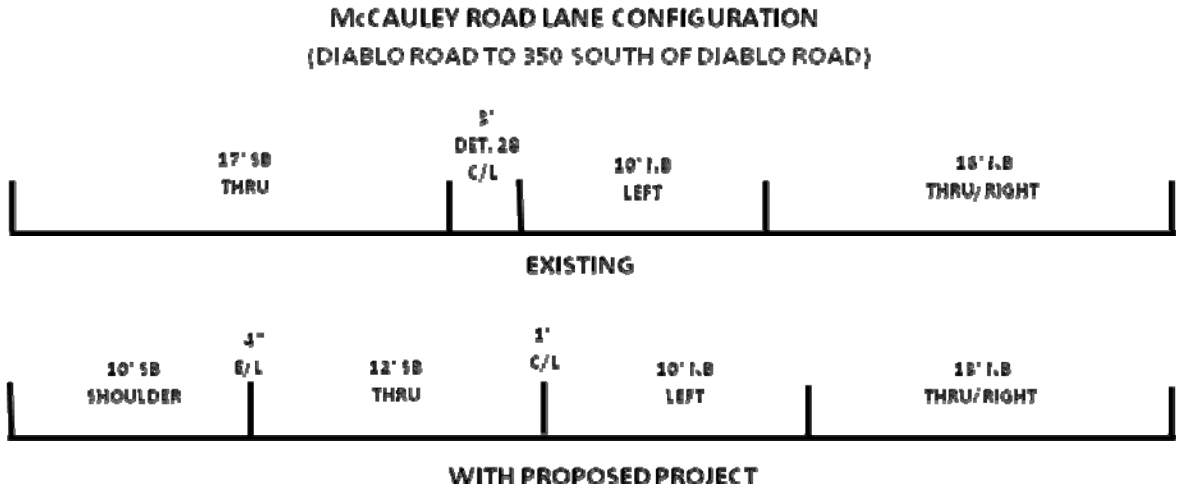
> **Mitigation:** Per the Town of Danville, the intersection of Mt. Diablo Scenic Boulevard/Diablo Road should be converted to stop control on the minor street only or be considered for signalization. Because of the existing poor operation at this intersection, the project is not the sole cause of the impact. For this reason, the mitigation for this impact would be for the project applicant to make a fair share contribution towards (1) the conversion to stop control on the minor street approach as part of a corridor wide mobility improvement project, or (2) the installation of a traffic signal. With the removal of stop control along Diablo Road/Blackhawk Road, the overall average delay would be LOS D or better under all scenarios. With signalization, the intersection would operate at LOS C or better under all scenarios. The project would add 78 AM peak hour trips, 70 school PM peak hour trips, and 54 PM peak hour trips to the intersection.

Site Access and On-site Circulation

Access to the Magee East portion of the project site would be provided by the Project Main Driveway (Driveway A). One emergency vehicle access (EVA) is located on Diablo Road/Blackhawk Road at the Magee East portion of the site. Access to the Magee West portion of the site would be provided by Driveways B, C and D. In general, the proposed plan would provide adequate site access and circulation through the project site, with the following exceptions:

Driveway D (Court I), located on McCauley Road, is approximately 300 feet south of the Green Valley Road/Diablo Road intersection and approximately 130 feet north of the inbound driveway to the Green Valley School rear parking lot. Queuing occurs from the northbound vehicles at the Green Valley Road/Diablo Road intersection. Vehicles making left turns into the project driveway would have to turn across two lanes of oncoming traffic (one through lane and one left turn lane). If northbound queuing spills beyond Driveway D, as estimated under cumulative conditions, this may prevent left turn access and lead to southbound vehicle queues spilling back to the Green Valley Road and Diablo Road intersection to the north.

> **Recommendation:** Modify the roadway striping along McCauley Road, between the intersection and approximately 350 feet south of the Diablo/Green Valley Road. The modified roadway striping would substantially comply with the following: (a) reconfigure the existing 17-foot southbound through lane to a 10-foot shoulder and a 12-foot through lane; (b) replace the existing 3-foot double-double yellow centerlines with a single double yellow center-line; (c) maintain the existing 10-foot northbound left turn lane while shifting it two feet toward the easterly curb line; (d) reduce the existing 16-foot northbound through/right turn lane to 13 feet; and (e) transition existing downstream (to the south) centerline/left turn lane on McCauley Road accordingly to accommodate the new configuration, as illustrated below.



Landscaping is not shown on the current site plan. The project access points should be free and clear of any obstructions to optimize sight distance, thereby ensuring that exiting vehicles can see pedestrians, bicyclists, and other vehicles traveling on Diablo Road/Blackhawk Road and McCauley Road. Prior to final design, adequate corner sight distance (sight distance triangles) should be provided at all site access points in accordance with Caltrans standards and reviewed by the Town.

On-site circulation for the remaining custom residential sites, accessible by Driveways B through D, was not analyzed given that details for each of these custom home lots would be provided as a part of each site's individual development.

> **Recommendation:** Prior to final design, all roadway designs should be reviewed by the Town to insure adequate design standards are met.

Other Transportation Modes

According to the U.S. Census, pedestrian trips comprise less than 1% of the total commute mode share in the Town of Danville. For the proposed project, this would equate to approximately one new pedestrian commute trip during the AM, school PM, and PM peak hours. In addition, the project would generate some pedestrian trips for recreational purposes. Overall, the volume of pedestrian trips generated by the project would not exceed the carrying capacity of the existing sidewalks and crosswalks on streets surrounding the site. Within the project vicinity, there are sidewalks along the north side of Blackhawk Road from Mt. Diablo Scenic Boulevard to the east, along the north side of Diablo Road from Calle Arroyo to the west, and along the west side McCauley Road. The only gaps in the sidewalk network on the streets surrounding the project site are (1) along Diablo Road from Calle Arroyo to Mt. Diablo Scenic and (2) along the east side of McCauley Road. The project site plan shows a pedestrian pathway along Streets A and B within the main project site. Crosswalks are present at all signalized intersections in the study area. However, there is no crosswalk shown at the main project entrance at Blackhawk Road. Since the closest sidewalk to the main project entrance is located along the north side of Blackhawk Road, the project applicant should work with the Town of Danville to provide a safe pedestrian crossing at this location.

> **Recommendation:** Per the Town of Danville, a new pedestrian crossing, with in-pavement lighting or another equivalent pedestrian safety improvement, is recommended at the project main entrance. The crossing should physically connect to the existing paved pathway located along the north side of Blackhawk Road.

According to the U.S. Census, bicycle trips comprise less than 1% percent of the total commute mode share in the Town of Danville. For the proposed project, this would equate to approximately one new bike trip during the AM, school PM, and PM peak hours. There are no bike lanes or bike paths in the immediate vicinity of the main project site. The western portion of the project is located near existing class II bicycle lanes on Diablo Road and Green Valley Road. Bike access to the main project site would occur primarily along Diablo Road and Blackhawk Road. These roadways have narrow shoulders and higher vehicle speeds. For this reason, they should be used only by advanced cyclists.

The *Danville 2010 General Plan* and the *Danville 2006 Parks, Recreation and Arts Strategic Plan* calls for calls for public access easements to be provided where appropriate. The project plans include a trail that connects to the existing trail on the north side of Blackhawk Road at the project entrance, travels through the Magee East portion of the site and along Green Valley Creek and terminates at the proposed EVA at Diablo Road.

> **Recommendation:** Per the Town of Danville, the project would be required to provide a public access easement that would extend from the proposed EVA at Diablo Road westward along the south side of Diablo Road and terminating near the box culvert creek crossing under Diablo Road near Alameda Diablo.

Currently there is no public transit in the project vicinity. While the project may create some additional demand for transit service, the proximity and density of the project may preclude efficient transit operations. It is recommended that the project applicant and representatives from the Town of Danville work with the regional transit provider to determine whether future bus service could be provided into the project area.

Emergency Service Vehicles

Maintaining emergency service response times is a concern for existing residents in the surrounding neighborhoods and for the new residents of the project. This project does not propose any physical changes to the roadway system that would affect response times, but it would add traffic to intersections already operating at a poor LOS. All of the signals within the Town of Danville are equipped with preemption devices which allow emergency vehicles to avoid long delays through intersections. Emergency vehicles are somewhat affected by traffic congestion, but typically use lights and sirens to clear a path. Nearly all the streets in the vicinity are sufficiently wide to accommodate traffic and emergency vehicles assuming that drivers stop and pull over for sirens, as they are required to do.

Traffic Sensitivity Analysis

Per the Town of Danville, additional cumulative with project scenarios were analyzed for informational purposes only. With the exception of cumulative scenario 1, which is presented for comparison purposes, four additional scenarios were analyzed to test the sensitivity of changes to the background setting.

> ***Cumulative Scenario 1***: The proposed project's cumulative with project scenario selected for the environmental impact analysis (Existing + Project + Cumulative Growth without the Weber Project).
>
> ***Cumulative Scenario 2***: Existing + Project + Cumulative Growth (with the Weber Project).
>
> ***Cumulative Scenario 3***: Existing + Project + Cumulative Growth (with the Weber Project) and the addition of a new TRAFFIX bus (in addition to existing service).
>
> ***Cumulative Scenario 4***: Existing + Project + Cumulative Growth (with the Weber Project) and the addition of a new TRAFFIX bus (in addition to existing service) + Roadway Improvements.
>
> ***Cumulative Scenario 5****:* Existing + Project + Cumulative Growth (with the Weber Project) + Roadway Improvements.

The results are described in detail in Chapter 6.

Table ES- 1
Signalized Intersection Level of Service Summary – HCM Methodology

										Existing Plus			2030 Cumulative						Traffic Sensitivity											
					2006[2]			Existing			Project			No Project			With Project[1]			Scenario 2[3]			Scenario 3[4]			Scenario 4[5]			Scenario 5[6]		
Intersection	Traffic Control	Peak Hour	Count Date	Avg. Delay	LOS	Crit. V/C	Avg. Delay	LOS	Crit. V/C	Avg. Delay	LOS	Crit. V/C	Avg. Delay	LOS	Crit. V/C	Avg. Delay	LOS	Crit. V/C	Avg. Delay	LOS	Crit. V/C	Avg. Delay	LOS	Crit. V/C	Avg. Delay	LOS	Crit. V/C	Avg. Delay	LOS	Crit. V/C
Signalized Intersections																														
Diablo Rd and El Cerro Blvd	Signalized	AM	10/7/2010	N/A	N/A	N/A	31.0	C	0.492	31.0	C	0.504	36.3	D	0.730	36.6	D	0.742	36.7	D	0.748	36.7	D	0.748	36.7	D	0.748	36.7	D	0.748
		Midday	10/7/2010	N/A	N/A	N/A	32.8	C	0.485	32.8	C	0.492	37.7	D	0.720	37.9	D	0.727	37.9	D	0.730	37.9	D	0.730	37.9	D	0.730	37.9	D	0.730
		PM	10/7/2010	N/A	N/A	N/A	33.4	C	0.501	33.6	C	0.516	38.7	D	0.745	39.2	D	0.760	39.3	D	0.764	39.3	D	0.764	39.3	D	0.764	39.3	D	0.764
Matadera Wy and Diablo Rd	Signalized	AM	10/7/2010	N/A	N/A	N/A	4.0	A	0.312	4.2	A	0.320	4.1	A	0.464	4.3	A	0.471	18.7	B	0.615	18.6	B	0.615	18.6	B	0.615	18.7	B	0.615
		Midday	10/7/2010	N/A	N/A	N/A	4.3	A	0.318	4.5	A	0.328	4.4	A	0.473	4.6	A	0.483	15.5	B	0.550	15.4	B	0.550	15.4	B	0.550	15.5	B	0.550
		PM	10/7/2010	N/A	N/A	N/A	4.2	A	0.295	4.4	A	0.310	4.2	A	0.438	4.4	A	0.453	9.0	A	0.477	9.0	A	0.477	9.0	A	0.477	9.0	A	0.477
Green Valley Rd and Diablo Rd	Signalized	AM	10/7/2010	**61.0**	**E**	N/A	51.8	D	0.832	54.2	D	0.862	**114.5**	**F**	1.237	**121.8**	**F**	1.266	**103.2**	**F**	1.168	**100.9**	**F**	1.161	**79.0**	**E**	0.996	**80.0**	**F**	1.015
		Midday	10/7/2010	52.8	D	N/A	50.2	D	0.826	52.1	D	0.853	**115.4**	**F**	1.227	**121.8**	**F**	1.254	**106.4**	**F**	1.176	**103.6**	**F**	1.165	**78.2**	**E**	0.996	**81.0**	**F**	1.006
		PM	10/7/2010	N/A	N/A	N/A	36.3	D	0.734	36.8	D	0.749	**73.1**	**E**	1.091	**75.8**	**E**	1.106	**72.1**	**E**	1.081	**72.1**	**E**	1.081	**53.5**	**D**	0.955	**53.5**	**D**	0.955
Green Valley Rd and Blemer Rd/Cameo Dr	Signalized	AM	10/21/2010	**70.3**	**E**	N/A	**59.9**	**E**	0.712	**61.5**	**E**	0.722	**171.1**	**F**	1.059	**174.2**	**F**	1.068	**174.8**	**F**	0.976	**174.9**	**F**	0.970	**174.9**	**F**	0.970	**174.8**	**F**	0.976
		Midday	10/21/2010	**55.7**	**E**	N/A	30.6	C	0.454	31.0	C	0.463	**67.9**	**E**	0.675	**69.6**	**E**	0.684	**70.7**	**E**	0.663	**70.7**	**E**	0.663	**70.7**	**E**	0.663	**70.7**	**E**	0.663
		PM	10/21/2010	N/A	N/A	N/A	30.2	C	0.498	30.3	C	0.499	**95.1**	**F**	0.732	**95.4**	**F**	0.732	**97.1**	**F**	0.732	**97.1**	**F**	0.732	**97.1**	**F**	0.732	**97.1**	**F**	0.732
Monte Vista H.S. and Stone Valley Rd	Signalized	AM	10/21/2010	N/A	N/A	N/A	22.4	C	0.514	22.5	C	0.519	34.1	C	0.763	34.6	C	0.767	34.6	C	0.767	34.6	C	0.767	34.6	C	0.767	34.6	C	0.767
		Midday	10/21/2010	N/A	N/A	N/A	22.4	C	0.5	22.4	C	0.501	28.2	C	0.744	28.3	C	0.744	28.3	C	0.744	28.3	C	0.744	28.3	C	0.744	28.3	C	0.744
		PM	10/21/2010	N/A	N/A	N/A	21.6	C	0.404	21.5	C	0.405	25.1	C	0.600	25.1	C	0.601	25.1	C	0.601	25.1	C	0.601	25.1	C	0.601	25.1	C	0.601
Blackhawk Rd/Crow Canyon Rd and Camino Tassajara	Signalized	AM	10/28/2010	N/A	N/A	N/A	39.1	D	0.584	39.2	D	0.587	47.8	D	0.867	47.9	D	0.870	47.9	D	0.870	47.9	D	0.870	47.9	D	0.870	47.9	D	0.870
		Midday	10/28/2010	59.5	E	N/A	42.2	D	0.592	42.3	D	0.594	52.1	D	0.880	52.3	D	0.882	52.3	D	0.882	52.3	D	0.882	52.3	D	0.882	52.3	D	0.882
		PM	10/28/2010	59.5	E	N/A	41.3	D	0.595	41.3	D	0.598	51.6	D	0.884	51.8	D	0.887	51.8	D	0.887	51.8	D	0.887	51.8	D	0.887	51.8	D	0.887

Note 1: Box denotes poor intersection LOS.
[1] 2030 cumulative with project conditions does not include the Weber Development or Weber Lane.
[2] The existing 2006 LOS data was provided by the Town of Danville. Where "N/A" is shown 2006 data was not provided.
[3] Scenario 2 consists of: Existing + Project + Cumulative Growth + Weber Development.
[4] Scenario 3 consists of: Existing + Project + Cumulative Growth + Weber Development + New Traffix Bus Line (In addition to the existing Traffix Bus Program).
[5] Scenario 4 consists of: Existing + Project + Cumulative Growth + Weber Development + New Traffix Bus Line (In addition to the existing Traffix Bus Program) + Roadway Improvements.
[6] Scenario 5 consists of: Existing + Project + Cumulative Growth + Weber Development + Roadway Improvements.

Table ES- 2
Unsignalized Intersection Level of Service Summary – HCM Methodology

										Existing Plus			2030 Cumulative						Traffic Sensitivity												
					2006[2]			Existing			Project			No Project			With Project[1]			Scenario 2[3]			Scenario 3[4]			Scenario 4[5]			Scenario 5[6]		
Intersection	Traffic Control	Peak Hour	Count Date	Avg. Delay	LOS	Crit. V/C	Avg. Delay	LOS	Crit. V/C	Avg. Delay	LOS	Crit. V/C	Avg. Delay	LOS	Crit. V/C	Avg. Delay	LOS	Crit. V/C	Avg. Delay	LOS	Crit. V/C	Avg. Delay	LOS	Crit. V/C	Avg. Delay	LOS	Crit. V/C	Avg. Delay	LOS	Crit. V/C
Unsignalized Intersections																															
Green Valley Rd and Stone Valley Rd	All-Way Stop	AM	10/21/2010	N/A	N/A	N/A	**254.2**	**F**	2.214	**260.4**	**F**	2.234	**625.5**	**F**	3.752	**633.4**	**F**	3.775	**633.4**	**F**	3.775	**633.4**	**F**	3.775	**633.4**	**F**	3.775	**633.4**	**F**	3.775
		Midday	10/21/2010	N/A	N/A	N/A	**41.4**	**E**	1.079	**44.7**	**E**	1.104	**180.9**	**F**	1.938	**187.1**	**F**	1.968	**187.1**	**F**	1.968	**187.1**	**F**	1.968	**187.1**	**F**	1.968	**187.1**	**F**	1.968
		PM	10/21/2010	N/A	N/A	N/A	16.3	C	0.72	16.4	C	0.722	**64.0**	**F**	1.249	**64.5**	**F**	1.252	**64.5**	**F**	1.252	**64.5**	**F**	1.252	**64.5**	**F**	1.252	**64.5**	**F**	1.252
Mt. Diablo Scenic Blvd and Diablo Rd	All-Way Stop	AM	10/28/2010	N/A	N/A	N/A	15.3	C	0.741	18.8	C	0.823	**61.9**	**F**	1.165	**81.4**	**F**	1.257	**81.4**	**F**	1.257	**72.7**	**F**	1.218	**72.7**	**F**	1.218	**81.4**	**F**	1.257
		Midday	10/28/2010	N/A	N/A	N/A	17.8	C	0.831	21.6	C	0.852	**81.1**	**F**	1.228	**100.0**	**F**	1.304	**100.0**	**F**	1.304	**90.9**	**F**	1.268	**90.9**	**F**	1.268	**100.0**	**F**	1.304
		PM	10/28/2010	N/A	N/A	N/A	12.5	B	0.58	13.6	B	0.622	27.6	D	0.888	33.9	D	0.945	33.9	D	0.945	33.9	D	0.945	33.9	D	0.945	33.9	D	0.945
Hidden Oaks Dr/Magee Ranch Rd and Blackhawk Rd	Two-Way Stop	AM	11/4/2010	N/A	N/A	N/A	7.6	A	0.623	8.0	A	0.648	**97.2**	**F**	2.820	**102.5**	**F**	2.950	**102.5**	**F**	2.950	**102.5**	**F**	2.950	**102.5**	**F**	2.950	**102.5**	**F**	2.950
		Midday	11/4/2010	N/A	N/A	N/A	3.2	A	0.229	3.3	A	0.235	11.2	B	0.860	11.6	B	0.884	11.6	B	0.884	11.6	B	0.884	11.6	B	0.884	11.6	B	0.884
		PM	11/4/2010	N/A	N/A	N/A	3.3	A	0.169	3.3	A	0.175	7.2	A	0.512	7.5	A	0.532	7.5	A	0.532	7.5	A	0.532	7.5	A	0.532	7.5	A	0.532
Blackhawk Rd and Blackhawk Dr	Two-Way Stop	AM	11/4/2010	N/A	N/A	N/A	16.3	C	0.757	16.4	C	0.759	**60.1**	**F**	1.226	**60.4**	**F**	1.228	**60.4**	**F**	1.228	**60.4**	**F**	1.228	**60.4**	**F**	1.228	**60.4**	**F**	1.228
		Midday	11/4/2010	N/A	N/A	N/A	14.0	B	0.615	14.2	B	0.631	**39.1**	**E**	1.034	**40.8**	**E**	1.052	**40.8**	**E**	1.052	**40.8**	**E**	1.052	**40.8**	**E**	1.052	**40.8**	**E**	1.052
		PM	11/4/2010	N/A	N/A	N/A	22.6	C	0.892	24.6	C	0.920	**109.0**	**F**	1.505	**115.3**	**F**	1.536	**115.3**	**F**	1.536	**115.3**	**F**	1.536	**115.3**	**F**	1.536	**115.3**	**F**	1.536
Project Main Entrance and Blackhawk Rd	One-Way Stop	AM		--	--	--	--	--	--	1.7	A	0.323	--	--	--	1.4	A	0.311	1.4	A	0.311	0.7	A	0.173	0.7	A	0.173	1.4	A	0.311
		Midday		--	--	--	--	--	--	0.7	A	0.117	--	--	--	0.7	A	0.179	0.7	A	0.179	0.4	A	0.098	0.4	A	0.098	0.7	A	0.179
		PM		--	--	--	--	--	--	0.5	A	0.066	--	--	--	0.5	A	0.194	0.5	A	0.194	0.5	A	0.091	0.5	A	0.091	0.5	A	0.194

Note 1: Box denotes poor intersection LOS.
Note 2: For the above stop controlled intersections, the reported LOS represents the average delay of all intersection movements.
[1] 2030 cumulative with project conditions does not include the Weber Development or Weber Lane.
[2] The existing 2006 LOS data was provided by the Town of Danville. Where "N/A" is shown 2006 data was not provided.
[3] Scenario 2 consists of: Existing + Project + Cumulative Growth + Weber Development.
[4] Scenario 3 consists of: Existing + Project + Cumulative Growth + Weber Development + New Traffix Bus Line (In addition to the existing Traffix Bus Program).
[5] Scenario 4 consists of: Existing + Project + Cumulative Growth + Weber Development + New Traffix Bus Line (In addition to the existing Traffix Bus Program) + Roadway Improvements.
[6] Scenario 5 consists of: Existing + Project + Cumulative Growth + Weber Development + Roadway Improvements.

Table ES- 3
AM Summary of Analysis and Thresholds of Significance

The proposed project would have a significant environmental impact related to traffic and circulation if it would cause any of the following conditions:

- **Condition #1**: Cause a signalized intersection along a Basic Route to ***fall*** from **LOS D (or better) to LOS E (or worse)**[1, 2] ; or
- **Condition #2**: Cause a signalized intersection along a Route of Regional Significance to exceed the Multi-modal Transportation Service Objectives (MTSOs) established by the Tri-Valley Transportation Plan/Action Plan for Routes of Regional Significance; or
- **Condition #3**: Cause an increase in the volume-to-capacity ratio (v/c) of 0.05 or more at a signalized or unsignalized intersection which is ***already, and projected to continue to,*** operate at **LOS E (or worse)**,[1, 2] ; or
- **Condition #4**: Cause unsafe conditions for pedestrians or bicyclists; or
- **Condition #5**: Cause a substantial increase in hazards due to a design feature(s) (e.g., sharp curves, dangerous intersections, etc.) or incompatible use; or
- **Condition #6**: Cause conflict with adopted policies, plans, or programs

Note 1: Based on HCM planning methodology
Note 2: LOS D/E threshold is defined as an average control delay of more than 55 seconds

		CEQA SCENARIOS – EXISTING CONDITIONS (w/o Weber)									CEQA SCENARIOS – CUMULATIVE CONDITIONS (w/o Weber)										
		AM Peak Comparison		Increase in V/C	Thresholds of Significance (Any of Conditions Triggered?)						AM Peak Comparison		Increase in V/C	Thresholds of Significance (Any of Conditions Triggered?)						Significant Impact? (Which Scenario is Triggered?)	Mitigation
	Jurisdiction	Existing	Existing + Project		1	2	3	4	5	6	Cumulative	Cumulative + Project		1	2	3	4	5	6		
Signalized Intersections																					
1. Diablo/El Cerro	Danville	LOS C/31.0 V/C=0.492	LOS C/31.0 V/C=0.504	0.012	N	N	N	N	N	N	LOS D/36.3 V/C=0.730	LOS D/36.6 V/C=0.742	0.012	N	N	N	N	N	N	No	-
2. Matadera/Diablo	Danville	LOS A/4.0 V/C=0.312	LOS A/4.2 V/C=0.320	0.008	N	N	N	N	N	N	LOS A/4.1 V/C=0.464	LOS A/4.3 V/C=0.471	0.007	N	N	N	N	N	N	No	-
3. Green Valley/Diablo	Danville	LOS D/51.8 V/C=0.832	LOS D/54.2 V/C=0.862	0.030	N	N	N	N	N	N	LOS F/114.5 V/C=1.237	LOS F/121.8 V/C=1.266	0.029	N	N	N	N	N	N	No	-
4. Green Vly/Blemer/Cameo	Danville	LOS E/59.9 V/C=0.712	LOS E/61.5 V/C=0.722	0.010	N	N	N	N	N	N	LOS F/171.1 V/C=1.059	LOS F/174.2 V/C=1.068	0.009	N	N	N	N	N	N	No	-
5. Monte Vista HS/Stone Vly	Danville/CCC	LOS C/22.4 V/C=0.514	LOS C/22.5 V/C=0.519	0.005	N	N	N	N	N	N	LOS C/34.1 V/C=0.763	LOS C/34.6 V/C=0.767	0.004	N	N	N	N	N	N	No	-
6. Blackhawk/CC/CamTass	Danville/CCC	LOS D/39.1 V/C=0.584	LOS D/39.2 V/C=0.587	0.003	N	N	N	N	N	N	LOS D/47.8 V/C=0.867	LOS D/47.9 V/C=0.870	0.003	N	N	N	N	N	N	No	-
Unsignalized Intersections																					
7. Green Valley/Stone Valley	Danville/CCC	LOS F/254.2 V/C=2.214	LOS F/260.4 V/C=2.234	0.020	N	N	N	N	N	N	LOS F/625.5 V/C=3.752	LOS F/633.4 V/C=3.775	0.023	N	N	N	N	N	N	No	-
8. Mt. Diablo Scenic/Diablo	CCC	LOS C/15.3 **V/C=0.741**	LOS C/18.8 **V/C=0.823**	**0.082**	N	N	**Y**	N	N	N	LOS F/61.9 **V/C=1.165**	LOS F/81.4 **V/C=1.257**	**0.092**	N	N	**Y**	N	N	N	**YES** (Exist & Cum)	Signal or 1-Way STOP
9. Hidden Oaks/Magee	Danville/CCC	LOS A/7.6 V/C=0.623	LOS A/8.0 V/C=0.648	0.025	N	N	N	N	N	N	LOS F/97.2 **V/C=2.820**	LOS F/102.5 **V/C=2.950**	**0.130**	N	N	**Y**	N	N	N	**YES** (Cumulative)	Signalization
10. Blackhawk Rd/Blackhawk	CCC	LOS C/16.3 V/C=0.757	LOS C/16.4 V/C=0.759	0.002	N	N	N	N	N	N	LOS F/60.1 V/C=1.226	LOS F/60.4 V/C=1.228	0.002	N	N	N	N	N	N	No	-
11. Project Main/Blackhawk	CCC	-	LOS A/1.7 V/C=0.323	N/A	N	N	N	N	N	N	-	LOS A/1.4 V/C=0.311	N/A	N	N	N	N	N	N	No	-

Table ES- 4
School PM Summary of Analysis and Thresholds of Significance

The proposed project would have a significant environmental impact related to traffic and circulation if it would cause any of the following conditions:

- **Condition #1**: Cause a signalized intersection along a Basic Route to ***fall*** from **LOS D (or better) to LOS E (or worse)**[1, 2] ; or
- **Condition #2**: Cause a signalized intersection along a Route of Regional Significance to exceed the Multi-modal Transportation Service Objectives (MTSOs) established by the Tri-Valley Transportation Plan/Action Plan for Routes of Regional Significance; or
- **Condition #3**: Cause an increase in the volume-to-capacity ratio (v/c) of 0.05 or more at a signalized or unsignalized intersection which is ***already, and projected to continue to,*** operate at **LOS E (or worse)**,[1, 2] ; or
- **Condition #4**: Cause unsafe conditions for pedestrians or bicyclists; or
- **Condition #5**: Cause a substantial increase in hazards due to a design feature(s) (e.g., sharp curves, dangerous intersections, etc.) or incompatible use; or
- **Condition #6**: Cause conflict with adopted policies, plans, or programs

Note 1: Based on HCM planning methodology
Note 2: LOS D/E threshold is defined as an average control delay of more than 55 seconds

		CEQA SCENARIOS – EXISTING CONDITIONS (w/o Weber)									**CEQA SCENARIOS – CUMULATIVE CONDITIONS (w/o Weber)**										
		School PM Peak Comparison		**Increase in V/C**	**Thresholds of Significance** (Any of Conditions Triggered?)						**School PM Peak Comparison**		**Increase in V/C**	**Thresholds of Significance** (Any of Conditions Triggered?)						**Significant Impact?** (Which Scenario is Triggered?)	**Mitigation**
	Jurisdiction	**Existing**	**Existing + Project**		**1**	**2**	**3**	**4**	**5**	**6**	**Cumulative**	**Cumulative + Project**		**1**	**2**	**3**	**4**	**5**	**6**		
Signalized Intersections																					
1. Diablo/El Cerro	Danville	LOS C/32.8 V/C=0.485	LOS C/32.8 V/C=0.492	0.007	N	N	N	N	N	N	LOS D/37.7 V/C=0.720	LOS D/37.9 V/C=0.727	0.007	N	N	N	N	N	N	No	-
2. Matadera/Diablo	Danville	LOS A/4.3 V/C=0.318	LOS A/4.5 V/C=0.328	0.010	N	N	N	N	N	N	LOS A/4.4 V/C=0.473	LOS A/4.6 V/C=0.483	0.010	N	N	N	N	N	N	No	-
3. Green Valley/Diablo	Danville	LOS D/50.2 V/C=0.826	LOS D/52.1 V/C=0.853	0.027	N	N	N	N	N	N	LOS F/115.4 V/C=1.227	LOS F/121.8 V/C=1.254	0.027	N	N	N	N	N	N	No	-
4. Green Vly/Blemer/Cameo	Danville	LOS C/30.6 V/C=0.454	LOS C/31.0 V/C=0.463	0.009	N	N	N	N	N	N	LOS E/67.9 V/C=0.675	LOS E/69.6 V/C=0.684	0.009	N	N	N	N	N	N	No	-
5. Monte Vista HS/Stone Vly	Danville/CCC	LOS C/22.4 V/C=0.500	LOS C/22.4 V/C=0.501	0.001	N	N	N	N	N	N	LOS C/28.2 V/C=0.744	LOS C/28.3 V/C=0.744	0.000	N	N	N	N	N	N	No	-
6. Blackhawk/CC/CamTass	Danville/CCC	LOS D/42.2 V/C=0.592	LOS D/42.3 V/C=0.594	0.002	N	N	N	N	N	N	LOS D/52.1 V/C=0.880	LOS D/52.3 V/C=0.882	0.002	N	N	N	N	N	N	No	-
Unsignalized Intersections																					
7. Green Valley/Stone Valley	Danville/CCC	LOS E/41.4 V/C=1.079	LOS E/44.7 V/C=1.104	0.025	N	N	N	N	N	N	LOS F/180.9 V/C=1.938	LOS F/187.1 V/C=1.968	0.030	N	N	N	N	N	N	No	-
8. Mt. Diablo Scenic/Diablo	CCC	LOS C/17.8 V/C=0.831	LOS C/21.6 V/C=0.852	0.021	N	N	N	N	N	N	LOS F/81.1 **V/C=1.228**	LOS F/100.0 **V/C=1.304**	**0.076**	N	N	**Y**	N	N	N	**YES** (Cumulative)	Signal or 1-Way STOP
9. Hidden Oaks/Magee	Danville/CCC	LOS A/3.2 V/C=0.229	LOS A/3.3 V/C=0.235	0.006	N	N	N	N	N	N	LOS B/11.2 V/C=0.860	LOS B/11.6 V/C=0.884	0.024	N	N	N	N	N	N	No	-
10. Blackhawk Rd/Blackhawk	CCC	LOS B/14.0 V/C=0.615	LOS B/14.2 V/C=0.631	0.016	N	N	N	N	N	N	LOS E/39.1 V/C=1.034	LOS E/40.8 V/C=1.052	0.018	N	N	N	N	N	N	No	-
11. Project Main/Blackhawk	CCC	-	LOS A/0.7 V/C=0.117	N/A	N	N	N	N	N	N	-	LOS A/0.7 V/C=0.179	N/A	N	N	N	N	N	N	No	-

Table ES- 5
PM Summary of Analysis and Thresholds of Significance

The proposed project would have a significant environmental impact related to traffic and circulation if it would cause any of the following conditions:

- **Condition #1**: Cause a signalized intersection along a Basic Route to ***fall*** from **LOS D (or better) to LOS E (or worse)**[1, 2] ; or
- **Condition #2**: Cause a signalized intersection along a Route of Regional Significance to exceed the Multi-modal Transportation Service Objectives (MTSOs) established by the Tri-Valley Transportation Plan/Action Plan for Routes of Regional Significance; or
- **Condition #3**: Cause an increase in the volume-to-capacity ratio (v/c) of 0.05 or more at a signalized or unsignalized intersection which is ***already, and projected to continue to,*** operate at **LOS E (or worse)**,[1, 2] ; or
- **Condition #4**: Cause unsafe conditions for pedestrians or bicyclists; or
- **Condition #5**: Cause a substantial increase in hazards due to a design feature(s) (e.g., sharp curves, dangerous intersections, etc.) or incompatible use; or
- **Condition #6**: Cause conflict with adopted policies, plans, or programs

Note 1: Based on HCM planning methodology
Note 2: LOS D/E threshold is defined as an average control delay of more than 55 seconds

		CEQA SCENARIOS – EXISTING CONDITIONS (w/o Weber)									**CEQA SCENARIOS – CUMULATIVE CONDITIONS (w/o Weber)**										
		PM Peak Comparison		**Increase in V/C**	**Thresholds of Significance** (Any of Conditions Triggered?)						**PM Peak Comparison**		**Increase in V/C**	**Thresholds of Significance** (Any of Conditions Triggered?)						**Significant Impact?** (Which Scenario is Triggered?)	**Mitigation**
	Jurisdiction	**Existing**	**Existing + Project**		**1**	**2**	**3**	**4**	**5**	**6**	**Cumulative**	**Cumulative + Project**		**1**	**2**	**3**	**4**	**5**	**6**		
Signalized Intersections																					
1. Diablo/El Cerro	Danville	LOS C/33.4 V/C=0.501	LOS C/33.6 V/C=0.516	0.015	N	N	N	N	N	N	LOS D/38.7 V/C=0.745	LOS D/39.2 V/C=0.760	0.015	N	N	N	N	N	N	No	-
2. Matadera/Diablo	Danville	LOS A/4.2 V/C=0.295	LOS A/4.4 V/C=0.310	0.005	N	N	N	N	N	N	LOS A/4.2 V/C=0.438	LOS A/4.4 V/C=0.453	0.015	N	N	N	N	N	N	No	-
3. Green Valley/Diablo	Danville	LOS D/36.3 V/C=0.734	LOS D/36.8 V/C=0.749	0.015	N	N	N	N	N	N	LOS E/73.1 V/C=1.091	LOS E/75.8 V/C=1.106	0.015	N	N	N	N	N	N	No	-
4. Green Vly/Blemer/Cameo	Danville	LOS C/30.2 V/C=0.498	LOS C/30.3 V/C=0.499	0.001	N	N	N	N	N	N	LOS F/95.1 V/C=0.732	LOS F/95.4 V/C=0.732	0.000	N	N	N	N	N	N	No	-
5. Monte Vista HS/Stone Vly	Danville/CCC	LOS C/21.6 V/C=0.404	LOS C/21.5 V/C=0.405	0.001	N	N	N	N	N	N	LOS C/25.1 V/C=0.600	LOS C/25.1 V/C=0.601	0.001	N	N	N	N	N	N	No	-
6. Blackhawk/CC/CamTass	Danville/CCC	LOS D/41.3 V/C=0.595	LOS D/41.3 V/C=0.598	0.003	N	N	N	N	N	N	LOS D/51.6 V/C=0.884	LOS D/51.8 V/C=0.887	0.003	N	N	N	N	N	N	No	-
Unsignalized Intersections																					
7. Green Valley/Stone Valley	Danville/CCC	LOS C/16.3 V/C=0.720	LOS C/16.4 V/C=0.722	0.002	N	N	N	N	N	N	LOS F/64.0 V/C=1.249	LOS F/64.5 V/C=1.252	0.003	N	N	N	N	N	N	No	-
8. Mt. Diablo Scenic/Diablo	CCC	LOS B/12.5 V/C=0.580	LOS B/13.6 V/C=0.622	0.042	N	N	N	N	N	N	LOS D/27.6 V/C=0.888	LOS D/33.9 V/C=0.945	0.057	N	N	N	N	N	N	No	-
9. Hidden Oaks/Magee	Danville/CCC	LOS A/3.3 V/C=0.169	LOS A/3.3 V/C=0.175	0.006	N	N	N	N	N	N	LOS A/7.2 V/C=0.512	LOS A/7.5 V/C=0.532	0.020	N	N	N	N	N	N	No	-
10. Blackhawk Rd/Blackhawk	CCC	LOS C/22.6 V/C=0.892	LOS C/24.6 V/C=0.920	0.028	N	N	N	N	N	N	LOS F/109.0 V/C=1.505	LOS F/115.3 V/C=1.536	0.031	N	N	N	N	N	N	No	-
11. Project Main/Blackhawk	CCC	-	LOS A/0.5 V/C=0.066	N/A	N	N	N	N	N	N	-	LOS A/0.5 V/C=0.194	N/A	N	N	N	N	N	N	No	-

1. Introduction

This report presents the results of the transportation impact analysis conducted for the proposed Magee Ranch residential development located in Danville, California. The site is located in northeast Danville, on the south side of Diablo Road and Blackhawk Road. The project analyzed consists of 78 single-family homes, with a minimum of 25% of the properties assumed to include second dwelling units. Vehicle access to and from the project site is provided via Diablo Road/Blackhawk Road and McCauley Road. The project site location and the surrounding study area and intersections are shown on Figure 1. The site plan is shown in Figures 2A thru 2D.

After the traffic report was prepared, the applicant revised the project to reflect 70 single family units with a minimum of 10% of the lots to include second units ("proposed project"). The traffic analysis was not revised to reflect the proposed project since the number of dwelling units was reduced. Accordingly, this traffic report represents a more conservative analysis (greater impact) of the project's impact than is expected to occur with the currently proposed project. Please note that references to "project" in the traffic study refer to the originally proposed 78 Unit Project.

Regulatory Setting

The following is a summary of State, regional, countywide, and Town policies that apply within the study area. All of the study intersections are under the jurisdiction of the Town of Danville and/or unincorporated Contra Costa County.

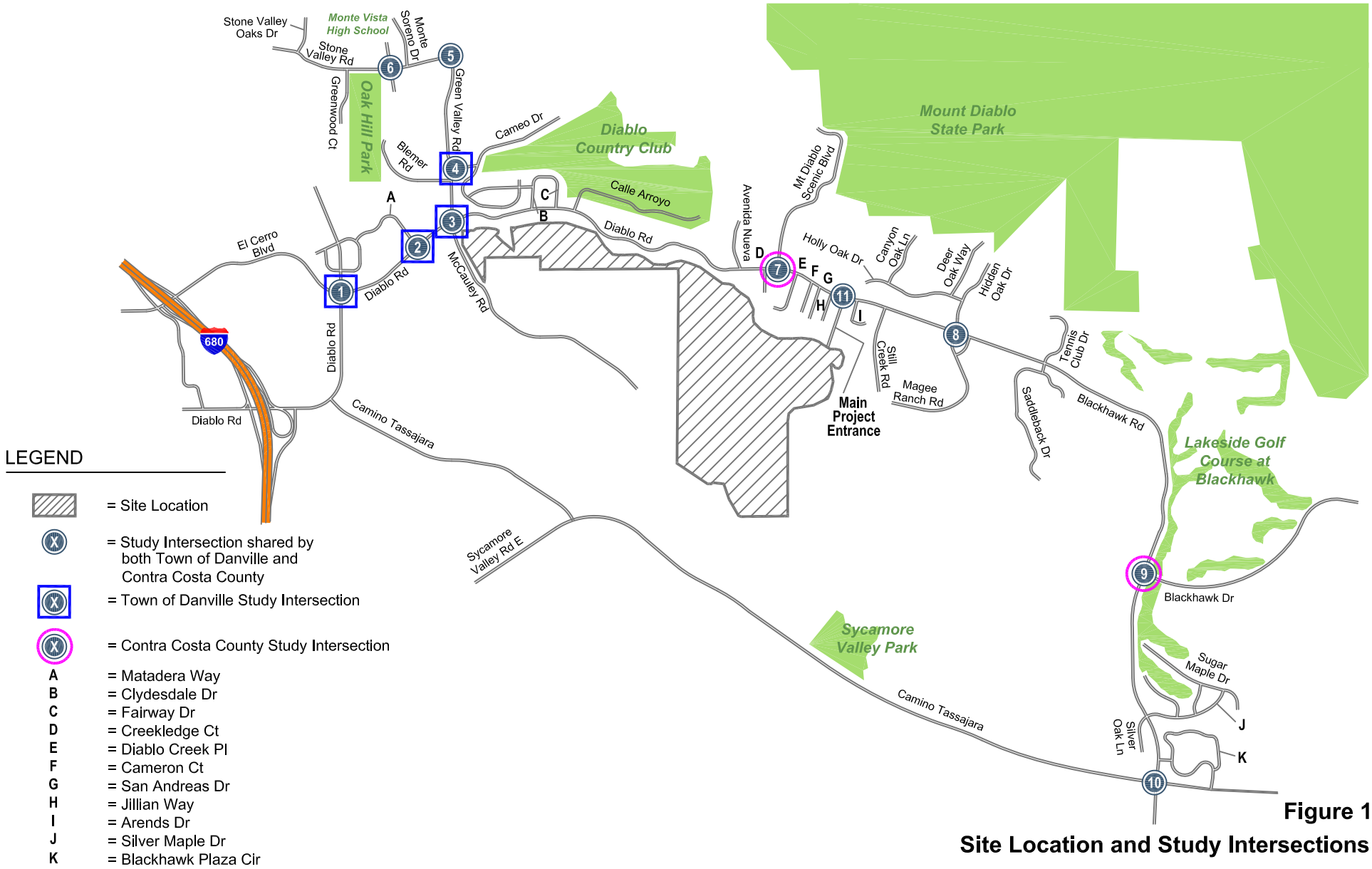
State Regulations

Caltrans responsibilities include the planning, design, construction, and maintenance of interstate freeways as wells as state highways. Within this study area, I-680 and I-580 fall under the department's jurisdiction. Caltrans' *Guide for the Preparation of Traffic Impact Studies* (December, 2002), identifies the information that Caltrans requires in evaluating the effect of local development and land use changes on state highway facilities.

Metropolitan Transportation Commission (MTC)

The MTC is the transportation planning, coordinating, and financing agency for the San Francisco Bay Area. The MTC functions as both the state-mandated regional transportation planning agency and the federally-mandated metropolitan planning organization (MPO) for the region. As such, it is responsible for regularly updating the Regional Transportation Plan, a comprehensive blueprint for the development of transportation facilities within the region. The Commission also screens requests from local agencies for state and federal grants for transportation projects to determine their compatibility with the plan.

Transportation 2035, the most recent version of the long-range plan, was adopted on April 22, 2009. MTC is also responsible for updating and prioritizing projects within the Regional Transportation Improvement Program (RTIP).



LEGEND

= Site Location

= Study Intersection shared by both Town of Danville and Contra Costa County

= Town of Danville Study Intersection

= Contra Costa County Study Intersection

A = Matadera Way
B = Clydesdale Dr
C = Fairway Dr
D = Creekledge Ct
E = Diablo Creek Pl
F = Cameron Ct
G = San Andreas Dr
H = Jillian Way
I = Arends Dr
J = Silver Maple Dr
K = Blackhawk Plaza Cir

Figure 1

Site Location and Study Intersections

NORTH
Not to Scale

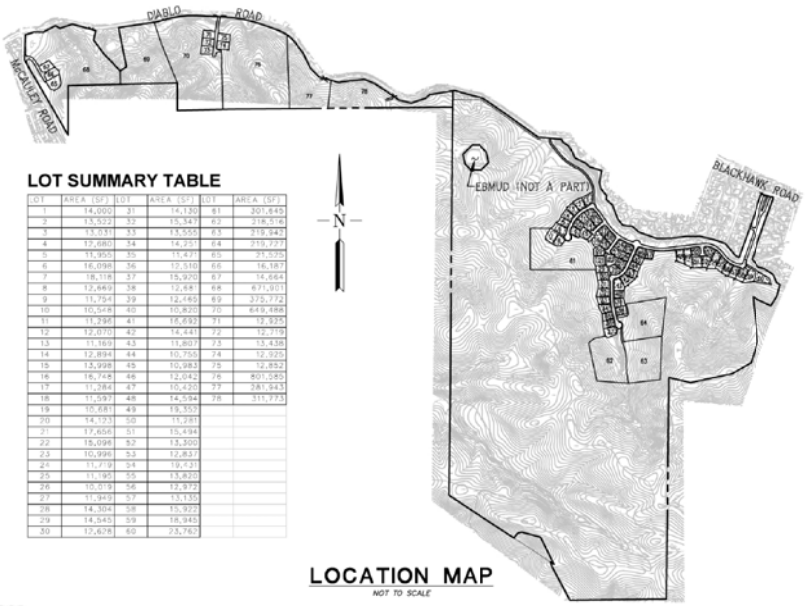
VESTING TENTATIVE MAP
SUBDIVISION 9291 - MAGEE RANCHES
TOWN OF DANVILLE, CONTRA COSTA COUNTY, CALIFORNIA

BENCHMARK

CONTRA COSTA COUNTY BENCHMARK # 1560
STANDARD CONTRA COSTA COUNTY BENCHMARK PLATE SET IN TOP OF CONCRETE HEADWALL OF DOUBLE BOX CULVERT, EAST SIDE OF GREEN VALLEY ROAD AT THE INTERSECTION OF DIABLO ROAD AND GREEN VALLEY ROAD.
ELEVATION = 429.118 1964 ADJ.

LEGEND

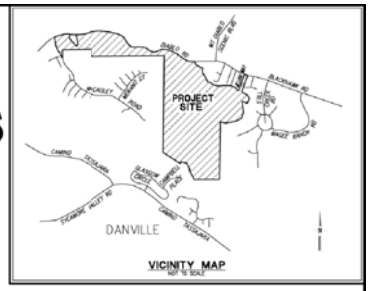
PROPOSED	DESCRIPTION	EXISTING
	TRACT BOUNDARY	
	LOT LINE	
	RIGHT OF WAY	
	CENTER LINE	
	RETAINING WALL	
	EASEMENT LINE	
12"SD	STORM DRAIN	EX 12"SD
8"SS	SANITARY SEWER	EX 8"SS
8"W	WATER	EX 8"W
	CURB & GUTTER	
	SIDEWALK	
	CONCRETE DITCH	
	SCENIC HILLSIDE LINE	
	RIDGE LINE	
	BUILDABLE AREA	
	STORM WATER INLET	
	FIELD INLET	
	MANHOLE	
	FIRE HYDRANT	
	BLOW OFF	
	WATER VALVE	
	WATER LATERAL WITH METER	
	STREET LIGHT	
	FENCE	
	SLOPE	
	HANDICAP RAMP	
	SAVE TREE	20" OAK (S)
	REMOVE TREE	10" OLIVE (R)
130	CONTOUR ELEVATIONS	130
x 525.2	SPOT ELEVATION	x525.2



LOT SUMMARY TABLE

LOT	AREA (SF)	LOT	AREA (SF)	LOT	AREA (SF)
1	14,000	31	14,130	61	301,845
2	13,522	32	15,347	62	218,516
3	13,031	33	13,555	63	219,942
4	12,680	34	14,251	64	319,727
5	11,955	35	15,471	65	31,575
6	16,098	36	12,510	66	16,187
7	18,118	37	15,970	67	14,664
8	12,669	38	12,481	68	671,901
9	11,754	39	12,465	69	375,772
10	10,548	40	10,820	70	649,488
11	11,398	41	16,693	71	12,325
12	12,070	42	14,441	72	12,779
13	11,169	43	11,807	73	13,438
14	12,894	44	10,755	74	12,925
15	13,998	45	10,983	75	12,852
16	16,748	46	12,042	76	801,580
17	11,284	47	10,420	77	281,943
18	11,597	48	14,594	78	311,973
19	10,681	49	19,357		
20	14,723	50	11,281		
21	17,656	51	15,494		
22	15,096	52	13,300		
23	10,996	53	12,837		
24	11,719	54	19,431		
25	11,95	55	13,820		
26	10,019	56	12,972		
27	11,949	57	13,135		
28	14,304	58	15,922		
29	14,545	59	18,945		
30	13,628	60	23,762		

LOCATION MAP
NOT TO SCALE



VICINITY MAP
NOT TO SCALE

GENERAL NOTES:

1. OWNER: TEARDROP PARTNERS, L.P. AND MAGEE INVESTMENT COMPANY 3189 DANVILLE BOULEVARD #240 ALAMO, CA 94507-1956 CONTACT: C/O WENDI BAKER (925) 244-7534
2. DEVELOPER: SUMMERHILL HOMES 5000 EXECUTIVE PARKWAY, SUITE 150 SAN RAMON, CA 94583 CONTACT: WENDI BAKER (925) 244-7534
3. CIVIL ENGINEER: RUGGERI-JENSEN-AZAR 4690 CHABOT DRIVE, SUITE 200 PLEASANTON, CA 94588 CONTACT: MARK FALGOUT (925) 227-9100
4. SOILS ENGINEER: ENGEO, INCORPORATED 2010 CROW CANYON PLACE, SUITE 250 SAN RAMON, CA 94583 CONTACT: PHILIP STUCCHELI (925) 866-9000
5. ASSESSOR'S PARCEL NUMBERS: 202-050-071-2, 202-050-073-8, 202-050-074-6, 202-050-078-7, 202-050-079-5, 202-050-080-3, 202-100-017-5, 202-100-019-1, 202-100-036-1, 202-100-040-7, 215-040-002-2
6. CURRENT USE: AGRICULTURE
7. CURRENT ZONING: A-2 AGRICULTURAL, A-4 AGRICULTURAL, P-1 PLANNED UNIT DISTRICT
8. PROPOSED USE: RESIDENTIAL
9. PROPERTY DESCRIPTION: A PORTION OF THE SOUTHWEST 1/4 OF SECTION 23, TOWNSHIP 1 SOUTH, RANGE 1 WEST, MOUNT DIABLO BASE AND MERIDIAN, AND NEW LOT 3 AS SHOWN ON LOT LINE ADJUSTMENT LLA 2005-02 RECORDED OCTOBER 20, 2005 AS INSTURMENT NO. 2005-406420 O.R., AND THE PARCEL DESCRIBED IN PARCEL MERGER 00-01, RECORDED MAY 15 2000 AS SERIES NO. 2000-0098839 O.R., AND LOT 2 AS SHOWN ON THE LOT LINE ADJUSTMENT LLA 91-6, RECORDED OCTOBER 15, 1991, AS SERIES NO. 91-216873 O.R.,
10. GROSS AREA: 410.1± ACRES
11. TOTAL NO. OF PROPOSED LOTS: 78
12. UTILITIES:
    - WATER: EAST BAY MUNICIPAL UTILITY DISTRICT
    - GAS & ELECTRIC: PACIFIC GAS & ELECTRIC
    - SANITARY SEWER: CENTRAL CONTRA COSTA SANITARY DISTRICT
    - STORM DRAIN: CITY OF SAN RAMON, CONTRA COSTA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
    - FIRE: SAN RAMON VALLEY FIRE PROTECTION DISTRICT
    - TELEPHONE: AT&T
    - CABLE TV: COMCAST
13. BOUNDARY AS SHOWN IS COMPILED FROM RECORD INFORMATION.
14. ALL EROSION CONTROL MEASURES SHALL BE IN CONFORMANCE WITH THE CRITERIA AND STANDARDS OF THE TOWN OF DANVILLE.
15. AERIAL TOPOGRAPHY WAS FLOWN IN APRIL 2010.
16. THE PROPERTY LIES WITHIN ZONE X (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN PER FLOOD INSURANCE RATE MAP COMMUNITY-PANEL NUMBER 06013C 0455F, DATED JUNE 16, 2009.

ABBREVIATIONS

AB	AGGREGATE BASE	LP	LOW POINT
AC	ASPHALT CONCRETE	MH	MANHOLE
AD	AREA DRAIN	PAE	PRIVATE ACCESS EASEMENT
BC	BEGINNING OF CURVE	PCC	POINT OF COMPOUND CURVE
BO	BLOW OFF	PL	PROPERTY LINE
BW	BOTTOM OF WALL	PRC	POINT OF REVERSE CURVE
CCCSD	CENTRAL CONTRA COSTA SANITARY DISTRICT	PSDE	PRIVATE STORM DRAIN EASEMENT
CL	CENTER LINE	PSE	PUBLIC SERVICE EASEMENT
CMP	CORRUGATED METAL PIPE	PVC	POLYVINYL CHLORIDE PIPE
CP	CENTER POINT	RCP	REINFORCED CONCRETE PIPE
CS	CURB STATION	RET	CURB RETURN
DWY	DRIVEWAY	RW	RIGHT OF WAY
DIP	DUCTILE IRON PIPE	SDE	STORM DRAIN EASEMENT
EC	END OF CURVE	SNS	STREET NAME SIGN
EVAE	EMERGENCY VEHICLE ACCESS EASEMENT	SO	SIDE OPENING INVERT
EX	EXISTING	SSCO	SANITARY SEWER CLEAN OUT
FC	FACE OF CURB	STA	STATION
FG	FINISHED GRADE	SW	STORM WATER INLET
FI	FIELD INLET	SWK	SIDEWALK
FL	FLOW LINE	TC	TOP OF CURB
GB	GRADE BREAK	TW	TOP OF WALL
GR	GRATE	WM	WATER METER
HP	HIGH POINT		
INV	INVERT ELEVATION		

SHEET INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	SITE PLAN
3	SITE PLAN
4	SITE PLAN
5	GRADING PLAN
6	GRADING PLAN
7	GRADING PLAN
8	UTILITY PLAN
9	UTILITY PLAN
10	UTILITY PLAN
11	STORM WATER TREATMENT
12	STORM WATER TREATMENT
13	STORM WATER TREATMENT

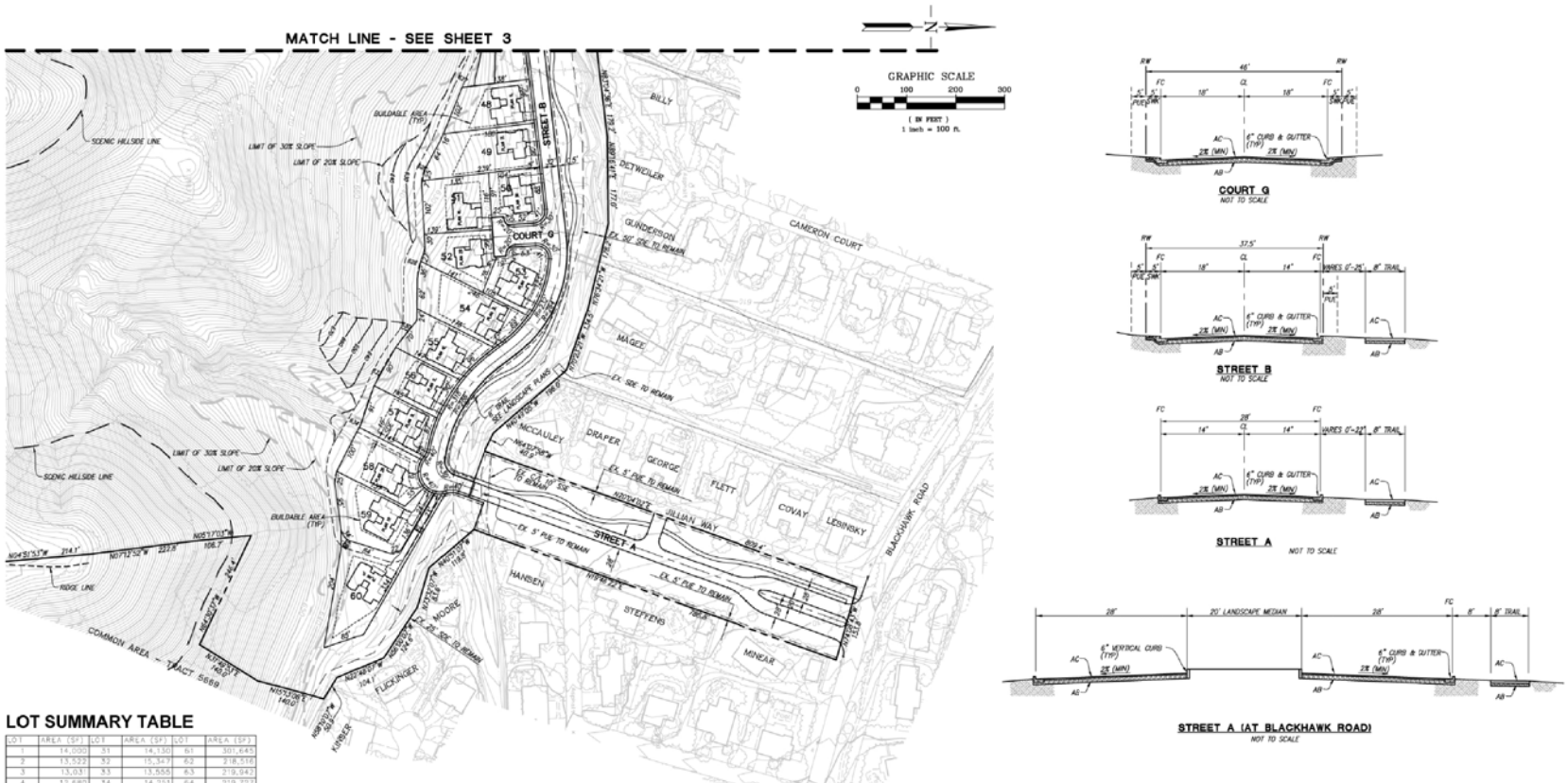
RJA
RUGGERI-JENSEN-AZAR
ENGINEERS • PLANNERS • SURVEYORS
4690 CHABOT DRIVE, SUITE 200 PLEASANTON, CA 94588
PHONE: (925) 227-9100 FAX: (925) 227-9300

DATE: MARCH 15, 2011 JOB NO. 091015 SHEET 1 OF 13 SHEETS

Figure 2a

Site Plan

NORTH
Not to Scale



LOT SUMMARY TABLE

LOT	AREA (SF)	LOT	AREA (SF)	LOT	AREA (SF)
1	14,000	31	14,130	61	301,645
2	13,522	32	15,347	62	218,518
3	13,031	33	13,555	63	219,942
4	12,680	34	14,251	64	219,777
5	11,955	35	11,471	65	31,535
6	15,095	36	12,510	66	16,187
7	18,118	37	15,920	67	14,664
8	12,669	38	12,681	68	671,901
9	11,754	39	12,465	69	375,772
10	10,548	40	10,830	70	649,488
11	11,296	41	16,692	71	12,925
12	12,070	42	14,441	72	12,719
13	11,169	43	11,807	73	13,438
14	12,894	44	10,755	74	12,925
15	13,996	45	10,983	75	12,807
16	16,748	46	12,042	76	801,585
17	11,284	47	10,420	77	281,943
18	11,597	48	14,594	78	311,773
19	10,881	49	19,352		
20	14,123	50	11,281		
21	17,636	51	10,494		
22	15,096	52	13,300		
23	10,996	53	13,837		
24	11,719	54	19,431		
25	11,195	55	13,820		
26	15,019	56	12,972		
27	11,949	57	13,135		
28	14,304	58	15,922		
29	14,545	59	18,945		
30	17,628	60	23,782		

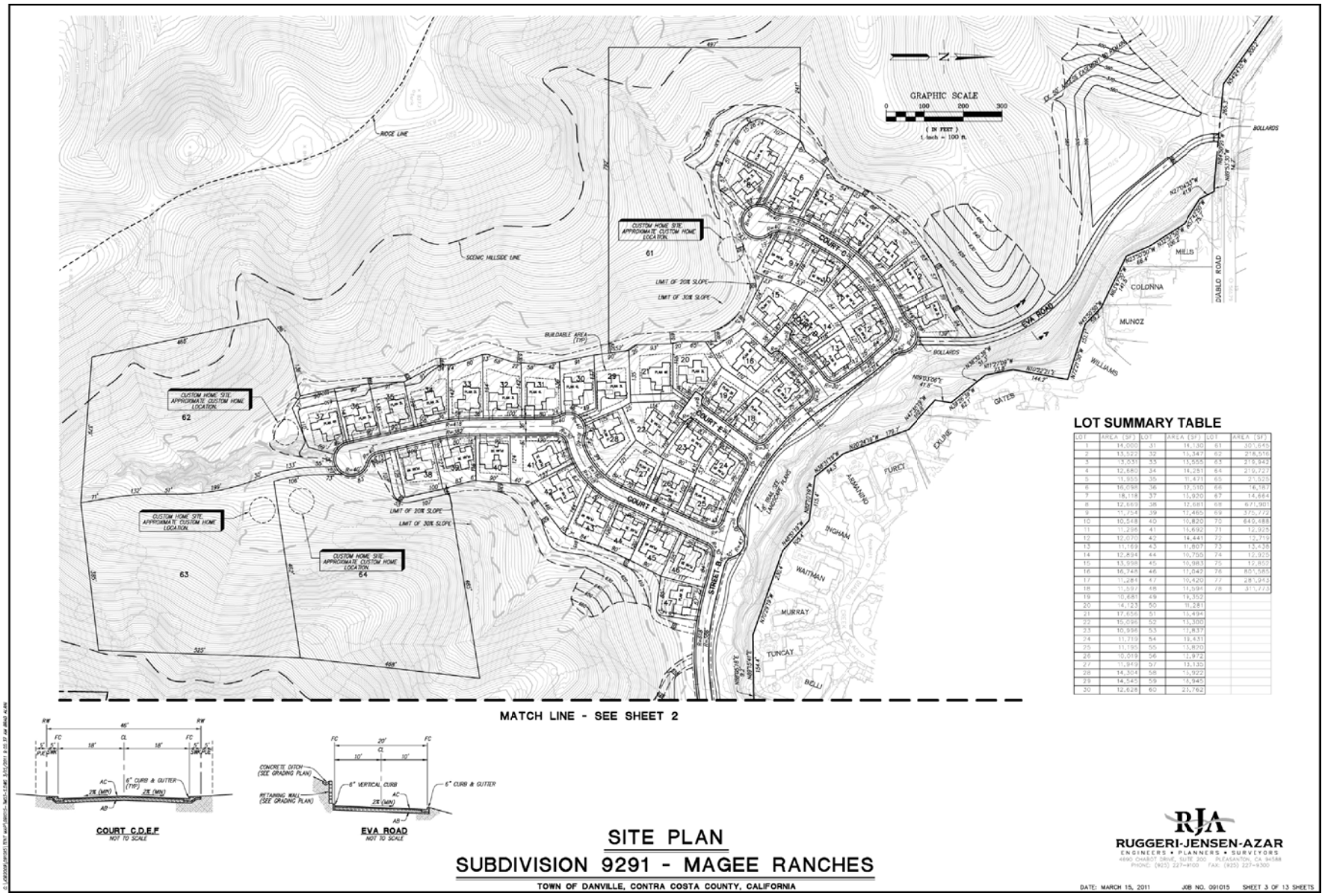
SITE PLAN
SUBDIVISION 9291 - MAGEE RANCHES
TOWN OF DANVILLE, CONTRA COSTA COUNTY, CALIFORNIA

RUGGERI-JENSEN-AZAR
ENGINEERS • PLANNERS • SURVEYORS
4690 CHABOT DRIVE, SUITE 205 PLEASANTON, CA 94588
PHONE: (925) 227-9100 FAX: (925) 227-9300

DATE: MARCH 15, 2011 JOB NO. 091015 SHEET 2 OF 13 SHEETS

Figure 2b
Site Plan

NORTH
Not to Scale



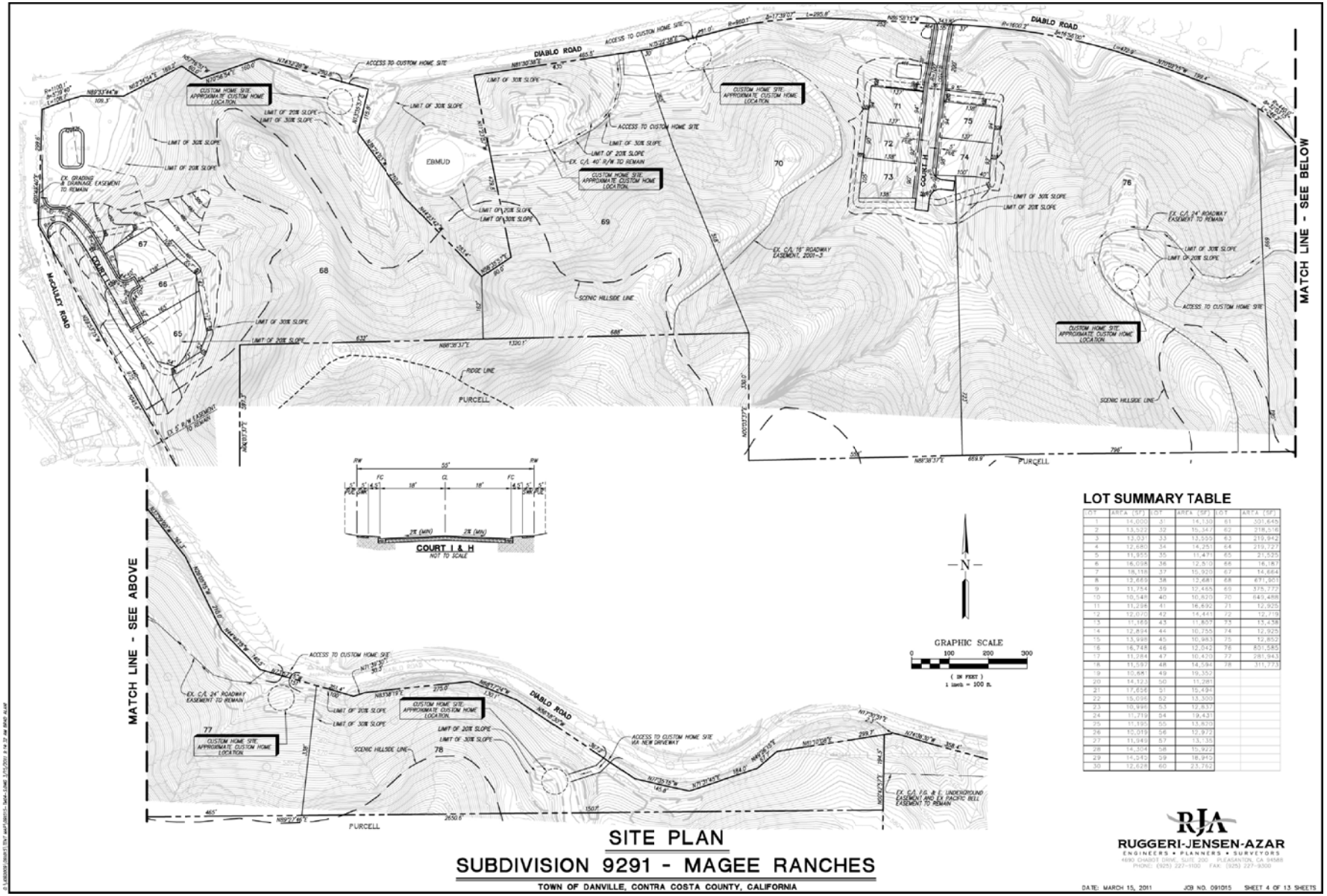
LOT SUMMARY TABLE

LOT	AREA (SF)	LOT	AREA (SF)	LOT	AREA (SF)
1	14,000	31	14,130	61	301,645
2	13,522	32	15,547	62	278,510
3	13,531	33	13,555	63	219,947
4	12,680	34	14,251	64	219,727
5	11,955	35	11,471	65	21,525
6	16,098	36	17,510	66	16,187
7	18,118	37	15,920	67	14,664
8	12,669	38	12,681	68	671,901
9	11,754	39	17,460	69	375,777
10	10,548	40	10,820	70	640,488
11	11,298	41	15,692	71	12,925
12	17,070	42	14,441	72	12,710
13	11,169	43	11,801	73	13,430
14	12,894	44	10,700	74	12,925
15	13,998	45	10,983	75	12,852
16	16,748	46	11,843	76	851,585
17	11,284	47	10,420	77	281,943
18	11,597	48	11,591	78	311,777
19	10,681	49	19,352		
20	14,123	50	11,281		
21	17,656	51	15,494		
22	15,096	52	13,300		
23	10,986	53	12,837		
24	11,719	54	19,431		
25	11,195	55	13,870		
26	10,019	56	12,972		
27	11,949	57	13,135		
28	14,304	58	15,922		
29	14,545	59	15,945		
30	12,628	60	21,762		

Figure 2c

Site Plan

NORTH
Not to Scale



LOT SUMMARY TABLE

LOT	AREA (SF)	LOT	AREA (SF)	LOT	AREA (SF)
1	14,000	31	14,130	61	301,645
2	13,522	32	15,347	62	218,016
3	13,031	33	12,555	63	219,942
4	12,680	34	14,251	64	219,727
5	11,955	35	11,471	65	21,525
6	16,098	36	12,510	66	16,187
7	18,118	37	15,921	67	16,664
8	13,665	38	12,681	68	671,801
9	11,754	39	12,465	69	375,772
10	10,548	40	10,820	70	849,488
11	11,296	41	16,692	71	12,925
12	12,072	42	14,441	72	12,719
13	11,165	43	11,807	73	13,458
14	12,894	44	10,755	74	12,925
15	13,995	45	10,983	75	12,852
16	16,748	46	12,042	76	801,585
17	11,284	47	10,420	77	281,943
18	11,597	48	14,594	78	311,773
19	10,681	49	19,352		
20	14,123	50	11,281		
21	17,656	51	15,494		
22	15,096	52	13,300		
23	10,996	53	12,831		
24	11,719	54	19,431		
25	11,195	55	13,820		
26	10,019	56	12,972		
27	11,949	57	13,135		
28	14,304	58	15,920		
29	14,242	59	18,945		
30	12,628	60	23,762		

Figure 2d

Site Plan

NORTH
Not to Scale

Contra Costa Transportation Authority (CCTA)

The Contra Costa Transportation Authority (CCTA) was originally formed in 1988 to manage the funds generated by the transportation sales tax established by Measure C and later renewed by Measure J in 2004. As Contra Costa's transportation sales tax agency, the Authority oversees the design and construction of the transportation projects included in the Measure C and J expenditure plans, carries out the programs included in the expenditure plans (most notably the county's Growth Management Program), and provides the financial structure that ensures the optimum use of the sales tax dollars.

In 1990 the CCTA took on the role of Contra Costa County's Congestion Management Agency (CMA). In that capacity, the CCTA is the primary transportation planning agency for Contra Costa County. As the CMA, the CCTA prepares the county's Congestion Management Program, monitors levels of service on the county's roadways and works with other CMAs and agencies to address regional issues. The CCTA level of service standard for intersections along Routes of Regional Significance is LOS E or better, with a volume-to-capacity ratio (V/C) of 0.90 to 0.91, depending on the intersection. The only project study intersection located along a Route of Regional Significance is the intersection of Camino Tassajara/Blackhawk Road.

Tri-Valley Transportation Council (TVTC)

The Tri-Valley Transportation Council (TVTC) includes the Cities of San Ramon, Dublin, Pleasanton, Livermore, the Town of Danville, and unincorporated areas of Alameda and Contra Costa Counties. Founded in 1991, the TVTC completed the first *Tri-Valley Transportation Plan/Action Plan for Routes of Regional Significance* in 1995. The Plan establishes shared traffic service objectives and presents a list of eleven high-priority transportation improvement projects to ease regional traffic congestion. The Tri-Valley Transportation Development Fee on new developments will fund these improvements. Since 1995, the Tri-Valley Transportation Plan/Action Plan (TVTP/AP) has been updated several times, most recently in July of 2008.

Local Regulations

The Town of Danville's General Plan was adopted in 1999. The plan provides a blueprint for future growth and development within the Town. The transportation goals outlined in the plan include providing: an efficient, safe, and environmentally sustainable transportation system; increasing transit usage; and improving the pedestrian environment. The General Plan establishes minimum performance standards at signalized intersections for Basic Routes and Routes of Regional Significance. All of the project study intersections, except the intersection of Camino Tassajara/Blackhawk Road, are located along Basic Routes, with an acceptable service level set at mid-range LOS D.

Scope of Study

This study includes an analysis of six signalized intersections and five unsignalized intersections in the vicinity of the project site. The study intersections are as follows:

Study Intersections

1. Diablo Road and El Cerro Boulevard
2. Matadera Way and Diablo Road
3. Green Valley Road and Diablo Road
4. Green Valley Road and Blemer Road/Cameo Drive
5. Green Valley Road and Stone Valley Road (Unsignalized)
6. Monte Vista H.S. Main Entrance and Stone Valley Road
7. Mt. Diablo Scenic Boulevard and Diablo Road (Unsignalized)
8. Hidden Oaks Drive/Magee Ranch Road and Blackhawk Road (Unsignalized)
9. Blackhawk Road and Blackhawk Drive (Unsignalized)
10. Blackhawk Road/Crow Canyon Road and Camino Tassajara
11. Project Entrance and Blackhawk Road (Unsignalized)

The potential traffic impacts related to the proposed development were evaluated following the standards and methodologies set forth by the Town of Danville and the Contra Costa Transportation Authority (CCTA). CCTA's Technical Procedures (2006 Update) establishes the requirement to analyze intersections where the project is

anticipated to add at least 50 peak hour trips. While many of the study intersections do not meet the 50 peak hour trip threshold requirement, they were nonetheless included in the traffic analysis because of the intersection's role as a gateway to a quadrant of the community, as an access point to public institutions or major public destinations, or because they were identified in previous studies as requiring future mitigation.

Traffic impacts due to the project were determined based on AM, school PM, and PM peak hour levels of service for the study intersections. The traffic analysis also includes an evaluation of peak-hour signal warrants for the unsignalized intersections.

Traffic conditions at the study intersections were analyzed for the weekday AM and PM commute peak hours, and school PM peak hours. The AM commute peak hour is generally between 7:00 and 9:00 AM, the PM commute peak hour is typically between 4:00 and 6:00 PM, and the school PM peak hour is typically between 2:00 and 4:00 PM. It is during these periods that the most congested traffic conditions occur on an average day.

For purposes of the environmental impact analysis, traffic conditions were evaluated for the following standard scenarios:

Scenario 1: *Existing Conditions.* Existing conditions were represented by existing peak hour traffic volumes on the existing roadway network. Existing traffic volumes were obtained from new traffic counts in October 2010.

Scenario 2: *Existing Plus Project Conditions.* Existing plus project conditions were represented by future traffic volumes with the project. Future traffic volumes with the project (hereafter called project traffic volumes) were estimated by adding to existing traffic volumes the trips associated with the proposed project. Existing plus project conditions were evaluated relative to existing conditions in order to determine potential project impacts.

Scenario 3: *Cumulative Conditions ("with project" and "no project").* Cumulative conditions represent forecasted long-term future (year 2030) traffic conditions. Cumulative no project traffic volumes were estimated based on traffic forecasts produced by the Contra Costa Transportation Authority's (CCTA) TransCAD travel forecasting model. According to the CCTA model, peak hour traffic in the project vicinity is projected to increase by approximately two percent per year between the years 2005 and 2030. Cumulative no project traffic volumes were estimated by applying to existing traffic volumes an annual growth factor of two percent over a period between the date of the existing traffic counts and year 2030. Project trips were then added to estimate cumulative with project conditions. Cumulative with project conditions were analyzed relative to cumulative no project conditions.

Additional cumulative with project scenarios, presented in Chapter 6, were analyzed to test the sensitivity of changes to the background setting.

Methodology

This section presents the methods used to determine the traffic conditions for each scenario described above. It includes descriptions of the data requirements, the analysis methodologies, and the applicable level of service standards.

Data Requirements

The data required for the analysis were obtained from new traffic counts, previous traffic studies, the Town of Danville biennial traffic counts, CCTA, and field observations. The following data were collected from these sources:

- existing traffic volumes
- lane configurations
- signal timing and phasing (for signalized intersections)
- pending developments (size, use, and location)
- Contra Costa Transportation Authority's travel forecasting model

In addition, in response to comments raised at the EIR scoping meeting regarding the need for trip generation rates that reflect residential projects with proposed second dwelling units, the traffic consultant conducted traffic counts of residential projects in Danville with second dwelling units (Victoria Place and Valerosa). The trip generation rates derived from this survey are referred to in the analysis as the "Danville Rate (With Second DU)," and are the most conservative analysis of the project's potential impacts. While it is not required by either law or standard practice, this report has chosen to use the "Danville Rate (With Second DU)," at 12.17 daily trips, as it represents the most conservative analysis of the project's potential impacts.

Analysis Methodologies and Level of Service Standards

Traffic conditions at the study intersections were evaluated using level of service (LOS). *Level of Service* is a qualitative description of operating conditions ranging from LOS A (free-flow conditions with little or no delay) to LOS F (jammed conditions with excessive delays). The various analysis methods are described below. All of the study intersections are located in the Town of Danville and Contra Costa County and are subject to the respective Level of Service standards. The Danville General Plan establishes a Level of Service (LOS) standard of mid-range "D" for signalized intersection on Basic Routes. The LOS standard for signalized intersection on Routes of Regional Significance is LOS "E," with a corresponding v/c ratio that is defined by the Tri-Valley Transportation Plan/Action Plan for Routes of Regional Significance. Mitigation is required for any intersection or roadway segment where project traffic causes the intersection to deteriorate from satisfactory to unsatisfactory operation.

While the Danville General Plan does not establish a level of service standard for unsignalized intersections, it is the Town's practice to include these intersections as a part of the operational analysis in an effort to fully understand the potential traffic impacts that may result from the proposed project.

If a signalized or unsignalized intersection or roadway segment is already operating at an unsatisfactory level of service, an increase of 5 percent (addition of 0.05) to the v/c ratio would constitute a significant project impact. Based on the expert opinions of the Town's traffic consultants and traffic engineering staff, and historic variations in daily traffic volume, it is determined that an increase of 0.05 in the v/c ratio (or a 5-percent threshold increase) is a conservative but appropriate measurement of an adverse change to an intersection.[2] This threshold applies to existing or projected conditions that are already unacceptable or are projected to be unacceptable under cumulative conditions even without the project. In order to provide a consistent methodology, this significance criteria is applied to both signalized and unsignalized intersections.

For purposes of this EIR, in accordance with the California Environmental Quality Act (CEQA) and the Town's significance criteria, the project would result in a significant adverse impact on the environment if it would:

1. Cause a signalized intersection on a Basic Route to fall from LOS D (or better) to LOS E (or worse); or

2. Cause a signalized intersection along a Route of Regional Significance to exceed the Multi-modal Transportation Service Objectives (MTSOs) established by the Tri-Valley Transportation Plan/Action Plan for Routes of Regional Significance; or

3. Cause an increase in the volume-to-capacity ratio (v/c) of 0.05 or more at a signalized or unsignalized intersection which is already, and projected to continue to, operate at LOS E (or worse); or

4. Cause unsafe conditions for pedestrians or bicyclists; or

5. Cause a substantial increase in hazards due to a design feature(s) (e.g., sharp curves, dangerous intersections, etc.) or incompatible use; or

6. Cause conflict with adopted policies, plans, or programs.

A significant impact at a signalized or unsignalized intersection is said to be satisfactorily mitigated when measures are implemented that would restore intersection levels of service to an acceptable LOS or restore the intersection to operating levels that are better than no project conditions.

[2] Due to normal fluctuation in daily traffic and motorist's perception of traffic conditions, a change in v/c of less that 0.05 is considered imperceptible.

Signalized Intersections

By request of the Town of Danville, the LOS for signalized intersections was analyzed using two methodologies: 1) the *Contra Costa Transportation Authority (CCTALOS)* method and 2) the *2000 Highway Capacity Manual* (2000 HCM) method. The software called TRAFFIX was used to apply the CCTALOS and 2000 HCM operations methods for evaluation of conditions at signalized intersections.

CCTALOS is a rudimentary method that expresses level of service conditions in terms of total volume-to-capacity (V/C) ratios. It does not take into account signal timing, queue lengths, delay and storage capacity. CCTALOS methodology is a minimum requirement of the CCTA, and its calculations are included in the appendix for CCTA's Measure J compliance reporting purposes.

The Town of Danville uses the 2000 HCM method, which evaluates signalized intersection operations on the basis of average control delay time for all vehicles at the intersection. *Control delay* is the amount of delay that is attributed to the particular traffic control device at the intersection and includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. As such, and per the Town of Danville, the level of service in this study was reported using the 2000 HCM methodolgy because it provides a more accurate indication and represents a more conservative expression of intersection operation in the Town. For the 2000 HCM methodology, the correlation between average delay and level of service is shown in Table 1.

Unsignalized Intersections

Level of service at unsignalized intersections in the Town of Danville and Contra Costa County is based on the *2000 Highway Capacity Manual* (2000 HCM) method. TRAFFIX software was used to apply the 2000 HCM operations method for evaluation of conditions at unsignalized intersections. This method is applicable for both two-way and all-way stop-controlled intersections. The delay and corresponding level of service definitions at unsignalized, stop-controlled intersections is presented in Table 2. For two-way and four-way stop controlled intersections, the reported LOS represents the average delay of all intersection movements combined.

Signal Warrant Methodology

The level of service analysis at unsignalized intersections is supplemented with an assessment of the need for signalization of the intersections. This analysis makes no evaluation of intersection level of service, and its results do not indicate any significance level for CEQA purposes. For this study, the need for signalization is assessed on the basis of the operating conditions at the intersections (i.e., level of service) and on the peak-hour volume signal warrant (warrant #3) described in the *2010 California Manual on Uniform Traffic Control Devices* (MUTCD). This method provides an indication of whether traffic conditions and peak-hour traffic levels are, or would be, sufficient to justify installation of a traffic signal.

Intersection Operations

The operations analysis is based on vehicle queuing for high-demand movements at intersections. Vehicle queues were estimated using a Poisson probability distribution, which estimates the probability of "n" vehicles for a vehicle movement using the following formula:

$$P(x=n) = \frac{\lambda^n e^{-(\lambda)}}{n!}$$

Where:

P (x=n) = probability of "n" vehicles in queue per lane

n = number of vehicles in the queue per lane

λ = Average number of vehicles in the queue per lane (vehicles per hour per lane/signal cycles per hour)

The basis of the analysis is as follows: (1) the Poisson probability distribution is used to estimate the 95th percentile maximum number of queued vehicles per signal cycle for a particular movement; (2) the estimated maximum number of vehicles in the queue is translated into a queue length, assuming 25 feet per vehicle; and (3) the estimated maximum queue length is compared to the existing or planned available storage capacity for the movement.

Table 1
Signalized Intersection Level of Service Definitions Based on Average Delay

Level of Service	Description	Average Total Delay Per Vehicle (Sec.)
A	Signalized progression is extremely favorable. Most vehicles arrive during the green phase and do not stop at all. Short cycle lengths may also contribute to the very low vehicle delay.	10.0 or less
B	Operations characterized by good signal progression and/or short cycle lengths. More vehicles stop than with LOS A, causing higher levels of average vehicle delay.	10.1 to 20.0
C	Higher delays may result from fair signal progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant, though may still pass through the intersection without stopping.	20.1 to 35.0
D	The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable signal progression, long cycle lengths, or high volume-to-capacity (V/C) rations. Many vehicles stop and individual cycle failures are noticeable	35.1 to 55.0
E	This is considered to be the limit of acceptable delay. These high delay values generally indicate poor signal progression, long cycle lengths, and high volume-to-capacity (V/C) ratios. Individual cycle failures occur frequently.	55.1 to 80.0
F	This level of delay is considered unacceptable by most drivers. This condition often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of the intersection. Poor progression and long cycle lengths may also be major contributing causes of such delay levels.	Greater than 80.0

Source: Transportation Research Board, *2000 Highway Capacity Manual* (Washington, D.C., 2000) p10-16

Table 2
Unsignalized Intersection Level of Service Definitions Based on Delay

Level of Service	Description Of Operations	Average Control Delay Per Vehicle (Sec.)
A	Little or no traffic delay	10.0 or less
B	Short traffic delays	10.1 to 15.0
C	Average traffic delays	15.1 to 25.0
D	Long traffic delays	25.1 to 35.0
E	Very long traffic delays	35.1 to 50.0
F	Extreme traffic delays	Greater than 50.0

Source: Transportation Research Board, 2000 Highway Capacity Manual (Washington, D.C., 2000), p17-2

Report Organization

The remainder of this report is divided into four chapters. Chapter 2 describes the existing roadway network, transit service, and existing bicycle and pedestrian facilities. Chapter 3 describes the method used to estimate project traffic, its impact on the transportation system, and describes the recommended mitigation measures. Chapter 4 presents the intersection operations under cumulative traffic conditions. Chapter 5 describes non-level of service operational issues associated with the proposed project. Chapter 6 supplements the cumulative analysis in Chapter 4 with a traffic sensitivity analysis for additional cumulative scenarios.

2. Existing Conditions

This chapter describes the existing conditions for all of the major transportation facilities in the vicinity of the site, including the roadway network, transit service, and bicycle and pedestrian facilities.

Existing Roadway Network

Regional access to the project site is provided via I-680. Local access to the site is provided via Diablo Road/Blackhawk Road, Camino Tassajara, Crow Canyon Road, El Cerro Boulevard, Green Valley Road, and Stone Valley Road. These roadways are described below.

I-680 is an eight lane north/south freeway, with three mixed-flow lanes and one HOV lane in each direction within the vicinity of the project site. I-680 extends north through Contra Costa County and south to Santa Clara County. The HOV lanes run north and south from central Contra Costa County to San Ramon, with a short gap through the I-680/Highway 24 interchange. Access to the project study area is provided via its interchanges with Crow Canyon Road, Diablo Road, and El Cerro Boulevard.

Diablo Road/Blackhawk Road is an east-west, two to four-lane, roadway that extends east from Hartz Avenue to Camino Tassajara where it becomes Crow Canyon Road. Diablo Road/Blackhawk Road runs parallel to the project site and provides access to residential and commercial-retail areas. Diablo Road/Blackhawk Road provides direct access to the project site. Blackhawk Road has an average daily traffic volume (ADT) of 8,250 between Diablo Creek Place and Cameron Court, and 12,450 west of Fairway Drive.

Camino Tassajara is a two to four lane roadway located south of the project site. Camino Tassajara is a designated Route of Regional Significance from Sycamore Valley Road to the Alameda County line. West of Ballfields (a driveway which leads to the Mustang Soccer Complex), Camino Tassajara consists of four lanes with raised medians, curbs sidewalks, and bike lanes. East of Ballfields, Camino Tassajara is a two lane rural roadway with no sidewalks or bike lanes. Camino Tassajara has an ADT of 23,600 west of Crow Canyon Road and an ADT of 22,100 east of Crow Canyon Road.

El Cerro Boulevard is primarily a two-lane, east-west, roadway that extends east from Danville Boulevard to Diablo Road. El Cerro Boulevard is located northwest of the project site and provides access to residential and commercial-retail areas. El Cerro Boulevard has an ADT of 10,400 east of Constitution Drive.

Green Valley Road is a two-lane, north-south, roadway that extends from Diablo Road to just north of Stone Valley Road. Green Valley Road is located northwest of the project site and provides access to residential areas and the Macedo Ranch Staging Area that provides access to Mount Diablo. Green Valley Road has an ADT of 12,500 north of Diablo Road.

Stone Valley Road is a two-lane, east-west, roadway that extends from the Town limits to I-680. Stone Valley Road is located northwest of the project site and provides access to residential and commercial areas. Stone Valley Road has an ADT of 9,000 west of Green Valley Road.

Existing Bicycle and Pedestrian Facilities

Bicycle facilities are divided into three classes. Class I bikeways are bike paths that are physically separated from motor vehicles and offer two-way bicycle travel on a separate path. Class II bikeways are striped bike lanes on roadways that are marked by signage and pavement markings. Class III bikeways are bike routes and only have signs to help guide bicyclists on recommended routes to certain locations.

The *Contra Costa Countywide Bicycle and Pedestrian Plan,* from 2009, describes the existing bicycle network in the Town of Danville. The existing bicycle facilities in the vicinity of the project site are described below and shown on Figure 3.

- Diablo Road – existing Class II bicycle lanes from I-680 in the west to Green Valley Road and an existing Class I bicycle path from Green Valley Road to Calle Arroyo.
- El Cerro Boulevard – existing Class II bicycle lanes from Danville Boulevard in the west to Diablo Road.
- Camino Tassajara – existing Class II bicycle lanes from Diablo Road to Lusitano Street.
- Green Valley Road – existing Class II bicycle lanes from Diablo Road to Stone Valley Road.
- Stone Valley Road – existing Class II bicycle lanes from Danville Boulevard to Green Valley Road.

Pedestrian facilities in the project area consist primarily of sidewalks along the streets near the project site. Sidewalks are found along the northern side of Blackhawk Road adjacent to the project site. There are currently no sidewalks on the south side of Blackhawk Road. In addition, there are no sidewalks on either side of Diablo Road between Mt. Diablo Scenic Boulevard and Calle Arroyo. Crosswalks are present at all signalized intersections in the study area.

Existing Transit Service

Existing transit service in Danville is provided by the Central Contra Costa Transit Authority (CCCTA). However, there is currently no transit service available along Diablo Road and/or Blackhawk Road near the project site. The closest transit service provided is described below.

- The *21 line* provides service between the Walnut Creek BART station and the San Ramon Transit Center via Danville Boulevard, with 30 to 60-minute commute hour headways.
- The *92x line* (ACE Express) provides service between the Mitchell Drive Park and Ride and the Pleasanton Train station via I-680 and Sycamore Valley Road, with 60-minute headways from 6:00 to 7:00 AM and 5:00 to 7:00 PM.
- The *95x line* provides service between the Walnut Creek BART station and the San Ramon Transit Center via I-680 and Sycamore Valley Road, with 40-minute commute hour headways.
- The *321 line* provides weekend service between the Walnut Creek BART station and the San Ramon Transit Center via Danville Boulevard, with 120-minute headways.
- The *623 line* provides school day only service between Danville Boulevard/Alamo Plaza and Annabel Lane via Stone Valley Road, Green Valley Road, and Diablo Road. The line operates between 3:00 PM and 4:15 PM.

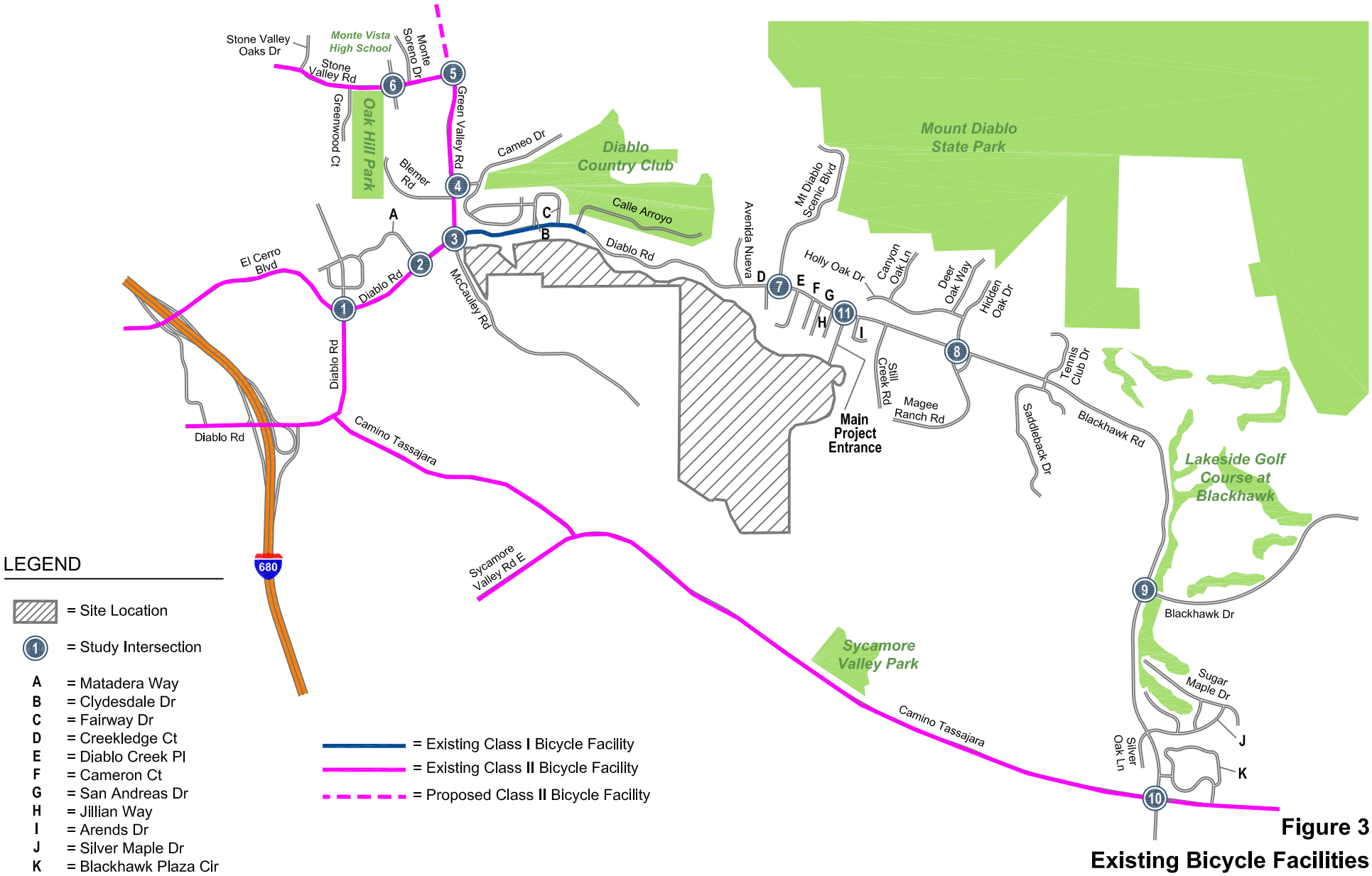


Figure 3
Existing Bicycle Facilities

The closest access to the BART system, which provides service to San Francisco and many locations in the East Bay, is at the Walnut Creek and Dublin-Pleasanton stations, which are located approximately 11 and 13 miles away, respectively. The closest access to the Altamont Commuter Express, with service to San Jose and Stockton, is at the Pleasanton Station, 17 miles south of the project site.

The Town of Danville is a participating member of the Measure J Traffic Congestion Relief Agency, an independent joint powers authority known as TRAFFIX. TRAFFIX is a traffic congestion relief program funded by Measure J, the 1/2 cent sales tax extended by Contra Costa voters in 2004. Its purpose is to reduce school related traffic congestion along some of the San Ramon Valley's most congested corridors. Within the project area there are currently two TRAFFIX bus routes (LC 8 and LC 9) servicing Los Cerros Middle School, two bus routes (GV 8 and GV 9) servicing Green Valley Elementary School, and one bus route (MV 10) servicing Monte Vista High School. TRAFFIX began service in 2009 and is funded annually by a percentage of the ½-cent sales tax revenues for the life of Measure J, which is expected to sunset in 2034 unless it is reinstated by the voters.

Existing Intersection Lane Configurations & Traffic Volumes

The existing lane configurations at the study intersections were determined by observations in the field and confirmed with Town staff. The existing intersection lane configurations are shown on Figures 4A thru 4G.

Daily traffic counts were collected in October 2010 on Blackhawk Road in the vicinity of the project site. These data included the volume and direction of vehicles over a 72-hour time period. There are approximately 8,254 daily trips (both directions) on Blackhawk Road, between Diablo Creek Place and Cameron Court, during a typical weekday. A further breakdown shows there are approximately 533 westbound trips and 275 eastbound trips during the AM peak hour, approximately 381 westbound trips and 537 eastbound trips during the school PM peak hour, and approximately 368 westbound trips and 395 eastbound trips during the PM peak hour on a typical weekday.

Existing peak hour traffic volumes were obtained from new manual turning-movement counts at the study intersections. The existing peak hour intersection volumes are shown on Figures 5 and 6, respectively. Traffic count data are included in Appendix A. It should be noted, in addition to the southbound right turn volume shown at the intersection of Mt. Diablo Scenic Boulevard and Diablo Road/Blackhawk Road in Figures 5 and 6, there is additional right turn volume that bypasses the study intersection via a southbound right turn slip lane on Mt. Diablo Scenic Boulevard. This slip lane connects southbound Mt. Diablo Scenic Boulevard to westbound Diablo Road and accommodates one-way traffic.

Diablo Cut-Through Survey

In response to comments raised at the EIR scoping meeting, the Town of Danville directed Hexagon to conduct a license plate survey of vehicles traveling through the community of Diablo to determine if cut-through traffic occurs through the community of Diablo, north of Diablo Road. The reported cut-through routes identified by the commenters were from Diablo Road to Avenida Nueva to La Cadena to Alameda Diablo and back to Diablo Road in the westbound direction and the reverse in the eastbound direction. Based on the pattern of existing cut-through traffic, Hexagon analyzed the potential for the proposed project to generate additional cut-through trips along these roadways.

The survey was conducted for the peak flow direction during the AM peak hour (7-9 AM), school PM peak hour (2-4 PM), and PM peak hour (4-6 PM). License plate numbers were noted at the beginning and end of the cut-through roadway section. If the license plate number showed up at the beginning and end of the cut-through section within a 10-minute period, it was considered a cut-through vehicle. The survey data is shown in Appendix E. The results of the survey show that there are some cut-through vehicles north of Diablo Road, but they represent less than 5% of the total traffic on the neighborhood streets (see Table 3) and summarized below:

- During the AM peak hour, 4 of the 79 vehicles traveling westbound on Avenida Nueva (5%) and 4 of 142 vehicles traveling westbound on Alameda Diablo (3%), were identified as cut-through trips.
- During the school PM peak hour, 6 of the 162 vehicles traveling eastbound on Alameda Diablo (4%) and 6 of 128 vehicles traveling eastbound on Avenida Nueva (5%), were identified as cut-through trips.
- During the commute PM peak hour, 4 of the 123 vehicles traveling eastbound on Alameda Diablo (3%) and 4 of 181 vehicles traveling eastbound on Avenida Nueva (2%), were identified as cut-through trips.

Applying the 5% cut-through rate to the project's trip generation, the proposed project would generate less than 5 vehicles that would cut-through Avenida Nueva or Alameda Diablo during any of the peak periods. Given the negligible contribution of project traffic to primary roadways of Avenida Nueva or Alameda Diablo, additional operational analysis of these roadways was not conducted in the traffic study.

Table 3
Diablo Cut-through Survey

Roadway Segment	Direction	Total Traffic Volume	Cut-Through Traffic	% Cut-Through
7-9 AM Peak Period				
Avenida Nueva	Westbound	79	4	5%
Alameda Diablo	Westbound	142	4	3%
2-4 PM Peak Period				
Alameda Diablo	Eastbound	162	6	4%
Avenida Nueva	Eastbound	128	6	5%
4-6 PM Peak Period				
Alameda Diablo	Eastbound	123	4	3%
Avenida Nueva	Eastbound	181	4	2%

As a part of the EIR scoping process, the Contra Costa County Public Works Department requested that special attention should be provided to the intersections of Diablo Road/Mount Diablo Scenic and Diablo Road/Avenida Nueva as these intersections experience high traffic volumes during a defined peak hour. The intersection of Diablo Road/Mount Diablo Scenic is included as a study intersection and analyzed as a part of the Unsignalized Intersection Analysis. However, the intersection of Diablo Road/Avenida Nueva was not added to the list of study intersections given that the Diablo Cut-Through survey demonstrated that a negligible percentage of project traffic would be added to this intersection.

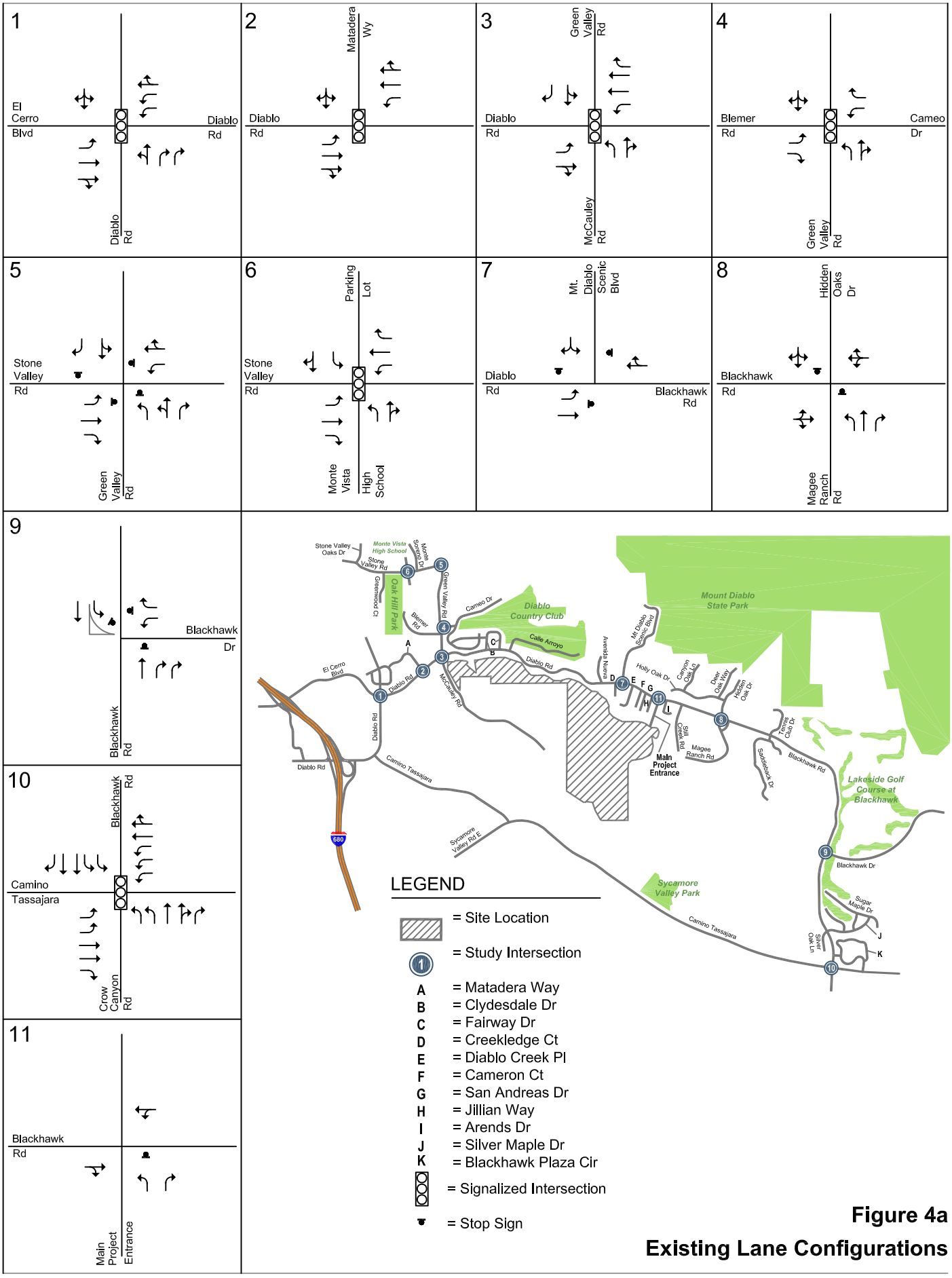


Figure 4a
Existing Lane Configurations

NORTH
Not to Scale

Figure 4b

Diablo Road - Magee Ranch Road - Hidden Oak Drive Intersection Lane Configurations

Figure 4c

Diablo Road - Clydesdale Drive - Fairway Drive Intersection Lane Configurations

Figure 4d

Diablo Road - Mt. Diablo Scenic Intersection Lane Configurations

Figure 4e

Green Valley Road - Cameo Drive - Blemer Road
Intersection Lane Configurations

Figure 4f

Green Valley Road - Diablo Road Intersection Lane Configurations

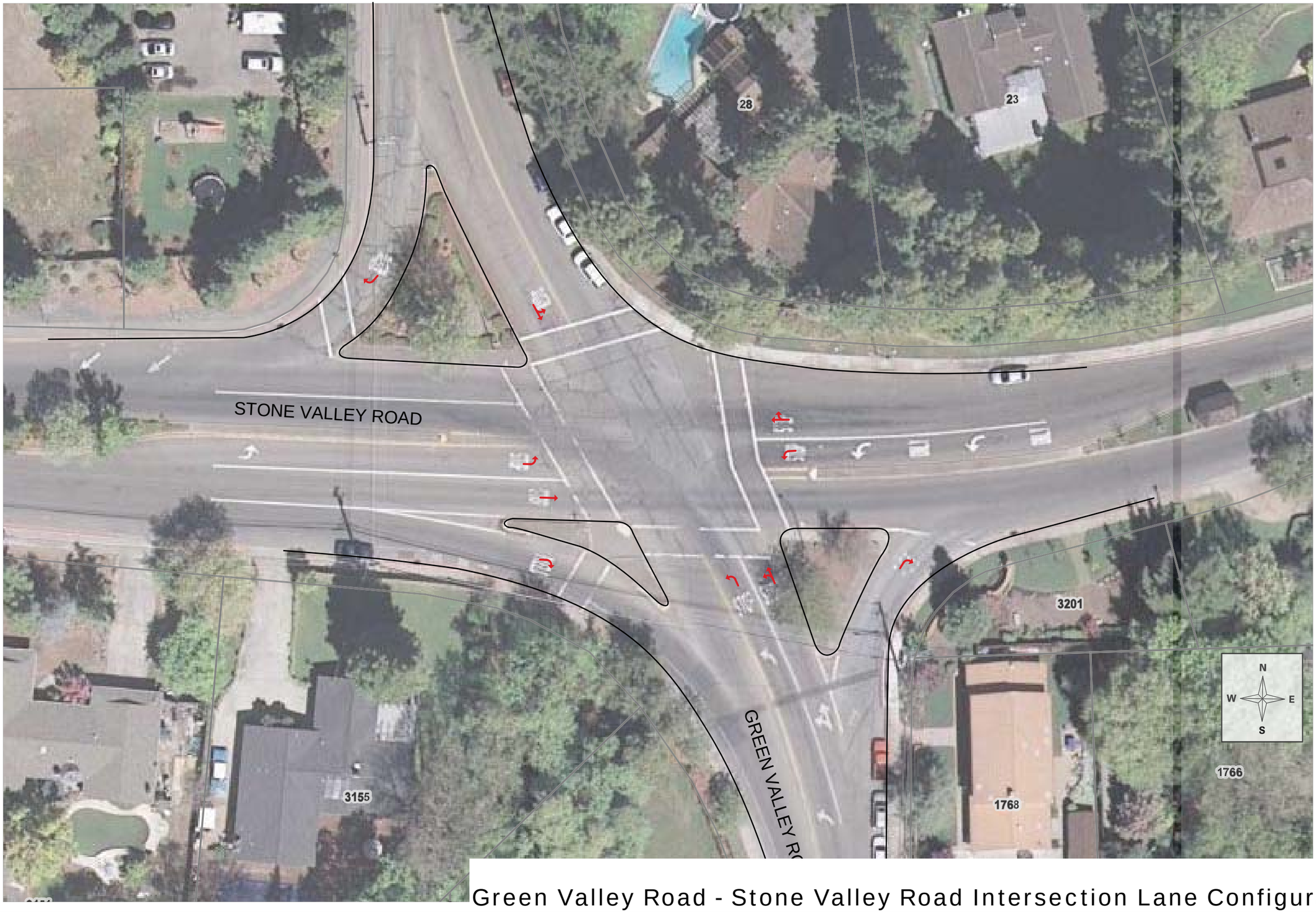


Figure 4g

Green Valley Road - Stone Valley Road Intersection Lane Configurations

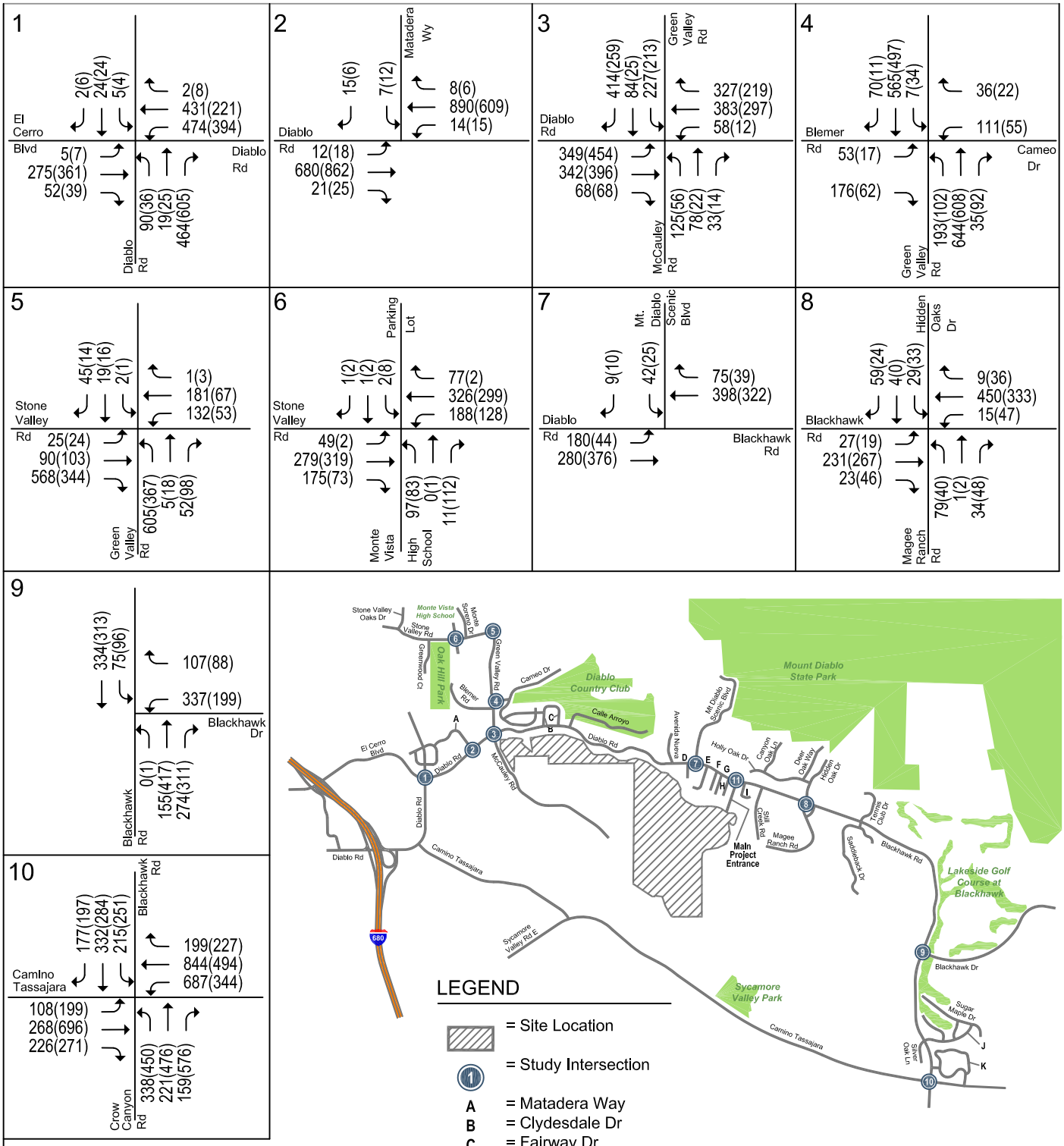


Figure 5

Existing AM and PM Peak Hour Traffic Volumes

NORTH
Not to Scale

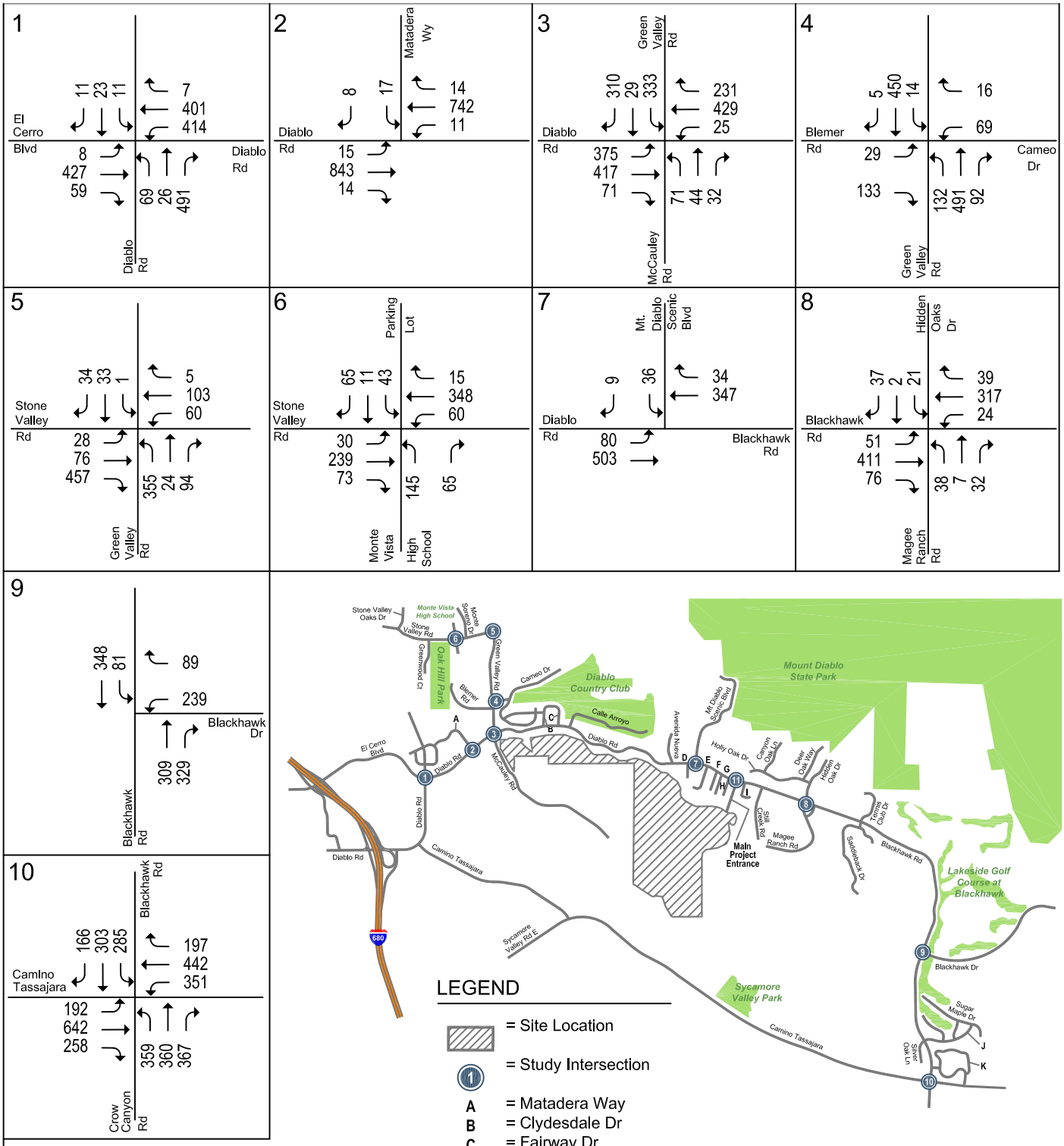


Figure 6

Existing School PM Peak Hour Traffic Volumes

NORTH
Not to Scale

Existing Intersection Levels of Service

The results of the level of service analysis under existing conditions show that the intersection of Green Valley Road and Blemer Road/Cameo Drive operates at an unacceptable LOS E, with a V/C of 0.712, during the AM Peak hour (see Table 4). All of the remaining signalized study intersections currently operate at acceptable levels of service (LOS D or better) during the AM, school PM, and PM peak hours of traffic. The level of service calculation sheets are included in Appendix B.

Table 4
Existing Intersection Levels of Service – HCM Methodology

Intersection	Traffic Control	Peak Hour	Count Date	Existing Avg. Delay	Existing LOS	Existing Crit. V/C
Signalized Intersections						
Diablo Rd and El Cerro Blvd	Signalized	AM	10/7/2010	31.0	C	0.492
		Midday	10/7/2010	32.8	C	0.485
		PM	10/7/2010	33.4	C	0.501
Matadera Wy and Diablo Rd	Signalized	AM	10/7/2010	4.0	A	0.312
		Midday	10/7/2010	4.3	A	0.318
		PM	10/7/2010	4.2	A	0.295
Green Valley Rd and Diablo Rd	Signalized	AM	10/7/2010	51.8	D	0.832
		Midday	10/7/2010	50.2	D	0.826
		PM	10/7/2010	36.3	D	0.734
Green Valley Rd and Blemer Rd/Cameo Dr	Signalized	AM	10/21/2010	**59.9**	**E**	0.712
		Midday	10/21/2010	30.6	C	0.454
		PM	10/21/2010	30.2	C	0.498
Monte Vista H.S. and Stone Valley Rd	Signalized	AM	10/21/2010	22.4	C	0.514
		Midday	10/21/2010	22.4	C	0.500
		PM	10/21/2010	21.6	C	0.404
Blackhawk Rd/Crow Canyon Rd and Camino Tassajara	Signalized	AM	10/28/2010	39.1	D	0.584
		Midday	10/28/2010	42.2	D	0.592
		PM	10/28/2010	41.3	D	0.595

Note 1: Box denotes poor intersection LOS.

Observed Existing Traffic Conditions

Traffic conditions in the field were observed in order to identify existing operational deficiencies and to confirm the accuracy of calculated levels of service. The purpose of this effort was (1) to identify any existing traffic problems that may not be directly related to intersection level of service, and (2) to identify any locations where the LOS calculation does not accurately reflect level of service in the field.

Overall, most of the study intersections operate adequately during the weekday AM, school PM, and PM peak hours, and the level of service analysis appears to accurately reflect actual existing traffic conditions. However, field observations showed that some operational and queuing problems currently occur at the following locations:

Green Valley Road/McCauley Road and Diablo Road

During the AM peak hour, the southbound queue on Green Valley Road occasionally spills back to Blemer Road and typically clears in two signal cycles. The westbound queue on Diablo Road continually spills back approximately one-third of a mile and requires several signal cycles to clear the intersection.

During the school PM peak hour, the southbound queue on Green Valley Road spills back to Stone Valley Road and Monte Vista High School. This heavy queue lasts approximately 30 to 40 minutes during the timeframe

when the High School lets out. There also are heavy eastbound and westbound queues that require two or more signal cycles to clear the intersection.

During the PM peak hour, there is intermittent heavy eastbound queuing. However, the vehicle queues typically clear in one signal cycle.

Green Valley Road and Blemer Road/Cameo Drive

During the AM peak hour, there is intermittent heavy northbound and eastbound queuing. The vehicle queues tend to clear in one to two signal cycles.

During the school PM peak hour, the southbound queue on Green Valley Road spills back from Diablo Road and continues to Stone Valley Road and Monte Vista High School. This heavy queue lasts approximately 30 to 40 minutes during the timeframe when the High School lets out. The reported LOS of C during this period reflects the overall operations for the entire peak hour at the intersection. However, there are periods before and after school where traffic demand peaks and traffic delays are considerably higher than what is reported in the LOS calculations. The eastbound queue on Blemer Road occasionally spills back to Los Cerros Middle School and requires two signal cycles to clear the intersection.

Green Valley Road and Stone Valley Road

During the AM peak hour, there is intermittent heavy northbound and eastbound queuing. On occasion the northbound left turn movement was unable to proceed through the intersection due to the heavy westbound queue that spilled back from Monte Vista High School. In addition, traffic from the intersections at Green Valley Road/Blemer Road and Green Valley Road/Diablo Road occasionally spilled back to the intersection of Green Valley Road/Stone Valley Road. This prevented eastbound right turn traffic at the intersection of Green Valley Road/Stone Valley Road from making a free right turn. To better reflect the congestion noted in the field at this location, per the Town of Danville, the free eastbound right turn movement was run as a stop controlled movement in the LOS calculations to reflect a more conservative estimate of the intersection's operations.

During the school PM peak hour, the southbound queue on Green Valley Road spills back from Diablo Road and continues to Stone Valley Road and Monte Vista High School. This limits eastbound vehicles from entering and clearing the Green Valley Road/Stone Valley Road intersection. This heavy queue lasts approximately 30 to 40 minutes during the timeframe when the High School lets out.

Monte Vista High School and Stone Valley Road

During the AM peak hour, the westbound queue on Stone Valley Road occasionally spills back past Monte Sereno Drive and requires one to two signal cycles to clear the intersection.

During the school PM peak hour, the westbound queue on Stone Valley Road was occasionally greater than 750 feet blocking access to the turn pockets into Monte Vista High School. This heavy queue lasts approximately 30 to 40 minutes during the timeframe when the High School lets out.

Mt. Diablo Scenic Boulevard and Diablo Road/Blackhawk Road

During the AM and school PM peak hours, the westbound queue intermittently spilled back more than one-half mile to Still Creek Road to the east. The westbound queue took approximately 10 minutes to clear the intersection. The eastbound queues occasionally extended beyond Creekledge Court to the west. While the minor leg has an approach volume of 51 AM and 35 school PM peak hour vehicles, the eastbound leg has an approach volume of 460 AM and 583 school PM peak hour vehicles and the westbound leg has an approach volume of 473 AM and 381 school PM peak hour vehicles. The long eastbound and westbound queues are due to the heavy through traffic volumes on Diablo Road/Blackhawk Road which are hindered by the all-way stop control at the intersection.

3.
Existing Plus Project Conditions

This chapter describes existing plus project traffic conditions, significant project impacts, and measures that are recommended to mitigate project impacts. Included are descriptions of the significance criteria that define an impact, estimates of project-generated traffic, identification of the impacts, and descriptions of the mitigation measures. Existing plus project conditions are represented by existing traffic conditions with the addition of traffic generated by the project. While the currently proposed project has been revised to reflect 70 single family units with a minimum of 10% of the lots to include second units, the traffic analysis analyzed a project description that consists of 78 single-family homes, with a minimum of 25% of the properties assumed to include second dwelling units. The larger project size represents a more conservative analysis of the proposed project's impact.

Transportation Network Under Existing Plus Project Conditions

The transportation network under existing plus project conditions would be the same as the existing transportation network.

Project Trip Estimates

The magnitude of traffic produced by a new development and the locations where that traffic would appear are estimated using a three-step process: (1) trip generation, (2) trip distribution, and (3) trip assignment. In determining project trip generation, the magnitude of traffic entering and exiting the site is estimated for the commute AM, school PM, and commute PM peak hours. As part of the project trip distribution, an estimate is made of the directions to and from which the project trips would travel. In the project trip assignment, the project trips are assigned to specific streets and intersections. These procedures are described further in the following sections.

Trip Generation

Most communities utilize standard trip generation rates published in the Institute of Transportation Engineers (ITE) manual entitled *Trip Generation,* Eighth Edition, 2008*.* These rates are derived from data collected through empirical research nationwide and correlated to common land uses that produce traffic. Thus, for the most common land uses, there are standard trip generation rates that can be applied to help predict the future traffic increases that would result from a new development. The magnitude of traffic added to the roadway system by a particular development is estimated by multiplying the applicable trip generation rates times the size of the development.

As an additional level of evaluation, the Town of Danville has also compiled its own more conservative residential trip generation rates within the Town ("Danville Rates"). These rates are collected locally and more accurately reflect the predicted trip generation rates of similar residential projects in the Danville area. It should

be noted that the Danville Rate reflects a trip generation rate that is a blend of residential projects, with and without second dwelling units.

Therefore, in response to comments raised at the EIR scoping meeting regarding the need for trip generation rates that reflect residential projects with proposed second dwelling units, the traffic consultant conducted traffic counts of residential projects in Danville with second dwelling units (Victoria Place and Valerosa). The survey data are included in Appendix A.

The trip generation rates derived from this survey are referred to in the analysis as the "Danville Rate (With Second DU)." The projects reviewed were approved at the time when the Town required a minimum of 25% of the properties to include second units to satisfy the affordable housing requirements; these projects could build more than 25% of the properties with a second unit. The Town's current affordable housing requirements allow a project to include a minimum of 10% of the properties with second units. A comparison of the rates is shown on Table 5.

Table 5
Residential Trip Rate Comparisons

Sources	Daily	Peak Hour		
		AM	School PM	PM
ITE Rates[1]	9.57	0.75	N/A	1.01
Danville Rates[2]	10.20	1.06	N/A	1.02
Danville Rates (No Second DU)[3]	8.50	N/A	0.81	N/A
Danville Rates (With Second DU)[4]	12.17	1.40	1.25	1.02

Note: Development sizes provided by Town staff.
[1] Source: Single-Family Detached Housing (210), ITE Trip Generation, Eighth Edition, 2008, average rates.
[2] Source: Town of Danville observed local residential trip rates for the daily, AM, and PM peak hours.
[3] Source: Observed 3-day local residential trip rates at one similar development without second dwelling units (DU):
Hidden Valley on McCauley Rd - 216 SF units - Count dates: Oct. 26 - 28, 2010.
[4] Source: Observed 3-day local residential trip rates at two similar developments with second DU:
Victoria Place - 24 SF units plus 5 casitas - Count dates: May 17 - 19, 2011.
Valerosa on Fairwood Ct - 20 SF units plus 4 casitas - Count dates: May 17 - 19, 2011.

Consistent with direction from the Town of Danville to conduct a traffic analysis using the most conservative assumptions, this report applies the "Danville Rates (With Second DU)" at 12.17 daily trips to the project's daily, AM, school PM, and PM peak hours as shown in Table 6. Based on these more conservative rates, the project (with a minimum of 25% of the properties assumed to include second dwelling units) would generate 949 daily trips, including 109 AM peak hour trips, 98 school PM peak hour trips, and 80 PM peak hour trips.

Trip Distribution and Assignment

The directional distribution of site-generated traffic to and from the project area was developed based on existing travel patterns on the surrounding roadway system, the locations of complementary land uses and previous traffic analyses. The peak hour trips generated by the proposed use were assigned to the roadway system in accordance with the distribution pattern discussed above. Figure 7 shows the trip distribution patterns that were used. Figure 8 shows the project trip assignment for the proposed residential development. The project driveway trips are shown on Figure 9.

Table 6
Project Trip Generation Estimates

		Daily		AM Peak Hour				School PM Peak Hour				PM Peak Hour			
Land Use	Size	Rate[1]	Trips	Rate[2]	In	Out	Total	Rate[2]	In	Out	Total	Rate[3]	In	Out	Total
Single Family Homes	78 units	12.17	949	1.40	36	73	109	1.25	59	39	98	1.02	50	30	80

[1] Source: Observed 3-day local residential daily trip rate.
[2] Source: Observed 3-day local residential trip rate and in/out splits during the AM and School PM peak hours.
[3] Source: Town of Danville observed local residential trip rate and ITE in/out splits for the PM peak hour.

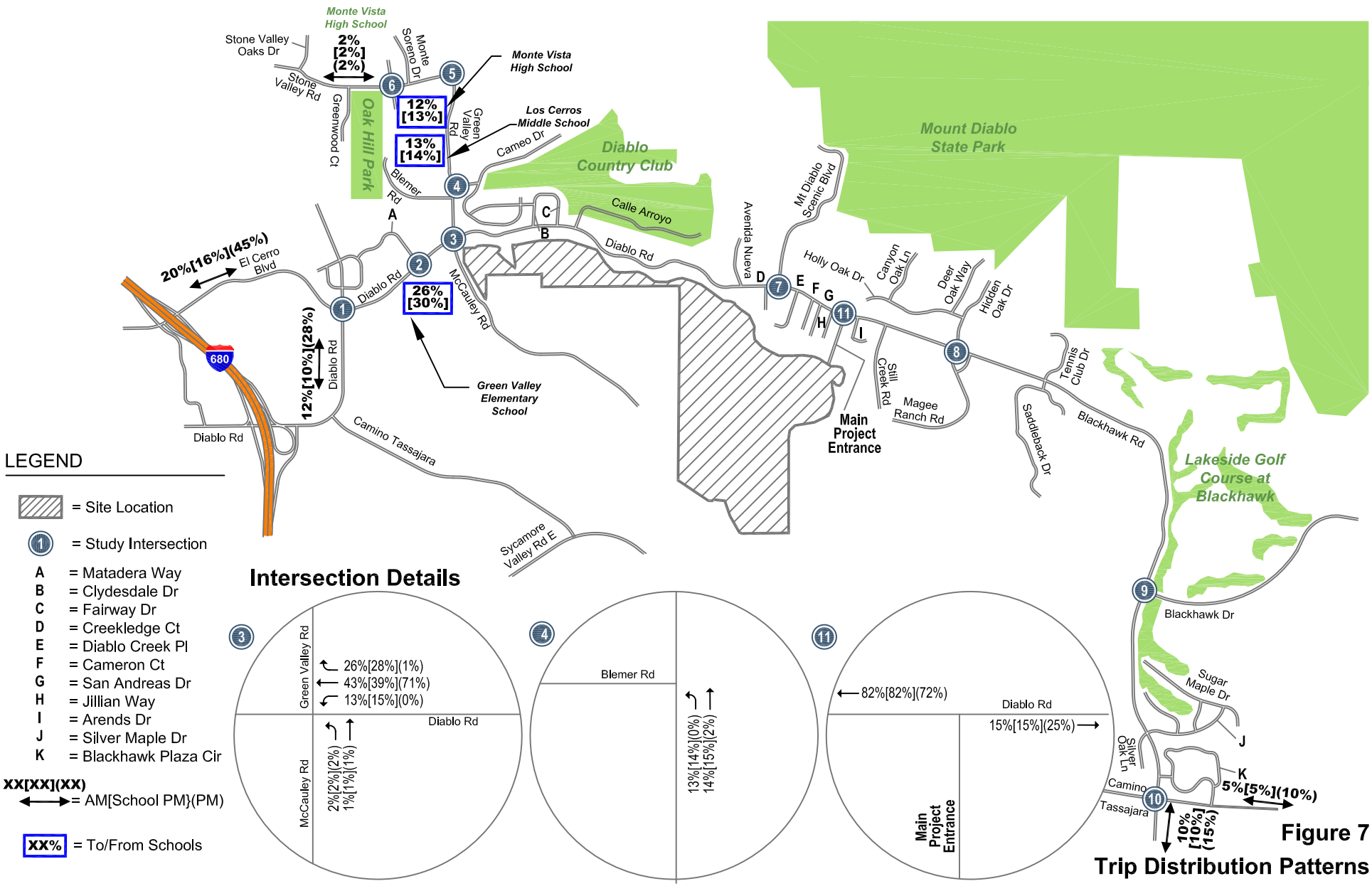


Figure 7
Trip Distribution Patterns

NORTH
Not to Scale

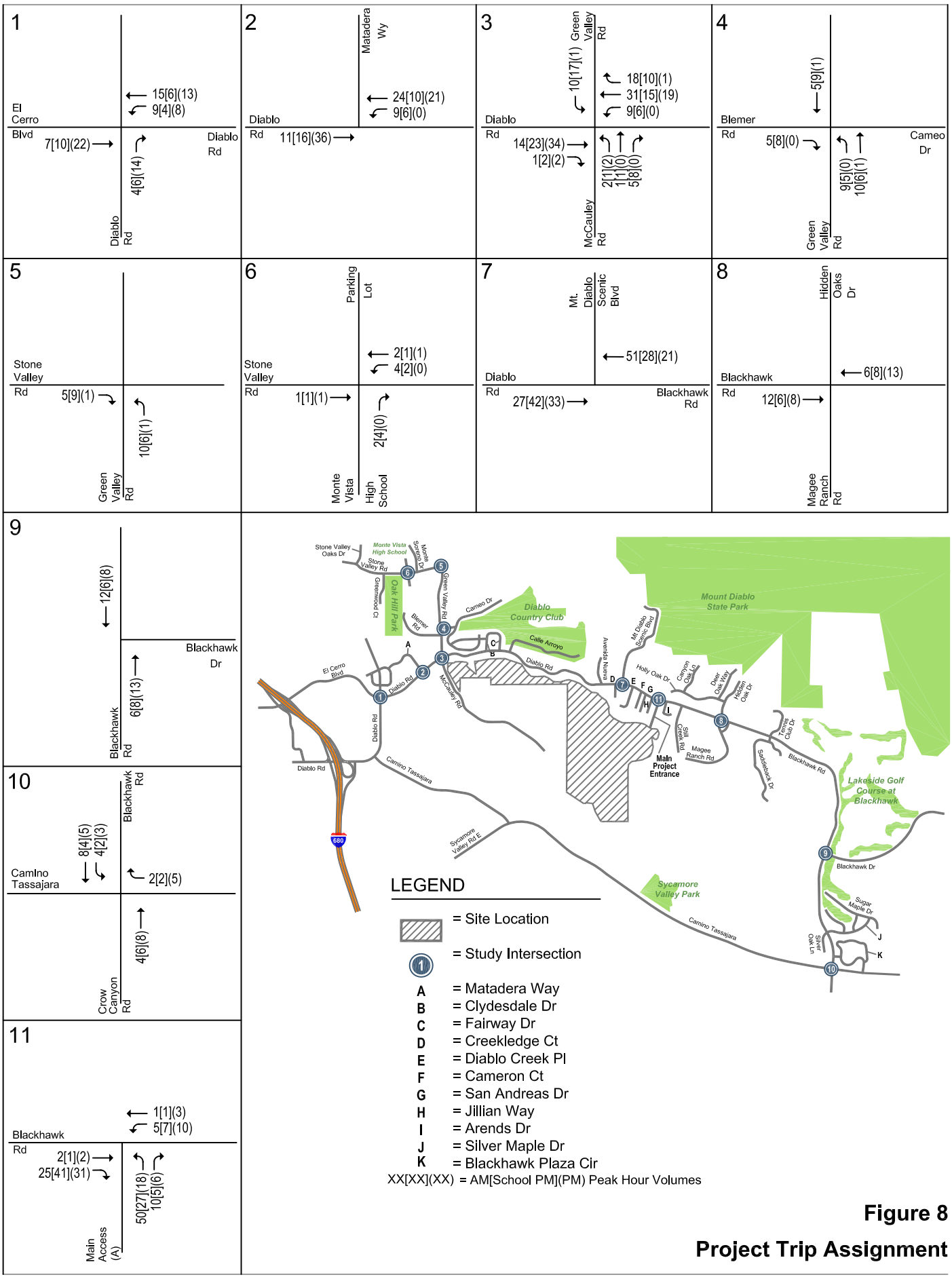
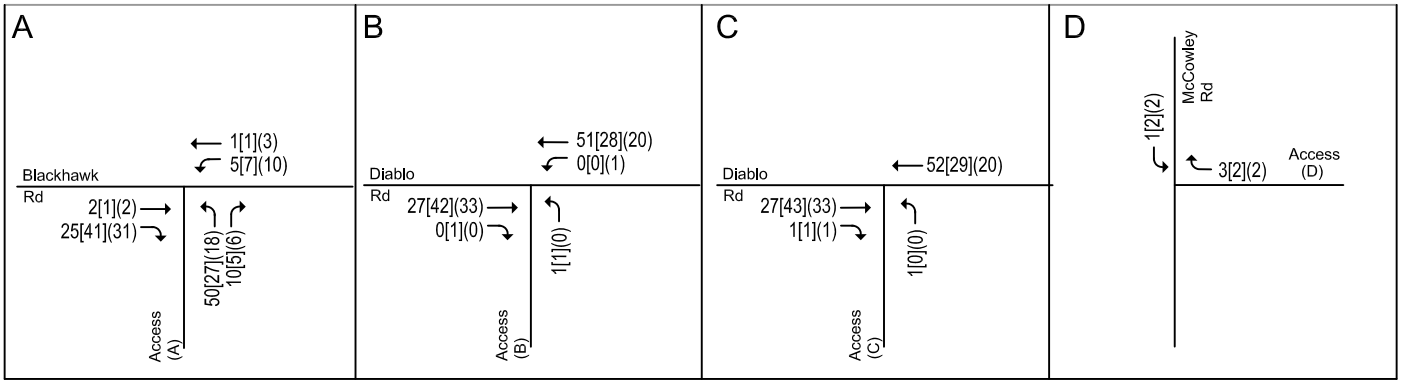
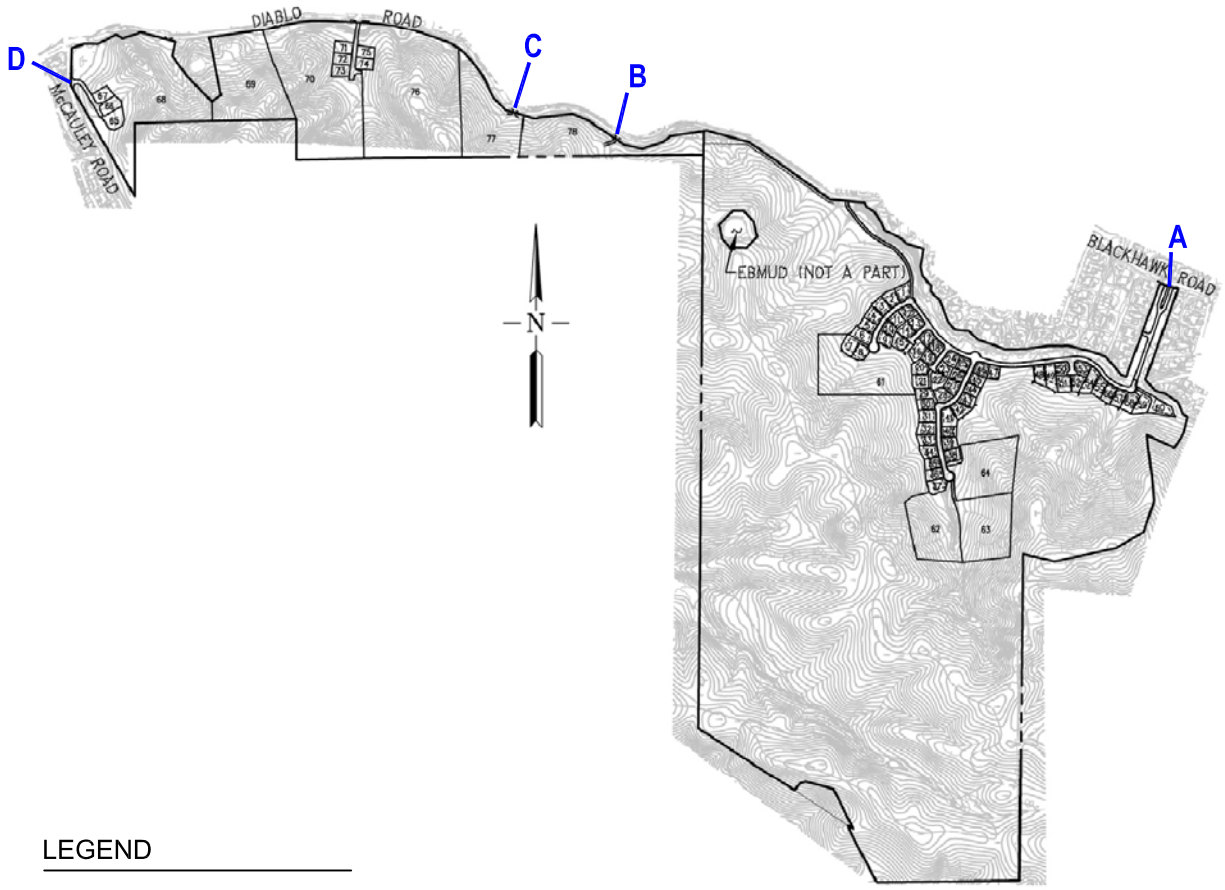


Figure 8

Project Trip Assignment





LEGEND

XX[XX](XX) = AM[School PM](PM) Peak Hour Volumes

Figure 9

Project Driveway Trip Assignment

It is expected that the residents of the new development would include school-age children, and that vehicle trips would be made between the site and nearby schools. In order to properly estimate the magnitude of these these trips, data were obtained from the San Ramon Valley school district that specified typical student ratios for residential developments, broken down by approximate age group. Those ratios were then used to determine the percentage of project trips that would occur between the project and either Green Valley Elementary School, Los Cerros Middle School, or Monte Vista High School. It is estimated that approximately 26% and 30% of the project trips would be destined for Green Valley Elementary School during the AM and school PM peak hours, respectively. Approximately 13% and 14% of the project trips would be destined for Los Cerros Middle School during the AM and school PM peak hours, respectively. Approximately 12% and 13% of the project trips would be destined for Monte Vista High School during the AM and school PM peak hours, respectively.

It should be noted that, due to the low percentage of cut-through traffic observed under existing conditions (5%), Hexagon did not assign project cut-through traffic along the potential cut-through route north of Diablo Road within the Diablo community.

Existing Plus Project Traffic Volumes

Project trips, as represented in the above project trip assignment, were added to existing traffic volumes to obtain existing plus project traffic volumes. The existing plus project traffic volumes are shown on Figures 10 and 11, respectively.

Intersection Level of Service Analysis

The results of the level of service analysis under existing plus project conditions are summarized in Table 7. The results show that the intersection of Green Valley Road and Blemer Road/Cameo Drive would continue to operate at an unacceptable LOS E. However, the project would add only 29 trips to the intersection during the AM peak hour and the addition of project traffic would not increase the V/C by 0.05 or more. Therefore, the project trips added would not constitute a significant impact.

All of the remaining signalized intersections would continue to operate at acceptable levels of service (LOS D or better) during the AM, school PM, and PM peak hours of traffic under existing plus project conditions.

Table 7
Existing Plus Project Intersection Levels of Service – HCM Methodology

		Existing			Existing Plus Project		
Intersection	Peak Hour	Avg. Delay	LOS	Crit. V/C	Avg. Delay	LOS	Crit. V/C
Signalized Intersections							
Diablo Rd and El Cerro Blvd	AM	31.0	C	0.492	31.0	C	0.504
	Midday	32.8	C	0.485	32.8	C	0.492
	PM	33.4	C	0.501	33.6	C	0.516
Matadera Wy and Diablo Rd	AM	4.0	A	0.312	4.2	A	0.320
	Midday	4.3	A	0.318	4.5	A	0.328
	PM	4.2	A	0.295	4.4	A	0.310
Green Valley Rd and Diablo Rd	AM	51.8	D	0.832	54.2	D	0.862
	Midday	50.2	D	0.826	52.1	D	0.853
	PM	36.3	D	0.734	36.8	D	0.749
Green Valley Rd and Blemer Rd/Cameo Dr	AM	**59.9**	**E**	0.712	**61.5**	**E**	0.722
	Midday	30.6	C	0.454	31.0	C	0.463
	PM	30.2	C	0.498	30.3	C	0.499
Monte Vista H.S. and Stone Valley Rd	AM	22.4	C	0.514	22.5	C	0.519
	Midday	22.4	C	0.500	22.4	C	0.501
	PM	21.6	C	0.404	21.5	C	0.405
Blackhawk Rd/Crow Canyon Rd and Camino Tassajara	AM	39.1	D	0.584	39.2	D	0.587
	Midday	42.2	D	0.592	42.3	D	0.594
	PM	41.3	D	0.595	41.3	D	0.598

Note 1: Box denotes poor intersection LOS.

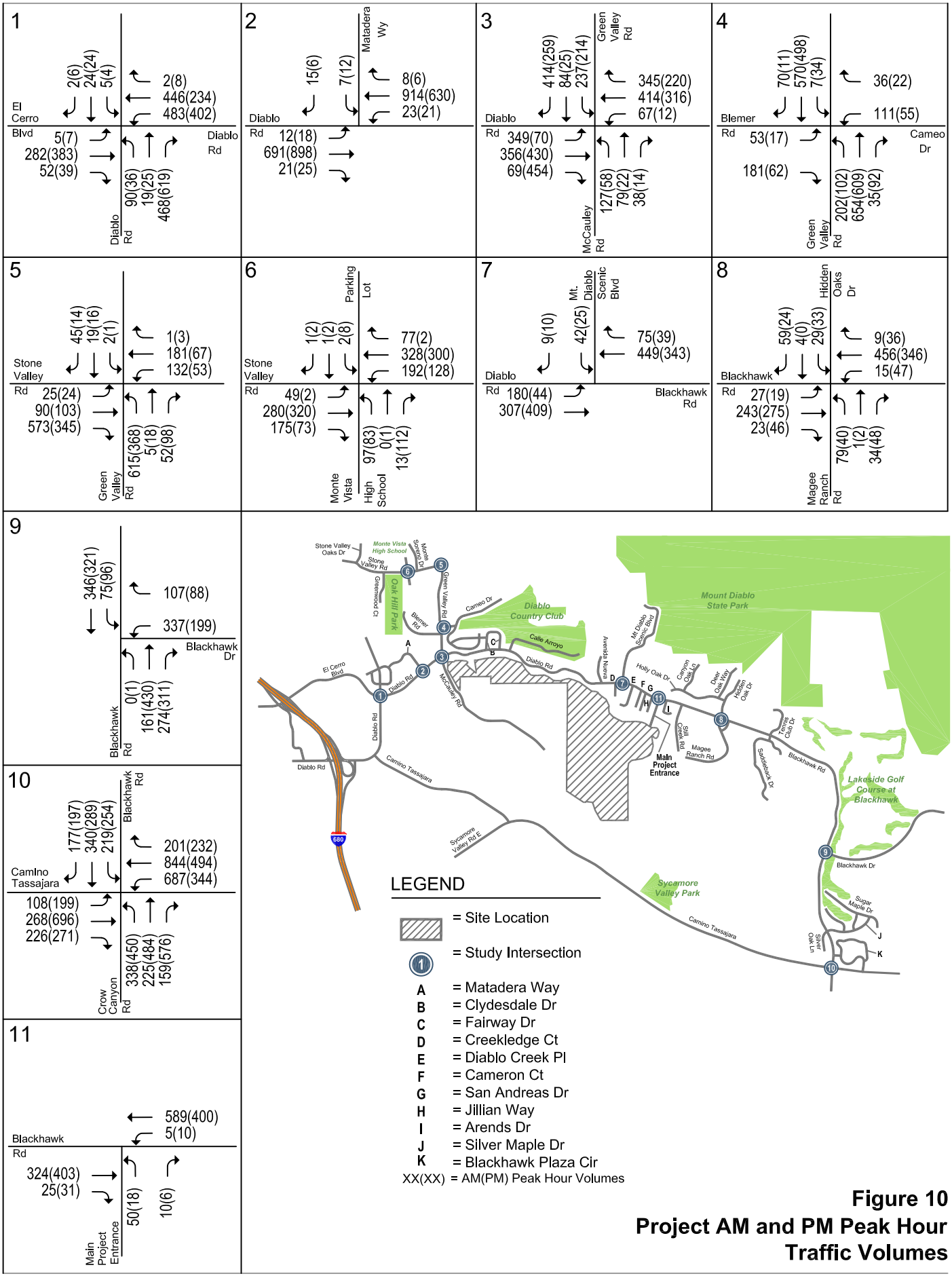


Figure 10
Project AM and PM Peak Hour Traffic Volumes

NORTH
Not to Scale

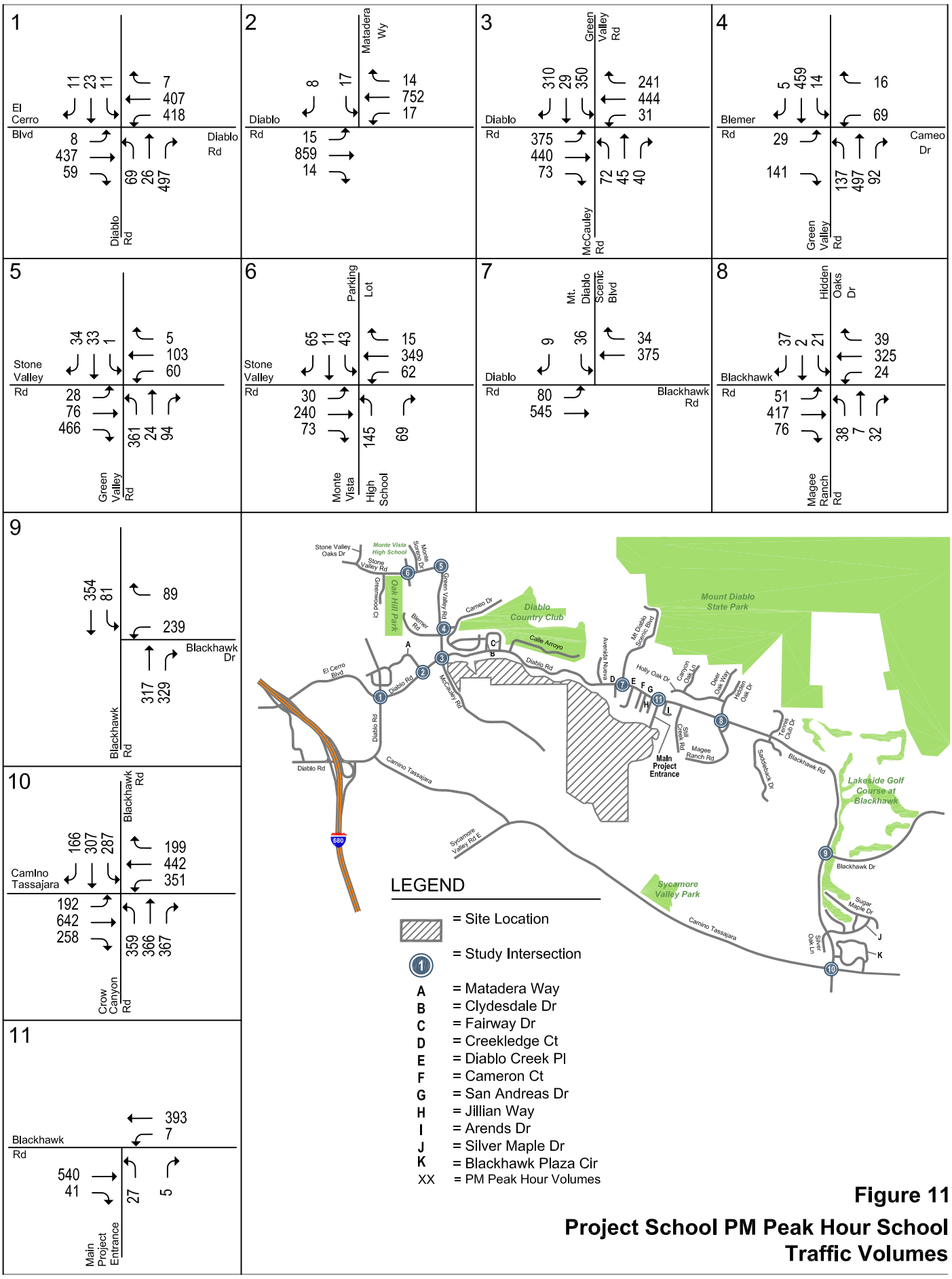


Figure 11

Project School PM Peak Hour School Traffic Volumes

NORTH
Not to Scale

4.
Cumulative Conditions

This chapter presents a summary of the traffic conditions that would occur under cumulative conditions with and without the proposed project. For this analysis, cumulative conditions represent forecasted long-term future (year 2030) traffic conditions, resulting primarily from background growth of the surrounding communities in the region.

Cumulative Transportation Network and Traffic Volumes

Cumulative no project traffic volumes were estimated based on traffic forecasts produced by the Contra Costa Transportation Authority's (CCTA) TransCAD travel forecasting model. According to the CCTA model, peak hour traffic in the project vicinity is projected to increase by approximately two percent per year between the years 2005 and 2030. Cumulative traffic volumes were estimated by applying to existing traffic volumes an annual growth factor of two percent over a period between the date of the existing traffic counts and year 2030. These traffic volumes are hereafter referred to as "2030 cumulative no project traffic volumes". The intersection lane configurations under cumulative no project conditions were assumed to be the same as described under existing conditions. Cumulative traffic volumes *with* the proposed project were estimated by adding the traffic generated by the proposed project to the 2030 cumulative no project traffic volumes. The cumulative no project and cumulative with project traffic volumes are shown on Figures 12 thru 15, respectively.

Cumulative Intersection Level of Service Analysis

The signalized intersection level of service results under cumulative conditions are summarized in Table 8. The detailed level of service calculation sheets are included in Appendix B. The results of the cumulative no project and project scenarios are described in the following sections:

Cumulative Conditions - No Project

The results show that two signalized study intersections would operate at an unacceptable LOS E or worse under cumulative no project conditions as indicated below:

Green Valley Rd and Diablo Rd (AM and school PM peak hours – LOS F, PM peak hour – LOS E)

Green Valley Rd and Blemer Rd/Cameo Dr (AM and PM peak hours – LOS F, school PM peak hour – LOS E)

All other study intersections would operate at an acceptable LOS D or better under cumulative no project conditions during the AM, school PM, and PM peak hours.

Table 8
Cumulative Intersection Levels of Service – HCM Methodology

		2030 Cumulative					
		No Project			With Project[1]		
Intersection	Peak Hour	Avg. Delay	LOS	Crit. V/C	Avg. Delay	LOS	Crit. V/C
Signalized Intersections							
Diablo Rd and El Cerro Blvd	AM	36.3	D	0.730	36.6	D	0.742
	Midday	37.7	D	0.720	37.9	D	0.727
	PM	38.7	D	0.745	39.2	D	0.760
Matadera Wy and Diablo Rd	AM	4.1	A	0.464	4.3	A	0.471
	Midday	4.4	A	0.473	4.6	A	0.483
	PM	4.2	A	0.438	4.4	A	0.453
Green Valley Rd and Diablo Rd	AM	**114.5**	**F**	1.237	**121.8**	**F**	1.266
	Midday	**115.4**	**F**	1.227	**121.8**	**F**	1.254
	PM	**73.1**	**E**	1.091	**75.8**	**E**	1.106
Green Valley Rd and Blemer Rd/Cameo Dr	AM	**171.1**	**F**	1.059	**174.2**	**F**	1.068
	Midday	**67.9**	**E**	0.675	**69.6**	**E**	0.684
	PM	**95.1**	**F**	0.732	**95.4**	**F**	0.732
Monte Vista H.S. and Stone Valley Rd	AM	34.1	C	0.763	34.6	C	0.767
	Midday	28.2	C	0.744	28.3	C	0.744
	PM	25.1	C	0.600	25.1	C	0.601
Blackhawk Rd/Crow Canyon Rd and Camino Tassajara	AM	47.8	D	0.867	47.9	D	0.870
	Midday	52.1	D	0.880	52.3	D	0.882
	PM	51.6	D	0.884	51.8	D	0.887

Note 1: Box denotes poor intersection LOS.
[1] 2030 cumulative with project conditions does not include the Weber Development or Weber Lane.

Cumulative Conditions - With Project

The results show that, measured against the level of service standards, two signalized study intersections would continue to operate at an unacceptable LOS E or worse with the addition of project traffic. They are:

Green Valley Rd and Diablo Rd (AM and school PM peak hours – LOS F, PM peak hour – LOS E)

Green Valley Rd and Blemer Rd/Cameo Dr (AM and PM peak hours – LOS F, school PM peak hour – LOS E)

At the intersection of Green Valley Road and Diablo Road, the project would add 91 trips during the AM peak hour, 83 trips during the school PM peak hour, and 59 trips during the PM peak hour. At the intersection of Green Valley Road and Blemer Road/Cameo Drive, the project would add 29 trips during the AM peak hour, 28 trips during the school PM peak hour, and 2 trips during the PM peak hour. However, the project trips added would not increase the V/C by 0.05 or more at the intersections. The V/C increase would be between 0.009 and 0.029 at both intersections and thus, the project's contribution to these intersections would not be cumulatively considerable. Therefore, the project trips added to the intersections would not constitute a significant impact.

Although the project would not create a significant impact at this intersection, the Town requested an analysis of improvements at the southeast corner of the Diablo Road/Green Valley Road intersection including the extension of the westbound right-turn and through lanes to evaluate the effect of queue mitigation. With these improvements, the intersection of Green Valley and Diablo Road would still operate at LOS E but with less delay: 91 seconds of average delay during the AM peak hour (compared to 121.8 seconds), 89 seconds of average delay during the school PM peak hour (compared to 121.8 seconds), and 56 seconds of average delay during the PM peak hour (compared to 75.8 seconds).

All other study intersections would operate at an acceptable LOS D or better under cumulative with project conditions during the AM, school PM, and PM peak hours.

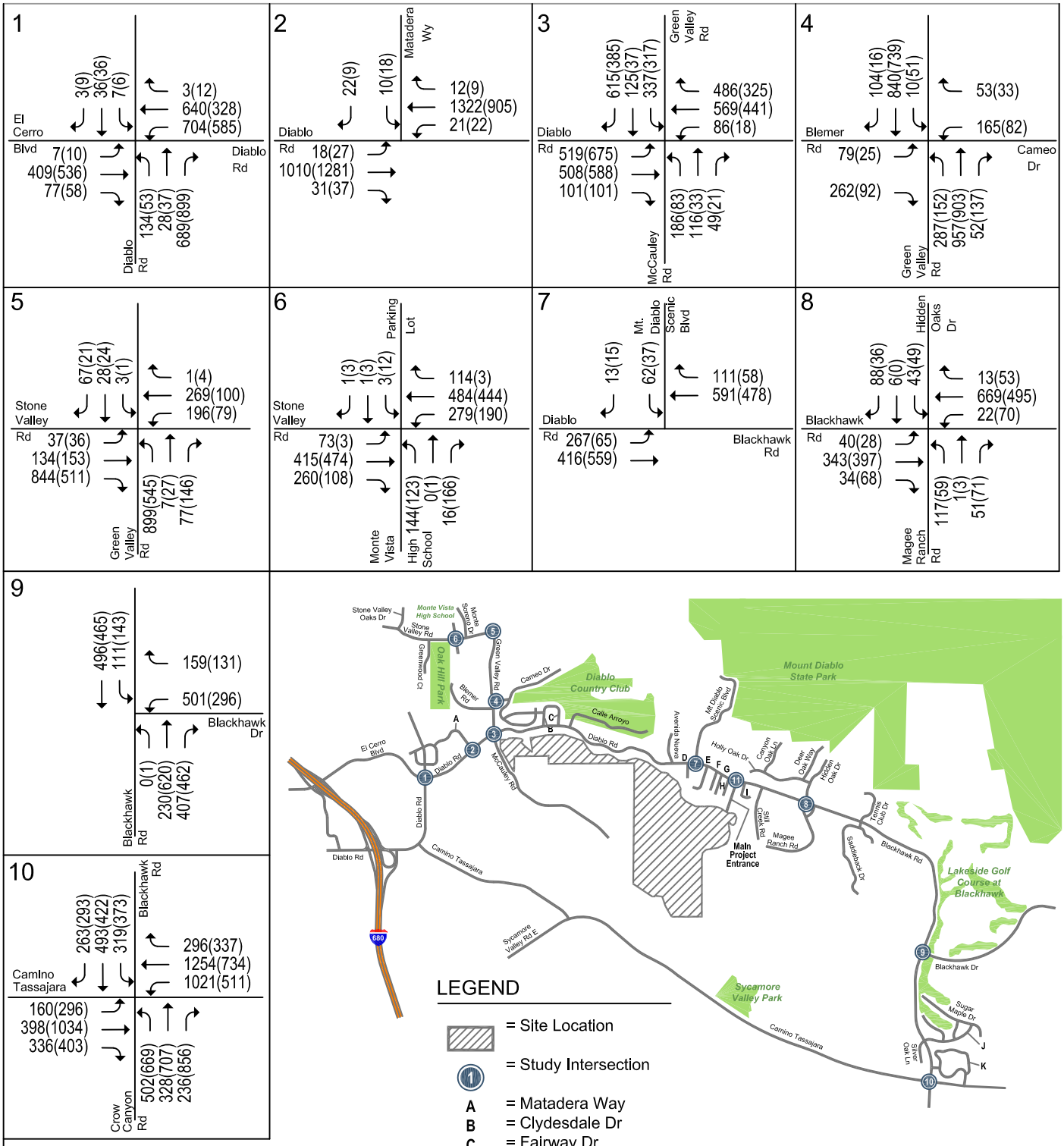


Figure 12

2030 Cumulative No Project AM and PM Peak Hour Traffic Volumes

NORTH
Not to Scale

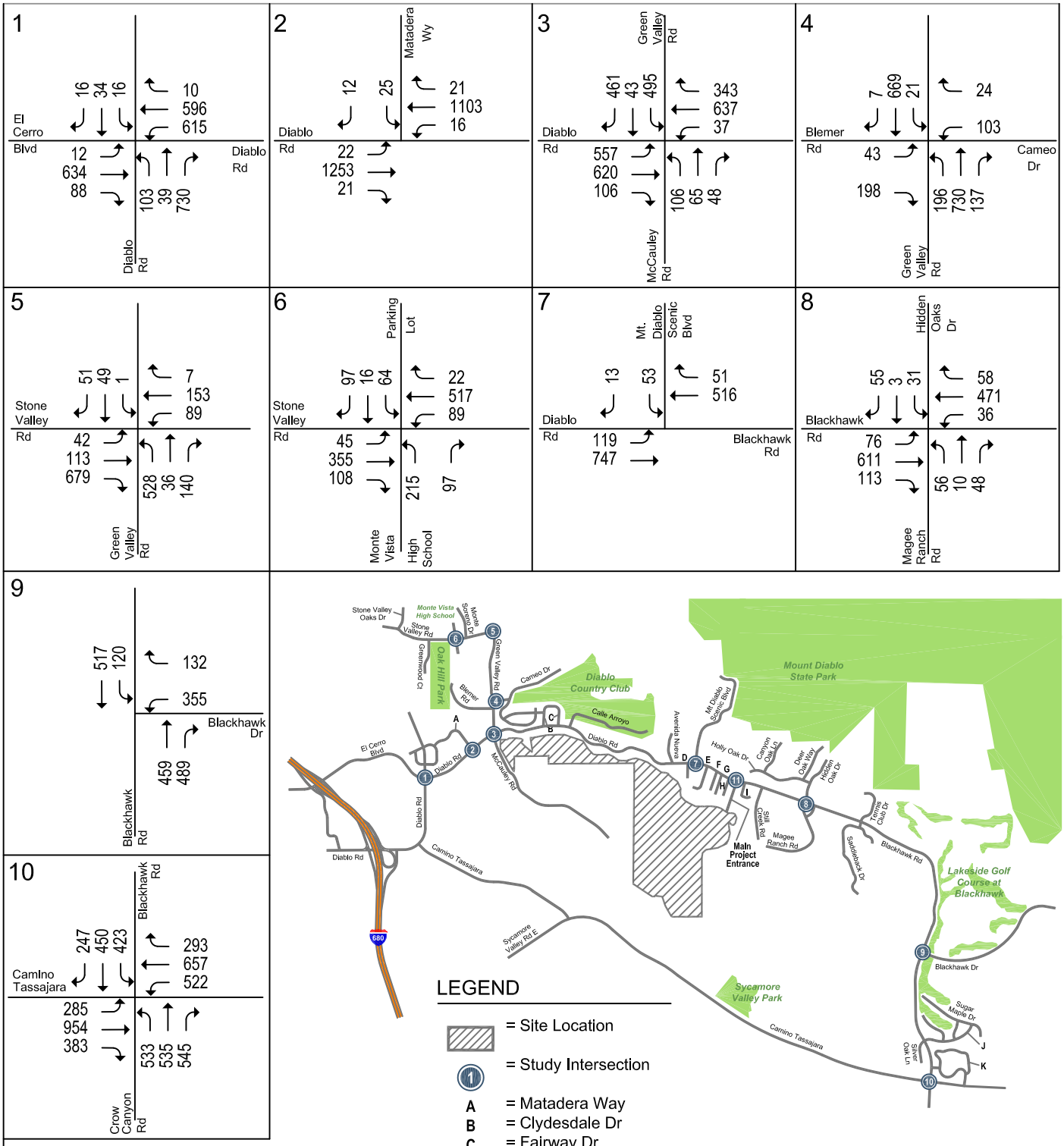


Figure 13

2030 Cumulative No Project School PM Peak Hour Traffic Volumes

NORTH
Not to Scale

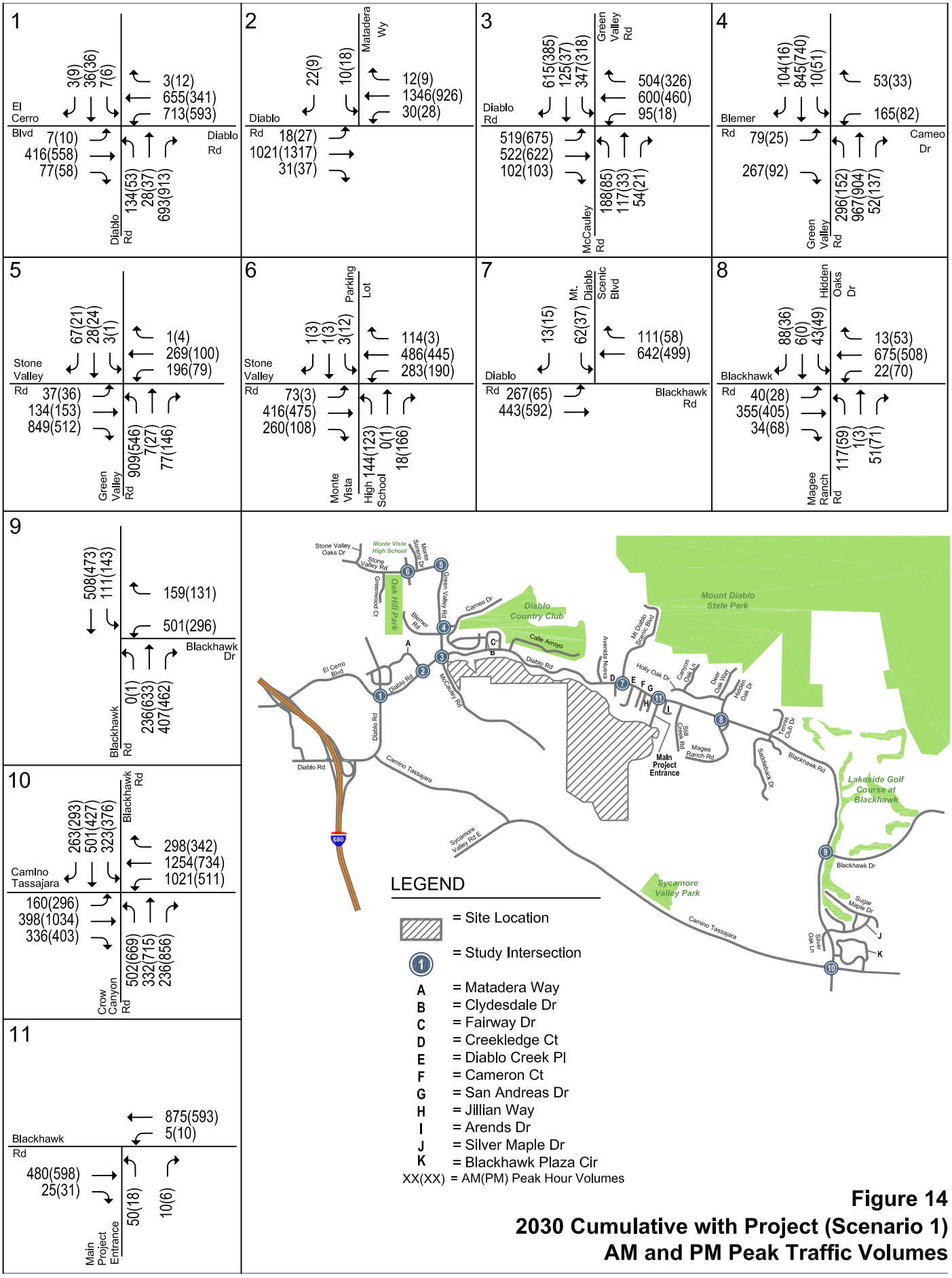


Figure 14
2030 Cumulative with Project (Scenario 1)
AM and PM Peak Traffic Volumes

NORTH
Not to Scale

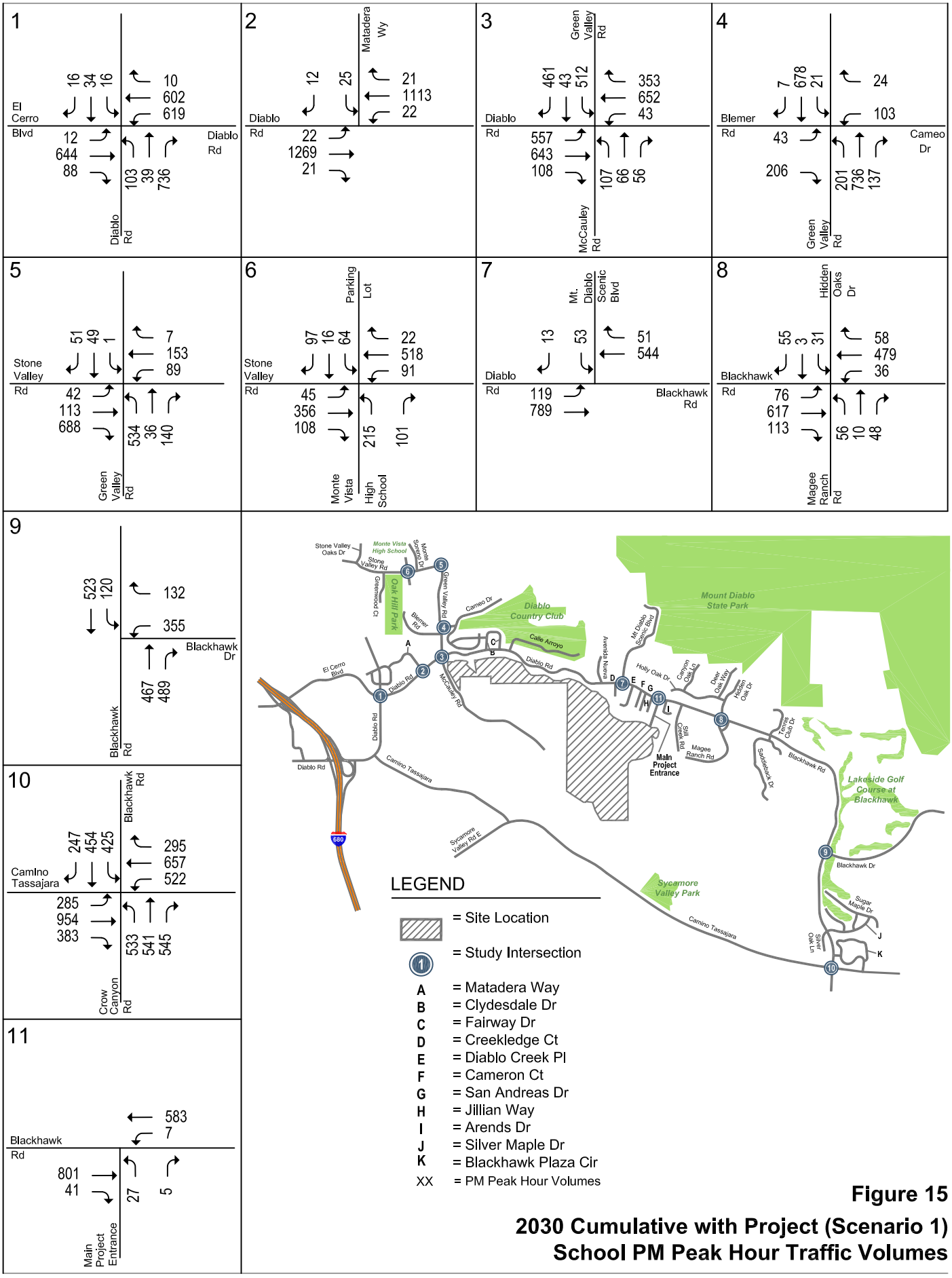


Figure 15

2030 Cumulative with Project (Scenario 1)
School PM Peak Hour Traffic Volumes

NORTH
Not to Scale

5. Other Transportation Issues

This chapter presents an analysis of other transportation issues associated with the project, including:

- Operations analysis – vehicle queuing and storage at selected intersections
- Unsignalized intersection analysis
- Site access
- Potential impacts to transit, pedestrian and bicycle facilities
- Emergency service vehicles

Unlike the level of service impact methodology, which is adopted by the Town, the analyses in this chapter are based on professional judgment in accordance with the standards and methods employed by the traffic engineering community. Although operational issues are not considered CEQA impacts, they do describe existing traffic conditions that are relevant to describing the project environment.

Traffic Operations Analysis

The traffic operations analysis is based on vehicle queuing for high-demand movements at the intersection of Diablo Road and Green Valley Road/McCauley Road. Vehicle queues were estimated using a Poisson probability distribution. The basis of the analysis is as follows: (1) the Poisson probability distribution is used to estimate the 95th percentile maximum number of queued vehicles per signal cycle for a particular movement; (2) the estimated maximum number of vehicles in the queue is translated into a queue length, assuming 25 feet per vehicle; and (3) the estimated maximum queue length is compared to the existing or planned available storage capacity for the movement. This analysis thus provides a basis for estimating future storage requirements at intersections. The vehicle queuing estimates and a tabulated summary of the findings for the study intersections are provided in Table 9. The analysis indicated that the estimated maximum vehicle queues for the northbound left turn lane at Diablo Road and Green Valley Road/McCauley Road would exceed the existing vehicle storage capacity under cumulative with project conditions during the AM peak hour. The identified deficient movement also would be deficient under cumulative no project conditions. The estimated maximum vehicle queues for the southbound shared through/left turn and westbound right turn lane at Diablo Road and Green Valley Road/McCauley Road would exceed the existing vehicle storage capacity under existing plus project and cumulative with project conditions during AM, school PM, and PM peak hours. The identified deficient movements also would be deficient under existing and cumulative no project conditions.

Table 9
Vehicle Queuing and Storage Capacity at Intersections

Measurement	Diablo Rd / Green Valley Rd NBL AM	Diablo Rd / Green Valley Rd NBL School PM	Diablo Rd / Green Valley Rd NBL PM	Diablo Rd / Green Valley Rd SBT/L[3] AM	Diablo Rd / Green Valley Rd SBT/L[3] School PM	Diablo Rd / Green Valley Rd SBT/L[3] PM	Diablo Rd / Green Valley Rd WBR AM	Diablo Rd / Green Valley Rd WBR School PM	Diablo Rd / Green Valley Rd WBR PM
Existing									
Cycle[1] (sec)	155	155	125	155	155	125	155	155	125
Volume (vphpl)	145	77	61	362	394	259	380	251	238
Avg. Queue (veh/ln.)	6.2	3.3	2.1	15.6	17.0	9.0	16.4	10.8	8.3
Avg. Queue[2] (ft./ln)	156	83	53	390	424	225	409	270	207
95th %. Queue (veh/ln.)	11	7	5	22	24	14	23	16	13
95th %. Queue (ft./ln)	275	175	125	**550**	**600**	350	**575**	**400**	325
Storage (ft./ ln.)	350	350	350	360/830	360/830	360/830	360	360	360
Adequate (Y/N)	Y	Y	Y	**See Discussion**	**See Discussion**	**See Discussion**	**N**	**N**	Y
Existing Plus Project									
Cycle[1] (sec)	155	155	125	155	155	125	155	155	125
Volume (vphpl)	148	78	63	374	412	260	401	262	239
Avg. Queue (veh/ln.)	6.4	3.4	2.2	16.1	17.7	9.0	17.3	11.3	8.3
Avg. Queue[2] (ft./ln)	159	84	55	403	443	226	432	282	207
95th %. Queue (veh/ln.)	11	7	5	23	25	14	24	17	13
95th %. Queue (ft./ln)	275	175	125	**575**	**625**	350	**600**	**425**	325
Storage (ft./ ln.)	350	350	350	360/830	360/830	360/830	360	360	360
Adequate (Y/N)	Y	Y	Y	**See Discussion**	**See Discussion**	**See Discussion**	**N**	**N**	Y
Cumulative No Project									
Cycle[1] (sec)	155	155	125	155	155	125	155	155	125
Volume (vphpl)	216	115	90	537	585	385	565	373	353
Avg. Queue (veh/ln.)	9.3	5.0	3.1	23.1	25.2	13.4	24.3	16.1	12.3
Avg. Queue[2] (ft./ln)	233	124	78	578	630	334	608	401	306
95th %. Queue (veh/ln.)	15	9	6	31	34	20	33	23	18
95th %. Queue (ft./ln)	**375**	225	150	**775**	**850**	**500**	**825**	**575**	**450**
Storage (ft./ ln.)	350	350	350	360/830	360/830	360/830	360	360	360
Adequate (Y/N)	**N**	Y	Y	**See Discussion**	**See Discussion**	**See Discussion**	**N**	**N**	**N**
Cumulative With Project									
Cycle[1] (sec)	155	155	125	155	155	125	155	155	125
Volume (vphpl)	219	116	92	548	604	386	586	384	354
Avg. Queue (veh/ln.)	9.4	5.0	3.2	23.6	26.0	13.4	25.2	16.5	12.3
Avg. Queue[2] (ft./ln)	236	125	80	590	650	335	631	413	307
95th %. Queue (veh/ln.)	15	9	6	32	35	20	34	23	18
95th %. Queue (ft./ln)	**375**	225	150	**800**	**875**	**500**	**850**	**575**	**450**
Storage (ft./ ln.)	350	350	350	360/830	360/830	360/830	360	360	360
Adequate (Y/N)	**N**	Y	Y	**See Discussion**	**See Discussion**	**See Discussion**	**N**	**N**	**N**

[1] Vehicle queue calculations based on cycle length for signalized intersections.
[2] Assumes 25 Feet Per Vehicle Queued
[3] Storage distance of 360 ft is the amount of queuing space available before the queue would block access to the right turn lane. The 830 ft is the available storage space before the queue would spill past the preceeding signalized intersection.

Diablo Road and Green Valley Road/McCauley Road – Northbound Left turn

Under existing conditions, there is approximately 350 feet of storage capacity for the northbound left turn lane at the intersection of Diablo Road and Green Valley Road/McCauley Road. The storage capacity is measured as the distance between the intersection crosswalk and the taper of the left turn pocket. Beyond this, vehicles would queue south into the through lane. Under cumulative no project conditions, the calculated 95th percentile queue is 375 feet during the AM peak hour. The cumulative with project conditions would not add to the 95th percentile queue relative to cumulative no project conditions during the AM peak hour.

While the northbound left turn pocket at the intersection of Green Valley Road/McCauley Road would not accommodate the 95th -percentile queue under cumulative conditions, the project would not increase the 95th percentile queue length. By definition, the 95th percentile queue at this intersection only occurs one out of every 20 traffic signal cycles, and the 95th percentile queue only occurs for a very brief period at the end of the signal cycle.

Diablo Road and Green Valley Road/McCauley Road – Southbound Shared Through/Left turn

Under existing conditions, there is approximately 360 feet of storage capacity for the southbound shared through/left turn lane at the intersection of Diablo Road and Green Valley Road/McCauley Road. The storage capacity is measured as the distance between the intersection crosswalk and the taper of the adjacent right turn lane. Beyond this, vehicles can queue north of the taper for another 470 feet to the signalized cross street of Blemer Road. Under existing and cumulative no project conditions, the calculated 95th percentile queue length would be 550 feet and 775 feet during the AM peak hour, 600 feet and 850 feet during the school PM peak hour, and 350 feet and 500 feet during the PM peak hour, respectively. Field observations confirm that the vehicle queues for the subject movement are heavy under existing conditions. The project would add 25 feet (or one vehicle per signal cycle) to the 95th percentile queue length during the AM and school PM peak hours.

While the southbound shared through/left turn movement at the intersection of Diablo Road would not accommodate the 95th -percentile queue under existing plus project or cumulative conditions, the project contribution to the 95th percentile queue would be only one vehicle per signal cycle. By definition, the 95th percentile queue at this intersection only occurs one out of every 20 traffic signal cycles, and the 95th percentile queue only occurs for a very brief period at the end of the signal cycle.

Diablo Road and Green Valley Road/McCauley Road – Westbound Right turn

Under existing conditions, there is approximately 360 feet of storage capacity for the westbound right turn lane at the intersection of Diablo Road and Green Valley Road/McCauley Road. The storage capacity is measured as the distance between the intersection crosswalk and the taper of the right turn pocket. Beyond this, vehicles would queue east into the through lane. Under existing and cumulative no project conditions, the calculated 95th percentile queue length would be 575 feet and 825 feet during the AM peak hour, 400 feet and 575 feet during the school PM peak hour, and 325 feet and 450 feet during the PM peak hour respectively. Field observations confirm that the vehicle queues for the subject movement are heavy under existing conditions. The project would add 25 feet (or one vehicle per signal cycle) to the 95th percentile queue length during the AM and school PM peak hours.

While the westbound right turn movement at the intersection of Green Valley Road/McCauley Road would not accommodate the 95th -percentile queue under existing plus project or cumulative project conditions, the project contribution to the 95th percentile queue would be only one vehicle per signal cycle. By definition, the 95th percentile queue at this intersection only occurs one out of every 20 traffic signal cycles, and the 95th percentile queue only occurs for a very brief period at the end of the signal cycle.

Unsignalized Intersection Analysis

This section discusses the traffic conditions at the unsignalized study intersections. Unlike signalized intersections, which typically represent constraint points for the roadway network, unsignalized intersections typically do not limit the potential capacity of a roadway. The determination of appropriate improvements to unsignalized intersections typically includes a qualitative and quantitative analysis of movement delay,

movement traffic volumes, and intersection safety. For this reason, improvements to unsignalized intersections are frequently determined on the basis of a need for traffic signalization and professional judgment. Per the Town of Danville, as part of this analysis, operations at the following unsignalized intersections were evaluated.

- Green Valley Road and Stone Valley Road
- Mt. Diablo Scenic Boulevard and Diablo Road/Blackhawk Road
- Hidden Oaks Drive/Magee Ranch Road and Blackhawk Road
- Blackhawk Road and Blackhawk Drive
- Project Main Entrance and Blackhawk Road

While the Town's General Plan does not establish a level of service standard for unsignalized intersections, it is the Town's practice to include these intersections as a part of the operational traffic analysis in an effort to fully understand the potential traffic impacts from the proposed project. The same applicable threshold of significance used for signalized intersections - where a significant impact would result if the project caused an increase in the volume-to-capacity ratio of 0.05 or more at an intersection that is already operating at LOS E (or worse) – was also used for unsignalized intersections.

Traffic Signal Warrants

For stop-controlled intersections, an assessment was made of the need for signalization of the intersection. This assessment was made on the basis of the Peak-hour Volume Signal Warrant, Warrant #3 described in the *California Manual on Uniform Traffic Control Devices*, 2010. This analysis makes no evaluation of intersection level of service, and its results do not indicate any significance level for CEQA purposes. It is simply informational and provides an indication of whether peak-hour traffic volumes are, or would be sufficient to justify installation of a traffic signal. The results can be used to assist in determining appropriate mitigation measures should project traffic added to an unsignalized intersection result in a significant impact. The signal warrant summary is shown in Table 10. The signal warrant analysis sheets are included in Appendix C. The analysis showed that the peak hour volume warrant would be satisfied at the following unsignalized study intersections:

- **Green Valley Rd/Stone Valley Rd**. The warrant would be satisfied during the AM peak hour under existing, existing plus project, and cumulative conditions. The warrant also would be satisfied during the school PM and PM peak hours under cumulative conditions.
- **Hidden Oaks Dr/Magee Ranch Rd/Blackhawk Rd**. The warrant would be satisfied during the AM peak hour under cumulative conditions.
- **Blackhawk Rd/Blackhawk Dr**. The warrant would be satisfied during the AM, school PM, and PM peak hours under cumulative conditions.

Sight Distance Analysis

The unsignalized study intersections should be free and clear of any obstructions to optimize sight distance, thereby ensuring that exiting vehicles can see pedestrians on the sidewalk and other vehicles traveling on the adjacent roadways. Landscaping and parking should not conflict with a driver's ability to locate a gap in traffic. Adequate corner sight distance (sight distance triangles) should be provided at all intersections in accordance with Caltrans standards. Sight distance triangles should be measured approximately 10 feet back from the traveled way.

Each intersection was evaluated in the field to determine whether the sight distance would be adequate. Based on field review, it was determined that none of the existing unsignalized intersections currently experience sight distance issues.

Table 10
Peak Hour Traffic Signal Warrant Check Summary

			Existing Plus	2030 Cumulative	
		Existing	Project	No Project	With Project[1]
	Peak Hour	Warrant Met?	Warrant Met?	Warrant Met?	Warrant Met?
Green Valley Rd and Stone Valley Rd	AM	Yes	Yes	Yes	Yes
	School PM	No	No	Yes	Yes
	PM	No	No	Yes	Yes
Mt. Diablo Scenic Blvd and Diablo Rd	AM	No	No	No	No
	School PM	No	No	No	No
	PM	No	No	No	No
Hidden Oaks Dr/Magee Ranch Rd and Blackhawk Rd	AM	No	No	Yes	Yes
	School PM	No	No	No	No
	PM	No	No	No	No
Blackhawk Rd and Blackhawk Dr	AM	No	No	Yes	Yes
	School PM	No	No	Yes	Yes
	PM	No	No	Yes	Yes
Project Main Entrance and Blackhawk Rd	AM	--	No	--	No
	School PM	--	No	--	No
	PM	--	No	--	No

[1] 2030 cumulative with project conditions does not include the Weber Development or cut-through.

Level of Service Analysis

Using the HCM methodology, the levels of service for the unsignalized study intersections under existing, existing plus project, and cumulative conditions are shown in Table 11. The delay and LOS for the intersections were reported as an overall average of all intersection movements. The intersection LOS calculation sheets are shown in Appendix B. Based on this analysis, the following unsignalized intersections would operate at unacceptable levels of service.

Existing Plus Project Conditions

- Green Valley Rd and Stone Valley Rd (LOS F AM peak hour and LOS E school PM peak hour)

Cumulative Plus Project Conditions

- Green Valley Rd and Stone Valley Rd (LOS F AM, school PM, and PM peak hours)
- Mt. Diablo Scenic Blvd and Diablo Rd (LOS F AM and school PM peak hours)
- Hidden Oaks Dr/Magee Ranch Rd and Blackhawk Rd (LOS F AM peak hour)
- Blackhawk Rd and Blackhawk Dr (LOS F AM and PM peak hours, LOS E school PM peak hour)

Based on the Town's level of service criteria, the proposed project would not result in a significant impact at the following unsignalized intersections:

- *Green Valley Road/Stone Valley Road:* Although this intersection would operate at a poor LOS under existing and cumulative conditions, the project trips added would not increase the V/C by 0.05 or more and thus, the project's contribution would not be cumulatively considerable. Therefore, the project would not create a signficant impact at this location.

- *Blackhawk Road/Blackhawk Drive*: Although this intersection would operate at a poor LOS under cumulative conditions, the project trips added would not increase the V/C by 0.05 or more and thus, project's contribution would not be cumulatively considerable. Therefore, the project would not create a significant impact at this location.

- *Project Main Entrance/Blackhawk Road.* This intersection would operate at LOS A under existing plus project and cumulative plus project conditions. The intersection would not meet the peak hour signal warrant, the average overall delays at all intersection movements would be acceptable, and very few vehicles would experience long delays. Thus, the project would not cause a significant impact at this location.

Based on the Town's level of service criteria, the proposed project would result in a significant impact at the following unsignalized intersections:

Significant Impact 1: At the *Hidden Oaks Drive/Magee Ranch Road and Blackhawk Road* intersection, the project trips added during the cumulative plus project AM peak hour would increase the V/C by 0.13. Accordingly, the project's contribution would be cumulatively considerable and would constitute a significant impact.

> **Mitigation:** Consistent with the Town's existing plans, the intersection of Hidden Oaks Drive/Magee Ranch Road and Blackhawk Road should be signalized. Because the impact occurs under cumulative conditions and not under existing plus project conditions, the project is not the sole cause of the impact. For this reason, the mitigation for this impact would be for the project applicant to make a fair share contribution toward signalization at this intersection. Signalization of this intersection is identified as a project within the Town's Capital Improvement Program with funds collected for its installation as a part of the North East Roadway Improvement Assessment District (NERIAD). With signalization, the intersection would operate at LOS B or better under all scenarios. The project would add 18 AM peak hour trips, 14 school PM peak hour trips, and 21 PM peak hour trips to the intersection.

Significant Impact 2: At the *Mt. Diablo Scenic Boulevard/Diablo Road* intersection, the project trips added during the cumulative plus project AM peak hour and the cumulative plus project school PM peak hour would increase the V/C by 0.05 or more. Accordingly, the project's contribution would be cumulatively considerable and would constitute a significant impact. While the overall average delay is LOS C under existing conditions, the intersection intermittently experiences long eastbound and westbound vehicle queues of 300 feet and ½ mile, respectively. The long vehicle queues on Diablo Road/Blackhawk Road are due to the all-way stop. If the all-way stop were to be removed and only the minor street was stop controlled, the overall average delay would be improved. However, if the removal of the all-way stop is not permitted by the County, then signalization of the intersection should be considered.

> **Mitigation:** Per the Town of Danville, the intersection of Mt. Diablo Scenic Boulevard/Diablo Road should be converted to stop control on the minor street only or be considered for signalization. Because of the existing poor operation at this intersection, the project is not the sole cause of the impact. For this reason, the mitigation for this impact would be for the project applicant to make a fair share contribution towards (1) the conversion to stop control on the minor street approach as part of a corridor wide mobility improvement project, or (2) the installation of a traffic signal. With the removal of stop control along Diablo Road/Blackhawk Road, the overall average delay would be LOS D or better under all scenarios. With signalization, the intersection would operate at LOS C or better under all scenarios. The project would add 78 AM peak hour trips, 70 school PM peak hour trips, and 54 PM peak hour trips to the intersection.

Table 11
Unsignalized Intersections Level of Service – HCM Methodology

				Existing			Existing Plus Project			2030 Cumulative No Project			2030 Cumulative With Project[1]		
Intersection	Traffic Control	Peak Hour	Count Date	Avg. Delay	LOS	Crit. V/C	Avg. Delay	LOS	Crit. V/C	Avg. Delay	LOS	Crit. V/C	Avg. Delay	LOS	Crit. V/C
Unsignalized Intersections															
Green Valley Rd and Stone Valley Rd	All-Way Stop	AM	10/21/2010	**254.2**	**F**	2.214	**260.4**	**F**	2.234	**625.5**	**F**	3.752	**633.4**	**F**	3.775
		Midday	10/21/2010	**41.4**	**E**	1.079	**44.7**	**E**	1.104	**180.9**	**F**	1.938	**187.1**	**F**	1.968
		PM	10/21/2010	16.3	C	0.720	16.4	C	0.722	**64.0**	**F**	1.249	**64.5**	**F**	1.252
Mt. Diablo Scenic Blvd and Diablo Rd	All-Way Stop	AM	10/28/2010	15.3	C	0.741	18.8	C	0.823	**61.9**	**F**	1.165	**81.4**	**F**	1.257
		Midday	10/28/2010	17.8	C	0.831	21.6	C	0.852	**81.1**	**F**	1.228	**100.0**	**F**	1.304
		PM	10/28/2010	12.5	B	0.580	13.6	B	0.622	27.6	D	0.888	33.9	D	0.945
Hidden Oaks Dr/Magee Ranch Rd and Blackhawk Rd	Two-Way Stop	AM	11/4/2010	7.6	A	0.623	8.0	A	0.648	**97.2**	**F**	2.820	**102.5**	**F**	2.950
		Midday	11/4/2010	3.2	A	0.229	3.3	A	0.235	11.2	B	0.860	11.6	B	0.884
		PM	11/4/2010	3.3	A	0.169	3.3	A	0.175	7.2	A	0.512	7.5	A	0.532
Blackhawk Rd and Blackhawk Dr	Two-Way Stop	AM	11/4/2010	16.3	C	0.757	16.4	C	0.759	**60.1**	**F**	1.226	**60.4**	**F**	1.228
		Midday	11/4/2010	14.0	B	0.615	14.2	B	0.631	**39.1**	**E**	1.034	**40.8**	**E**	1.052
		PM	11/4/2010	22.6	C	0.892	24.6	C	0.920	**109.0**	**F**	1.505	**115.3**	**F**	1.536
Project Main Entrance and Blackhawk Rd	One-Way Stop	AM		--	--	--	1.7	A	0.323	--	--	--	1.4	A	0.311
		Midday		--	--	--	0.7	A	0.117	--	--	--	0.7	A	0.179
		PM		--	--	--	0.5	A	0.066	--	--	--	0.5	A	0.194

Note 1: Box denotes poor intersection LOS.
Note 2: For the above stop controlled intersections, the reported LOS represents the average delay of all intersection movements.
[1] 2030 cumulative with project conditions does not include the Weber Development or Weber Lane.

Site Access and On-site Circulation

Site access and on-site circulation were evaluated using commonly accepted transportation planning principles. This review is based on the conceptual site plan prepared by RJA, dated October 6, 2011.

Site Access

Access to the Magee East portion of the project site would be project would be provided by the Project Main Driveway (Driveway A). One emergency vehicle access (EVA) is located on Diablo Road/Blackhawk Road at the Magee East portion of the site. Access to the Magee West portion of the site would be provided by Driveways B, C and D. The project trips at the proposed driveways are shown on Figure 9.

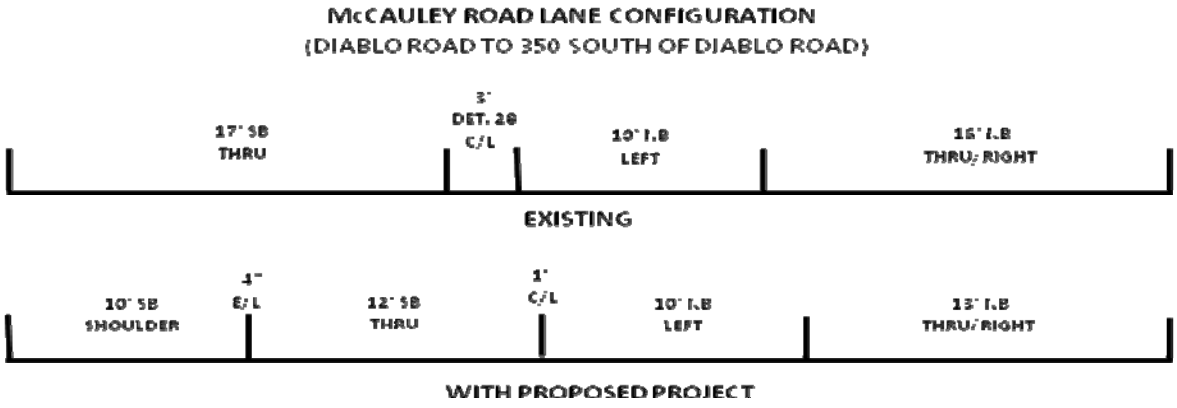
The ***Project Main Driveway* (*Driveway A*)** located on Blackhawk Road would provide access to 64 residential units. It would consist of one 28 foot inbound lane, two 14 foot outbound lanes, and a 20 foot landscaped median. Based on Hexagon's field visit with Town staff, sight distance at Blackhawk Road appears to be adequate. A detailed site access analysis for the project main entrance was conducted in the Unsignalized Intersection Analysis section previously discussed.

Driveway B would be located west of Mt. Diablo Scenic on Diablo Road and would provide direct access to one residential unit. The roadway dimensions for Driveway B are not shown on the current site plan. A review of the site access for Driveway B showed there would be no more than one inbound and one outbound left turn movement at the project driveway during any of the peak hours. Based on Hexagon's field visit with Town staff, sight distance at Diablo Road appears to be adequate at this location.

Driveway C would be located west of Driveway B on Diablo Road and would provide direct access to two residential units. The roadway dimensions for Driveway C are not shown on the current site plan. A review of the site access for Driveway C showed there would be no more than one inbound and one outbound left turn movement at the project driveway during any of the peak hours. Based on Hexagon's field visit with Town staff, sight distance at Diablo Road appears to be adequate at this location.

Driveway D (Court I), located on McCauley Road, is approximately 300 feet south of the Green Valley Road/Diablo Road intersection and approximately 130 feet north of the inbound driveway to the Green Valley School rear parking lot. Queuing occurs from the northbound vehicles at the Green Valley Road/Diablo Road intersection. Vehicles making left turns into the project driveway would have to turn across two lanes of oncoming traffic (one through lane and one left turn lane). If northbound queuing spills beyond Driveway D, as estimated under cumulative conditions, this may prevent left turn access and lead to southbound vehicle queues spilling back to the Green Valley Road and Diablo Road intersection to the north.

> **Recommendation:** Modify the roadway striping along McCauley Road, between the intersection and approximately 350 feet south of the Diablo/Green Valley Road. The modified roadway striping would substantially conform to the following: (a) reconfigure the existing 17-foot southbound through lane to a 10-foot shoulder and a 12-foot through lane; (b) replace the existing 3-foot double-double yellow centerlines with a single double yellow center-line; (c) maintain the existing 10-foot northbound left turn lane while shifting it two feet toward the easterly curb line; (d) reduce the existing 16-foot northbound through/right turn lane to 13 feet; and (e) transition existing downstream (to the south) centerline/left turn lane on McCauley Road accordingly to accommodate the new configuration, as illustrated below.



Landscaping is not shown on the current site plan. The project access points should be free and clear of any obstructions to optimize sight distance, thereby ensuring that exiting vehicles can see pedestrians, bicyclists, and other vehicles traveling on Diablo Road/Blackhawk Road and McCauley Road. Landscaping and parking should not conflict with a driver's ability to locate a gap in traffic. Prior to final design, adequate corner sight distance (sight distance triangles) should be provided at all site access points in accordance with Caltrans standards and reviewed by the Town.

On-Site Circulation

The proposed plan would provide adequate circulation throughout the project site. Street A consists of two 28 foot lanes at its intersection with Blackhawk Road. Street A narrows to two 14 foot lanes approximately 200 west of Blackhawk Road and continues through the project site where it makes a 90 degree turn and becomes Street B. Street B consists of one 18 foot lane and one 14 foot lane and provides access to the residential properties and internal courts. Street B feeds courts C, D, E, F, and G. The courts range in length from approximately 110 feet to 1,100 feet and provide access to the residential properties. There are two types of turn arounds provided within the main project site: Courts D, E, and G are shown with hammerhead turn arounds, which allow for vehicles to make 3-point turns; and Courts C and F are shown as traditional cul-de-sacs, with 80 foot diameters to allow for vehicle turn arounds. Courts H and I each consist of two 18 foot lanes and provide access to residential units. Courts H and I are shown with hammerhead turn arounds, which allow for vehicles to make 3-point turns. Parking is not shown on the site plan.

However, on-site circulation for the remaining custom residential sites, accessible by Driveways B through D, was not analyzed given that details for each of these custom home lots would be provided as a part of each site's individual development. The remaining roadways should be designed in conformance with the standards set forth by the Town of Danville. Prior to final design, all roadway designs should be reviewed by the Town to insure adequate design for residential roadways.

> **Recommendation:** Prior to final design, all roadway designs should be reviewed by the Town to insure adequate design standards are met.

An analysis using truck turning templates was conducted to determine the adequacy of on-site circulation for the truck category SU 30, which includes small buses, garbage trucks, other single unit trucks, and the TRAFFIX bus. Based on the analysis, the intersections and drive aisles would be sufficiently wide to serve these types of trucks and busses. The analysis also showed that the trucks would be able to turn around in the court locations. However, if parking is allowed at the end of the courts this could present a challenge for large rucks during activities such as garbage collection. In addtion, large vehicles may have some off tracking into oncoming travel lanes. However, traffic volumes on site are expected to be relatively low, and encroachment of heavy vehicles on opposing traffic lanes would not create operational problems.

Other Transportation Modes

This section presents an analysis of the issues associated with the project, in regards to pedestrian, bicycle, and transit facilities.

Pedestrian Facilities

According to the U.S. Census, pedestrian trips comprise less than 1% of the total commute mode share in the Town of Danville. For the proposed project, this would equate to approximately one new pedestrian commute trip during the AM, school PM, and PM peak hours. In addition, the project would generate some pedestrian trips for recreational purposes. Overall, the volume of pedestrian trips generated by the project would not exceed the carrying capacity of the existing sidewalks and crosswalks on streets surrounding the site. Within the project vicinity, there are sidewalks along the north side of Blackhawk Road from Mt. Diablo Scenic Boulevard to the east, along the north side of Diablo Road from Calle Arroyo to the west, and along the west side McCauley Road. The only gaps in the sidewalk network on the streets surrounding the project site are (1) along Diablo Road from Calle Arroyo to Mt. Diablo Scenic and (2) along the east side of McCauley Road. The project site plan shows a pedestrian pathway along Streets A and B within the main project site. Crosswalks are present at all signalized intersections in the study area. However, there is no crosswalk shown at the main project entrance at Blackhawk Road. Since the closest sidewalk to the main project entrance is located along the north side of

Blackhawk Road, the project applicant should work with the Town of Danville and Contra Costa County to provide a safe pedestrian crossing at this location.

> **Recommendation:** Per the Town of Danville, a new pedestrian crossing, with in-pavement lighting or another equivalent pedestrian safety improvement, is recommended at the project main entrance. The crossing should physically connect the project's pedestrian traffic to the existing paved pathway located along the north side of Blackhawk Road.

Bicycle Facilities

There are no bike lanes or bike paths in the immediate vicinity of the main project site. The western portion of the project is located near existing class II bicycle lanes on Diablo Road and Green Valley Road. Bike access to the main project site would occur primarily along Diablo Road and Blackhawk Road. These roadways have narrow shoulders and higher vehicle speeds.

The *Danville 2010 General Plan* and the *Danville 2006 Parks, Recreation and Arts Strategic Plan* calls for calls for public access easements to be provided where appropriate. The project plans include a trail that connects to the existing trail on the north side of Blackhawk Road at the project entrance, travels through the Magee East portion of the site and along Green Valley Creek and terminates at the proposed EVA at Diablo Road.

> **Recommendation:** Per the Town of Danville, the project would be required to provide a public access easement that would extend from the proposed EVA at Diablo Road westward along the south side of Diablo Road and terminating near the box culvert creek crossing under Diablo Road near Alameda Diablo.

Transit

Currently there is no public transit in the project vicinity. While the project may create some additional demand for transit service, the proximity and density of the project may preclude efficient transit operations. It is recommended that the project applicant and representatives from the Town of Danville work with the regional transit provider to evaluate the feasibility of future bus service to the Magee East portion of the project site.

TRAFFIX Program

During the EIR scoping meeting, concerns were raised regarding the permanency of the existing TRAFFIX bus program, and what effect would the possible elimination of the program (due to a theoretical lack of funds) have on the roadway network within the project vicinity.

While it is not possible to quantify the TRAFFIX Program's precise impact on the study intersections, a supplemental study conducted by Fehr & Peers in October 2010 provides an indication of its effect. The memo, titled *Updated Traffic Information Related to the Matadera Project Transportation Impact Analysis* (included as Appendix F), compared 2004 AM and school PM peak hour traffic volumes (pre-TRAFFIX bus program) to 2009 AM and school PM peak hour traffic volumes (post- TRAFFIX bus program) along the Diablo Road corridor. The study analyzed the following four intersections:

1. Diablo Road and Matadera Way
2. Diablo Road and Green Valley Road
3. Green Valley Road and Blemer Road
4. Green Valley Road and Cameo Drive

The study provided the net change in intersection volumes between the 2004 traffic volumes and the 2009 traffic volumes. The results showed that the overall traffic volumes at the study intersections decreased from 2004 to 2009. The intersection of Diablo Road/Matadera Way decreased by 446 vehicles during the AM peak hour and 271 vehicles during the school PM peak hour. The intersection of Diablo Road/Green Valley Road decreased by 487 vehicles during the AM peak hour and 405 vehicles during the school PM peak hour. The intersection of Green Valley Road/Blemer Road decreased by 481 vehicles during the AM peak hour and 283 vehicles during the school PM peak hour. The intersection of Green Valley Road/Cameo Drive decreased by 230 vehicles during the AM peak hour and 208 vehicles during the school PM peak hour.

Based on the results of the Fehr & Peers study, the elimination of the TRAFFIX bus program would likely result in an overall increase in traffic volumes and delay at the above study intersections.

Emergency Service Vehicles

Maintaining emergency service response times is a concern for existing residents in the surrounding neighborhoods and for the new residents of the project. This project does not propose any physical changes to the roadway system that would affect response times, but it would add traffic to intersections already operating at a poor LOS. All of the signals within the Town of Danville are equipped with preemption devices which allow emergency vehicles to avoid long delays through intersections. Emergency vehicles are somewhat affected by traffic congestion, but typically use lights and sirens to clear a path. Nearly all the streets in the vicinity are sufficiently wide to accommodate traffic and emergency vehicles assuming that drivers stop and pull over for sirens, as they are required to do.

6. Cumulative Traffic Sensitivity Analysis

This chapter supplements the cumulative analysis presented in Chapter 4. Per Town of Danville staff, a total of five cumulative plus project scenarios were analyzed relative to 2030 cumulative no project conditions.

Cumulative Transportation Network and Traffic Volumes

Under cumulative no project conditions, the traffic volumes and roadway network were the same as those described in Chapter 4 of this report. Five cumulative with project scenarios were evaluated relative to cumulative no project conditions for informational purposes. With the exception of cumulative scenario 1, which is presented for comparison purposes, the remaining four scenarios represent sensitivity analysis of changes in the background setting:

Cumulative Scenario 1: Existing + Project + Cumulative Growth (Excluding Weber Project). This is the cumulative scenario selected for the project's environmental impact analysis and presented in Chapter 4. This is the only scenario in Chapter 6 that does not include the Weber Project, or the associated new Weber Lane connection, as a background assumption. This scenario is presented again in this chapter for comparison with the other five cumulative with project scenarios.

Cumulative Scenario 2: Existing + Project + Cumulative Growth + Weber Project. Cumulative scenario 2 traffic volumes *with* the proposed project were estimated by adding the traffic generated by the proposed project to the 2030 cumulative no project traffic volumes, then adding the peak hour traffic volumes generated by the Weber Property TIA, dated January 2006. The Weber project would be located north of Diablo Road and southwest of Blemer Road. It would consist of 22 single-family homes. The project trip assignment is shown in Appendix D. The transportation network under cumulative scenario 2 conditions would include the Weber Lane connection between Blemer Road and Matadera Way. This new roadway would result in a redistribution of existing traffic volumes at the intersections of Matadera Way/Diablo Road, Green Valley Road/Diablo Road, and Green Valley Road/Blemer Road. Except where previously noted, it is assumed in this analysis that the remaining transportation network under cumulative scenario 2 conditions would be the same as described under existing conditions.

Cumulative Scenario 3: Existing + Project + Cumulative Growth + Weber Project + New TRAFFIX Bus Line. Cumulative scenario 3 conditions are the same as cumulative scenario 2 conditions, plus the addition of a new TRAFFIX bus line to serve the project site (this is in addition to the existing TRAFFIX bus lines in service within the project vicinity). Hexagon calculated an average TRAFFIX bus demand rate (bus passes sold/number of dwelling units) based on 2009/2010 and 2010/2011 data from the existing Magee Ranch subdivision. This rate was then applied to the project size to determine the potential TRAFFIX ridership to both Green Valley Elementary school and Los Cerros Middle school. The potential trips were then subtracted from the cumulative scenario 2 volumes to determine the cumulative scenario 3 volumes. The intersection lane configurations under cumulative scenario 3 conditions were assumed to be the same as described under cumulative scenario 2 conditions.

Cumulative Scenario 4: Existing + Project + Cumulative Growth + Weber Project + New TRAFFIX Bus Line + Roadway Improvements. Cumulative scenario 4 conditions are the same as cumulative scenario 3 conditions, plus new roadway improvements. Per the Town of Danville, an additional 300 feet of storage capacity for the westbound through lane would be added to the intersection of Green Valley Road and Diablo Road. This extended through lane would require reallocation and re-striping of the westbound lanes, resulting in right-of-way to be obtained from the northwest portion of the Magee Ranch property. Except where previously noted, it is assumed in this analysis that the remaining transportation network under cumulative scenario 4 conditions would be the same as described under cumulative scenario 2 conditions. For this reason, the only LOS change would occur at the intersection of Green Valley Road and Diablo Road. All of the remaining intersection LOS would be the same as in cumulative scenario 3.

Cumulative Scenario 5: Existing + Project + Cumulative Growth + Weber Project + Roadway Improvements. Cumulative scenario 5 conditions are the same as cumulative scenario 2 conditions, but with the new roadway improvements at the intersection of Green Valley Road and Diablo Road. Except where previously noted, it is assumed in this analysis that the remaining transportation network under cumulative scenario conditions would be the same as described under cumulative scenario 2 conditions. For this reason, the only LOS change would occur at the intersection of Green Valley Road and Diablo Road. All of the remaining intersection LOS would be the same as in cumulative scenario 2.

The 2030 cumulative no project and cumulative with project (Scenario 1) traffic volumes are shown on Figures 12 thru 15 in Chapter 4. The additional cumulative scenarios 2 thru 5 traffic volumes are shown on Figures 16 thru 19, respectively.

Cumulative Signalized Intersection Analysis

The signalized intersection level of service results under cumulative conditions are summarized in Table 12. The detailed level of service calculation sheets are included in Appendix B. The results of the cumulative no project and the five cumulative with project scenarios are described in the following sections:

Cumulative No Project

The results show that two signalized study intersections would operate at an unacceptable LOS E or worse under cumulative no project conditions as indicated below:

Green Valley Rd and Diablo Rd (AM and school PM peak hours – LOS F, PM peak hour –LOS E)

Green Valley Rd and Blemer Rd/Cameo Dr (AM and PM peak hours – LOS F, school PM peak hour – LOS E)

All other study intersections would operate at an acceptable LOS D or better under cumulative no project conditions during the AM, school PM, and PM peak hours.

Table 12
Traffic Sensitivity Analysis for Cumulative Conditions – Signalized Intersections

			2030 Cumulative Traffic Sensitivity																	
			No Project[1]			Scenario 1[2]			Scenario 2[3]			Scenario 3[4]			Scenario 4[5]			Scenario 5[6]		
Intersection	Traffic Control	Peak Hour	Avg. Delay	LOS	Crit. V/C	Avg. Delay	LOS	Crit. V/C	Avg. Delay	LOS	Crit. V/C	Avg. Delay	LOS	Crit. V/C	Avg. Delay	LOS	Crit. V/C	Avg. Delay	LOS	Crit. V/C
Signalized Intersections																				
Diablo Rd and El Cerro Blvd	Signalized	AM	36.3	D	0.730	36.6	D	0.742	36.7	D	0.748	36.7	D	0.748	36.7	D	0.748	36.7	D	0.748
		Midday	37.7	D	0.720	37.9	D	0.727	37.9	D	0.730	37.9	D	0.730	37.9	D	0.730	37.9	D	0.730
		PM	38.7	D	0.745	39.2	D	0.760	39.3	D	0.764	39.3	D	0.764	39.3	D	0.764	39.3	D	0.764
Matadera Wy and Diablo Rd	Signalized	AM	4.1	A	0.464	4.3	A	0.471	18.7	B	0.615	18.6	B	0.615	18.6	B	0.615	18.7	B	0.615
		Midday	4.4	A	0.473	4.6	A	0.483	15.5	B	0.550	15.4	B	0.550	15.4	B	0.550	15.5	B	0.550
		PM	4.2	A	0.438	4.4	A	0.453	9.0	A	0.477	9.0	A	0.477	9.0	A	0.477	9.0	A	0.477
Green Valley Rd and Diablo Rd	Signalized	AM	**114.5**	**F**	1.237	**121.8**	**F**	1.266	**103.2**	**F**	1.168	**100.9**	**F**	1.161	**79.0**	**E**	0.996	**80.0**	**F**	1.015
		Midday	**115.4**	**F**	1.227	**121.8**	**F**	1.254	**106.4**	**F**	1.176	**103.6**	**F**	1.165	**78.2**	**E**	0.996	**81.0**	**F**	1.006
		PM	**73.1**	**E**	1.091	**75.8**	**E**	1.106	**72.1**	**E**	1.081	**72.1**	**E**	1.081	**53.5**	**D**	0.955	**53.5**	**D**	0.955
Green Valley Rd and Blemer Rd/Cameo Dr	Signalized	AM	**171.1**	**F**	1.059	**174.2**	**F**	1.068	**174.8**	**F**	0.976	**174.9**	**F**	0.970	**174.9**	**F**	0.970	**174.8**	**F**	0.976
		Midday	**67.9**	**E**	0.675	**69.6**	**E**	0.684	**70.7**	**E**	0.663	**70.7**	**E**	0.663	**70.7**	**E**	0.663	**70.7**	**E**	0.663
		PM	**95.1**	**F**	0.732	**95.4**	**F**	0.732	**97.1**	**F**	0.732	**97.1**	**F**	0.732	**97.1**	**F**	0.732	**97.1**	**F**	0.732
Monte Vista H.S. and Stone Valley Rd	Signalized	AM	34.1	C	0.763	34.6	C	0.767	34.6	C	0.767	34.6	C	0.767	34.6	C	0.767	34.6	C	0.767
		Midday	28.2	C	0.744	28.3	C	0.744	28.3	C	0.744	28.3	C	0.744	28.3	C	0.744	28.3	C	0.744
		PM	25.1	C	0.600	25.1	C	0.601	25.1	C	0.601	25.1	C	0.601	25.1	C	0.601	25.1	C	0.601
Blackhawk Rd/Crow Canyon Rd and Camino Tassajara	Signalized	AM	47.8	D	0.867	47.9	D	0.870	47.9	D	0.870	47.9	D	0.870	47.9	D	0.870	47.9	D	0.870
		Midday	52.1	D	0.880	52.3	D	0.882	52.3	D	0.882	52.3	D	0.882	52.3	D	0.882	52.3	D	0.882
		PM	51.6	D	0.884	51.8	D	0.887	51.8	D	0.887	51.8	D	0.887	51.8	D	0.887	51.8	D	0.887

Note 1: Box denotes poor intersection LOS.
[1] This is the same scenario as the 2030 cumulative no project conditions in Chapter 4 and does not include the Weber Development or cut-through.
[2] This is the same scenario as the 2030 cumulative with project conditions in Chapter 4 and does not include the Weber Development or cut-through.
[3] Scenario 2 consists of: Existing + Project + Cumulative Growth + Weber Development.
[4] Scenario 3 consists of: Existing + Project + Cumulative Growth + Weber Development + New Traffix Bus Line (In addition to the existing Traffix Bus Program).
[5] Scenario 4 consists of: Existing + Project + Cumulative Growth + Weber Development + New Traffix Bus Line (In addition to the existing Traffix Bus Program) + Roadway Improvements.
[6] Scenario 5 consists of: Existing + Project + Cumulative Growth + Weber Development + Roadway Improvements.

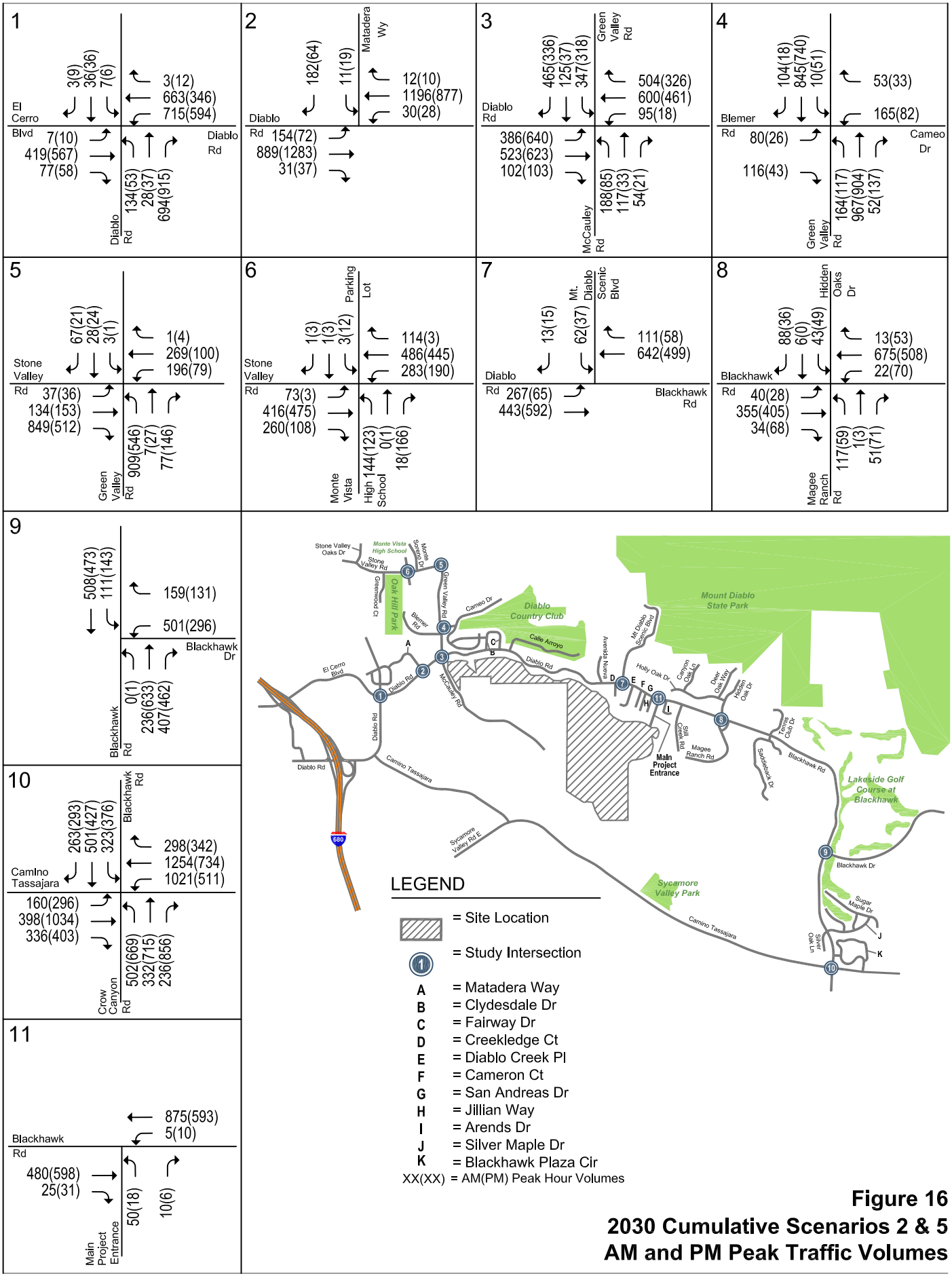


Figure 16
2030 Cumulative Scenarios 2 & 5
AM and PM Peak Traffic Volumes

NORTH
Not to Scale

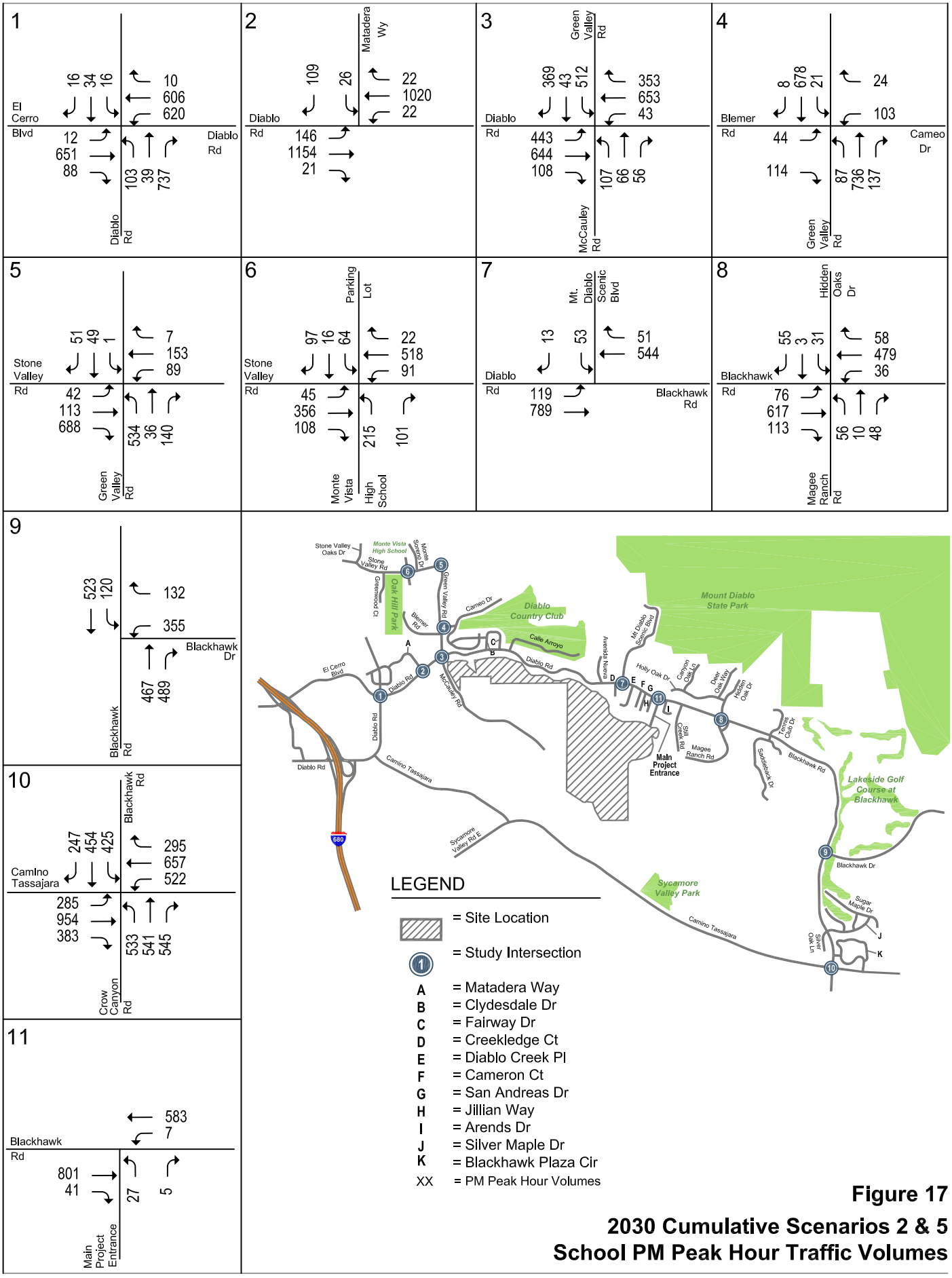


Figure 17

2030 Cumulative Scenarios 2 & 5
School PM Peak Hour Traffic Volumes

NORTH
Not to Scale

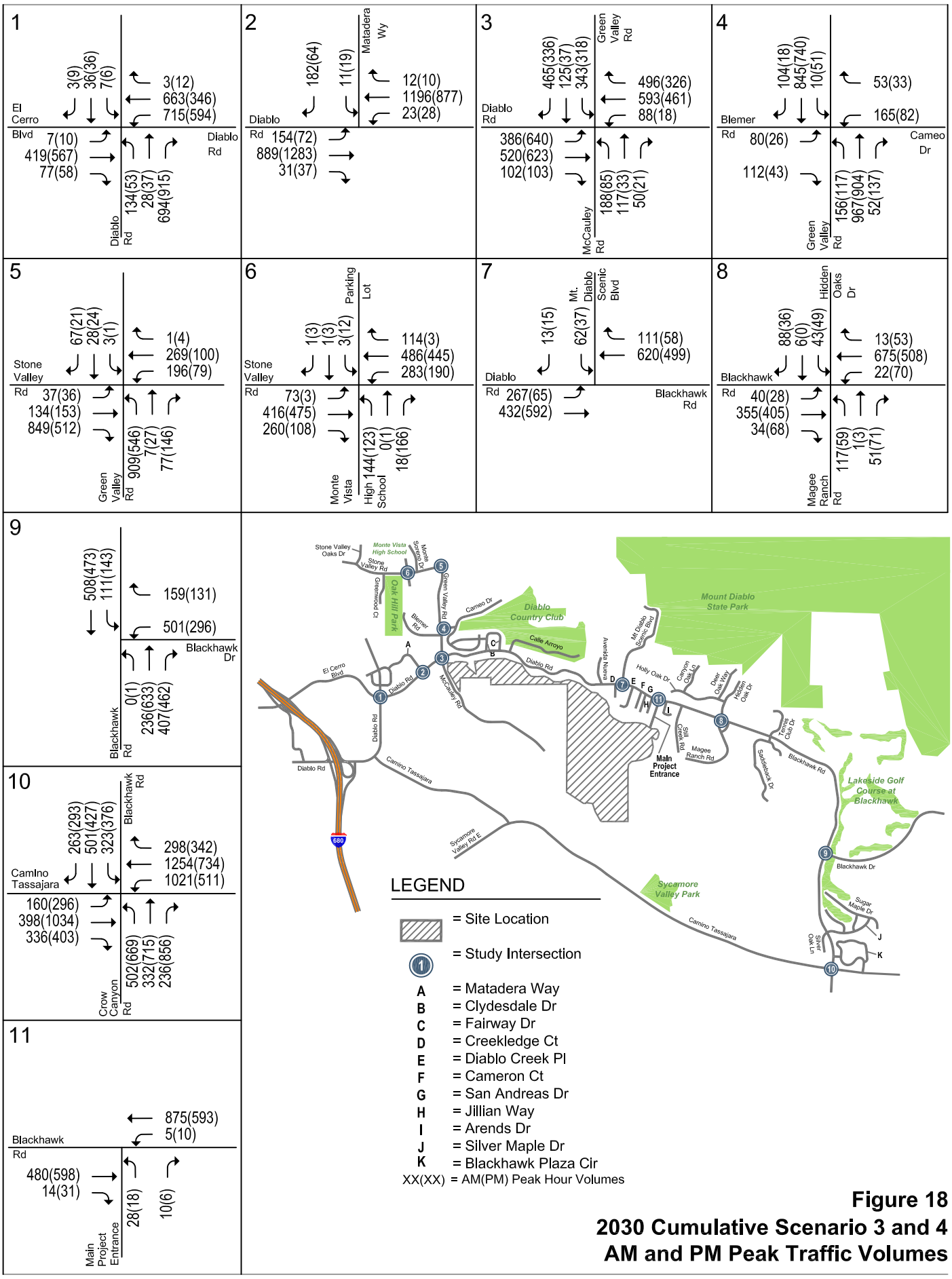


Figure 18
2030 Cumulative Scenario 3 and 4
AM and PM Peak Traffic Volumes

NORTH
Not to Scale

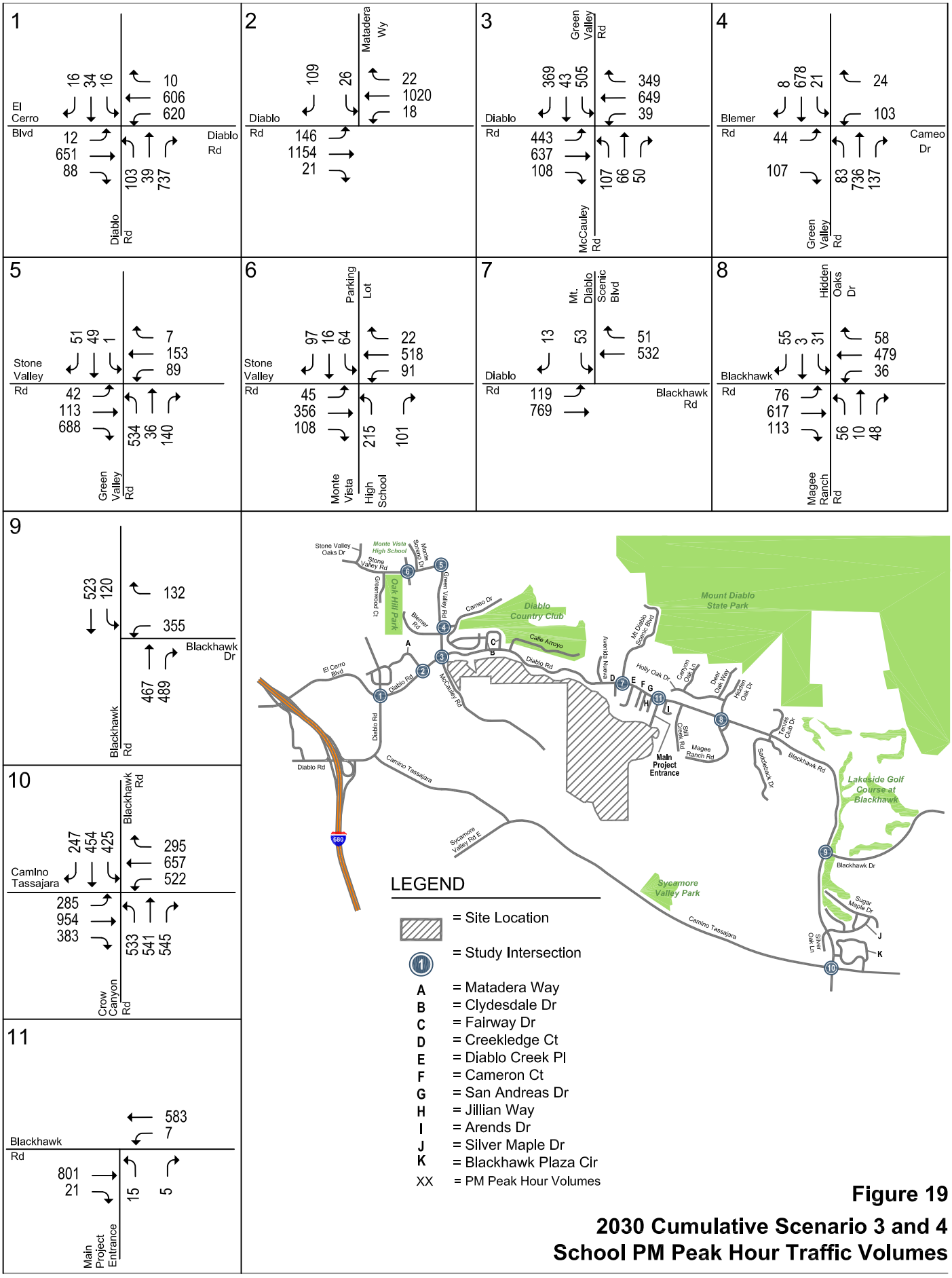


Figure 19

2030 Cumulative Scenario 3 and 4
School PM Peak Hour Traffic Volumes

NORTH
Not to Scale

Cumulative Scenario 1: Existing + Project + Cumulative Growth (Excluding Weber Project)

The results show that, measured against the level of service standards, two signalized study intersections would continue to operate at an unacceptable LOS E or worse under cumulative scenario 1 conditions as indicated below:

- Green Valley Rd and Diablo Rd (AM and school PM peak hours – LOS F, PM peak hour – LOS E) with an average per vehicle delay of 121.8 seconds during the AM, 121.8 seconds during the school PM, and 75.8 seconds during the PM peak hours.
- Green Valley Rd and Blemer Rd/Cameo Dr (AM and PM peak hours – LOS F, school PM peak hour – LOS E) with an average per vehicle delay of 174.2 seconds during the AM, 69.6 seconds during the school PM, and 95.4 seconds during the PM peak hours.

At the intersection of Green Valley Road and Diablo Road, the project would add 91 trips during the AM peak hour, 83 during the school PM peak hour, and 59 trips during the PM peak hour. At the intersection of Green Valley Road and Blemer Road/Cameo Drive, the project would add 29 trips during the AM peak hour, 28 trips during the school PM peak hour, and 2 trips during the PM peak hour.

All other study intersections would operate at an acceptable LOS D or better under cumulative scenario 1 conditions during the AM, school PM, and PM peak hours.

Cumulative Scenario 2: Existing + Project + Cumulative Growth + Weber Project

The results show that, measured against the level of service standards, two signalized study intersections would continue to operate at an unacceptable LOS E or worse under cumulative scenario 2 conditions as indicated below:

- Green Valley Rd and Diablo Rd (AM and school PM peak hours – LOS F, PM peak hour – LOS E) with an average per vehicle delay of 103.2 seconds during the AM, 106.4 seconds during the school PM, and 72.1 seconds during the PM peak hours.
- Green Valley Rd and Blemer Rd/Cameo Dr (AM and PM peak hours – LOS F, school PM peak hour – LOS E) with an average per vehicle delay of 174.8 seconds during the AM, 70.7 seconds during the school PM, and 97.1 seconds during the PM peak hours.

At the intersection of Green Valley Road and Diablo Road, the project would add 91 trips during the AM peak hour, 83 during the school PM peak hour, and 59 trips during the PM peak hour. At the intersection of Green Valley Road and Blemer Road/Cameo Drive, the project would add 29 trips during the AM peak hour, 28 trips during the school PM peak hour, and 2 trips during the PM peak hour.

While these two intersections continue to operate at LOS F in cumulative traffic conditions, the introduction of the Weber Lane connection results in a reduction in vehicle delay for nearly all of the peak periods. All other study intersections would operate at an acceptable LOS D or better under cumulative scenario 2 conditions during the AM, school PM, and PM peak hours.

Cumulative Scenario 3: Existing + Project + Cumulative Growth + Weber Project + New TRAFFIX Bus Line

The results show that, measured against the level of service standards, two signalized study intersections would continue to operate at an unacceptable LOS E or worse under cumulative scenario 3 conditions as indicated below:

- Green Valley Rd and Diablo Rd (AM and school PM peak hours – LOS F, PM peak hour – LOS E) with an average per vehicle delay of 100.9 seconds during the AM, 103.6 seconds during the school PM, and 72.1 seconds during the PM peak hours.
- Green Valley Rd and Blemer Rd/Cameo Dr (AM and PM peak hours – LOS F, school PM peak hour – LOS E) with an average per vehicle delay of 174.9 seconds during the AM, 70.7 seconds during the school PM, and 97.1 seconds during the PM peak hours.

At the intersection of Green Valley Road and Diablo Road, the project would add 58 trips during the AM peak hour, 51 during the school PM peak hour, and 59 trips during the PM peak hour. At the intersection of Green Valley Road and Blemer Road/Cameo Drive, the project would add 17 trips during the AM peak hour, 17 trips during the school PM peak hour, and 2 trips during the PM peak hour.

With the Weber Lane connection, the existing TRAFFIX program, and the addition of a new TRAFFIX bus, the average vehicle delay drops notably. While the Green Valley Road/Diablo Road intersection would still operate at LOS E or worse, the average vehicle delay drops to just over 100 seconds per vehicle in the AM and school PM peak hours as compared to Scenario 1. This translates in reducing the wait time at the intersection from approximately three to two signal cycles. From a driver's perspective during the peak periods, this can be significant.

The addition of a TRAFFIX bus to the proposed project area does not appear to affect either the LOS or the average vehicle delay at the Green Valley Road/Blemer/Cameo intersections. All other study intersections would operate at an acceptable LOS D or better under cumulative scenario 3 conditions during the AM, school PM, and PM peak hours.

Cumulative Scenario 4: Existing + Project + Cumulative Growth + Weber Project + New Traffix Bus Line + Roadway Improvements

The results show that, measured against the level of service standards, two signalized study intersections would continue to operate at an unacceptable LOS E or worse under cumulative scenario 4 conditions as indicated below:

- Green Valley Rd and Diablo Rd (AM and school PM peak hours – LOS E) with an average per vehicle delay of 79.0 seconds during the AM, 78.2 seconds during the school PM, and 53.5 seconds during the PM peak hours.
- Green Valley Rd and Blemer Rd/Cameo Dr (AM and PM peak hours – LOS F, school PM peak hour – LOS E) with an average per vehicle delay of 174.9 seconds during the AM, 70.7 seconds during the school PM, and 97.1 seconds during the PM peak hours.

At the intersection of Green Valley Road and Diablo Road, the project would add 58 trips during the AM peak hour, 51 during the school PM peak hour, and 59 trips during the PM peak hour. At the intersection of Green Valley Road and Blemer Road/Cameo Drive, the project would add 17 trips during the AM peak hour, 17 trips during the school PM peak hour, and 2 trips during the PM peak hour.

This scenario – which assumes the Weber Lane connection, the existing TRAFFIX program, the addition of a new TRAFFIX bus, and the construction of roadway improvements – results in significant improvements to average vehicle delay at the Green Valley Road/Diablo Road intersection. As compared to Scenario 1, the average vehicle delay drops to less than 79.0 and 78.2 seconds during the AM and school PM peak hours respectively. This is a reduction that translates into a reduction in the wait time at the intersection from approximately three to one signal cycle, a noticeable improvement for travelers in the corridor.

Improvements on Diablo Road along the frontage of the proposed project do not appear to have a significant effect on the operation of the Green Valley Road/Blemer/Cameo intersections. All other study intersections would operate at an acceptable LOS D or better under cumulative scenario 4 conditions during the AM, school PM, and PM peak hours.

Cumulative Scenario 5: Existing + Project + Cumulative Growth + Weber Project + Roadway Improvements

The results show that, measured against the level of service standards, two signalized study intersections would continue to operate at an unacceptable LOS E or worse under cumulative scenario 5 conditions as indicated below:

- Green Valley Rd and Diablo Rd (AM and school PM peak hours – LOS F) with an average per vehicle delay of 80.0 seconds during the AM, 81.0 seconds during the school PM, and 53.5 seconds during the PM peak hours.

- Green Valley Rd and Blemer Rd/Cameo Dr (AM and PM peak hours – LOS F, school PM peak hour – LOS E) with an average per vehicle delay of 174.8 seconds during the AM, 70.7 seconds during the school PM, and 97.1 seconds during the PM peak hours.

At the intersection of Green Valley Road and Diablo Road, the project would add 91 trips during the AM peak hour, 83 during the school PM peak hour, and 59 trips during the PM peak hour. At the intersection of Green Valley Road and Blemer Road/Cameo Drive, the project would add 29 trips during the AM peak hour, 28 trips during the school PM peak hour, and 2 trips during the PM peak hour.

While these two intersections continue to operate at LOS F in cumulative AM and school PM traffic conditions, the introduction of the roadway improvements on Diablo Road result in significant improvements to average vehicle delay at the Green Valley Road/Diablo Road intersection. As compared to Scenario 1, the average vehicle delay drops to less than 80.0 and 81.0 seconds during the AM and school PM peak hours respectively. This is a reduction that translates into a reduction in the wait time at the intersection from approximately three to one signal cycle, a dramatic improvement for travelers in the corridor.

All other study intersections would operate at an acceptable LOS D or better under cumulative scenario 5 conditions during the AM, school PM, and PM peak hours.

Cumulative Unsignalized Intersection Analysis

The levels of service for the unsignalized study intersections under cumulative conditions are shown in Table 13. The delay and LOS for the intersections were reported as an overall average of all intersection movements. The intersection LOS calculation sheets are shown in Appendix B. Based on this analysis, the following unsignalized intersections would operate at poor overall levels of service:

Cumulative No Project and All Cumulative Scenarios with Project:

- Green Valley Rd and Stone Valley Rd (LOS F AM, school PM, and PM peak hours)
- Mt. Diablo Scenic Blvd and Diablo Rd (LOS F AM and school PM peak hours)
- Hidden Oaks Dr/Magee Ranch Rd and Blackhawk Rd (LOS F AM peak hour)
- Blackhawk Rd and Blackhawk Dr (LOS F AM and PM peak hours, LOS E school PM peak hour)

Traffic Signal Warrants

For stop-controlled intersections, an assessment was made of the need for signalization of the intersection. This assessment was made on the basis of the Peak-hour Volume Signal Warrant, Warrant #3 described in the *California Manual on Uniform Traffic Control Devices*, 2010. This analysis makes no evaluation of intersection level of service, and its results do not indicate any significance level for CEQA purposes. It is simply informational and provides an indication whether peak-hour traffic volumes are, or would be sufficient to justify installation of a traffic signal. The signal warrant summary is shown in Table 14. The signal warrant analysis sheets are included in Appendix C. The analysis showed that the peak hour volume warrant would be satisfied at the following unsignalized study intersections:

- **Green Valley Rd/Stone Valley Rd**. The warrant would be satisfied during the AM, school PM, and PM peak hours under all cumulative scenarios.

- **Hidden Oaks Dr/Magee Ranch Rd/Blackhawk Rd**. The warrant would be satisfied during the AM peak hour under all cumulative scenarios.

- **Blackhawk Rd/Blackhawk Dr**. The warrant would be satisfied during the AM, school PM, and PM peak hours under all cumulative scenarios.

Table 13
Traffic Sensitivity Analysis for Cumulative Conditions – Unsignalized Intersections

			2030 Cumulative Traffic Sensitivity																	
			No Project[1]			Scenario 1[2]			Scenario 2[3]			Scenario 3[4]			Scenario 4[5]			Scenario 5[6]		
Intersection	Traffic Control	Peak Hour	Avg. Delay	LOS	Crit. V/C	Avg. Delay	LOS	Crit. V/C	Avg. Delay	LOS	Crit. V/C	Avg. Delay	LOS	Crit. V/C	Avg. Delay	LOS	Crit. V/C	Avg. Delay	LOS	Crit. V/C
Unsignalized Intersections																				
Green Valley Rd and Stone Valley Rd	All-Way Stop	AM	**625.5**	**F**	3.752	**633.4**	**F**	3.775	**633.4**	**F**	3.775	**633.4**	**F**	3.775	**633.4**	**F**	3.775	**633.4**	**F**	3.775
		Midday	**180.9**	**F**	1.938	**187.1**	**F**	1.968	**187.1**	**F**	1.968	**187.1**	**F**	1.968	**187.1**	**F**	1.968	**187.1**	**F**	1.968
		PM	**64.0**	**F**	1.249	**64.5**	**F**	1.252	**64.5**	**F**	1.252	**64.5**	**F**	1.252	**64.5**	**F**	1.252	**64.5**	**F**	1.252
Mt. Diablo Scenic Blvd and Diablo Rd	All-Way Stop	AM	**61.9**	**F**	1.165	**81.4**	**F**	1.257	**81.4**	**F**	1.257	**72.7**	**F**	1.218	**72.7**	**F**	1.218	**81.4**	**F**	1.257
		Midday	**81.1**	**F**	1.228	**100.0**	**F**	1.304	**100.0**	**F**	1.304	**90.9**	**F**	1.268	**90.9**	**F**	1.268	**100.0**	**F**	1.304
		PM	27.6	D	0.888	33.9	D	0.945	33.9	D	0.945	33.9	D	0.945	33.9	D	0.945	33.9	D	0.945
Hidden Oaks Dr/Magee Ranch Rd and Blackhawk Rd	Two-Way Stop	AM	**97.2**	**F**	2.820	**102.5**	**F**	2.950	**102.5**	**F**	2.950	**102.5**	**F**	2.950	**102.5**	**F**	2.950	**102.5**	**F**	2.950
		Midday	11.2	B	0.860	11.6	B	0.884	11.6	B	0.884	11.6	B	0.884	11.6	B	0.884	11.6	B	0.884
		PM	7.2	A	0.512	7.5	A	0.532	7.5	A	0.532	7.5	A	0.532	7.5	A	0.532	7.5	A	0.532
Blackhawk Rd and Blackhawk Dr	Two-Way Stop	AM	**60.1**	**F**	1.226	**60.4**	**F**	1.228	**60.4**	**F**	1.228	**60.4**	**F**	1.228	**60.4**	**F**	1.228	**60.4**	**F**	1.228
		Midday	**39.1**	**E**	1.034	**40.8**	**E**	1.052	**40.8**	**E**	1.052	**40.8**	**E**	1.052	**40.8**	**E**	1.052	**40.8**	**E**	1.052
		PM	**109.0**	**F**	1.505	**115.3**	**F**	1.536	**115.3**	**F**	1.536	**115.3**	**F**	1.536	**115.3**	**F**	1.536	**115.3**	**F**	1.536
Project Main Entrance and Blackhawk Rd	One-Way Stop	AM	--	--	--	1.4	A	0.311	1.4	A	0.311	0.7	A	0.173	0.7	A	0.173	1.4	A	0.311
		Midday	--	--	--	0.7	A	0.179	0.7	A	0.179	0.4	A	0.098	0.4	A	0.098	0.7	A	0.179
		PM	--	--	--	0.5	A	0.194	0.5	A	0.194	0.5	A	0.091	0.5	A	0.091	0.5	A	0.194

Note 1: Box denotes poor intersection LOS.
Note 2: For the above stop controlled intersections, the reported LOS represents the average delay of all intersection movements.
[1] This is the same scenario as the 2030 cumulative no project conditions in Chapter 4 and does not include the Weber Development or cut-through.
[2] This is the same scenario as the 2030 cumulative with project conditions in Chapter 4 and does not include the Weber Development or cut-through.
[3] Scenario 2 consists of: Existing + Project + Cumulative Growth + Weber Development.
[4] Scenario 3 consists of: Existing + Project + Cumulative Growth + Weber Development + New Traffix Bus Line (In addition to the existing Traffix Bus Program).
[5] Scenario 4 consists of: Existing + Project + Cumulative Growth + Weber Development + New Traffix Bus Line (In addition to the existing Traffix Bus Program) + Roadway Improvements.
[6] Scenario 5 consists of: Existing + Project + Cumulative Growth + Weber Development + Roadway Improvements.

Table 14
Traffic Sensitivity Analysis for Cumulative Conditions – Signal Warrants

		2030 Cumulative Traffic Sensitivity					
		No Project[1]	Scenario 1[2]	Scenario 2[3]	Scenario 3[4]	Scenario 4[5]	Scenario 5[6]
	Peak Hour	Warrant Met?	Warrant Met?	Warrant Met?	Warrant Met?	Warrant Met?	Warrant Met?
Green Valley Rd and Stone Valley Rd	AM	Yes	Yes	Yes	Yes	Yes	Yes
	School PM	Yes	Yes	Yes	Yes	Yes	Yes
	PM	Yes	Yes	Yes	Yes	Yes	Yes
Mt. Diablo Scenic Blvd and Diablo Rd	AM	No	No	No	No	No	No
	School PM	No	No	No	No	No	No
	PM	No	No	No	No	No	No
Hidden Oaks Dr/Magee Ranch Rd and Blackhawk Rd	AM	Yes	Yes	Yes	Yes	Yes	Yes
	School PM	No	No	No	No	No	No
	PM	No	No	No	No	No	No
Blackhawk Rd and Blackhawk Dr	AM	Yes	Yes	Yes	Yes	Yes	Yes
	School PM	Yes	Yes	Yes	Yes	Yes	Yes
	PM	Yes	Yes	Yes	Yes	Yes	Yes
Project Main Entrance and Blackhawk Rd	AM	--	No	No	No	No	No
	School PM	--	No	No	No	No	No
	PM	--	No	No	No	No	No

* N/A is shown because 2006 counts were not available for these intersections.
[1] This is the same scenario as the 2030 cumulative no project conditions in Chapter 4 and does not include the Weber Development or cut-through.
[2] This is the same scenario as the 2030 cumulative with project conditions in Chapter 4 and does not include the Weber Development or cut-through.
[3] Scenario 2 consists of: Existing + Project + Cumulative Growth + Weber Development.
[4] Scenario 3 consists of: Existing + Project + Cumulative Growth + Weber Development + New Traffix Bus Line (In addition to the existing Traffix Bus Program).
[5] Scenario 4 consists of: Existing + Project + Cumulative Growth + Weber Development + New Traffix Bus Line (In addition to the existing Traffix Bus Program) + Roadway Improvements.
[6] Scenario 5 consists of: Existing + Project + Cumulative Growth + Weber Development + Roadway Improvements.

Traffic Operations Analysis

The traffic operations analysis is based on vehicle queuing for high-demand movements at the intersection of Diablo Road and Green Valley Road/McCauley Road. Vehicle queues were estimated using a Poisson probability distribution. The basis of the analysis is as follows: (1) the Poisson probability distribution is used to estimate the 95th percentile maximum number of queued vehicles per signal cycle for a particular movement; (2) the estimated maximum number of vehicles in the queue is translated into a queue length, assuming 25 feet per vehicle; and (3) the estimated maximum queue length is compared to the existing or planned available storage capacity for the movement. This analysis thus provides a basis for estimating future storage requirements at intersections. The vehicle queuing estimates and a tabulated summary of the findings for the study intersections are provided in Tables 15 and 16. The analysis indicated that the estimated maximum vehicle queues for the northbound left turn lane at Diablo Road and Green Valley Road/McCauley Road would exceed the existing vehicle storage capacity under cumulative with project conditions during the AM peak hour. The identified deficient movement also would be deficient under cumulative no project conditions. The estimated maximum vehicle queues for the southbound shared through/left turn and westbound right turn lane at Diablo Road and Green Valley Road/McCauley Road would exceed the existing vehicle storage capacity under cumulative with project conditions during AM, school PM, and PM peak hours. The identified deficient movements also would be deficient under cumulative no project conditions.

Diablo Road and Green Valley Road/McCauley Road – Northbound Left turn

Under existing conditions, there is approximately 350 feet of storage capacity for the northbound left turn lane at the intersection of Diablo Road and Green Valley Road/McCauley Road. The storage capacity is measured as the distance between the intersection crosswalk and the taper of the left turn pocket. Beyond this, vehicles would queue south into the through lane. Under cumulative no project conditions, the calculated 95th percentile queue length would be 375 feet during the AM peak hour. The cumulative project scenarios would not add to the 95th percentile queue length during the AM peak hour.

By definition, the 95th percentile queue at this intersection only occurs one out of every 20 traffic signal cycles, and the 95th percentile queue only occurs for a very brief period at the end of the signal cycle.

Diablo Road and Green Valley Road/McCauley Road – Southbound Shared Through/Left turn

Under existing conditions, there is approximately 360 feet of storage capacity for the southbound shared through/left turn lane at the intersection of Diablo Road and Green Valley Road/McCauley Road. The storage capacity is measured as the distance between the intersection crosswalk and the taper of the adjacent right turn lane. Beyond this, vehicles can queue north of the taper for another 470 feet to the signalized cross street of Blemer Road. Under cumulative no project conditions, the calculated 95th percentile queue would be 775 feet during the AM peak hour, 850 feet during the school PM peak hour, and 500 feet during the PM peak hour, respectively. Field observations confirm that the vehicle queues for the subject movement are heavy under existing conditions. Cumulative scenarios 1 - 5 would add 25 feet (or one vehicle) to the 95th percentile queue length during the AM peak hour. Cumulative scenarios 1, 2, and 5 would add 25 feet (or one vehicle) to the 95th percentile queue length during the school PM peak hour.

While the southbound shared through/left turn movement at the intersection of Diablo Road would not accommodate the 95th -percentile queue under cumulative conditions, the project contribution to the 95th percentile queue would be only one vehicle or less. By definition, the 95th percentile queue at this intersection only occurs one out of every 20 traffic signal cycles, and the 95th percentile queue only occurs for a very brief period at the end of the signal cycle.

Diablo Road and Green Valley Road/McCauley Road – Westbound Right turn

Under existing conditions, there is approximately 360 feet of storage capacity for the westbound right turn lane at the intersection of Diablo Road and Green Valley Road/McCauley Road. The storage capacity is measured as the distance between the intersection crosswalk and the taper of the right turn pocket. Beyond this, vehicles would queue east into the through lane. Under cumulative no project conditions, the calculated 95th percentile queue would be 825 feet during the AM peak hour, 575 feet during the school PM peak hour, and 450 feet

during the PM peak hour respectively. Field observations confirm that the vehicle queues for the subject movement are heavy under existing conditions. Cumualtive scenarios 1, 2, and 5 would add 25 feet (or one vehicle) to the 95th percentile queue length during the AM peak hour. Cumulative scenarios 3 and 4 would not add to the 95th percentile queue length. However, it should be noted that under scenarios 4 and 5 the roadway improvements will include extending the westbound right turn lane.

By definition, the 95th percentile queue at this intersection only occurs one out of every 20 traffic signal cycles, and the 95th percentile queue only occurs for a very brief period at the end of the signal cycle.

Table 15
Vehicle Queuing and Storage Capacity at Intersections

Measurement	Diablo Rd / Green Valley Rd NBL AM	Diablo Rd / Green Valley Rd NBL School PM	Diablo Rd / Green Valley Rd NBL PM	Diablo Rd / Green Valley Rd SBT/L[3] AM	Diablo Rd / Green Valley Rd SBT/L[3] School PM	Diablo Rd / Green Valley Rd SBT/L[3] PM	Diablo Rd / Green Valley Rd WBR AM	Diablo Rd / Green Valley Rd WBR School PM	Diablo Rd / Green Valley Rd WBR PM
Cumulative No Project									
Cycle[1] (sec)	155	155	125	155	155	125	155	155	125
Volume (vphpl)	216	115	90	537	585	385	565	373	353
Avg. Queue (veh/ln.)	9.3	5.0	3.1	23.1	25.2	13.4	24.3	16.1	12.3
Avg. Queue[2] (ft./ln)	233	124	78	578	630	334	608	401	306
95th %. Queue (veh/ln.)	15	9	6	31	34	20	33	23	18
95th %. Queue (ft./ln)	**375**	225	150	**775**	**850**	**500**	**825**	**575**	450
Storage (ft./ ln.)	350	350	350	360/830	360/830	360/830	360	360	360
Adequate (Y/N)	Y	Y	Y	**See Discussion**	**See Discussion**	**See Discussion**	**N**	**N**	Y
Cumulative Scenario 1									
Cycle[1] (sec)	155	155	125	155	155	125	155	155	125
Volume (vphpl)	219	116	92	548	604	386	586	384	354
Avg. Queue (veh/ln.)	9.4	5.0	3.2	23.6	26.0	13.4	25.2	16.5	12.3
Avg. Queue[2] (ft./ln)	236	125	80	590	650	335	631	413	307
95th %. Queue (veh/ln.)	15	9	6	32	35	20	34	23	18
95th %. Queue (ft./ln)	**375**	225	150	**800**	**875**	**500**	**850**	**575**	**450**
Storage (ft./ ln.)	350	350	350	360/830	360/830	360/830	360	360	360
Adequate (Y/N)	**N**	Y	Y	**See Discussion**	**See Discussion**	**See Discussion**	**N**	**N**	**N**
Cumulative Scenario 2									
Cycle[1] (sec)	155	155	125	155	155	125	155	155	125
Volume (vphpl)	219	116	92	548	604	386	586	384	354
Avg. Queue (veh/ln.)	9.4	5.0	3.2	23.6	26.0	13.4	25.2	16.5	12.3
Avg. Queue[2] (ft./ln)	236	125	80	590	650	335	631	413	307
95th %. Queue (veh/ln.)	15	9	6	32	35	20	34	23	18
95th %. Queue (ft./ln)	**375**	225	150	**800**	**875**	**500**	**850**	**575**	**450**
Storage (ft./ ln.)	350	350	350	360/830	360/830	360/830	360	360	360
Adequate (Y/N)	**N**	Y	Y	**See Discussion**	**See Discussion**	**See Discussion**	**N**	**N**	**N**

[1] Vehicle queue calculations based on cycle length for signalized intersections.
[2] Assumes 25 Feet Per Vehicle Queued
[3] Storage distance of 360 ft is the amount of queuing space available before the queue would block access to the right turn lane. The 830 ft is the available storage space before the queue would spill past the preceeding signalized intersection.

Table 16
Vehicle Queuing and Storage Capacity at Intersections

Measurement	Diablo Rd / Green Valley Rd NBL AM	Diablo Rd / Green Valley Rd NBL School PM	Diablo Rd / Green Valley Rd NBL PM	Diablo Rd / Green Valley Rd SBT/L[3] AM	Diablo Rd / Green Valley Rd SBT/L[3] School PM	Diablo Rd / Green Valley Rd SBT/L[3] PM	Diablo Rd / Green Valley Rd WBR AM	Diablo Rd / Green Valley Rd WBR School PM	Diablo Rd / Green Valley Rd WBR PM
Cumulative Scenario 3									
Cycle[1] (sec)	155	155	125	155	155	125	155	155	125
Volume (vphpl)	219	116	92	544	596	386	577	379	354
Avg. Queue (veh/ln.)	9.4	5.0	3.2	23.4	25.7	13.4	24.8	16.3	12.3
Avg. Queue[2] (ft./ln)	236	125	80	586	642	335	621	408	307
95th %. Queue (veh/ln.)	15	9	6	32	34	20	33	23	18
95th %. Queue (ft./ln)	**375**	225	150	**800**	**850**	**500**	**825**	**575**	**450**
Storage (ft./ ln.)	350	350	350	360/830	360/830	360/830	360	360	360
Adequate (Y/N)	**N**	Y	Y	**See Discussion**	**See Discussion**	**See Discussion**	**N**	**N**	**N**
Cumulative Scenario 4									
Cycle[1] (sec)	155	155	125	155	155	125	155	155	125
Volume (vphpl)	219	116	92	544	596	386	577	379	354
Avg. Queue (veh/ln.)	9.4	5.0	3.2	23.4	25.7	13.4	24.8	16.3	12.3
Avg. Queue[2] (ft./ln)	236	125	80	586	642	335	621	408	307
95th %. Queue (veh/ln.)	15	9	6	32	34	20	33	23	18
95th %. Queue (ft./ln)	**375**	225	150	**800**	**850**	**500**	**825**	**575**	**450**
Storage (ft./ ln.)	350	350	350	360/830	360/830	360/830	360	360	360
Adequate (Y/N)	**N**	Y	Y	**See Discussion**	**See Discussion**	**See Discussion**	**N**	**N**	**N**
Cumulative Scenario 5									
Cycle[1] (sec)	155	155	125	155	155	125	155	155	125
Volume (vphpl)	219	116	92	548	604	386	586	384	354
Avg. Queue (veh/ln.)	9.4	5.0	3.2	23.6	26.0	13.4	25.2	16.5	12.3
Avg. Queue[2] (ft./ln)	236	125	80	590	650	335	631	413	307
95th %. Queue (veh/ln.)	15	9	6	32	35	20	34	23	18
95th %. Queue (ft./ln)	**375**	225	150	**800**	**875**	**500**	**850**	**575**	**450**
Storage (ft./ ln.)	350	350	350	360/830	360/830	360/830	360	360	360
Adequate (Y/N)	**N**	Y	Y	**See Discussion**	**See Discussion**	**See Discussion**	**N**	**N**	**N**

[1] Vehicle queue calculations based on cycle length for signalized intersections.
[2] Assumes 25 Feet Per Vehicle Queued
[3] Storage distance of 360 ft is the amount of queuing space available before the queue would block access to the right turn lane. The 830 ft is the available storage space before the queue would spill past the preceeding signalized intersection.

Magee Ranch Residential Development
Technical Appendices

(>>>>>>>>>This Page Intentionally Left Blank<<<<<<<<)

Appendix A

Traffic Counts

(>>>>>>>>>This Page Intentionally Left Blank<<<<<<<<)

PM Peak-Hour Volume Count Worksheet

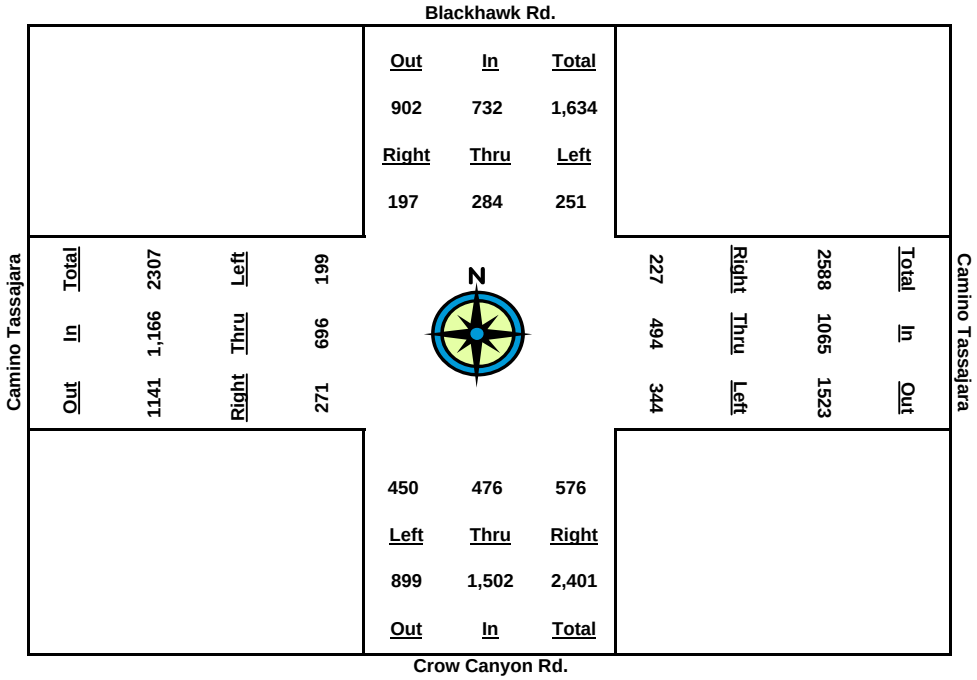
Date: 10/28/10
Counter: Michelle and Vikki
Intersection Name: Blackhawk/Crow Canyon & Camino Tassajara
Weather: Clear Danville 10MN04

AUTO-CENSUS
Traffic Monitoring and Analysis
870 Castlewood Dr. #1
Los Gatos, CA 95032
Phone 408-826-9673 Fax 408-877-1625

	Blackhawk Rd.				Camino Tassajara				Crow Canyon Rd.				Camino Tassajara			
	North Approach				East Approach				South Approach				West Approach			
Start Time	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	32	86	62	180	32	115	112	259	119	77	74	270	68	162	67	297
4:30 PM	79	167	107	353	84	210	195	489	225	180	170	575	118	324	116	558
4:45 PM	130	248	175	553	127	309	284	720	368	319	281	968	171	479	161	811
5:00 PM	187	321	239	747	171	431	357	959	516	431	369	1,316	219	627	207	1,053
5:15 PM	244	395	315	954	231	549	457	1,237	637	557	475	1,669	293	793	253	1,339
5:30 PM	287	463	367	1,117	294	658	529	1,481	793	683	595	2,071	367	1,003	296	1,666
5:45 PM	327	532	426	1,285	354	803	628	1,785	944	795	731	2,470	442	1,175	360	1,977
6:00 PM	356	591	467	1,414	396	888	700	1,984	1,109	906	857	2,872	495	1,332	414	2,241

Peak Hour	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**PK Hour**
4:00 - 5:00	187	321	239	747	171	431	357	959	516	431	369	1,316	219	627	207	1,053	4,075
4:15 - 5:15	212	309	253	774	199	434	345	978	518	480	401	1,399	225	631	186	1,042	4,193
4:30 - 5:30	208	296	260	764	210	448	334	992	568	503	425	1,496	249	679	180	1,108	4,360
4:45 - 5:45	197	284	251	732	227	494	344	1,065	576	476	450	1,502	271	696	199	1,166	4,465
5:00 - 6:00	169	270	228	667	225	457	343	1,025	593	475	488	1,556	276	705	207	1,188	4,436
Peak Volumes:	**197**	**284**	**251**	**732**	**227**	**494**	**344**	**1,065**	**576**	**476**	**450**	**1,502**	**271**	**696**	**199**	**1,166**	**4,465**

Cut and Paste	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
	450	476	576	251	284	197	199	696	271	344	494	227



AM Peak-Hour Volume Count Worksheet

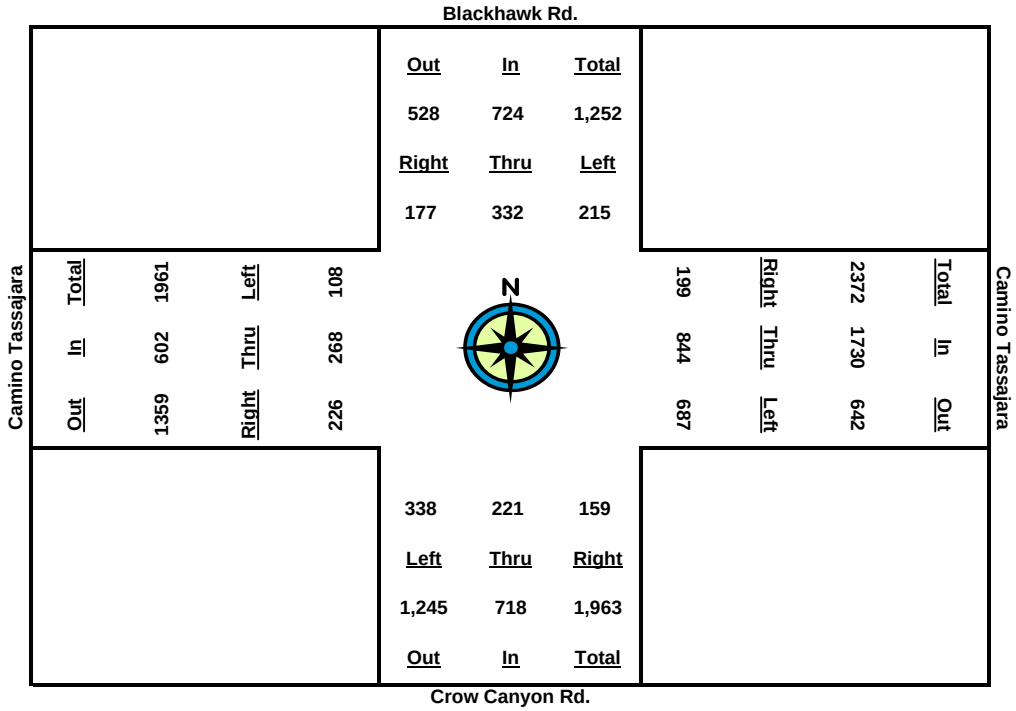
AUTO-CENSUS
Traffic Monitoring and Analysis
870 Castlewood Dr. #1
Los Gatos, CA 95032
Phone 408-826-9673 Fax 408-877-1625

Date: 10/28/10
Counter: Michelle and Vikki
Intersection Name: Blackhawk/Crow Canyon & Camino Tassajara
Weather: Clear Danville 10MN04

	Blackhawk Rd.				Camino Tassajara				Crow Canyon Rd.				Camino Tassajara			
	North Approach				East Approach				South Approach				West Approach			
Start Time	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	48	63	17	128	71	174	145	390	23	35	73	131	32	45	22	99
7:30 AM	73	111	49	233	96	302	273	671	64	56	137	257	74	92	35	201
7:45 AM	119	201	120	440	163	519	474	1,156	110	116	203	429	132	169	63	364
8:00 AM	155	298	194	647	227	720	625	1,572	149	176	294	619	189	228	84	501
8:15 AM	205	369	225	799	263	942	806	2,011	181	227	373	781	240	282	113	635
8:30 AM	250	443	264	957	295	1,146	960	2,401	223	277	475	975	300	360	143	803
8:45 AM	287	517	311	1,115	316	1,310	1,096	2,722	259	355	555	1,169	372	490	207	1,069
9:00 AM	327	592	334	1,253	349	1,434	1,235	3,018	314	426	626	1,366	429	555	244	1,228

Peak Hour	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**PK Hour**
7:00 - 8:00	155	298	194	647	227	720	625	1,572	149	176	294	619	189	228	84	501	3,339
7:15 - 8:15	157	306	208	671	192	768	661	1,621	158	192	300	650	208	237	91	536	3,478
7:30 - 8:30	177	332	215	724	199	844	687	1,730	159	221	338	718	226	268	108	602	3,774
7:45 - 8:45	168	316	191	675	153	791	622	1,566	149	239	352	740	240	321	144	705	3,686
8:00 - 9:00	172	294	140	606	122	714	610	1,446	165	250	332	747	240	327	160	727	3,526
Peak Volumes:	**177**	**332**	**215**	**724**	**199**	**844**	**687**	**1,730**	**159**	**221**	**338**	**718**	**226**	**268**	**108**	**602**	**3,774**

Cut and Paste	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
	338	221	159	215	332	177	108	268	226	687	844	199



Midday Peak-Hour Volume Count Worksheet

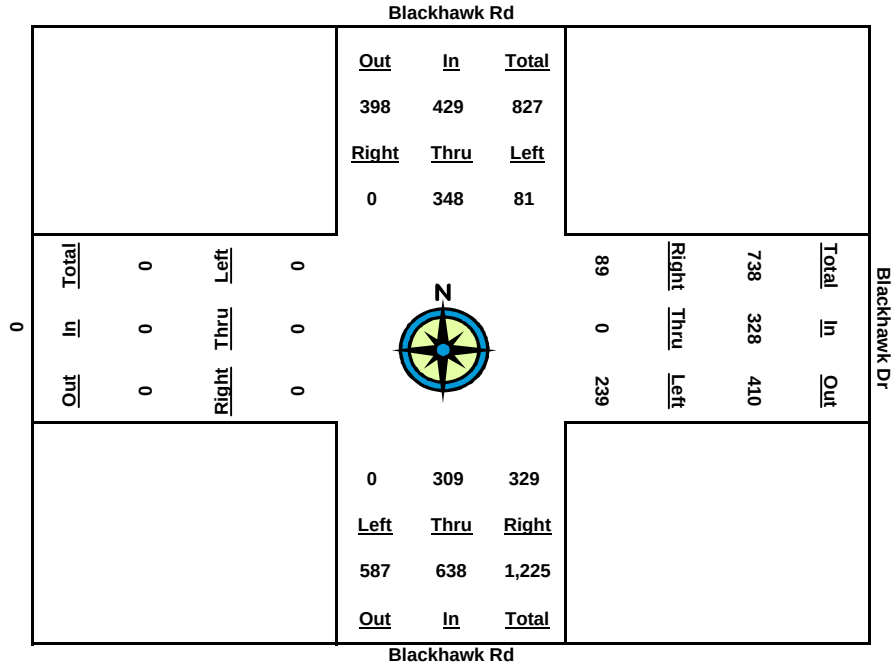
HEXAGON TRANSPORTATION CONSULTANTS
4377 First Street, Suite A
Pleasanton, CA 94566
Phone 925-225-1439 Fax 925-225-0688

Date: 11/04/2010 - Thurs
Counter: MN
Intersection Name: Blackhawk Rd and Blackhawk Dr
Weather: Clear
City/Project: Magee Ranch

	Blackhawk Rd				Blackhawk Dr				Blackhawk Rd				0			
	North Approach				East Approach				South Approach				West Approach			
Start Time	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15	0	46	18	64	15	0	35	50	44	42	0	86	0	0	0	0
2:30	0	90	31	121	35	0	98	133	87	111	0	198	0	0	0	0
2:45	0	124	46	170	63	0	167	230	159	167	0	326	0	0	0	0
3:00	0	173	63	236	80	0	222	302	234	231	0	465	0	0	0	0
3:15	0	218	76	294	105	0	274	379	313	293	0	606	0	0	0	0
3:30	0	299	90	389	126	0	333	459	394	367	0	761	0	0	0	0
3:45	0	414	122	536	145	0	394	539	478	441	0	919	0	0	0	0
4:00	0	521	144	665	169	0	461	630	563	540	0	1,103	0	0	0	0

Peak Hour	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**PK Hour**
2:00 - 3:00	0	173	63	236	80	0	222	302	234	231	0	465	0	0	0	0	1,003
2:15 - 3:15	0	172	58	230	90	0	239	329	269	251	0	520	0	0	0	0	1,079
2:30 - 3:30	0	209	59	268	91	0	235	326	307	256	0	563	0	0	0	0	1,157
2:45 - 3:45	0	290	76	366	82	0	227	309	319	274	0	593	0	0	0	0	1,268
3:00 - 4:00	0	348	81	429	89	0	239	328	329	309	0	638	0	0	0	0	1,395
Peak Volumes:	**0**	**348**	**81**	**429**	**89**	**0**	**239**	**328**	**329**	**309**	**0**	**638**	**0**	**0**	**0**	**0**	**1,395**

Cut and Paste	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
	0	309	329	81	348	0	0	0	0	239	0	89



PM Peak-Hour Volume Count Worksheet

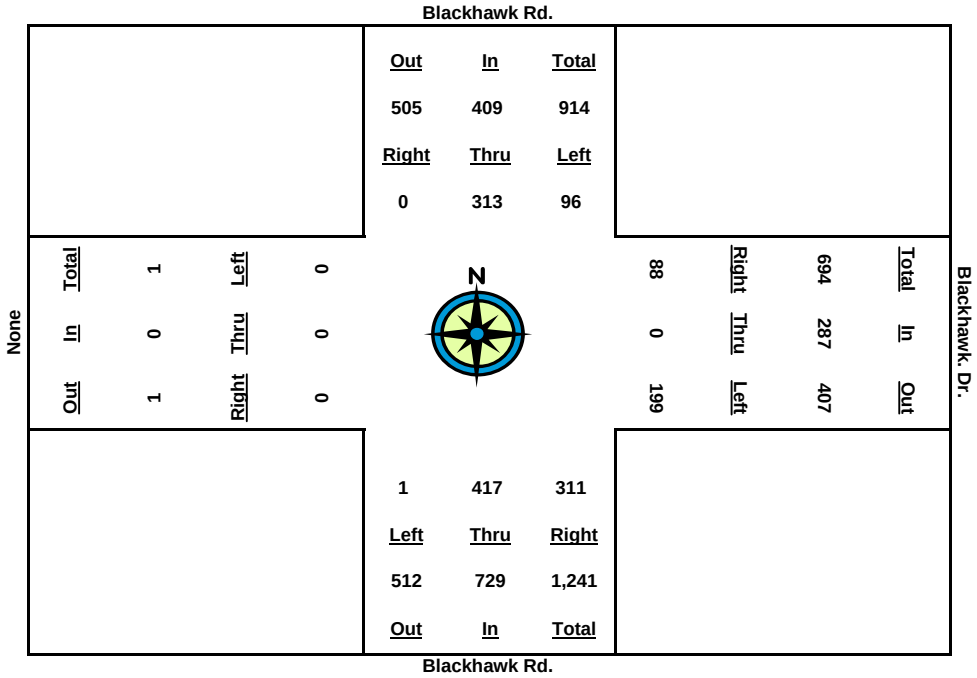
Date: 11/4/10
Counter: Vikki and Michelle
Intersection Name: Blackhawk Rd. and Blackhawk Dr.
Weather: Clear Danville 10MN04

AUTO-CENSUS
Traffic Monitoring and Analysis
870 Castlewood Dr. #1
Los Gatos, CA 95032
Phone 408-826-9673 Fax 408-877-1625

	Blackhawk Rd.				Blackhawk. Dr.				Blackhawk Rd.				None			
	North Approach				East Approach				South Approach				West Approach			
Start Time	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	49	9	58	9	0	47	56	63	72	0	135	0	0	0	0
4:30 PM	0	115	23	138	29	0	116	145	142	149	1	292	0	0	0	0
4:45 PM	0	162	35	197	49	0	162	211	189	203	1	393	0	0	0	0
5:00 PM	0	230	51	281	68	0	217	285	262	270	1	533	0	0	0	0
5:15 PM	0	308	76	384	88	0	273	361	429	372	1	802	0	0	0	0
5:30 PM	0	391	93	484	117	0	328	445	441	488	1	930	0	0	0	0
5:45 PM	0	464	114	578	143	0	370	513	497	574	1	1,072	0	0	0	0
6:00 PM	0	543	147	690	156	0	416	572	573	687	2	1,262	0	0	0	0

Peak Hour	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**PK Hour**
4:00 - 5:00	0	230	51	281	68	0	217	285	262	270	1	533	0	0	0	0	1,099
4:15 - 5:15	0	259	67	326	79	0	226	305	366	300	1	667	0	0	0	0	1,298
4:30 - 5:30	0	276	70	346	88	0	212	300	299	339	0	638	0	0	0	0	1,284
4:45 - 5:45	0	302	79	381	94	0	208	302	308	371	0	679	0	0	0	0	1,362
5:00 - 6:00	0	313	96	409	88	0	199	287	311	417	1	729	0	0	0	0	1,425
Peak Volumes:	**0**	**313**	**96**	**409**	**88**	**0**	**199**	**287**	**311**	**417**	**1**	**729**	**0**	**0**	**0**	**0**	**1,425**

Cut and Paste	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
	1	417	311	96	313	0	0	0	0	199	0	88



AM Peak-Hour Volume Count Worksheet

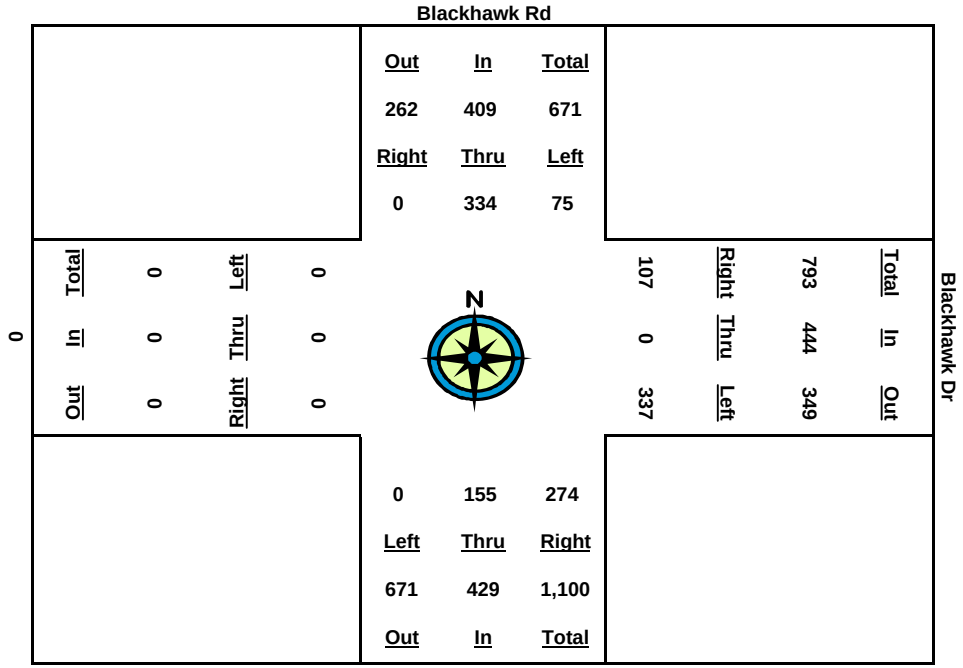
HEXAGON TRANSPORTATION CONSULTANTS
4377 First Street, Suite A
Pleasanton, CA 94566
Phone 925-225-1439 Fax 925-225-0688

Date: 11/04/2010 - Thurs
Counter: MN
Intersection Name: Blackhawk Rd and Blackhawk Dr
Weather: Clear
City/Project: Magee Ranch

	Blackhawk Rd				Blackhawk Dr				Blackhawk Rd							
	North Approach				East Approach				South Approach				West Approach			
Start Time	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	0	43	12	55	56	0	69	125	113	16	0	129	0	0	0	0
7:30	0	120	27	147	82	0	123	205	134	32	0	166	0	0	0	0
7:45	0	219	54	273	107	0	194	301	206	50	0	256	0	0	0	0
8:00	0	292	65	357	162	0	298	460	239	80	0	319	0	0	0	0
8:15	0	377	79	456	178	0	384	562	374	135	0	509	0	0	0	0
8:30	0	454	102	556	189	0	460	649	408	187	0	595	0	0	0	0
8:45	0	527	118	645	199	0	522	721	445	233	0	678	0	0	0	0
9:00	0	587	128	715	219	0	593	812	484	272	0	756	0	0	0	0

Peak Hour	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**PK Hour**
7:00 - 8:00	0	292	65	357	162	0	298	460	239	80	0	319	0	0	0	0	1,136
7:15 - 8:15	0	334	67	401	122	0	315	437	261	119	0	380	0	0	0	0	1,218
7:30 - 8:30	0	334	75	409	107	0	337	444	274	155	0	429	0	0	0	0	1,282
7:45 - 8:45	0	308	64	372	92	0	328	420	239	183	0	422	0	0	0	0	1,214
8:00 - 9:00	0	295	63	358	57	0	295	352	245	192	0	437	0	0	0	0	1,147
Peak Volumes:	**0**	**334**	**75**	**409**	**107**	**0**	**337**	**444**	**274**	**155**	**0**	**429**	**0**	**0**	**0**	**0**	**1,282**

Cut and Paste	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
	0	155	274	75	334	0	0	0	0	337	0	107



PM Peak-Hour Volume Count Worksheet

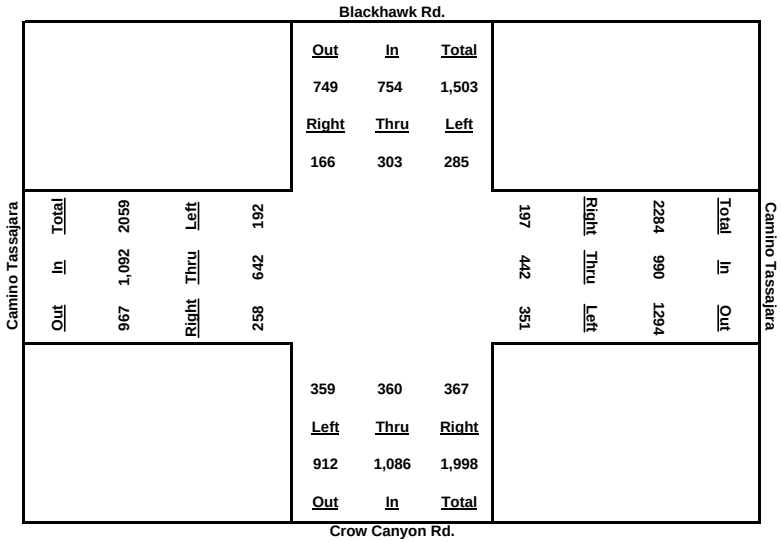
Date: 10/28/10
Counter: Michelle and Vikki
Intersection Name: Blackhawk/Crow Canyon & Camino Tassajara
Weather: Clear Danville 10MN04

AUTO-CENSUS
Traffic Monitoring and Analysis
870 Castlewood Dr. #1
Los Gatos, CA 95032
Phone 408-826-9673 Fax 408-877-1625

	Blackhawk Rd.				Camino Tassajara				Crow Canyon Rd.				Camino Tassajara			
	North Approach				East Approach				South Approach				West Approach			
Start Time	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	52	53	52	157	41	95	75	211	65	72	66	203	48	108	29	185
2:30 PM	89	117	103	309	77	179	137	393	147	167	132	446	95	219	73	387
2:45 PM	131	188	153	472	121	285	222	628	259	235	205	699	140	329	113	582
3:00 PM	166	247	183	596	188	414	307	909	329	309	271	909	162	439	152	753
3:15 PM	194	307	217	718	246	524	394	1,164	410	389	354	1,153	214	570	186	970
3:30 PM	240	381	291	912	301	625	481	1,407	487	490	459	1,436	273	703	229	1,205
3:45 PM	284	468	358	1,110	341	725	553	1,619	586	565	544	1,695	340	878	268	1,486
4:00 PM	332	550	468	1,350	385	856	658	1,899	696	669	630	1,995	420	1,081	344	1,845

Peak Hour	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**PK Hour**
2:00-3:00	166	247	183	596	188	414	307	909	329	309	271	909	162	439	152	753	3,167
2:15-3:15	142	254	165	561	205	429	319	953	345	317	288	950	166	462	157	785	3,249
3:30-4:30	151	264	188	603	224	446	344	1,014	340	323	327	990	178	484	156	818	3,425
3:45-4:45	153	280	205	638	220	440	331	991	327	330	339	996	200	549	155	904	3,529
4:00-5:00	166	303	285	754	197	442	351	990	367	360	359	1,086	258	642	192	1,092	3,922
Peak Volumes:	**166**	**303**	**285**	**754**	**197**	**442**	**351**	**990**	**367**	**360**	**359**	**1,086**	**258**	**642**	**192**	**1,092**	**3,922**

Cut and Paste	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
	359	360	367	285	303	166	192	642	258	351	442	197



PM Peak-Hour Volume Count Worksheet

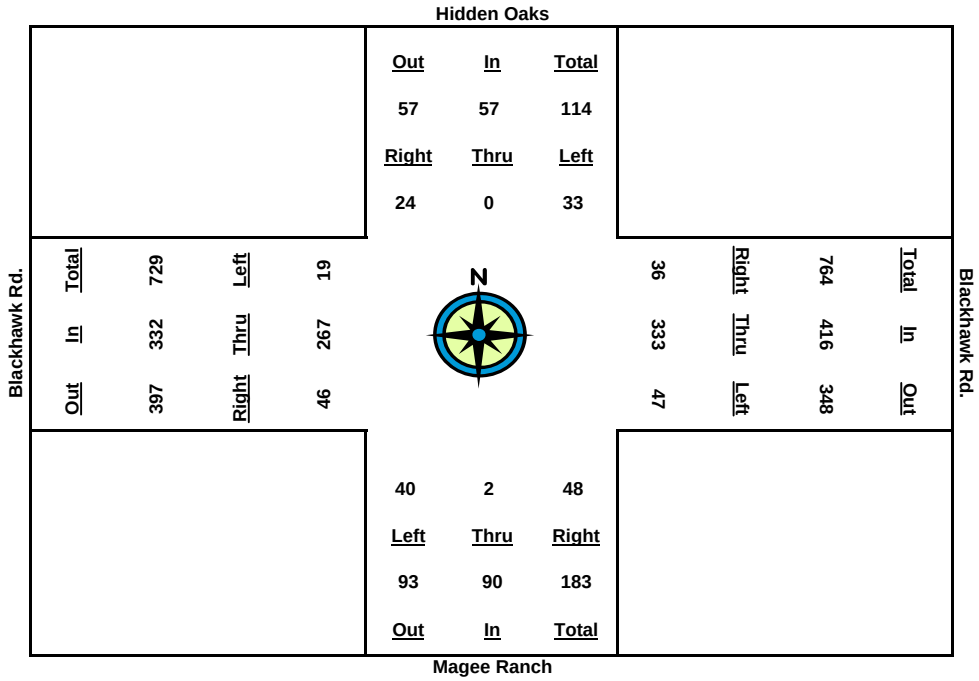
Date: 11/4/10
Counter: Joe and Megan Bundy
Intersection Name: Hidden Oaks/Magee Ranch & Blackhawk Rd.
Weather: Clear Danville 10MN04

AUTO-CENSUS
Traffic Monitoring and Analysis
870 Castlewood Dr. #1
Los Gatos, CA 95032
Phone 408-826-9673 Fax 408-877-1625

	Hidden Oaks				Blackhawk Rd.				Magee Ranch				Blackhawk Rd.			
	North Approach				East Approach				South Approach				West Approach			
Start Time	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	11	0	9	20	4	57	15	76	7	1	16	24	12	102	15	129
4:30 PM	18	4	17	39	12	110	24	146	10	2	18	30	25	159	26	210
4:45 PM	28	5	23	56	18	169	38	225	13	3	27	43	42	218	40	300
5:00 PM	34	5	31	70	23	245	45	313	22	3	38	63	54	270	43	367
5:15 PM	43	5	41	89	31	322	56	409	39	4	51	94	66	348	51	465
5:30 PM	45	5	48	98	44	413	72	529	51	5	61	117	74	411	56	541
5:45 PM	52	5	56	113	54	502	85	641	61	5	67	133	88	485	59	632
6:00 PM	62	5	59	126	61	543	97	701	68	5	72	145	94	535	63	692

Peak Hour	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**PK Hour**
4:00 - 5:00	34	5	31	70	23	245	45	313	22	3	38	63	54	270	43	367	813
4:15 - 5:15	32	5	32	69	27	265	41	333	32	3	35	70	54	246	36	336	808
4:30 - 5:30	27	1	31	59	32	303	48	383	41	3	43	87	49	252	30	331	860
4:45 - 5:45	24	0	33	57	36	333	47	416	48	2	40	90	46	267	19	332	895
5:00 - 6:00	28	0	28	56	38	298	52	388	46	2	34	82	40	265	20	325	851
Peak Volumes:	**24**	**0**	**33**	**57**	**36**	**333**	**47**	**416**	**48**	**2**	**40**	**90**	**46**	**267**	**19**	**332**	**895**

Cut and Paste	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
	40	2	48	33	0	24	19	267	46	47	333	36



AM Peak-Hour Volume Count Worksheet

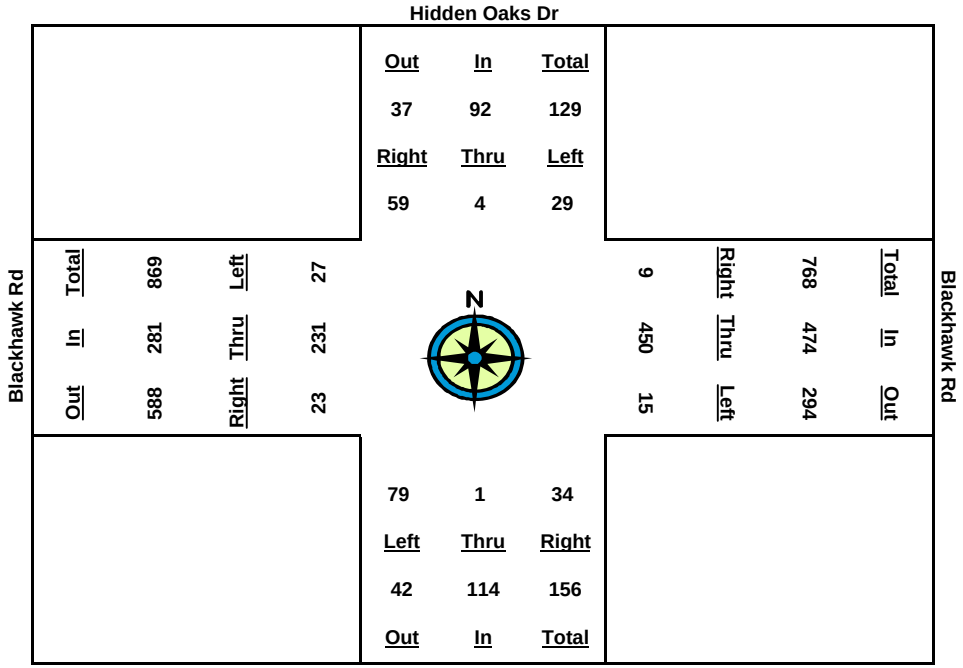
HEXAGON TRANSPORTATION CONSULTANTS
4377 First Street, Suite A
Pleasanton, CA 94566
Phone 925-225-1439 Fax 925-225-0688

Date: 11/4/10
Counter: MN & BW
Intersection Name: Hidden Oaks/Magee Ranch & Blackhawk
Weather: Clear
City/Project: Magee Ranch

	Hidden Oaks Dr				Blackhawk Rd				Magee Ranch Rd				Blackhawk Rd			
	North Approach				East Approach				South Approach				West Approach			
Start Time	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	16	0	4	20	0	172	0	172	5	1	18	24	3	34	2	39
7:30	27	1	12	40	4	237	2	243	14	1	28	43	9	121	10	140
7:45	37	2	19	58	4	292	11	307	25	1	46	72	14	182	14	210
8:00	59	4	29	92	9	450	15	474	34	1	79	114	23	231	27	281
8:15	68	4	39	111	19	504	15	538	48	6	92	146	28	304	37	369
8:30	80	4	50	134	24	539	17	580	68	7	104	179	38	360	47	445
8:45	87	5	58	150	32	572	23	627	92	7	114	213	52	430	53	535
9:00	103	6	69	178	37	606	27	670	99	7	131	237	61	488	62	611

Peak Hour	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**PK Hour**
7:00 - 8:00	59	4	29	92	9	450	15	474	34	1	79	114	23	231	27	281	961
7:15 - 8:15	52	4	35	91	19	332	15	366	43	5	74	122	25	270	35	330	909
7:30 - 8:30	53	3	38	94	20	302	15	337	54	6	76	136	29	239	37	305	872
7:45 - 8:45	50	3	39	92	28	280	12	320	67	6	68	141	38	248	39	325	878
8:00 - 9:00	44	2	40	86	28	156	12	196	65	6	52	123	38	257	35	330	735
Peak Volumes:	**59**	**4**	**29**	**92**	**9**	**450**	**15**	**474**	**34**	**1**	**79**	**114**	**23**	**231**	**27**	**281**	**961**

Cut and Paste	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
	79	1	34	29	4	59	27	231	23	15	450	9



PM Peak-Hour Volume Count Worksheet

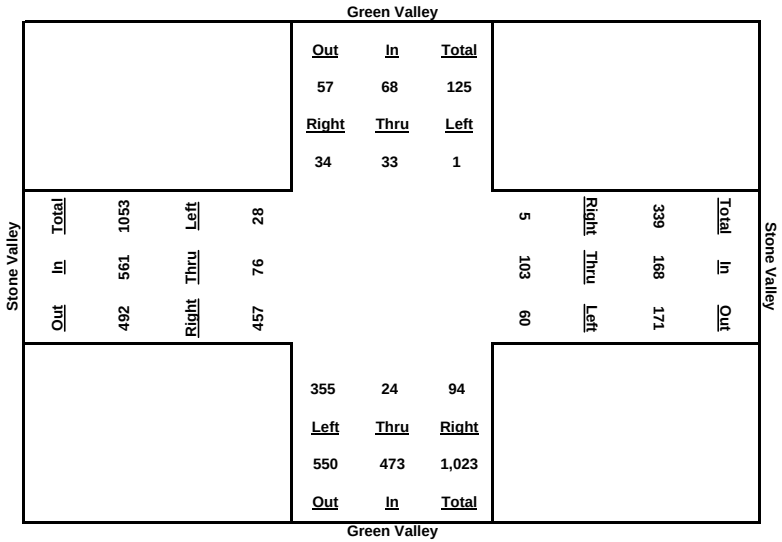
Date: 10/21/10
Counter: Joe and Megan
Intersection Name: Green Valley Rd. and Stone Valley Rd.
Weather: Clear Danville 10MN04

AUTO-CENSUS
Traffic Monitoring and Analysis
870 Castlewood Dr. #1
Los Gatos, CA 95032
Phone 408-826-9673 Fax 408-877-1625

	Green Valley				Stone Valley				Green Valley				Stone Valley			
	North Approach				East Approach				South Approach				West Approach			
Start Time	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	6	6	1	13	3	21	18	42	13	4	36	53	31	24	4	59
2:30 PM	11	11	1	23	3	39	34	76	27	12	69	108	89	45	9	143
2:45 PM	14	14	2	30	3	66	52	121	48	18	122	188	130	59	17	206
3:00 PM	20	21	3	44	3	88	67	158	63	21	176	260	176	77	19	272
3:15 PM	25	30	3	58	3	113	86	202	97	32	266	395	271	88	26	385
3:30 PM	42	45	3	90	6	132	105	243	124	39	356	519	429	122	38	589
3:45 PM	49	50	3	102	7	164	111	282	143	42	435	620	547	139	43	729
4:00 PM	54	54	4	112	8	191	127	326	157	45	531	733	633	153	47	833

Peak Hour	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**PK Hour**
2:00-3:00	20	21	3	44	3	88	67	158	63	21	176	260	176	77	19	272	734
2:15-3:15	19	24	2	45	0	92	68	160	84	28	230	342	240	64	22	326	873
3:30-4:30	31	34	2	67	3	93	71	167	97	27	287	411	340	77	29	446	1,091
3:45-4:45	35	36	1	72	4	98	59	161	95	24	313	432	417	80	26	523	1,188
4:00-5:00	34	33	1	68	5	103	60	168	94	24	355	473	457	76	28	561	1,270
Peak Volumes:	**34**	**33**	**1**	**68**	**5**	**103**	**60**	**168**	**94**	**24**	**355**	**473**	**457**	**76**	**28**	**561**	**1,270**

Cut and Paste	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
	355	24	94	1	33	34	28	76	457	60	103	5



PM Peak-Hour Volume Count Worksheet

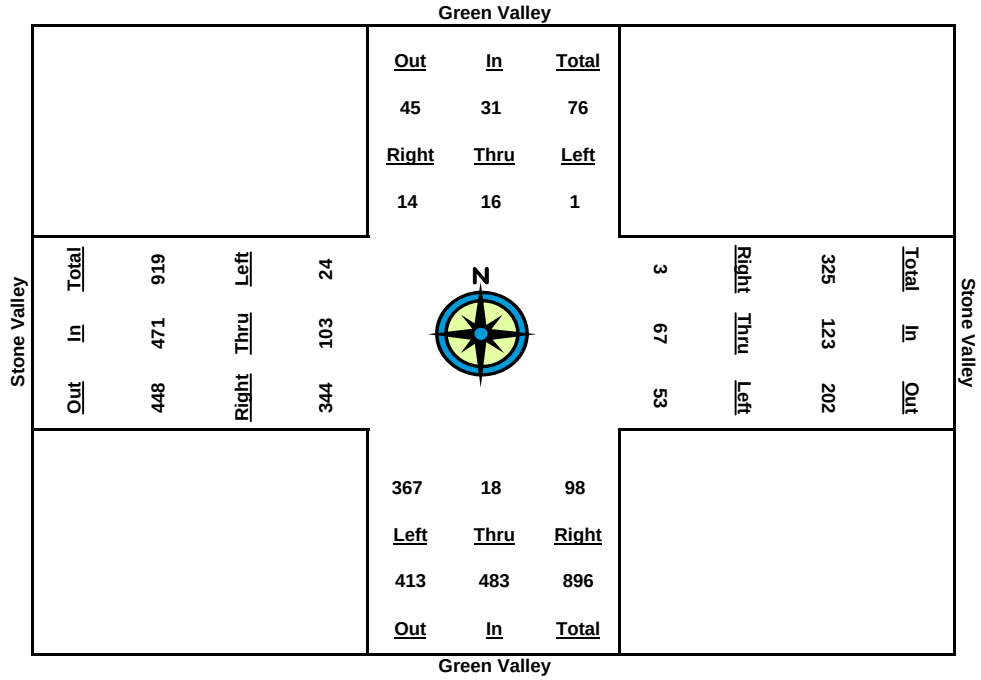
Date: 10/21/10
Counter: Joe and Megan
Intersection Name: Green Valley Rd. and Stone Valley Rd.
Weather: Clear Danville 10MN04

AUTO-CENSUS
Traffic Monitoring and Analysis
870 Castlewood Dr. #1
Los Gatos, CA 95032
Phone 408-826-9673 Fax 408-877-1625

	Green Valley				Stone Valley				Green Valley				Stone Valley			
	North Approach				East Approach				South Approach				West Approach			
Start Time	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	6	9	0	15	0	18	16	34	25	6	67	98	63	25	5	93
4:30 PM	9	9	0	18	1	39	32	72	45	10	140	195	140	48	8	196
4:45 PM	13	10	0	23	2	56	56	114	68	20	224	312	213	67	8	288
5:00 PM	18	18	1	37	2	83	82	167	88	28	296	412	298	97	12	407
5:15 PM	25	25	2	52	2	104	102	208	107	29	369	505	370	119	17	506
5:30 PM	28	30	2	60	2	121	107	230	132	33	455	620	454	143	20	617
5:45 PM	30	31	2	63	2	134	121	257	160	39	529	728	549	172	28	749
6:00 PM	32	34	2	68	5	150	135	290	186	46	663	895	642	200	36	878

Peak Hour	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**PK Hour**
4:00 - 5:00	18	18	1	37	2	83	82	167	88	28	296	412	298	97	12	407	1,023
4:15 - 5:15	19	16	2	37	2	86	86	174	82	23	302	407	307	94	12	413	1,031
4:30 - 5:30	19	21	2	42	1	82	75	158	87	23	315	425	314	95	12	421	1,046
4:45 - 5:45	17	21	2	40	0	78	65	143	92	19	305	416	336	105	20	461	1,060
5:00 - 6:00	14	16	1	31	3	67	53	123	98	18	367	483	344	103	24	471	1,108
Peak Volumes:	**14**	**16**	**1**	**31**	**3**	**67**	**53**	**123**	**98**	**18**	**367**	**483**	**344**	**103**	**24**	**471**	**1,108**

Cut and Paste	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
	367	18	98	1	16	14	24	103	344	53	67	3



AM Peak-Hour Volume Count Worksheet

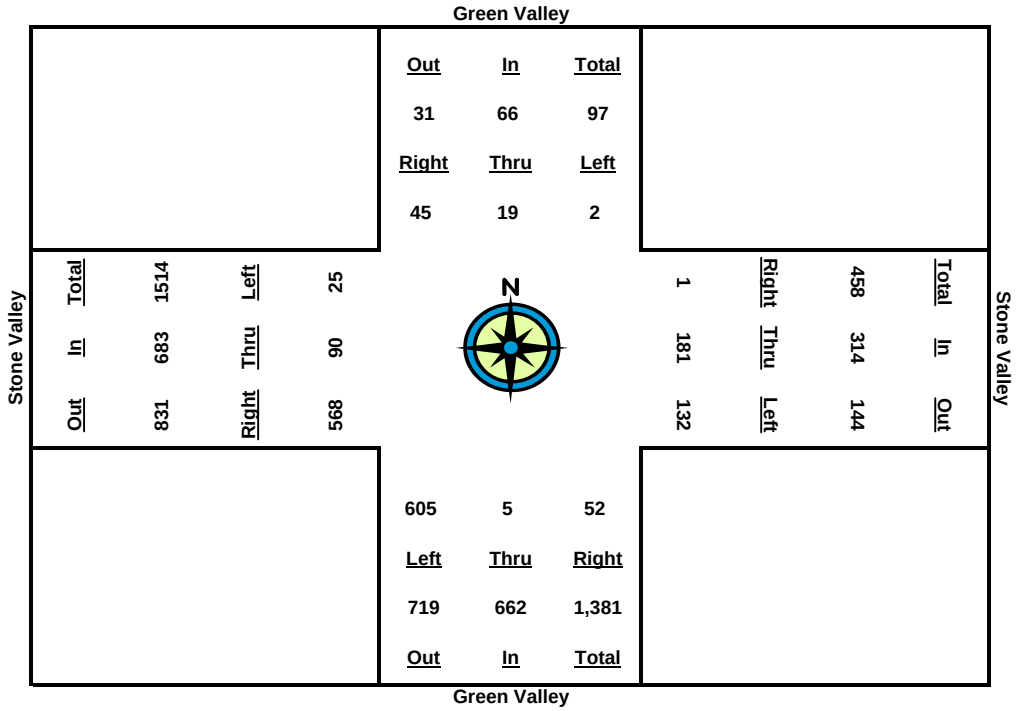
AUTO-CENSUS
Traffic Monitoring and Analysis
870 Castlewood Dr. #1
Los Gatos, CA 95032
Phone 408-826-9673 Fax 408-877-1625

Date: 10/21/10
Counter: Joe and Megan
Intersection Name: Green Valley Rd. and Stone Valley Rd.
Weather: Clear Danville 10MN04

	Green Valley				Stone Valley				Green Valley				Stone Valley			
	North Approach				East Approach				South Approach				West Approach			
Start Time	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	4	1	0	5	1	17	18	36	1	0	157	158	51	13	4	68
7:30 AM	12	5	2	19	1	58	35	94	11	1	377	389	235	24	8	267
7:45 AM	20	12	2	34	2	84	51	137	19	4	447	470	298	52	12	362
8:00 AM	26	18	2	46	2	105	86	193	28	4	565	597	364	67	25	456
8:15 AM	49	20	2	71	2	198	150	350	53	5	762	820	619	103	29	751
8:30 AM	51	20	2	73	3	205	160	368	55	7	1,000	1,062	632	109	32	773
8:45 AM	53	21	2	76	3	211	166	380	60	8	1,023	1,091	682	129	36	847
9:00 AM	58	28	2	88	3	235	196	434	66	10	1,080	1,156	721	148	42	911

Peak Hour	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**PK Hour**
7:00 - 8:00	26	18	2	46	2	105	86	193	28	4	565	597	364	67	25	456	1,292
7:15 - 8:15	45	19	2	66	1	181	132	314	52	5	605	662	568	90	25	683	1,725
7:30 - 8:30	39	15	0	54	2	147	125	274	44	6	623	673	397	85	24	506	1,507
7:45 - 8:45	33	9	0	42	1	127	115	243	41	4	576	621	384	77	24	485	1,391
8:00 - 9:00	32	10	0	42	1	130	110	241	38	6	515	559	357	81	17	455	1,297
Peak Volumes:	**45**	**19**	**2**	**66**	**1**	**181**	**132**	**314**	**52**	**5**	**605**	**662**	**568**	**90**	**25**	**683**	**1,725**

Cut and Paste	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
	605	5	52	2	19	45	25	90	568	132	181	1



PM Peak-Hour Volume Count Worksheet

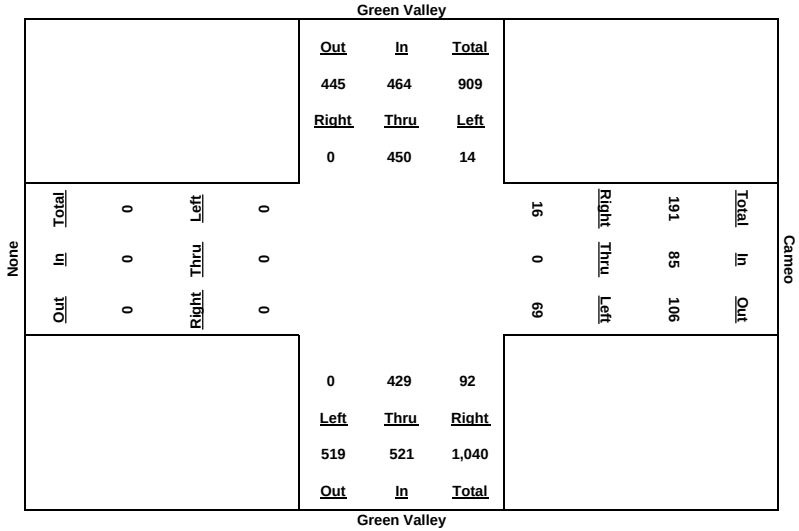
Date: 10/21/10
Counter: Logan and Irene
Intersection Name: Green Valley Rd. and Cameo Dr.
Weather: Clear Danville 10MN04

AUTO-CENSUS
Traffic Monitoring and Analysis
870 Castlewood Dr. #1
Los Gatos, CA 95032
Phone 408-826-9673 Fax 408-877-1625

	Green Valley				Cameo				Green Valley				None			
	North Approach				East Approach				South Approach				West Approach			
Start Time	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	0	49	8	57	1	0	10	11	15	48	0	63	0	0	0	0
2:30 PM	0	136	12	148	3	0	23	26	24	113	0	137	0	0	0	0
2:45 PM	0	192	13	205	9	0	43	52	50	192	0	242	0	0	0	0
3:00 PM	0	260	18	278	13	0	58	71	68	275	0	343	0	0	0	0
3:15 PM	0	363	22	385	19	0	76	95	85	396	0	481	0	0	0	0
3:30 PM	0	485	24	509	24	0	94	118	115	509	0	624	0	0	0	0
3:45 PM	0	594	27	621	28	0	106	134	138	620	0	758	0	0	0	0
4:00 PM	0	710	32	742	29	0	127	156	160	704	0	864	0	0	0	0

Peak Hour	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**PK Hour**
2:00-3:00	0	260	18	278	13	0	58	71	68	275	0	343	0	0	0	0	692
2:15-3:15	0	314	14	328	18	0	66	84	70	348	0	418	0	0	0	0	830
2:30-3:30	0	349	12	361	21	0	71	92	91	396	0	487	0	0	0	0	940
2:45-3:45	0	402	14	416	19	0	63	82	88	428	0	516	0	0	0	0	1,014
3:00-4:00	0	450	14	464	16	0	69	85	92	429	0	521	0	0	0	0	1,070
Peak Volumes:	**0**	**450**	**14**	**464**	**16**	**0**	**69**	**85**	**92**	**429**	**0**	**521**	**0**	**0**	**0**	**0**	**1,070**

Cut and Paste	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
	0	429	92	14	450	0	0	0	0	69	0	16



PM Peak-Hour Volume Count Worksheet

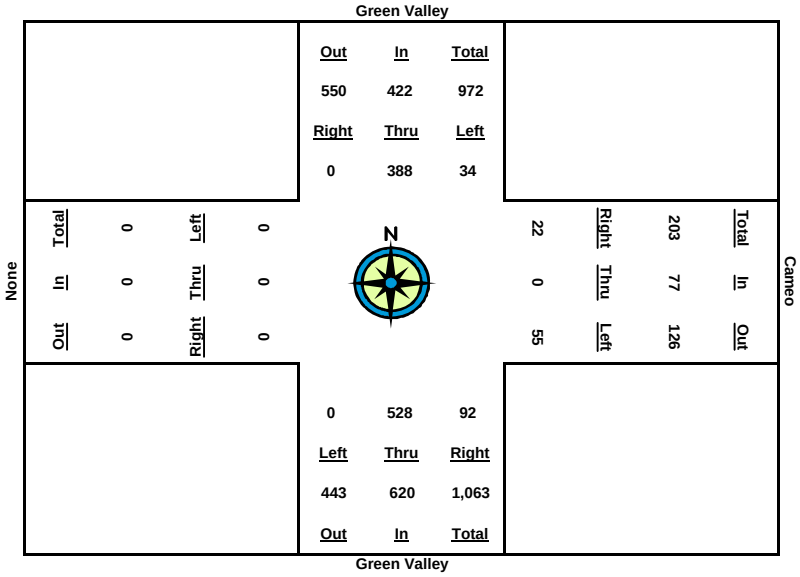
AUTO-CENSUS
Traffic Monitoring and Analysis
870 Castlewood Dr. #1
Los Gatos, CA 95032
Phone 408-826-9673 Fax 408-877-1625

Date: 10/21/10
Counter: Logan and Irene
Intersection Name: Green Valley Rd. and Cameo Dr.
Weather: Clear Danville 10MN04

	Green Valley				Cameo				Green Valley				None			
	North Approach				East Approach				South Approach				West Approach			
Start Time	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	121	5	126	1	0	25	26	19	101	0	120	0	0	0	0
4:30 PM	0	208	11	219	6	0	34	40	47	194	0	241	0	0	0	0
4:45 PM	0	293	16	309	12	0	42	54	72	303	0	375	0	0	0	0
5:00 PM	0	420	20	440	18	0	58	76	86	386	0	472	0	0	0	0
5:15 PM	0	509	27	536	24	0	72	96	119	494	0	613	0	0	0	0
5:30 PM	0	606	33	639	30	0	82	112	147	618	0	765	0	0	0	0
5:45 PM	0	712	42	754	37	0	97	134	164	752	0	916	0	0	0	0
6:00 PM	0	808	54	862	40	0	113	153	178	914	0	1,092	0	0	0	0

Peak Hour	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**PK Hour**
4:00 - 5:00	0	420	20	440	18	0	58	76	86	386	0	472	0	0	0	0	988
4:15 - 5:15	0	388	22	410	23	0	47	70	100	393	0	493	0	0	0	0	973
4:30 - 5:30	0	398	22	420	24	0	48	72	100	424	0	524	0	0	0	0	1,016
4:45 - 5:45	0	419	26	445	25	0	55	80	92	449	0	541	0	0	0	0	1,066
5:00 - 6:00	0	388	34	422	22	0	55	77	92	528	0	620	0	0	0	0	1,119
Peak Volumes:	**0**	**388**	**34**	**422**	**22**	**0**	**55**	**77**	**92**	**528**	**0**	**620**	**0**	**0**	**0**	**0**	**1,119**

Cut and Paste	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
	0	528	92	34	388	0	0	0	0	55	0	22



AM Peak-Hour Volume Count Worksheet

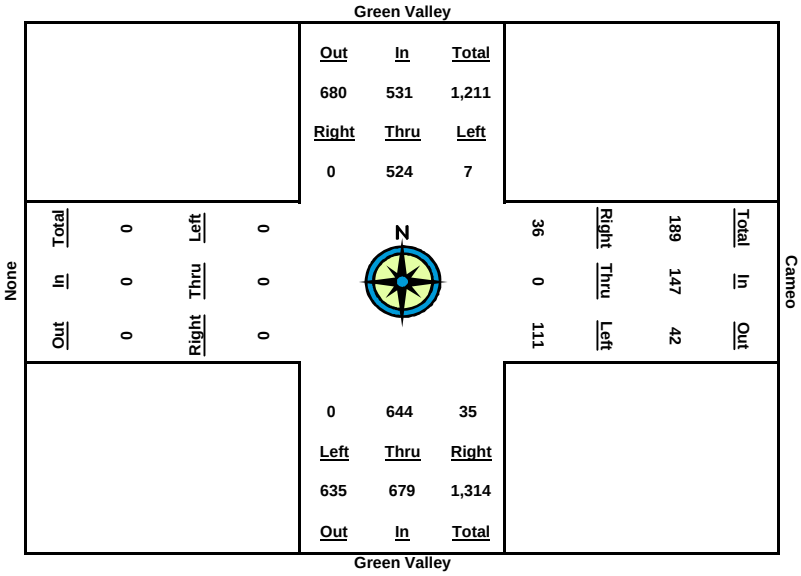
AUTO-CENSUS
Traffic Monitoring and Analysis
870 Castlewood Dr. #1
Los Gatos, CA 95032
Phone 408-826-9673 Fax 408-877-1625

Date: 10/21/10
Counter: Logan and Irene
Intersection Name: Green Valley Rd. and Cameo Dr.
Weather: Clear Danville 10MN04

	Green Valley				Cameo				Green Valley				None			
	North Approach				East Approach				South Approach				West Approach			
Start Time	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	93	11	104	7	0	17	24	4	122	0	126	0	0	0	0
7:30 AM	0	267	12	279	16	0	31	47	9	316	0	325	0	0	0	0
7:45 AM	0	383	12	395	20	0	53	73	11	383	0	394	0	0	0	0
8:00 AM	0	492	14	506	31	0	80	111	23	531	0	554	0	0	0	0
8:15 AM	0	627	14	641	39	0	98	137	27	781	0	808	0	0	0	0
8:30 AM	0	796	16	812	48	0	136	184	36	972	0	1,008	0	0	0	0
8:45 AM	0	907	19	926	56	0	164	220	46	1,027	0	1,073	0	0	0	0
9:00 AM	0	986	22	1,008	61	0	180	241	65	1,087	0	1,152	0	0	0	0

Peak Hour	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**PK Hour**
7:00 - 8:00	0	492	14	506	31	0	80	111	23	531	0	554	0	0	0	0	1,171
7:15 - 8:15	0	534	3	537	32	0	81	113	23	659	0	682	0	0	0	0	1,332
7:30 - 8:30	0	529	4	533	32	0	105	137	27	656	0	683	0	0	0	0	1,353
7:45 - 8:45	0	524	7	531	36	0	111	147	35	644	0	679	0	0	0	0	1,357
8:00 - 9:00	0	494	8	502	30	0	100	130	42	556	0	598	0	0	0	0	1,230
Peak Volumes:	**0**	**524**	**7**	**531**	**36**	**0**	**111**	**147**	**35**	**644**	**0**	**679**	**0**	**0**	**0**	**0**	**1,357**

Cut and Paste	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
	0	644	35	7	524	0	0	0	0	111	0	36



PM Peak-Hour Volume Count Worksheet

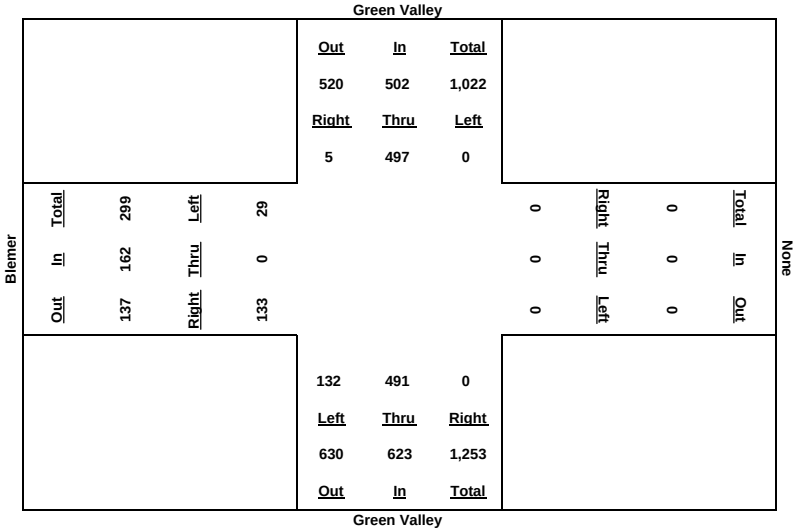
Date: 10/21/10
Counter: Patti and Ryan
Intersection Name: Green Valley and Blemer
Weather: Clear Danville 10MN04

AUTO-CENSUS
Traffic Monitoring and Analysis
870 Castlewood Dr. #1
Los Gatos, CA 95032
Phone 408-826-9673 Fax 408-877-1625

	Green Valley				None				Green Valley				Blemer			
	North Approach				East Approach				South Approach				West Approach			
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	2	56	0	58	0	0	0	0	0	70	17	87	3	0	1	4
2:30 PM	18	137	0	155	0	0	0	0	0	137	60	197	30	0	7	37
2:45 PM	24	207	0	231	0	0	0	0	0	216	81	297	103	0	25	128
3:00 PM	29	289	0	318	0	0	0	0	0	328	93	421	121	0	29	150
3:15 PM	29	414	0	443	0	0	0	0	0	450	120	570	140	0	31	171
3:30 PM	31	543	0	574	0	0	0	0	0	589	175	764	178	0	35	213
3:45 PM	33	670	0	703	0	0	0	0	0	703	214	917	216	0	48	264
4:00 PM	34	786	0	820	0	0	0	0	0	819	225	1,044	254	0	58	312

Peak Hour	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	PK Hour
2:00-3:00	29	289	0	318	0	0	0	0	0	328	93	421	121	0	29	150	889
2:15-3:15	27	358	0	385	0	0	0	0	0	380	103	483	137	0	30	167	1,035
2:30-3:30	13	406	0	419	0	0	0	0	0	452	115	567	148	0	28	176	1,162
2:45-3:45	9	463	0	472	0	0	0	0	0	487	133	620	113	0	23	136	1,228
3:00-4:00	5	497	0	502	0	0	0	0	0	491	132	623	133	0	29	162	1,287
Peak Volumes:	**5**	**497**	**0**	**502**	**0**	**0**	**0**	**0**	**0**	**491**	**132**	**623**	**133**	**0**	**29**	**162**	**1,287**

Cut and Paste	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
	132	491	0	0	497	5	29	0	133	0	0	0



PM Peak-Hour Volume Count Worksheet

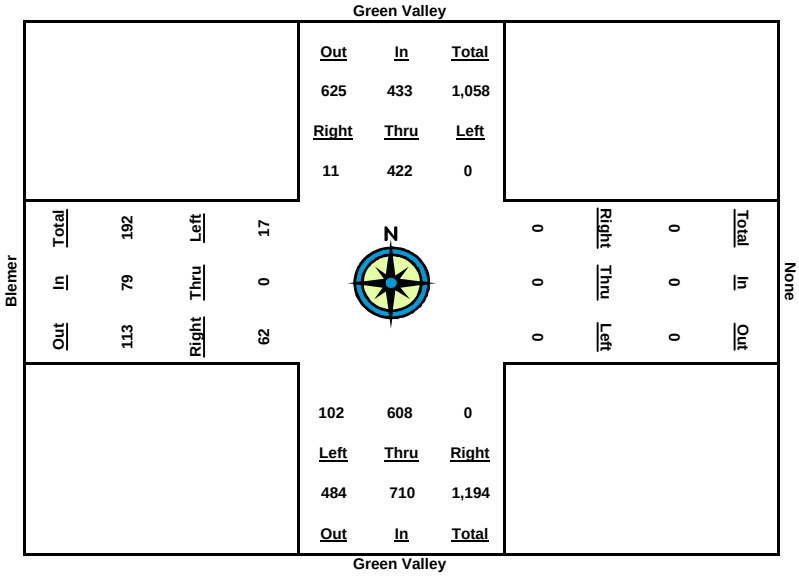
Date: 10/21/10
Counter: Patti and Ryan
Intersection Name: Green Valley and Blemer
Weather: Clear Danville 10MN04

AUTO-CENSUS
Traffic Monitoring and Analysis
870 Castlewood Dr. #1
Los Gatos, CA 95032
Phone 408-826-9673 Fax 408-877-1625

	Green Valley				None				Green Valley				Blemer			
	North Approach				East Approach				South Approach				West Approach			
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	2	164	0	166	0	0	0	0	0	131	8	139	7	0	4	11
4:30 PM	4	285	0	289	0	0	0	0	0	239	15	254	15	0	7	22
4:45 PM	4	367	0	371	0	0	0	0	0	370	19	389	18	0	8	26
5:00 PM	4	501	0	505	0	0	0	0	0	473	22	495	22	0	8	30
5:15 PM	6	606	0	612	0	0	0	0	0	612	31	643	24	0	10	34
5:30 PM	10	706	0	716	0	0	0	0	0	751	63	814	45	0	17	62
5:45 PM	12	819	0	831	0	0	0	0	0	899	105	1,004	71	0	18	89
6:00 PM	15	923	0	938	0	0	0	0	0	1,081	124	1,205	84	0	25	109

Peak Hour	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	PK Hour
4:00 - 5:00	4	501	0	505	0	0	0	0	0	473	22	495	22	0	8	30	1,030
4:15 - 5:15	4	442	0	446	0	0	0	0	0	481	23	504	17	0	6	23	973
4:30 - 5:30	6	421	0	427	0	0	0	0	0	512	48	560	30	0	10	40	1,027
4:45 - 5:45	8	452	0	460	0	0	0	0	0	529	86	615	53	0	10	63	1,138
5:00 - 6:00	11	422	0	433	0	0	0	0	0	608	102	710	62	0	17	79	1,222
Peak Volumes:	**11**	**422**	**0**	**433**	**0**	**0**	**0**	**0**	**0**	**608**	**102**	**710**	**62**	**0**	**17**	**79**	**1,222**

Cut and Paste	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
	102	608	0	0	422	11	17	0	62	0	0	0



AM Peak-Hour Volume Count Worksheet

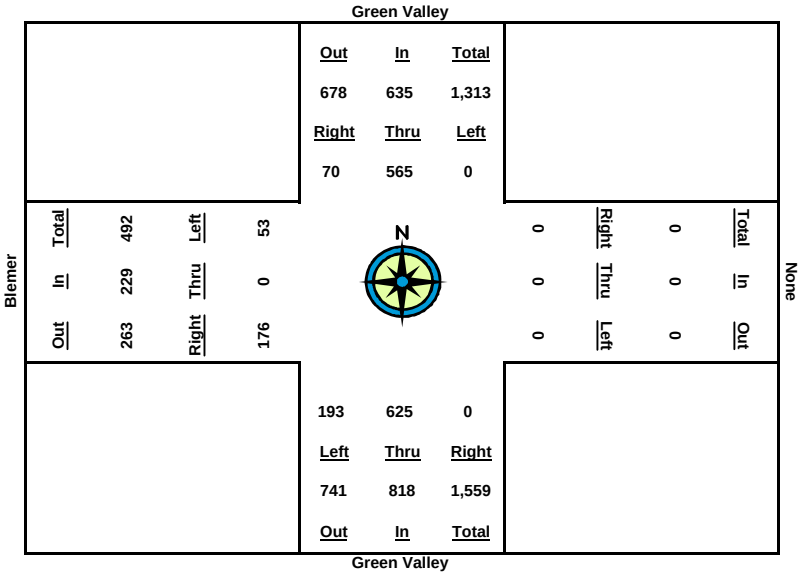
Date: 10/21/10
Counter: Patti and Ryan
Intersection Name: Green Valley and Blemer
Weather: Clear Danville 10MN04

AUTO-CENSUS
Traffic Monitoring and Analysis
870 Castlewood Dr. #1
Los Gatos, CA 95032
Phone 408-826-9673 Fax 408-877-1625

	Green Valley				None				Green Valley				Blemer			
	North Approach				East Approach				South Approach				West Approach			
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	6	106	0	112	0	0	0	0	0	193	8	201	2	0	1	3
7:30 AM	16	285	0	301	0	0	0	0	0	409	28	437	11	0	4	15
7:45 AM	37	405	0	442	0	0	0	0	0	466	84	550	59	0	12	71
8:00 AM	77	507	0	584	0	0	0	0	0	586	197	783	158	0	49	207
8:15 AM	84	640	0	724	0	0	0	0	0	816	209	1,025	174	0	56	230
8:30 AM	86	850	0	936	0	0	0	0	0	1,034	221	1,255	187	0	57	244
8:45 AM	91	992	0	1,083	0	0	0	0	0	1,094	233	1,327	193	0	58	251
9:00 AM	95	1,084	0	1,179	0	0	0	0	0	1,166	249	1,415	197	0	59	256

Peak Hour	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	PK Hour
7:00 - 8:00	77	507	0	584	0	0	0	0	0	586	197	783	158	0	49	207	1,574
7:15 - 8:15	78	534	0	612	0	0	0	0	0	623	201	824	172	0	55	227	1,663
7:30 - 8:30	70	565	0	635	0	0	0	0	0	625	193	818	176	0	53	229	1,682
7:45 - 8:45	54	587	0	641	0	0	0	0	0	628	149	777	134	0	46	180	1,598
8:00 - 9:00	18	577	0	595	0	0	0	0	0	580	52	632	39	0	10	49	1,276
Peak Volumes:	**70**	**565**	**0**	**635**	**0**	**0**	**0**	**0**	**0**	**625**	**193**	**818**	**176**	**0**	**53**	**229**	**1,682**

Cut and Paste	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
	193	625	0	0	565	70	53	0	176	0	0	0



PM Peak-Hour Volume Count Worksheet

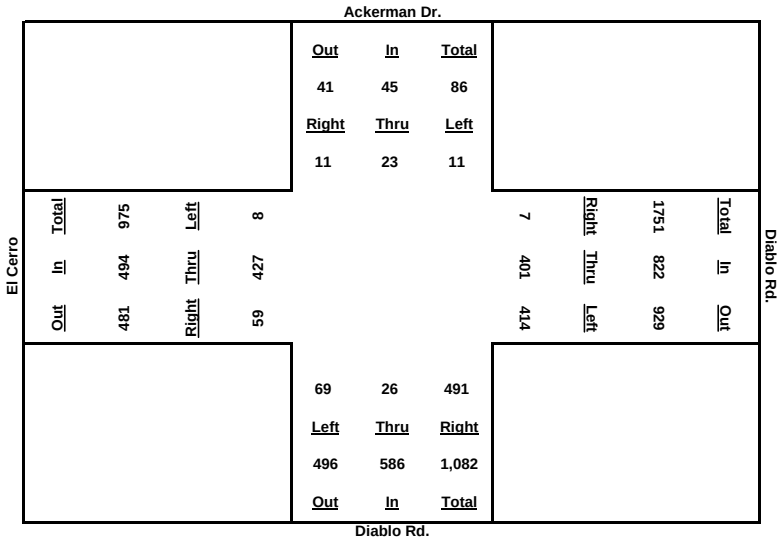
Date: 10/7/10
Counter: Kevin and Byron
Intersection Name: Diablo Rd. and El Cerro
Weather:

AUTO-CENSUS
Traffic Monitoring and Analysis
870 Castlewood Dr. #1
Los Gatos, CA 95032
Phone 408-826-9673 Fax 408-877-1625

	Ackerman Dr.				Diablo Rd.				Diablo Rd.				El Cerro			
	North Approach				East Approach				South Approach				West Approach			
Start Time	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	2	9	2	13	3	72	71	146	93	2	3	98	11	57	1	69
2:30 PM	6	12	3	21	7	159	160	326	186	9	16	211	17	116	3	136
2:45 PM	8	17	3	28	9	269	264	542	291	14	22	327	25	179	4	208
3:00 PM	9	22	7	38	9	367	351	727	413	16	30	459	44	268	5	317
3:15 PM	12	26	10	48	11	473	451	935	541	22	56	619	58	395	6	459
3:30 PM	18	33	12	63	13	551	560	1,124	676	33	80	789	69	500	10	579
3:45 PM	19	40	14	73	16	670	678	1,364	782	40	91	913	84	606	12	702
4:00 PM	21	46	14	81	17	739	748	1,504	854	42	96	992	90	645	13	748

Peak Hour	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**PK Hour**
2:00-3:00	9	22	7	38	9	367	351	727	413	16	30	459	44	268	5	317	1,541
2:15-3:15	10	17	8	35	8	401	380	789	448	20	53	521	47	338	5	390	1,735
3:30-4:30	12	21	9	42	6	392	400	798	490	24	64	578	52	384	7	443	1,861
3:45-4:45	11	23	11	45	7	401	414	822	491	26	69	586	59	427	8	494	1,947
4:00-5:00	12	24	7	43	8	372	397	777	441	26	66	533	46	377	8	431	1,784
Peak Volumes:	**11**	**23**	**11**	**45**	**7**	**401**	**414**	**822**	**491**	**26**	**69**	**586**	**59**	**427**	**8**	**494**	**1,947**

Cut and Paste	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
	69	26	491	11	23	11	8	427	59	414	401	7



PM Peak-Hour Volume Count Worksheet

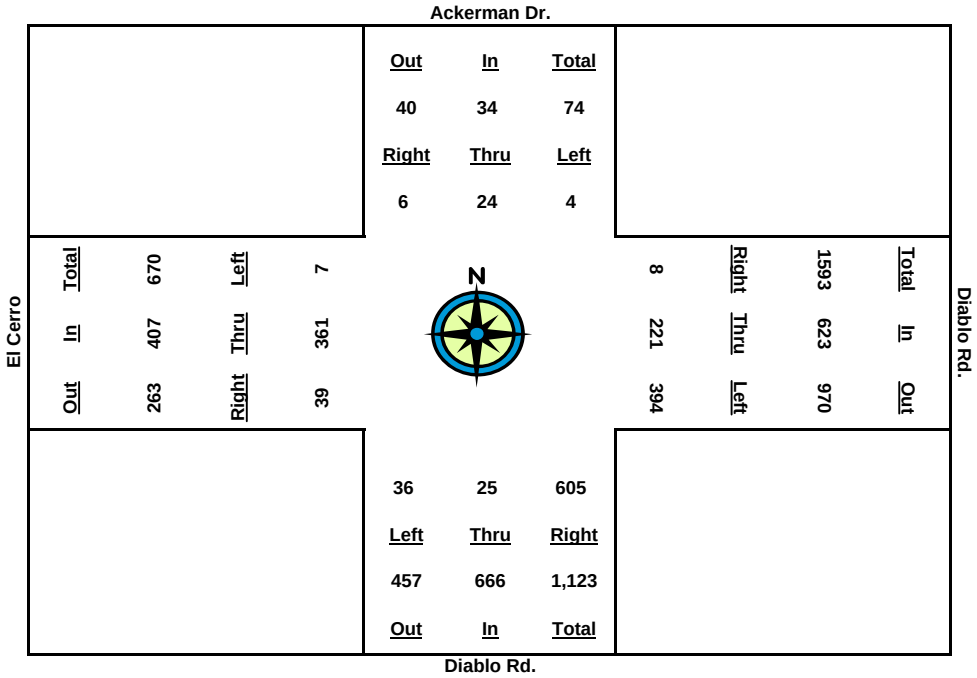
Date: 10/7/10
Counter: Kevin and Byron
Intersection Name: Diablo Rd. and El Cerro
Weather:

AUTO-CENSUS
Traffic Monitoring and Analysis
870 Castlewood Dr. #1
Los Gatos, CA 95032
Phone 408-826-9673 Fax 408-877-1625

	Ackerman Dr.				Diablo Rd.				Diablo Rd.				El Cerro			
	North Approach				East Approach				South Approach				West Approach			
Start Time	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	11	3	14	0	91	123	214	114	5	20	139	11	68	2	81
4:30 PM	1	12	3	16	1	167	218	386	221	9	40	270	14	132	4	150
4:45 PM	1	15	3	19	2	223	332	557	344	12	53	409	25	206	9	240
5:00 PM	1	17	6	24	3	306	438	747	474	19	56	549	37	279	12	328
5:15 PM	3	21	7	31	4	359	530	893	630	28	66	724	51	361	15	427
5:30 PM	4	26	7	37	4	406	625	1,035	760	30	78	868	60	449	18	527
5:45 PM	5	39	7	51	8	463	728	1,199	905	37	83	1,025	69	539	18	626
6:00 PM	7	41	10	58	11	527	832	1,370	1,079	44	92	1,215	76	640	19	735

Peak Hour	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**PK Hour**
4:00 - 5:00	1	17	6	24	3	306	438	747	474	19	56	549	37	279	12	328	1,648
4:15 - 5:15	3	10	4	17	4	268	407	679	516	23	46	585	40	293	13	346	1,627
4:30 - 5:30	3	14	4	21	3	239	407	649	539	21	38	598	46	317	14	377	1,645
4:45 - 5:45	4	24	4	32	6	240	396	642	561	25	30	616	44	333	9	386	1,676
5:00 - 6:00	6	24	4	34	8	221	394	623	605	25	36	666	39	361	7	407	1,730
Peak Volumes:	**6**	**24**	**4**	**34**	**8**	**221**	**394**	**623**	**605**	**25**	**36**	**666**	**39**	**361**	**7**	**407**	**1,730**

Cut and Paste	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
	36	25	605	4	24	6	7	361	39	394	221	8



AM Peak-Hour Volume Count Worksheet

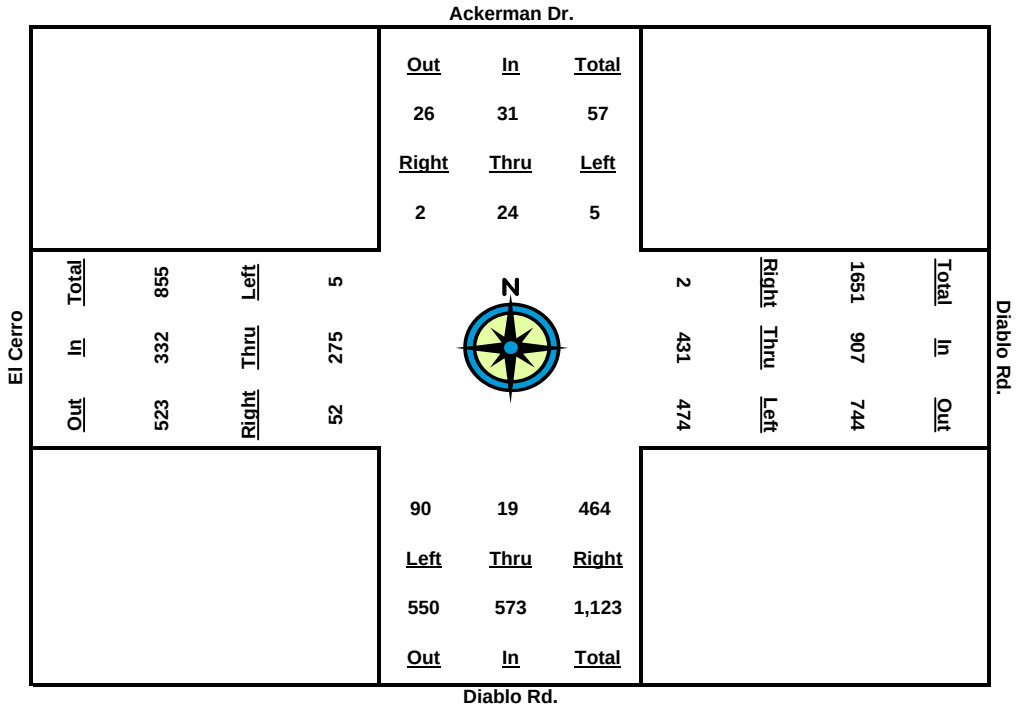
AUTO-CENSUS
Traffic Monitoring and Analysis
870 Castlewood Dr. #1
Los Gatos, CA 95032
Phone 408-826-9673 Fax 408-877-1625

Date: 10/7/10
Counter: Kevin and Byron
Intersection Name: Diablo Rd. and El Cerro
Weather:

	Ackerman Dr.				Diablo Rd.				Diablo Rd.				El Cerro			
	North Approach				East Approach				South Approach				West Approach			
Start Time	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	3	1	4	0	44	46	90	95	0	4	99	0	44	1	45
7:30 AM	0	11	2	13	1	155	168	324	176	1	7	184	9	101	1	111
7:45 AM	3	14	3	20	2	253	281	536	260	3	12	275	12	180	1	193
8:00 AM	5	22	6	33	3	370	422	795	392	6	24	422	22	279	1	302
8:15 AM	5	23	7	35	4	461	519	984	548	10	37	595	34	343	2	379
8:30 AM	5	28	7	40	4	550	627	1,181	633	11	62	706	43	389	5	437
8:45 AM	5	38	8	51	4	684	755	1,443	724	22	102	848	64	455	6	525
9:00 AM	5	46	8	59	4	745	860	1,609	797	27	128	952	76	510	9	595

Peak Hour	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**PK Hour**
7:00 - 8:00	5	22	6	33	3	370	422	795	392	6	24	422	22	279	1	302	1,552
7:15 - 8:15	5	20	6	31	4	417	473	894	453	10	33	496	34	299	1	334	1,755
7:30 - 8:30	5	17	5	27	3	395	459	857	457	10	55	522	34	288	4	326	1,732
7:45 - 8:45	2	24	5	31	2	431	474	907	464	19	90	573	52	275	5	332	1,843
8:00 - 9:00	0	24	2	26	1	375	438	814	405	21	104	530	54	231	8	293	1,663
Peak Volumes:	**2**	**24**	**5**	**31**	**2**	**431**	**474**	**907**	**464**	**19**	**90**	**573**	**52**	**275**	**5**	**332**	**1,843**

Cut and Paste	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
	90	19	464	5	24	2	5	275	52	474	431	2



PM Peak-Hour Volume Count Worksheet

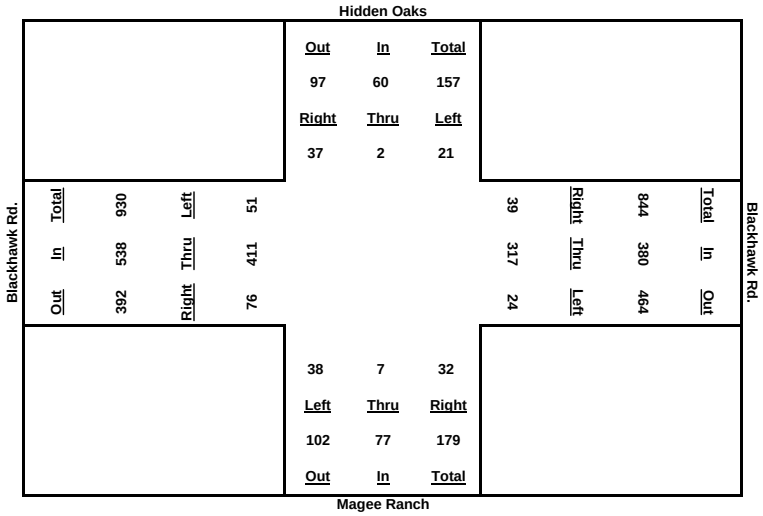
Date: 11/4/10
Counter: Joe and Megan Bundy
Intersection Name: Hidden Oaks/Magee Ranch & Blackhawk Rd.
Weather: Clear Danville 10MN04

AUTO-CENSUS
Traffic Monitoring and Analysis
870 Castlewood Dr. #1
Los Gatos, CA 95032
Phone 408-826-9673 Fax 408-877-1625

	Hidden Oaks				Blackhawk Rd.				Magee Ranch				Blackhawk Rd.			
	North Approach				East Approach				South Approach				West Approach			
Start Time	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	7	2	4	13	8	42	6	56	2	0	9	11	8	29	10	47
2:30 PM	14	2	7	23	15	98	13	126	6	0	15	21	20	68	14	102
2:45 PM	26	4	17	47	26	140	23	189	10	1	26	37	26	125	24	175
3:00 PM	32	5	19	56	30	223	36	289	15	5	48	68	32	164	34	230
3:15 PM	44	6	22	72	35	314	40	389	23	6	58	87	46	218	40	304
3:30 PM	51	7	25	83	46	390	45	481	27	11	70	108	74	322	67	463
3:45 PM	61	7	28	96	55	466	54	575	33	12	78	123	92	444	77	613
4:00 PM	69	7	40	116	69	540	60	669	47	12	86	145	108	575	85	768

Peak Hour	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**PK Hour**
2:00-3:00	32	5	19	56	30	223	36	289	15	5	48	68	32	164	34	230	643
2:15-3:15	37	4	18	59	27	272	34	333	21	6	49	76	38	189	30	257	725
3:30-4:30	37	5	18	60	31	292	32	355	21	11	55	87	54	254	53	361	863
3:45-4:45	35	3	11	49	29	326	31	386	23	11	52	86	66	319	53	438	959
4:00-5:00	37	2	21	60	39	317	24	380	32	7	38	77	76	411	51	538	1,055
Peak Volumes:	**37**	**2**	**21**	**60**	**39**	**317**	**24**	**380**	**32**	**7**	**38**	**77**	**76**	**411**	**51**	**538**	**1,055**

Cut and Paste	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
	38	7	32	21	2	37	51	411	76	24	317	39



PM Peak-Hour Volume Count Worksheet

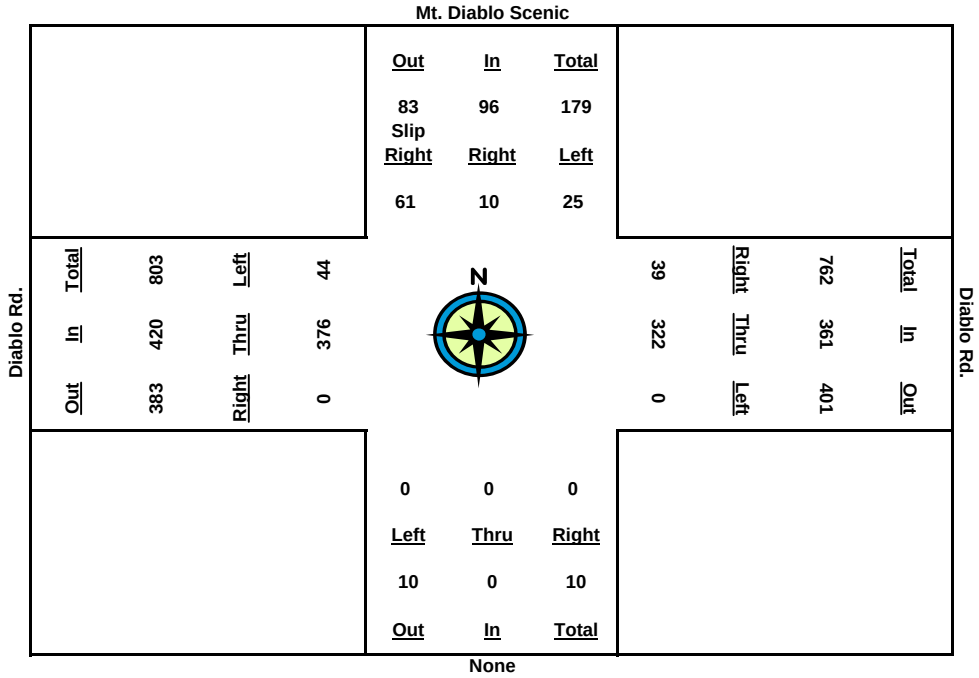
Date: 10/28/10
Counter: Joe and Megan
Intersection Name: Mt. Diablo Scenic and Diablo Rd.
Weather: Clear Danville 10MN04

AUTO-CENSUS
Traffic Monitoring and Analysis
870 Castlewood Dr. #1
Los Gatos, CA 95032
Phone 408-826-9673 Fax 408-877-1625

	Mt. Diablo Scenic				Diablo Rd.				None				Diablo Rd.			
	North Approach				East Approach				South Approach				West Approach			
Start Time	**Slip**	**Right**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	13	2	9	24	6	72	0	78	0	0	0	0	0	99	12	111
4:30 PM	24	4	15	43	15	148	0	163	0	0	0	0	0	187	25	212
4:45 PM	33	7	16	56	15	215	0	230	0	0	0	0	0	251	35	286
5:00 PM	52	9	24	85	25	294	0	319	0	0	0	0	0	337	41	378
5:15 PM	74	9	33	116	32	373	0	405	0	0	0	0	0	443	52	495
5:30 PM	79	12	36	127	41	445	0	486	0	0	0	0	0	529	66	595
5:45 PM	94	17	41	152	54	537	0	591	0	0	0	0	0	627	79	706
6:00 PM	111	18	45	174	66	613	0	679	0	0	0	0	0	716	86	802

Peak Hour	SL Right	Right	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	PK Hour
4:00 - 5:00	52	9	24	85	25	294	0	319	0	0	0	0	0	337	41	378	782
4:15 - 5:15	61	7	24	92	26	301	0	327	0	0	0	0	0	344	40	384	803
4:30 - 5:30	55	8	21	84	26	297	0	323	0	0	0	0	0	342	41	383	790
4:45 - 5:45	61	10	25	96	39	322	0	361	0	0	0	0	0	376	44	420	877
5:00 - 6:00	59	9	21	89	41	319	0	360	0	0	0	0	0	379	45	424	873
Peak Volumes:	**61**	**10**	**25**	**96**	**39**	**322**	**0**	**361**	**0**	**0**	**0**	**0**	**0**	**376**	**44**	**420**	**877**

Cut and Paste	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
	0	0	0	25	0	10	44	376	0	0	322	39



AM Peak-Hour Volume Count Worksheet

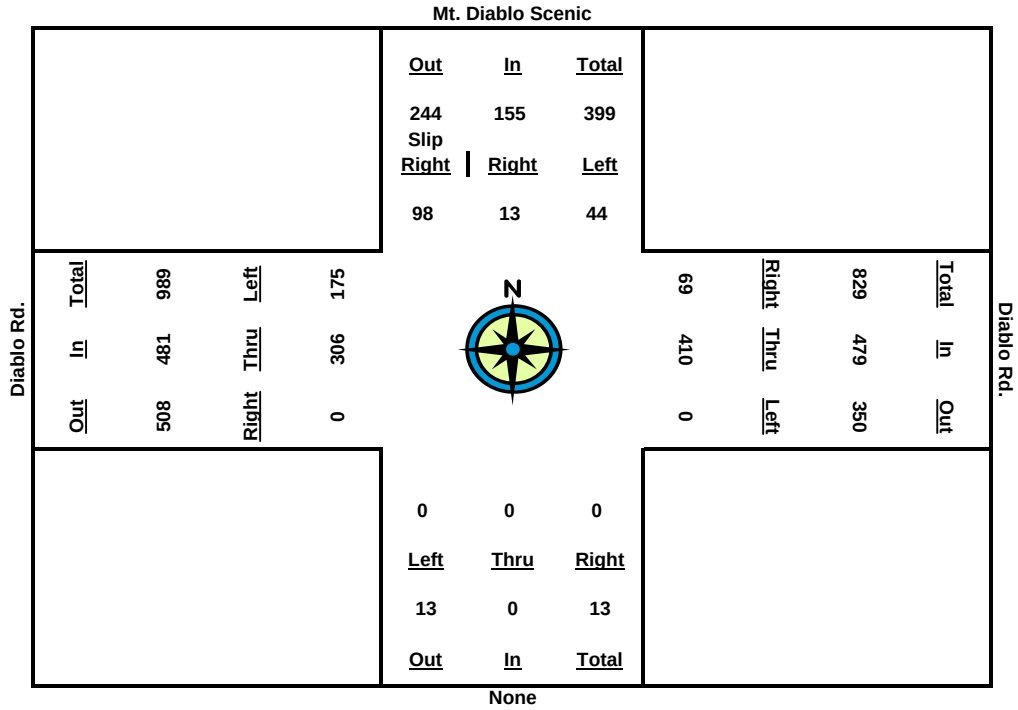
AUTO-CENSUS
Traffic Monitoring and Analysis
870 Castlewood Dr. #1
Los Gatos, CA 95032
Phone 408-826-9673 Fax 408-877-1625

Date: 10/28/10
Counter: Joe and Megan
Intersection Name: Mt. Diablo Scenic and Diablo Rd.
Weather: Clear Danville 10MN04

	Mt. Diablo Scenic				Diablo Rd.				None				Diablo Rd.			
	North Approach				East Approach				South Approach				West Approach			
Start Time	**Slip**	**Right**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	5	1	0	6	0	157	0	157	0	0	0	0	0	28	2	30
7:30 AM	6	5	3	14	2	290	0	292	0	0	0	0	0	122	13	135
7:45 AM	15	6	12	33	14	377	0	391	0	0	0	0	0	202	37	239
8:00 AM	47	11	22	80	37	457	0	494	0	0	0	0	0	266	107	373
8:15 AM	103	14	44	161	69	567	0	636	0	0	0	0	0	334	177	511
8:30 AM	115	14	45	174	77	688	0	765	0	0	0	0	0	402	193	595
8:45 AM	120	15	47	182	81	737	0	818	0	0	0	0	0	481	205	686
9:00 AM	124	17	48	189	83	789	0	872	0	0	0	0	0	525	210	735

Peak Hour	**SL Right**	**Right**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**PK Hour**
7:00 - 8:00	47	11	22	80	37	457	0	494	0	0	0	0	0	266	107	373	947
7:15 - 8:15	98	13	44	155	69	410	0	479	0	0	0	0	0	306	175	481	1,115
7:30 - 8:30	109	9	42	160	75	398	0	473	0	0	0	0	0	280	180	460	1,093
7:45 - 8:45	105	9	35	149	67	360	0	427	0	0	0	0	0	279	168	447	1,023
8:00 - 9:00	77	6	26	109	46	332	0	378	0	0	0	0	0	259	103	362	849
Peak Volumes:	**98**	**13**	**44**	**155**	**69**	**410**	**0**	**479**	**0**	**0**	**0**	**0**	**0**	**306**	**175**	**481**	**1,115**

Cut and Paste	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
	0	0	0	44	0	13	175	306	0	0	410	69



PM Peak-Hour Volume Count Worksheet

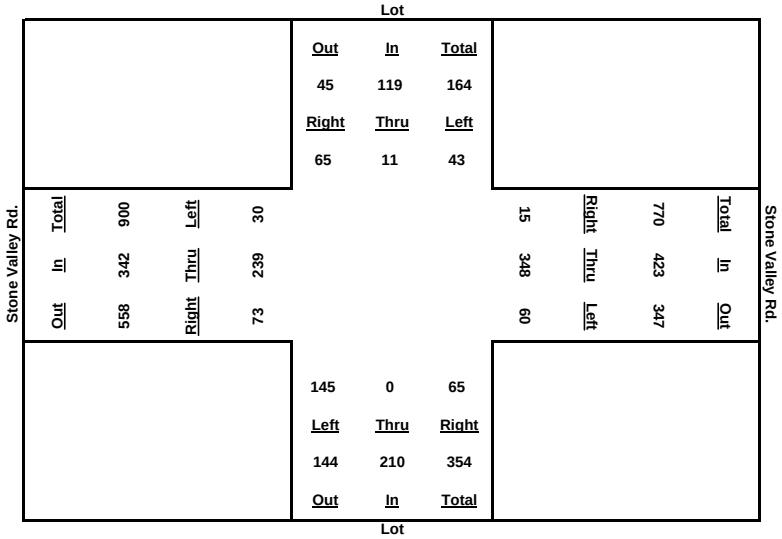
Date: 10/21/10
Counter: Byron and Lani
Intersection Name: Monte Vista High School and Stone Valley Rd.
Weather: Clear Danville 10MN04

AUTO-CENSUS
Traffic Monitoring and Analysis
870 Castlewood Dr. #1
Los Gatos, CA 95032
Phone 408-826-9673 Fax 408-877-1625

	Lot				Stone Valley Rd.				Lot				Stone Valley Rd.			
	North Approach				East Approach				South Approach				West Approach			
Start Time	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	0	1	1	2	2	45	11	58	2	0	4	6	7	55	1	63
2:30 PM	1	1	5	7	2	87	19	108	14	0	18	32	10	118	1	129
2:45 PM	1	1	5	7	2	156	23	181	15	0	22	37	19	170	2	191
3:00 PM	2	1	5	8	4	243	32	279	20	0	28	48	31	238	15	284
3:15 PM	10	5	18	33	7	301	48	356	51	0	89	140	56	282	30	368
3:30 PM	62	8	37	107	14	424	57	495	57	0	134	191	77	346	44	467
3:45 PM	66	11	43	120	16	511	74	601	71	0	159	230	90	406	44	540
4:00 PM	67	12	48	127	19	591	92	702	85	0	173	258	104	477	45	626

Peak Hour	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**PK Hour**
2:00-3:00	2	1	5	8	4	243	32	279	20	0	28	48	31	238	15	284	619
2:15-3:15	10	4	17	31	5	256	37	298	49	0	85	134	49	227	29	305	768
3:30-4:30	61	7	32	100	12	337	38	387	43	0	116	159	67	228	43	338	984
3:45-4:45	65	10	38	113	14	355	51	420	56	0	137	193	71	236	42	349	1,075
4:00-5:00	65	11	43	119	15	348	60	423	65	0	145	210	73	239	30	342	1,094
Peak Volumes:	**65**	**11**	**43**	**119**	**15**	**348**	**60**	**423**	**65**	**0**	**145**	**210**	**73**	**239**	**30**	**342**	**1,094**

Cut and Paste	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
	145	0	65	43	11	65	30	239	73	60	348	15



PM Peak-Hour Volume Count Worksheet

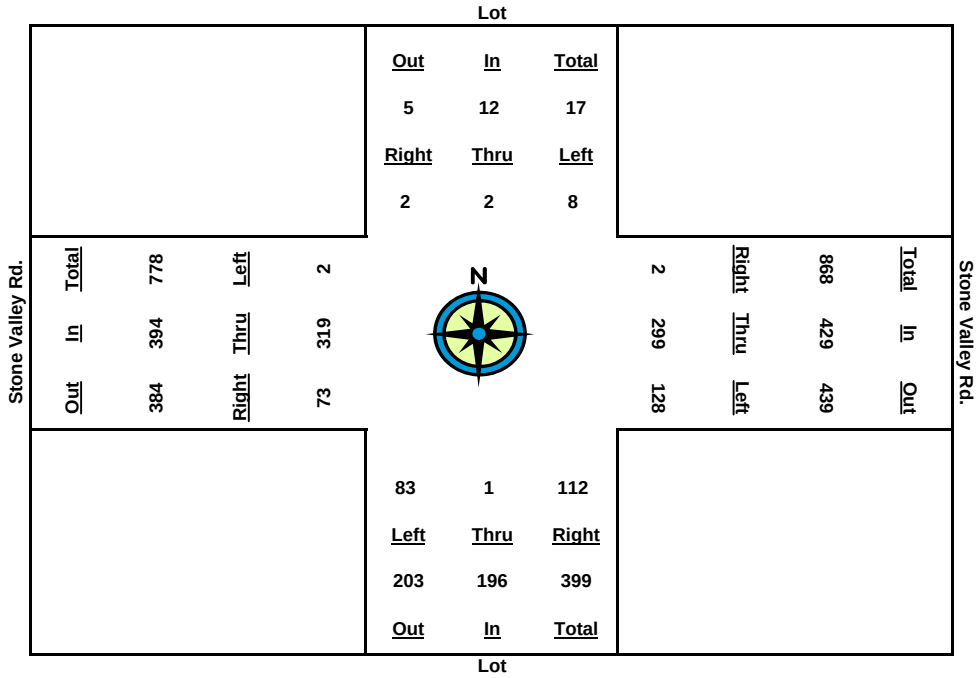
Date: 10/21/10
Counter: Byron and Lani
Intersection Name: Monte Vista High School and Stone Valley Rd.
Weather: Clear Danville 10MN04

AUTO-CENSUS
Traffic Monitoring and Analysis
870 Castlewood Dr. #1
Los Gatos, CA 95032
Phone 408-826-9673 Fax 408-877-1625

	Lot				Stone Valley Rd.				Lot				Stone Valley Rd.			
	North Approach				East Approach				South Approach				West Approach			
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	2	1	7	10	3	61	11	75	10	0	14	24	12	48	1	61
4:30 PM	3	2	8	13	6	142	23	171	20	0	29	49	17	106	2	125
4:45 PM	3	2	13	18	9	221	42	272	34	0	38	72	35	163	2	200
5:00 PM	4	2	13	19	9	301	61	371	57	1	52	110	47	240	4	291
5:15 PM	4	3	16	23	10	382	85	477	85	1	77	163	61	310	4	375
5:30 PM	5	3	18	26	10	465	114	589	106	1	101	208	81	392	4	477
5:45 PM	5	4	21	30	11	520	170	701	146	1	121	268	108	482	4	594
6:00 PM	5	4	23	32	14	574	218	806	162	1	130	293	135	541	4	680

Peak Hour	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	PK Hour
4:00 - 5:00	4	2	13	19	9	301	61	371	57	1	52	110	47	240	4	291	791
4:15 - 5:15	2	2	9	13	7	321	74	402	75	1	63	139	49	262	3	314	868
4:30 - 5:30	2	1	10	13	4	323	91	418	86	1	72	159	64	286	2	352	942
4:45 - 5:45	2	2	8	12	2	299	128	429	112	1	83	196	73	319	2	394	1,031
5:00 - 6:00	1	2	10	13	5	273	157	435	105	0	78	183	88	301	0	389	1,020
Peak Volumes:	**2**	**2**	**8**	**12**	**2**	**299**	**128**	**429**	**112**	**1**	**83**	**196**	**73**	**319**	**2**	**394**	**1,031**

Cut and Paste	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
	83	1	112	8	2	2	2	319	73	128	299	2



AM Peak-Hour Volume Count Worksheet

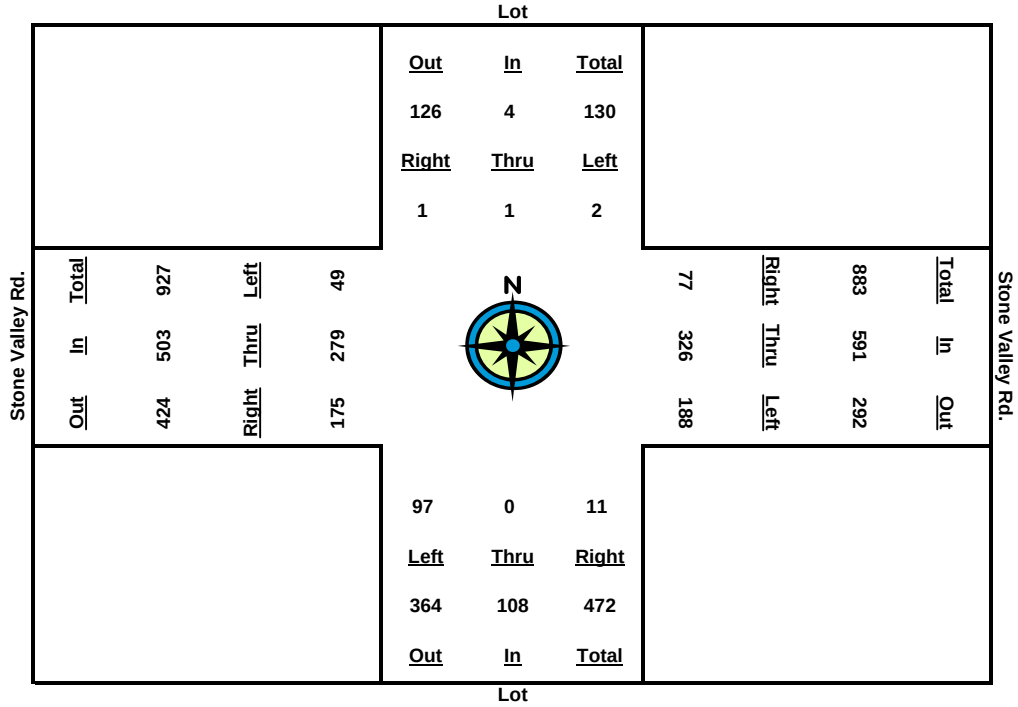
AUTO-CENSUS
Traffic Monitoring and Analysis
870 Castlewood Dr. #1
Los Gatos, CA 95032
Phone 408-826-9673 Fax 408-877-1625

Date: 10/21/10
Counter: Kevin and Lani
Intersection Name: Monte Vista High School and Stone Valley Rd.
Weather: Clear Danville 10MN04

	Lot				Stone Valley Rd.				Lot				Stone Valley Rd.			
	North Approach				East Approach				South Approach				West Approach			
Start Time	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	5	5	10	60	41	111	4	0	17	21	28	51	19	98
7:30 AM	1	0	10	11	23	139	77	239	8	0	88	96	106	101	42	249
7:45 AM	2	0	12	14	32	242	84	358	9	0	99	108	114	164	46	324
8:00 AM	2	0	12	14	50	303	114	467	10	0	102	112	119	243	47	409
8:15 AM	2	1	12	15	80	391	194	665	12	0	124	136	184	296	69	549
8:30 AM	2	1	12	15	100	465	265	830	19	0	185	204	281	380	91	752
8:45 AM	4	3	12	19	105	536	276	917	19	0	191	210	295	428	91	814
9:00 AM	4	3	12	19	105	597	279	981	20	0	195	215	303	483	91	877

Peak Hour	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**PK Hour**
7:00 - 8:00	2	0	12	14	50	303	114	467	10	0	102	112	119	243	47	409	1,002
7:15 - 8:15	2	1	7	10	70	331	153	554	8	0	107	115	156	245	50	451	1,130
7:30 - 8:30	1	1	2	4	77	326	188	591	11	0	97	108	175	279	49	503	1,206
7:45 - 8:45	2	3	0	5	73	294	192	559	10	0	92	102	181	264	45	490	1,156
8:00 - 9:00	2	3	0	5	55	294	165	514	10	0	93	103	184	240	44	468	1,090
Peak Volumes:	**1**	**1**	**2**	**4**	**77**	**326**	**188**	**591**	**11**	**0**	**97**	**108**	**175**	**279**	**49**	**503**	**1,206**

Cut and Paste	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
	97	0	11	2	1	1	49	279	175	188	326	77



PM Peak-Hour Volume Count Worksheet

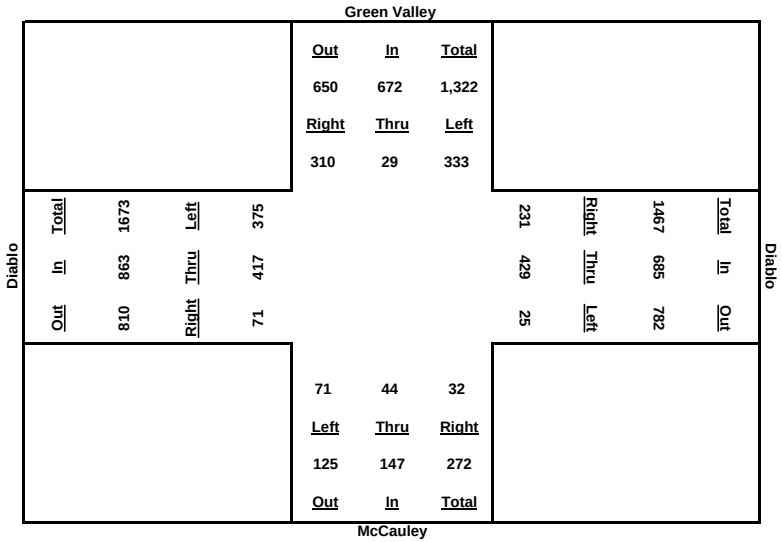
Date: 10/7/10
Counter: Michelle and Vikki
Intersection Name: Green Valley/McCauley and Diablo
Weather: Clear Danville 10MN04

AUTO-CENSUS
Traffic Monitoring and Analysis
870 Castlewood Dr. #1
Los Gatos, CA 95032
Phone 408-826-9673 Fax 408-877-1625

	Green Valley				Diablo				McCauley				Diablo			
	North Approach				East Approach				South Approach				West Approach			
Start Time	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	52	4	21	77	23	71	1	95	3	4	6	13	16	76	68	160
2:30 PM	109	7	59	175	58	172	2	232	6	8	25	39	27	128	155	310
2:45 PM	191	21	77	289	85	243	11	339	12	15	44	71	59	200	232	491
3:00 PM	251	36	95	382	116	335	22	473	18	17	57	92	84	270	283	637
3:15 PM	346	48	140	534	188	452	40	680	28	35	88	151	102	360	386	848
3:30 PM	424	54	232	710	245	536	43	824	42	47	109	198	121	494	485	1,100
3:45 PM	488	60	327	875	303	634	45	982	46	54	118	218	135	506	589	1,230
4:00 PM	561	65	428	1,054	347	764	47	1,158	50	61	128	239	155	687	658	1,500

Peak Hour	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**PK Hour**
2:00-3:00	251	36	95	382	116	335	22	473	18	17	57	92	84	270	283	637	1,584
2:15-3:15	294	44	119	457	165	381	39	585	25	31	82	138	86	284	318	688	1,868
3:30-4:30	315	47	173	535	187	364	41	592	36	39	84	159	94	366	330	790	2,076
3:45-4:45	297	39	250	586	218	391	34	643	34	39	74	147	76	306	357	739	2,115
4:00-5:00	310	29	333	672	231	429	25	685	32	44	71	147	71	417	375	863	2,367
Peak Volumes:	**310**	**29**	**333**	**672**	**231**	**429**	**25**	**685**	**32**	**44**	**71**	**147**	**71**	**417**	**375**	**863**	**2,367**

Cut and Paste	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
	71	44	32	333	29	310	375	417	71	25	429	231



PM Peak-Hour Volume Count Worksheet

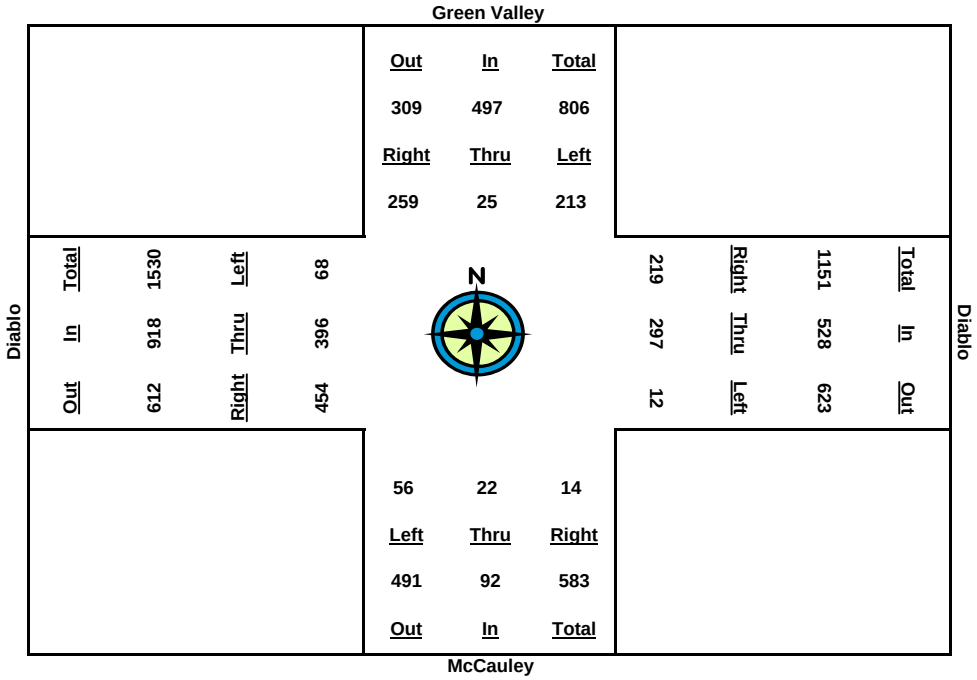
Date: 10/7/10
Counter: Michelle and Vikki
Intersection Name: Green Valley/McCauley and Diablo
Weather: Clear Danville 10MN04

AUTO-CENSUS
Traffic Monitoring and Analysis
870 Castlewood Dr. #1
Los Gatos, CA 95032
Phone 408-826-9673 Fax 408-877-1625

	Green Valley				Diablo				McCauley				Diablo			
	North Approach				East Approach				South Approach				West Approach			
Start Time	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	78	7	55	140	27	98	1	126	2	0	10	12	63	59	14	136
4:30 PM	184	10	88	282	77	194	5	276	3	1	24	28	146	127	22	295
4:45 PM	212	13	145	370	100	258	8	366	7	2	37	46	217	209	37	463
5:00 PM	289	18	190	497	145	344	13	502	9	9	55	73	290	309	51	650
5:15 PM	336	22	230	588	186	401	17	604	11	13	76	100	397	424	68	889
5:30 PM	398	28	286	712	222	498	17	737	15	21	89	125	513	519	85	1,117
5:45 PM	469	38	341	848	308	554	17	879	18	27	99	144	621	613	99	1,333
6:00 PM	548	43	403	994	364	641	25	1,030	23	31	111	165	744	705	119	1,568

Peak Hour	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**PK Hour**
4:00 - 5:00	289	18	190	497	145	344	13	502	9	9	55	73	290	309	51	650	1,722
4:15 - 5:15	258	15	175	448	159	303	16	478	9	13	66	88	334	365	54	753	1,767
4:30 - 5:30	214	18	198	430	145	304	12	461	12	20	65	97	367	392	63	822	1,810
4:45 - 5:45	257	25	196	478	208	296	9	513	11	25	62	98	404	404	62	870	1,959
5:00 - 6:00	259	25	213	497	219	297	12	528	14	22	56	92	454	396	68	918	2,035
Peak Volumes:	**259**	**25**	**213**	**497**	**219**	**297**	**12**	**528**	**14**	**22**	**56**	**92**	**454**	**396**	**68**	**918**	**2,035**

Cut and Paste	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
	56	22	14	213	25	259	68	396	454	12	297	219



AM Peak-Hour Volume Count Worksheet

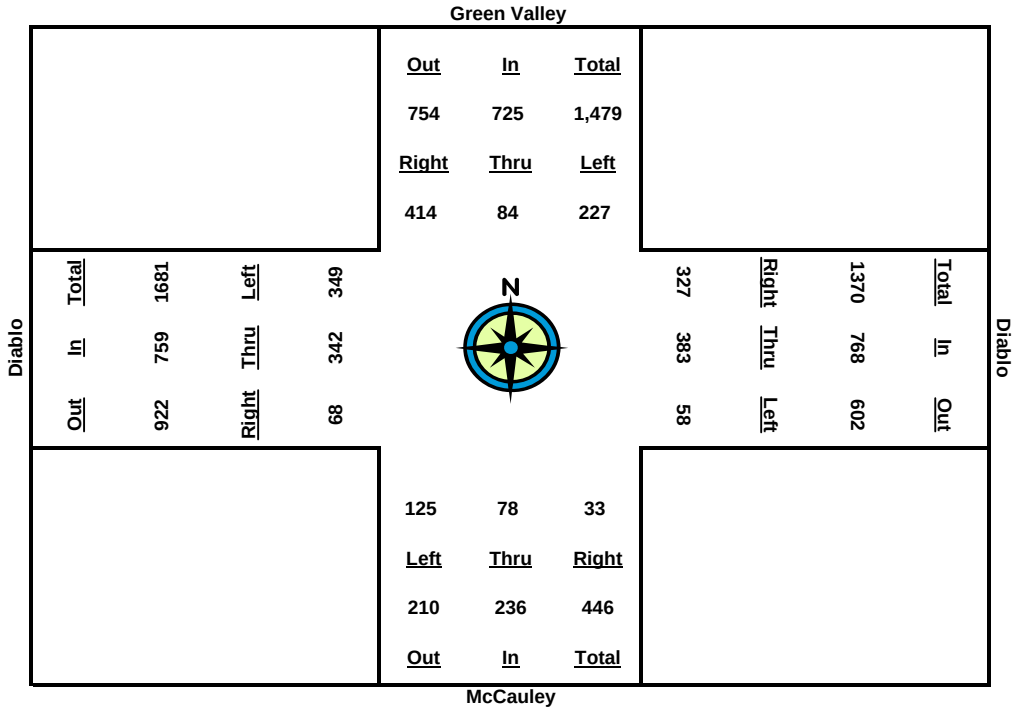
AUTO-CENSUS
Traffic Monitoring and Analysis
870 Castlewood Dr. #1
Los Gatos, CA 95032
Phone 408-826-9673 Fax 408-877-1625

Date: 10/7/10
Counter: Michelle and Vikki
Intersection Name: Green Valley/McCauley and Diablo
Weather: Clear Danville 10MN04

	Green Valley				Diablo				McCauley				Diablo			
	North Approach				East Approach				South Approach				West Approach			
Start Time	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	39	9	57	105	92	57	7	156	2	4	9	15	6	33	77	116
7:30 AM	160	11	131	302	190	140	7	337	4	10	20	34	11	76	144	231
7:45 AM	274	13	173	460	222	227	8	457	5	16	42	63	15	140	213	368
8:00 AM	400	20	235	655	327	337	9	673	7	27	56	90	19	244	278	541
8:15 AM	511	25	279	815	454	440	14	908	12	48	77	137	36	351	433	820
8:30 AM	584	55	325	964	537	525	37	1,099	21	69	102	192	57	411	509	977
8:45 AM	688	97	400	1,185	549	610	66	1,225	38	94	167	299	83	482	562	1,127
9:00 AM	741	98	415	1,254	563	681	69	1,313	44	104	194	342	89	547	593	1,229

Peak Hour	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**PK Hour**
7:00 - 8:00	400	20	235	655	327	337	9	673	7	27	56	90	19	244	278	541	1,959
7:15 - 8:15	472	16	222	710	362	383	7	752	10	44	68	122	30	318	356	704	2,288
7:30 - 8:30	424	44	194	662	347	385	30	762	17	59	82	158	46	335	365	746	2,328
7:45 - 8:45	414	84	227	725	327	383	58	768	33	78	125	236	68	342	349	759	2,488
8:00 - 9:00	341	78	180	599	236	344	60	640	37	77	138	252	70	303	315	688	2,179
Peak Volumes:	**414**	**84**	**227**	**725**	**327**	**383**	**58**	**768**	**33**	**78**	**125**	**236**	**68**	**342**	**349**	**759**	**2,488**

Cut and Paste	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
	125	78	33	227	84	414	349	342	68	58	383	327



PM Peak-Hour Volume Count Worksheet

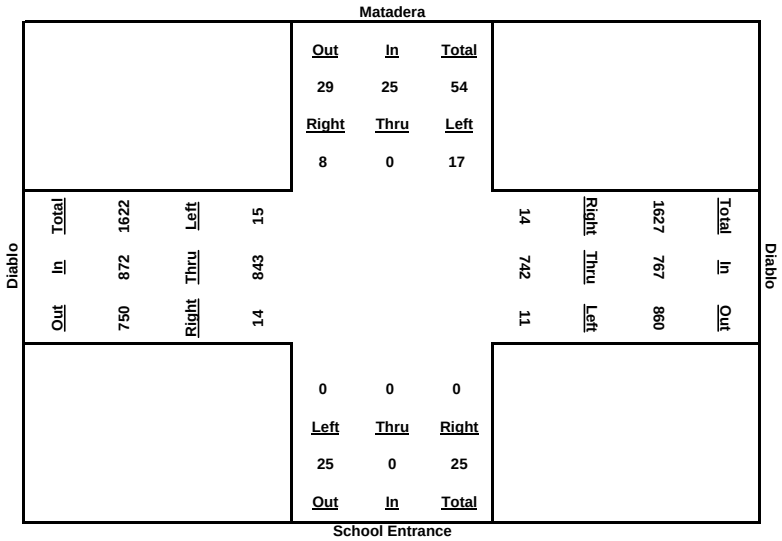
Date: 10/7/10
Counter: Joe and Megan
Intersection Name: Diablo Rd. and Matadera Wy
Weather: Clear Danville 10MN04

AUTO-CENSUS
Traffic Monitoring and Analysis
870 Castlewood Dr. #1
Los Gatos, CA 95032
Phone 408-826-9673 Fax 408-877-1625

	Matadera				Diablo				School Entrance				Diablo			
	North Approach				East Approach				South Approach				West Approach			
Start Time	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	1	0	2	3	5	126	0	131	0	0	0	0	3	161	2	166
2:30 PM	3	0	5	8	7	295	2	304	0	0	0	0	6	312	3	321
2:45 PM	5	0	9	14	9	467	9	485	0	0	0	0	7	466	6	479
3:00 PM	8	0	20	28	10	665	12	687	0	0	0	0	10	652	10	672
3:15 PM	8	0	20	28	14	818	17	849	0	0	0	0	15	847	12	874
3:30 PM	11	0	22	33	18	1,031	20	1,069	0	0	0	0	17	1,114	18	1,149
3:45 PM	13	0	26	39	23	1,209	20	1,252	0	0	0	0	21	1,309	21	1,351
4:00 PM	14	0	28	42	27	1,404	21	1,452	0	0	0	0	24	1,470	25	1,519

Peak Hour	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**PK Hour**
2:00-3:00	8	0	20	28	10	665	12	687	0	0	0	0	10	652	10	672	1,387
2:15-3:15	7	0	18	25	9	692	17	718	0	0	0	0	12	686	10	708	1,451
3:30-4:30	8	0	17	25	11	736	18	765	0	0	0	0	11	802	15	828	1,618
3:45-4:45	8	0	17	25	14	742	11	767	0	0	0	0	14	843	15	872	1,664
4:00-5:00	6	0	8	14	17	739	9	765	0	0	0	0	14	818	15	847	1,626
Peak Volumes:	**8**	**0**	**17**	**25**	**14**	**742**	**11**	**767**	**0**	**0**	**0**	**0**	**14**	**843**	**15**	**872**	**1,664**

Cut and Paste	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
	0	0	0	17	0	8	15	843	14	11	742	14



PM Peak-Hour Volume Count Worksheet

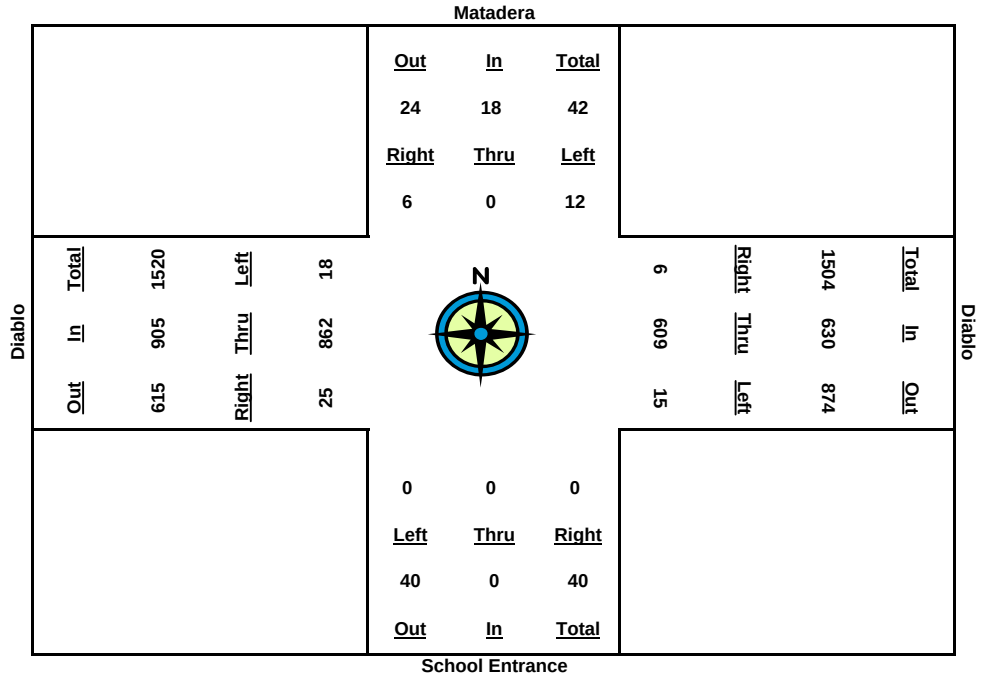
Date: 10/7/10
Counter: Joe and Megan
Intersection Name: Diablo Rd. and Matadera Wy
Weather: Clear Danville 10MN04

AUTO-CENSUS
Traffic Monitoring and Analysis
870 Castlewood Dr. #1
Los Gatos, CA 95032
Phone 408-826-9673 Fax 408-877-1625

	Matadera				Diablo				School Entrance				Diablo			
	North Approach				East Approach				South Approach				West Approach			
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	4	4	2	200	5	207	0	0	0	0	3	142	3	148
4:30 PM	0	0	7	7	2	329	9	340	0	0	0	0	5	299	7	311
4:45 PM	1	0	9	10	3	501	11	515	0	0	0	0	11	449	12	472
5:00 PM	3	0	9	12	4	641	16	661	0	0	0	0	13	629	14	656
5:15 PM	3	0	11	14	5	805	18	828	0	0	0	0	15	848	16	879
5:30 PM	6	0	13	19	8	954	19	981	0	0	0	0	17	1,075	21	1,113
5:45 PM	7	0	16	23	8	1,101	20	1,129	0	0	0	0	19	1,266	25	1,310
6:00 PM	9	0	21	30	10	1,250	31	1,291	0	0	0	0	38	1,491	32	1,561

Peak Hour	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	PK Hour
4:00 - 5:00	3	0	9	12	4	641	16	661	0	0	0	0	13	629	14	656	1,329
4:15 - 5:15	3	0	7	10	3	605	13	621	0	0	0	0	12	706	13	731	1,362
4:30 - 5:30	6	0	6	12	6	625	10	641	0	0	0	0	12	776	14	802	1,455
4:45 - 5:45	6	0	7	13	5	600	9	614	0	0	0	0	8	817	13	838	1,465
5:00 - 6:00	6	0	12	18	6	609	15	630	0	0	0	0	25	862	18	905	1,553
Peak Volumes:	**6**	**0**	**12**	**18**	**6**	**609**	**15**	**630**	**0**	**0**	**0**	**0**	**25**	**862**	**18**	**905**	**1,553**

Cut and Paste	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
	0	0	0	12	0	6	18	862	25	15	609	6



AM Peak-Hour Volume Count Worksheet

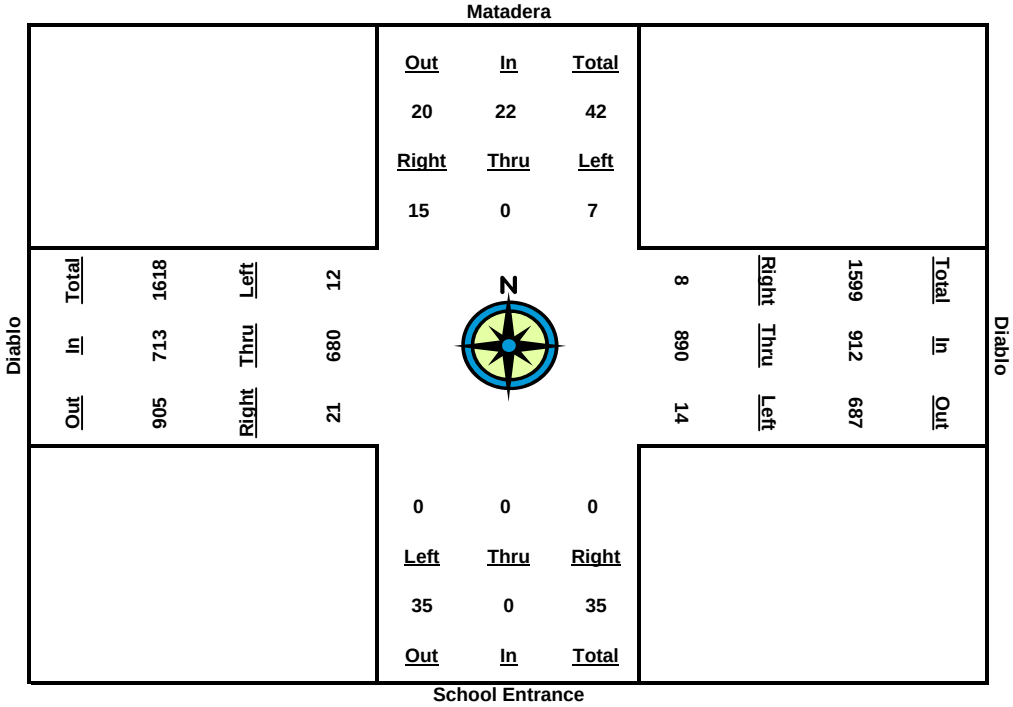
AUTO-CENSUS
Traffic Monitoring and Analysis
870 Castlewood Dr. #1
Los Gatos, CA 95032
Phone 408-826-9673 Fax 408-877-1625

Date: 10/7/10
Counter: Joe and Megan
Intersection Name: Diablo Rd. and Matadera Wy
Weather: Clear Danville 10MN04

	Matadera				Diablo				School Entrance				Diablo			
	North Approach				East Approach				South Approach				West Approach			
Start Time	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	4	0	4	8	0	104	2	0	0	0	0	0	0	116	3	119
7:30 AM	6	0	5	11	2	299	6	307	0	0	0	0	5	228	7	240
7:45 AM	8	0	5	13	4	517	8	529	0	0	0	0	12	350	13	375
8:00 AM	9	0	9	18	5	795	14	814	0	0	0	0	18	550	14	582
8:15 AM	19	0	11	30	8	994	16	1,018	0	0	0	0	21	796	15	832
8:30 AM	21	1	14	36	13	1,195	18	1,226	0	0	0	0	29	915	19	963
8:45 AM	23	1	18	42	15	1,426	31	1,472	0	0	0	0	36	1,050	21	1,107
9:00 AM	24	1	22	47	19	1,599	35	1,653	0	0	0	0	41	1,163	23	1,227

Peak Hour	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**PK Hour**
7:00 - 8:00	9	0	9	18	5	795	14	814	0	0	0	0	18	550	14	582	1,414
7:15 - 8:15	15	0	7	22	8	890	14	1,018	0	0	0	0	21	680	12	713	1,753
7:30 - 8:30	15	1	9	25	11	896	12	919	0	0	0	0	24	687	12	723	1,667
7:45 - 8:45	15	1	13	29	11	909	23	943	0	0	0	0	24	700	8	732	1,704
8:00 - 9:00	15	1	13	29	14	804	21	839	0	0	0	0	23	613	9	645	1,513
Peak Volumes:	**15**	**0**	**7**	**22**	**8**	**890**	**14**	**1,018**	**0**	**0**	**0**	**0**	**21**	**680**	**12**	**713**	**1,753**

Cut and Paste	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
	0	0	0	7	0	15	12	680	21	14	890	8



PM Peak-Hour Volume Count Worksheet

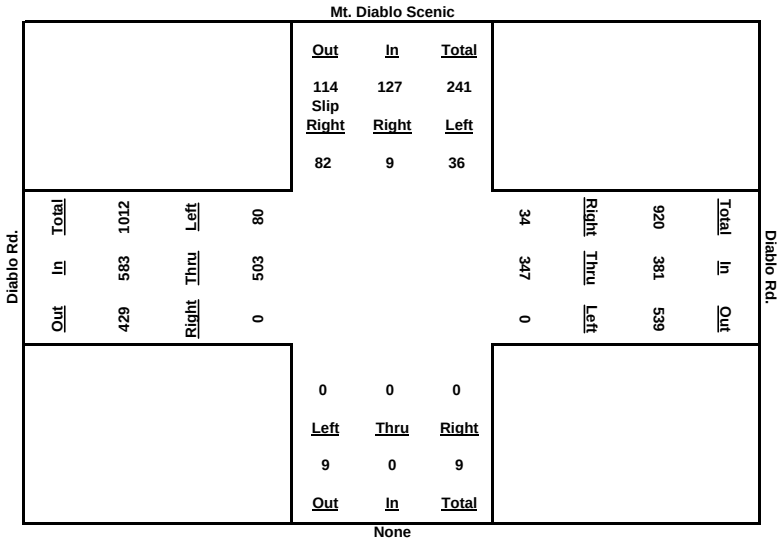
Date: 10/28/10
Counter: Joe and Megan
Intersection Name: Mt. Diablo Scenic and Diablo Rd.
Weather: Clear Danville 10MN04

AUTO-CENSUS
Traffic Monitoring and Analysis
870 Castlewood Dr. #1
Los Gatos, CA 95032
Phone 408-826-9673 Fax 408-877-1625

	Mt. Diablo Scenic				Diablo Rd.				None				Diablo Rd.			
	North Approach				East Approach				South Approach				West Approach			
Start Time	**Slip**	**Right**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	4	3	5	12	3	52	0	55	0	0	0	0	0	54	8	62
2:30 PM	14	4	9	27	9	109	0	118	0	0	0	0	0	106	18	124
2:45 PM	28	7	15	50	15	184	0	199	0	0	0	0	0	172	28	200
3:00 PM	48	10	20	78	16	291	0	307	0	0	0	0	0	216	38	254
3:15 PM	68	12	26	106	27	405	0	432	0	0	0	0	0	292	49	341
3:30 PM	74	13	28	115	35	492	0	527	0	0	0	0	0	408	68	476
3:45 PM	103	16	46	165	45	559	0	604	0	0	0	0	0	571	89	660
4:00 PM	130	19	56	205	50	638	0	688	0	0	0	0	0	719	118	837

Peak Hour	SL Right	Right	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	PK Hour
2:00-3:00	48	10	20	78	16	291	0	307	0	0	0	0	0	216	38	254	639
2:15-3:15	64	9	21	94	24	353	0	377	0	0	0	0	0	238	41	279	750
3:30-4:30	60	9	19	88	26	383	0	409	0	0	0	0	0	302	50	352	849
3:45-4:45	75	9	31	115	30	375	0	405	0	0	0	0	0	399	61	460	980
4:00-5:00	82	9	36	127	34	347	0	381	0	0	0	0	0	503	80	583	1,091
Peak Volumes:	**82**	**9**	**36**	**127**	**34**	**347**	**0**	**381**	**0**	**0**	**0**	**0**	**0**	**503**	**80**	**583**	**1,091**

Cut and Paste	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
	0	0	0	36	0	9	80	503	0	0	347	34



McCauley Rd. :
s/o Diablo Rd. :
Danville, CA :

Site: 000000000000
Date: 10/26/2010
Tuesday

24 Hour Volume

Begin	Northbo und		Southbo und		Combined		Begin	Northbo und		Southbo und		Combined	
12:00 AM	1	1	0	2	1	3	12:00 PM	8	40	10	45	18	85
12:15 AM	0		0		0		12:15 PM	15		16		31	
12:30 AM	0		1		1		12:30 PM	7		11		18	
12:45 AM	0		1		1		12:45 PM	10		8		18	
1:00 AM	0	1	0	0	0	1	1:00 PM	8	51	16	54	24	105
1:15 AM	1		0		1		1:15 PM	20		16		36	
1:30 AM	0		0		0		1:30 PM	10		11		21	
1:45 AM	0		0		0		1:45 PM	13		11		24	
2:00 AM	0	1	0	0	0	1	2:00 PM	15	56	15	63	30	119
2:15 AM	0		0		0		2:15 PM	11		17		28	
2:30 AM	0		0		0		2:30 PM	10		16		26	
2:45 AM	1		0		1		2:45 PM	20		15		35	
3:00 AM	1	1	0	0	1	1	3:00 PM	27	84	21	108	48	192
3:15 AM	0		0		0		3:15 PM	14		42		56	
3:30 AM	0		0		0		3:30 PM	26		22		48	
3:45 AM	0		0		0		3:45 PM	17		23		40	
4:00 AM	0	5	0	1	0	6	4:00 PM	14	53	23	83	37	136
4:15 AM	1		1		2		4:15 PM	17		15		32	
4:30 AM	3		0		3		4:30 PM	10		16		26	
4:45 AM	1		0		1		4:45 PM	12		29		41	
5:00 AM	1	14	0	1	1	15	5:00 PM	22	69	15	93	37	162
5:15 AM	3		0		3		5:15 PM	17		21		38	
5:30 AM	6		0		6		5:30 PM	16		25		41	
5:45 AM	4		1		5		5:45 PM	14		32		46	
6:00 AM	8	33	0	3	8	36	6:00 PM	17	63	27	104	44	167
6:15 AM	2		1		3		6:15 PM	17		29		46	
6:30 AM	13		2		15		6:30 PM	17		26		43	
6:45 AM	10		0		10		6:45 PM	12		22		34	
7:00 AM	21	104	4	31	25	135	7:00 PM	7	35	25	82	32	117
7:15 AM	26		2		28		7:15 PM	7		21		28	
7:30 AM	26		7		33		7:30 PM	12		20		32	
7:45 AM	31		18		49		7:45 PM	9		16		25	
8:00 AM	16	120	5	50	21	170	8:00 PM	5	20	15	55	20	75
8:15 AM	28		7		35		8:15 PM	5		17		22	
8:30 AM	49		19		68		8:30 PM	5		11		16	
8:45 AM	27		19		46		8:45 PM	5		12		17	
9:00 AM	25	79	15	34	40	113	9:00 PM	4	10	16	34	20	44
9:15 AM	32		10		42		9:15 PM	5		6		11	
9:30 AM	11		5		16		9:30 PM	0		5		5	
9:45 AM	11		4		15		9:45 PM	1		7		8	
10:00 AM	15	41	7	33	22	74	10:00 PM	1	5	6	14	7	19
10:15 AM	10		6		16		10:15 PM	1		5		6	
10:30 AM	7		12		19		10:30 PM	2		3		5	
10:45 AM	9		8		17		10:45 PM	1		0		1	
11:00 AM	10	48	12	43	22	91	11:00 PM	1	6	3	7	4	13
11:15 AM	15		6		21		11:15 PM	1		1		2	
11:30 AM	9		5		14		11:30 PM	3		3		6	
11:45 AM	14		20		34		11:45 PM	1		0		1	

	Northbo und	Southbo und	Combined
24 Hour Volume	940 (50.0%)	940 (50.0%)	1880

	12:00 AM - 12:00 PM			12:00 PM - 12:00 AM		
	Northbo und	Southbo und	Combined	Northbo und	Southbo und	Combined
Count	448	198	646	492	742	1234
	69.3 %	30.7 %		39.9 %	60.1 %	
Peak Hour	8:30 AM	8:30 AM	8:30 AM	2:45 PM	5:45 PM	3:00 PM
Volume	133	63	196	87	114	192
Factor	0.68	0.83	0.72	0.81	0.89	0.86

McCauley Rd. :
s/o Diablo Rd. :
Danville, CA :

Site: 000000000000
Date: 10/27/2010
Wednesday

24 Hour Volume

Begin	Northbo und		Southbo und		Combined		Begin	Northbo und		Southbo und		Combined	
12:00 AM	0	3	1	3	1	6	12:00 PM	13	49	8	48	21	97
12:15 AM	3		2		5		12:15 PM	10		14		24	
12:30 AM	0		0		0		12:30 PM	13		11		24	
12:45 AM	0		0		0		12:45 PM	13		15		28	
1:00 AM	0	1	0	0	0	1	1:00 PM	6	54	13	80	19	134
1:15 AM	1		0		1		1:15 PM	16		16		32	
1:30 AM	0		0		0		1:30 PM	18		12		30	
1:45 AM	0		0		0		1:45 PM	14		39		53	
2:00 AM	0	1	0	1	0	2	2:00 PM	8	51	20	68	28	119
2:15 AM	1		0		1		2:15 PM	14		17		31	
2:30 AM	0		1		1		2:30 PM	14		12		26	
2:45 AM	0		0		0		2:45 PM	15		19		34	
3:00 AM	1	2	0	0	1	2	3:00 PM	23	75	21	86	44	161
3:15 AM	0		0		0		3:15 PM	20		19		39	
3:30 AM	0		0		0		3:30 PM	19		25		44	
3:45 AM	1		0		1		3:45 PM	13		21		34	
4:00 AM	0	4	0	1	0	5	4:00 PM	27	57	11	70	38	127
4:15 AM	0		0		0		4:15 PM	11		19		30	
4:30 AM	1		1		2		4:30 PM	9		20		29	
4:45 AM	3		0		3		4:45 PM	10		20		30	
5:00 AM	1	19	1	1	2	20	5:00 PM	15	51	24	103	39	154
5:15 AM	3		0		3		5:15 PM	17		17		34	
5:30 AM	9		0		9		5:30 PM	16		32		48	
5:45 AM	6		0		6		5:45 PM	3		30		33	
6:00 AM	7	29	0	5	7	34	6:00 PM	14	54	27	80	41	134
6:15 AM	2		0		2		6:15 PM	13		21		34	
6:30 AM	9		4		13		6:30 PM	12		20		32	
6:45 AM	11		1		12		6:45 PM	15		12		27	
7:00 AM	22	88	2	19	24	107	7:00 PM	13	37	21	71	34	108
7:15 AM	20		4		24		7:15 PM	4		19		23	
7:30 AM	19		7		26		7:30 PM	12		21		33	
7:45 AM	27		6		33		7:45 PM	8		10		18	
8:00 AM	36	132	12	59	48	191	8:00 PM	3	18	9	46	12	64
8:15 AM	29		20		49		8:15 PM	4		13		17	
8:30 AM	46		19		65		8:30 PM	7		6		13	
8:45 AM	21		8		29		8:45 PM	4		18		22	
9:00 AM	23	63	8	39	31	102	9:00 PM	5	19	11	35	16	54
9:15 AM	17		12		29		9:15 PM	8		10		18	
9:30 AM	15		8		23		9:30 PM	3		6		9	
9:45 AM	8		11		19		9:45 PM	3		8		11	
10:00 AM	15	43	2	25	17	68	10:00 PM	2	4	1	14	3	18
10:15 AM	10		6		16		10:15 PM	1		4		5	
10:30 AM	7		5		12		10:30 PM	1		7		8	
10:45 AM	11		12		23		10:45 PM	0		2		2	
11:00 AM	10	45	10	47	20	92	11:00 PM	0	0	2	8	2	8
11:15 AM	11		8		19		11:15 PM	0		3		3	
11:30 AM	9		16		25		11:30 PM	0		2		2	
11:45 AM	15		13		28		11:45 PM	0		1		1	

	Northbo und	Southbo und	Combined
24 Hour Volume	899 (49.7%)	909 (50.3%)	1808

	12:00 AM - 12:00 PM			12:00 PM - 12:00 AM		
	Northbo und	Southbo und	Combined	Northbo und	Southbo und	Combined
Count	430	200	630	469	709	1178
	68.3 %	31.7 %		39.8 %	60.2 %	
Peak Hour	7:45 AM	8:00 AM	7:45 AM	3:15 PM	5:30 PM	2:45 PM
Volume	138	59	195	79	110	161
Factor	0.75	0.74	0.75	0.73	0.86	0.91

McCauley Rd. :
s/o Diablo Rd. :
Danville, CA :

Site: 000000000000
Date: 10/28/2010
Thursday

24 Hour Volume

Begin	Northbo und		Southbo und		Combined		Begin	Northbo und		Southbo und		Combined	
12:00 AM	0	0	1	3	1	3	12:00 PM	11	35	11	52	22	87
12:15 AM	0		0		0		12:15 PM	7		8		15	
12:30 AM	0		0		0		12:30 PM	7		18		25	
12:45 AM	0		2		2		12:45 PM	10		15		25	
1:00 AM	1	1	0	0	1	1	1:00 PM	13	56	11	52	24	108
1:15 AM	0		0		0		1:15 PM	10		15		25	
1:30 AM	0		0		0		1:30 PM	15		17		32	
1:45 AM	0		0		0		1:45 PM	18		9		27	
2:00 AM	1	1	0	1	1	2	2:00 PM	9	54	19	63	28	117
2:15 AM	0		1		1		2:15 PM	17		3		20	
2:30 AM	0		0		0		2:30 PM	10		22		32	
2:45 AM	0		0		0		2:45 PM	18		19		37	
3:00 AM	1	3	0	0	1	3	3:00 PM	22	73	19	96	41	169
3:15 AM	0		0		0		3:15 PM	18		32		50	
3:30 AM	0		0		0		3:30 PM	18		26		44	
3:45 AM	2		0		2		3:45 PM	15		19		34	
4:00 AM	1	4	0	1	1	5	4:00 PM	14	59	14	82	28	141
4:15 AM	2		0		2		4:15 PM	16		26		42	
4:30 AM	1		1		2		4:30 PM	13		22		35	
4:45 AM	0		0		0		4:45 PM	16		20		36	
5:00 AM	1	15	0	2	1	17	5:00 PM	16	57	20	76	36	133
5:15 AM	4		0		4		5:15 PM	14		15		29	
5:30 AM	4		0		4		5:30 PM	8		21		29	
5:45 AM	6		2		8		5:45 PM	19		20		39	
6:00 AM	8	30	0	4	8	34	6:00 PM	8	39	20	87	28	126
6:15 AM	8		0		8		6:15 PM	11		23		34	
6:30 AM	6		3		9		6:30 PM	8		23		31	
6:45 AM	8		1		9		6:45 PM	12		21		33	
7:00 AM	20	103	1	27	21	130	7:00 PM	11	33	24	76	35	109
7:15 AM	28		5		33		7:15 PM	5		17		22	
7:30 AM	30		11		41		7:30 PM	10		21		31	
7:45 AM	25		10		35		7:45 PM	7		14		21	
8:00 AM	26	120	7	58	33	178	8:00 PM	9	24	9	50	18	74
8:15 AM	30		10		40		8:15 PM	3		17		20	
8:30 AM	41		27		68		8:30 PM	5		12		17	
8:45 AM	23		14		37		8:45 PM	7		12		19	
9:00 AM	17	55	6	24	23	79	9:00 PM	7	17	9	45	16	62
9:15 AM	16		4		20		9:15 PM	3		18		21	
9:30 AM	11		6		17		9:30 PM	4		14		18	
9:45 AM	11		8		19		9:45 PM	3		4		7	
10:00 AM	14	55	11	32	25	87	10:00 PM	4	6	5	19	9	25
10:15 AM	17		8		25		10:15 PM	0		6		6	
10:30 AM	16		6		22		10:30 PM	2		2		4	
10:45 AM	8		7		15		10:45 PM	0		6		6	
11:00 AM	20	61	11	50	31	111	11:00 PM	0	1	5	14	5	15
11:15 AM	12		15		27		11:15 PM	0		3		3	
11:30 AM	16		8		24		11:30 PM	0		4		4	
11:45 AM	13		16		29		11:45 PM	1		2		3	

	Northbo und	Southbo und	Combined
24 Hour Volume	902 (49.7%)	914 (50.3%)	1816

	12:00 AM - 12:00 PM			12:00 PM - 12:00 AM		
	Northbo und	Southbo und	Combined	Northbo und	Southbo und	Combined
Count	448	202	650	454	712	1166
	68.9 %	31.1 %		38.9 %	61.1 %	
Peak Hour	7:45 AM	8:00 AM	8:00 AM	2:45 PM	2:45 PM	2:45 PM
Volume	122	58	178	76	96	172
Factor	0.74	0.54	0.65	0.86	0.75	0.86

Fairwood Ct.:
Danville, CA:
Hexagon:

Site: 000000000000
Date: 5/17/2011
Tuesday

24 Hour Volume

Begin	Northbo und		Southbo und		Combined		Begin	Northbo und		Southbo und		Combined	
12:00 AM	0	0	0	0	0	0	12:00 PM	2	7	2	5	4	12
12:15 AM	0		0		0		12:15 PM	2		0		2	
12:30 AM	0		0		0		12:30 PM	2		2		4	
12:45 AM	0		0		0		12:45 PM	1		1		2	
1:00 AM	0	0	0	0	0	0	1:00 PM	1	4	2	6	3	10
1:15 AM	0		0		0		1:15 PM	2		0		2	
1:30 AM	0		0		0		1:30 PM	1		2		3	
1:45 AM	0		0		0		1:45 PM	0		2		2	
2:00 AM	0	0	0	2	0	2	2:00 PM	2	13	2	10	4	23
2:15 AM	0		0		0		2:15 PM	3		0		3	
2:30 AM	0		0		0		2:30 PM	5		5		10	
2:45 AM	0		2		2		2:45 PM	3		3		6	
3:00 AM	2	2	0	0	2	2	3:00 PM	2	18	3	13	5	31
3:15 AM	0		0		0		3:15 PM	8		3		11	
3:30 AM	0		0		0		3:30 PM	5		5		10	
3:45 AM	0		0		0		3:45 PM	3		2		5	
4:00 AM	0	0	0	0	0	0	4:00 PM	2	6	4	10	6	16
4:15 AM	0		0		0		4:15 PM	0		2		2	
4:30 AM	0		0		0		4:30 PM	2		3		5	
4:45 AM	0		0		0		4:45 PM	2		1		3	
5:00 AM	0	2	0	0	0	2	5:00 PM	2	3	2	6	4	9
5:15 AM	0		0		0		5:15 PM	0		1		1	
5:30 AM	0		0		0		5:30 PM	0		2		2	
5:45 AM	2		0		2		5:45 PM	1		1		2	
6:00 AM	0	10	0	1	0	11	6:00 PM	1	8	1	9	2	17
6:15 AM	0		0		0		6:15 PM	2		2		4	
6:30 AM	7		0		7		6:30 PM	2		2		4	
6:45 AM	3		1		4		6:45 PM	3		4		7	
7:00 AM	2	20	0	2	2	22	7:00 PM	0	0	7	22	7	22
7:15 AM	2		0		2		7:15 PM	0		6		6	
7:30 AM	6		1		7		7:30 PM	0		6		6	
7:45 AM	10		1		11		7:45 PM	0		3		3	
8:00 AM	0	16	4	13	4	29	8:00 PM	1	5	2	5	3	10
8:15 AM	6		4		10		8:15 PM	2		1		3	
8:30 AM	10		1		11		8:30 PM	0		2		2	
8:45 AM	0		4		4		8:45 PM	2		0		2	
9:00 AM	4	6	2	4	6	10	9:00 PM	4	13	2	4	6	17
9:15 AM	2		0		2		9:15 PM	7		0		7	
9:30 AM	0		2		2		9:30 PM	0		2		2	
9:45 AM	0		0		0		9:45 PM	2		0		2	
10:00 AM	0	5	0	5	0	10	10:00 PM	0	0	1	1	1	1
10:15 AM	0		3		3		10:15 PM	0		0		0	
10:30 AM	2		2		4		10:30 PM	0		0		0	
10:45 AM	3		0		3		10:45 PM	0		0		0	
11:00 AM	3	4	5	7	8	11	11:00 PM	0	0	0	0	0	0
11:15 AM	1		0		1		11:15 PM	0		0		0	
11:30 AM	0		2		2		11:30 PM	0		0		0	
11:45 AM	0		0		0		11:45 PM	0		0		0	

	Northbo und	Southbo und	Combined
24 Hour Volume	142 (53.2%)	125 (46.8%)	267

	12:00 AM - 12:00 PM			12:00 PM - 12:00 AM		
	Northbo und	Southbo und	Combined	Northbo und	Southbo und	Combined
Count	65	34	99	77	91	168
	65.7 %	34.3 %		45.8 %	54.2 %	
Peak Hour	7:45 AM	8:00 AM	7:45 AM	2:30 PM	6:45 PM	2:30 PM
Volume	26	13	36	18	23	32
Factor	0.65	0.81	0.82	0.56	0.82	0.73

Fairwood Ct.:
Danville, CA:
Hexagon:

Site: 000000000000
Date: 5/18/2011
Wednesday

24 Hour Volume

Begin	Northbo und		Southbo und		Combined		Begin	Northbo und		Southbo und		Combined	
12:00 AM	0	0	0	0	0	0	12:00 PM	0	10	1	5	1	15
12:15 AM	0		0		0		12:15 PM	3		1		4	
12:30 AM	0		0		0		12:30 PM	3		2		5	
12:45 AM	0		0		0		12:45 PM	4		1		5	
1:00 AM	0	0	0	0	0	0	1:00 PM	6	9	4	9	10	18
1:15 AM	0		0		0		1:15 PM	0		3		3	
1:30 AM	0		0		0		1:30 PM	1		2		3	
1:45 AM	0		0		0		1:45 PM	2		0		2	
2:00 AM	0	1	0	1	0	2	2:00 PM	1	8	4	7	5	15
2:15 AM	0		0		0		2:15 PM	2		3		5	
2:30 AM	0		1		1		2:30 PM	5		0		5	
2:45 AM	1		0		1		2:45 PM	0		0		0	
3:00 AM	0	0	0	0	0	0	3:00 PM	3	8	7	14	10	22
3:15 AM	0		0		0		3:15 PM	1		0		1	
3:30 AM	0		0		0		3:30 PM	1		6		7	
3:45 AM	0		0		0		3:45 PM	3		1		4	
4:00 AM	0	0	0	0	0	0	4:00 PM	1	4	1	3	2	7
4:15 AM	0		0		0		4:15 PM	0		0		0	
4:30 AM	0		0		0		4:30 PM	3		1		4	
4:45 AM	0		0		0		4:45 PM	0		1		1	
5:00 AM	0	1	0	0	0	1	5:00 PM	4	8	2	11	6	19
5:15 AM	0		0		0		5:15 PM	0		1		1	
5:30 AM	0		0		0		5:30 PM	3		4		7	
5:45 AM	1		0		1		5:45 PM	1		4		5	
6:00 AM	3	13	2	3	5	16	6:00 PM	1	7	3	12	4	19
6:15 AM	2		0		2		6:15 PM	1		4		5	
6:30 AM	4		0		4		6:30 PM	2		0		2	
6:45 AM	4		1		5		6:45 PM	3		5		8	
7:00 AM	3	19	0	2	3	21	7:00 PM	0	0	1	3	1	3
7:15 AM	2		1		3		7:15 PM	0		0		0	
7:30 AM	6		1		7		7:30 PM	0		0		0	
7:45 AM	8		0		8		7:45 PM	0		2		2	
8:00 AM	7	13	2	7	9	20	8:00 PM	0	5	0	8	0	13
8:15 AM	5		3		8		8:15 PM	1		4		5	
8:30 AM	1		0		1		8:30 PM	2		2		4	
8:45 AM	0		2		2		8:45 PM	2		2		4	
9:00 AM	0	2	0	0	0	2	9:00 PM	0	3	5	9	5	12
9:15 AM	2		0		2		9:15 PM	2		4		6	
9:30 AM	0		0		0		9:30 PM	1		0		1	
9:45 AM	0		0		0		9:45 PM	0		0		0	
10:00 AM	2	4	2	4	4	8	10:00 PM	1	1	2	6	3	7
10:15 AM	0		0		0		10:15 PM	0		4		4	
10:30 AM	0		0		0		10:30 PM	0		0		0	
10:45 AM	2		2		4		10:45 PM	0		0		0	
11:00 AM	3	11	0	6	3	17	11:00 PM	0	1	0	1	0	2
11:15 AM	0		5		5		11:15 PM	1		1		2	
11:30 AM	2		1		3		11:30 PM	0		0		0	
11:45 AM	6		0		6		11:45 PM	0		0		0	

	Northbo und	Southbo und	Combined
24 Hour Volume	128 (53.6%)	111 (46.4%)	239

	12:00 AM - 12:00 PM			12:00 PM - 12:00 AM		
	Northbo und	Southbo und	Combined	Northbo und	Southbo und	Combined
Count	64	23	87	64	88	152
	73.6 %	26.4 %		42.1 %	57.9 %	
Peak Hour	7:30 AM	10:45 AM	7:30 AM	12:15 PM	5:30 PM	12:15 PM
Volume	26	8	32	16	15	24
Factor	0.81	0.40	0.89	0.67	0.94	0.60

Fairwood Ct.:
Danville, CA:
Hexagon:

Site: 000000000000
Date: 5/19/2011
Thursday

24 Hour Volume

Begin	Northbo und		Southbo und		Combined		Begin	Northbo und		Southbo und		Combined	
12:00 AM	0	0	0	0	0	0	12:00 PM	2	8	1	3	3	11
12:15 AM	0		0		0		12:15 PM	2		0		2	
12:30 AM	0		0		0		12:30 PM	1		1		2	
12:45 AM	0		0		0		12:45 PM	3		1		4	
1:00 AM	0	0	0	0	0	0	1:00 PM	0	1	0	4	0	5
1:15 AM	0		0		0		1:15 PM	0		0		0	
1:30 AM	0		0		0		1:30 PM	0		4		4	
1:45 AM	0		0		0		1:45 PM	1		0		1	
2:00 AM	0	2	0	1	0	3	2:00 PM	1	10	2	6	3	16
2:15 AM	0		0		0		2:15 PM	2		2		4	
2:30 AM	0		0		0		2:30 PM	4		2		6	
2:45 AM	2		1		3		2:45 PM	3		0		3	
3:00 AM	0	0	0	0	0	0	3:00 PM	0	7	4	11	4	18
3:15 AM	0		0		0		3:15 PM	5		0		5	
3:30 AM	0		0		0		3:30 PM	0		2		2	
3:45 AM	0		0		0		3:45 PM	2		5		7	
4:00 AM	0	0	0	0	0	0	4:00 PM	2	8	0	9	2	17
4:15 AM	0		0		0		4:15 PM	2		6		8	
4:30 AM	0		0		0		4:30 PM	2		1		3	
4:45 AM	0		0		0		4:45 PM	2		2		4	
5:00 AM	1	3	0	0	1	3	5:00 PM	0	7	0	8	0	15
5:15 AM	2		0		2		5:15 PM	1		2		3	
5:30 AM	0		0		0		5:30 PM	2		4		6	
5:45 AM	0		0		0		5:45 PM	4		2		6	
6:00 AM	0	10	0	0	0	10	6:00 PM	3	9	5	9	8	18
6:15 AM	0		0		0		6:15 PM	2		1		3	
6:30 AM	6		0		6		6:30 PM	2		1		3	
6:45 AM	4		0		4		6:45 PM	2		2		4	
7:00 AM	2	15	0	2	2	17	7:00 PM	2	4	3	6	5	10
7:15 AM	3		1		4		7:15 PM	0		1		1	
7:30 AM	4		0		4		7:30 PM	0		0		0	
7:45 AM	6		1		7		7:45 PM	2		2		4	
8:00 AM	2	14	0	5	2	19	8:00 PM	0	0	0	4	0	4
8:15 AM	5		1		6		8:15 PM	0		1		1	
8:30 AM	3		4		7		8:30 PM	0		3		3	
8:45 AM	4		0		4		8:45 PM	0		0		0	
9:00 AM	1	8	0	2	1	10	9:00 PM	0	2	1	4	1	6
9:15 AM	1		1		2		9:15 PM	2		2		4	
9:30 AM	4		1		5		9:30 PM	0		1		1	
9:45 AM	2		0		2		9:45 PM	0		0		0	
10:00 AM	2	4	2	9	4	13	10:00 PM	0	0	0	3	0	3
10:15 AM	0		2		2		10:15 PM	0		0		0	
10:30 AM	1		2		3		10:30 PM	0		1		1	
10:45 AM	1		3		4		10:45 PM	0		2		2	
11:00 AM	0	2	0	3	0	5	11:00 PM	0	0	0	0	0	0
11:15 AM	1		1		2		11:15 PM	0		0		0	
11:30 AM	0		0		0		11:30 PM	0		0		0	
11:45 AM	1		2		3		11:45 PM	0		0		0	

	Northbo und	Southbo und	Combined
24 Hour Volume	114 (56.2%)	89 (43.8%)	203

	12:00 AM - 12:00 PM			12:00 PM - 12:00 AM		
	Northbo und	Southbo und	Combined	Northbo und	Southbo und	Combined
Count	58	22	80	56	67	123
	72.5 %	27.5 %		45.5 %	54.5 %	
Peak Hour	7:30 AM	10:00 AM	7:45 AM	2:30 PM	3:30 PM	5:15 PM
Volume	17	9	22	12	13	23
Factor	0.71	0.75	0.79	0.60	0.54	0.72

Diablo Rd. :
e/o Cameron :
Danville, CA :

Site: 000000000000
Date: 10/26/2010
Tuesday

24 Hour Volume

Begin	Westbou nd		Eastbou nd		Combined		Begin	Westbou nd		Eastbou nd		Combined	
12:00 AM	3	8	2	9	5	17	12:00 PM	53	218	42	170	95	388
12:15 AM	1		1		2		12:15 PM	49		39		88	
12:30 AM	3		3		6		12:30 PM	52		40		92	
12:45 AM	1		3		4		12:45 PM	64		49		113	
1:00 AM	1	3	3	5	4	8	1:00 PM	50	195	53	213	103	408
1:15 AM	0		0		0		1:15 PM	52		56		108	
1:30 AM	0		2		2		1:30 PM	47		59		106	
1:45 AM	2		0		2		1:45 PM	46		45		91	
2:00 AM	0	1	1	2	1	3	2:00 PM	59	291	49	228	108	519
2:15 AM	1		1		2		2:15 PM	55		58		113	
2:30 AM	0		0		0		2:30 PM	67		64		131	
2:45 AM	0		0		0		2:45 PM	110		57		167	
3:00 AM	1	3	1	3	2	6	3:00 PM	122	388	68	533	190	921
3:15 AM	0		0		0		3:15 PM	95		130		225	
3:30 AM	1		1		2		3:30 PM	95		166		261	
3:45 AM	1		1		2		3:45 PM	76		169		245	
4:00 AM	4	13	1	6	5	19	4:00 PM	70	288	85	310	155	598
4:15 AM	1		1		2		4:15 PM	84		75		159	
4:30 AM	3		2		5		4:30 PM	61		70		131	
4:45 AM	5		2		7		4:45 PM	73		80		153	
5:00 AM	10	40	1	20	11	60	5:00 PM	81	354	105	426	186	780
5:15 AM	11		2		13		5:15 PM	85		118		203	
5:30 AM	10		8		18		5:30 PM	95		99		194	
5:45 AM	9		9		18		5:45 PM	93		104		197	
6:00 AM	20	109	3	37	23	146	6:00 PM	63	251	97	386	160	637
6:15 AM	24		9		33		6:15 PM	68		97		165	
6:30 AM	26		15		41		6:30 PM	56		98		154	
6:45 AM	39		10		49		6:45 PM	64		94		158	
7:00 AM	43	311	17	154	60	465	7:00 PM	59	181	73	227	132	408
7:15 AM	67		31		98		7:15 PM	44		54		98	
7:30 AM	89		32		121		7:30 PM	33		41		74	
7:45 AM	112		74		186		7:45 PM	45		59		104	
8:00 AM	126	547	67	325	193	872	8:00 PM	34	111	45	236	79	347
8:15 AM	180		61		241		8:15 PM	27		92		119	
8:30 AM	111		82		193		8:30 PM	34		47		81	
8:45 AM	130		115		245		8:45 PM	16		52		68	
9:00 AM	162	384	66	287	228	671	9:00 PM	29	75	35	120	64	195
9:15 AM	112		92		204		9:15 PM	18		35		53	
9:30 AM	50		89		139		9:30 PM	19		27		46	
9:45 AM	60		40		100		9:45 PM	9		23		32	
10:00 AM	49	202	43	185	92	387	10:00 PM	6	25	10	39	16	64
10:15 AM	54		45		99		10:15 PM	6		9		15	
10:30 AM	58		43		101		10:30 PM	6		11		17	
10:45 AM	41		54		95		10:45 PM	7		9		16	
11:00 AM	47	211	50	189	97	400	11:00 PM	5	11	8	20	13	31
11:15 AM	52		46		98		11:15 PM	1		3		4	
11:30 AM	57		49		106		11:30 PM	3		6		9	
11:45 AM	55		44		99		11:45 PM	2		3		5	

	Westbou nd	Eastbou nd	Combined
24 Hour Volume	4220 (50.5%)	4130 (49.5%)	8350

	12:00 AM - 12:00 PM			12:00 PM - 12:00 AM		
	Westbou nd	Eastbou nd	Combined	Westbou nd	Eastbou nd	Combined
Count	1832	1222	3054	2388	2908	5296
	60.0 %	40.0 %		45.1 %	54.9 %	
Peak Hour	8:15 AM	8:45 AM	8:15 AM	2:45 PM	3:15 PM	3:00 PM
Volume	583	362	907	422	550	921
Factor	0.81	0.79	0.93	0.86	0.81	0.88

Diablo Rd. :
e/o Cameron :
Danville, CA :

Site: 000000000000
Date: 10/27/2010
Wednesday

24 Hour Volume

Begin	Westbou nd		Eastbou nd		Combined		Begin	Westbou nd		Eastbou nd		Combined	
12:00 AM	0	2	2	13	2	15	12:00 PM	57	238	58	193	115	431
12:15 AM	1		5		6		12:15 PM	58		35		93	
12:30 AM	1		5		6		12:30 PM	67		47		114	
12:45 AM	0		1		1		12:45 PM	56		53		109	
1:00 AM	3	7	0	5	3	12	1:00 PM	58	216	41	189	99	405
1:15 AM	0		2		2		1:15 PM	43		49		92	
1:30 AM	3		3		6		1:30 PM	56		45		101	
1:45 AM	1		0		1		1:45 PM	59		54		113	
2:00 AM	0	2	1	2	1	4	2:00 PM	66	301	46	248	112	549
2:15 AM	0		0		0		2:15 PM	68		67		135	
2:30 AM	2		1		3		2:30 PM	70		59		129	
2:45 AM	0		0		0		2:45 PM	97		76		173	
3:00 AM	1	2	0	1	1	3	3:00 PM	127	378	82	568	209	946
3:15 AM	0		1		1		3:15 PM	89		149		238	
3:30 AM	0		0		0		3:30 PM	84		166		250	
3:45 AM	1		0		1		3:45 PM	78		171		249	
4:00 AM	2	12	0	4	2	16	4:00 PM	82	318	99	382	181	700
4:15 AM	4		2		6		4:15 PM	70		94		164	
4:30 AM	4		1		5		4:30 PM	65		91		156	
4:45 AM	2		1		3		4:45 PM	101		98		199	
5:00 AM	3	46	2	22	5	68	5:00 PM	88	353	89	365	177	718
5:15 AM	10		4		14		5:15 PM	79		95		174	
5:30 AM	17		6		23		5:30 PM	107		95		202	
5:45 AM	16		10		26		5:45 PM	79		86		165	
6:00 AM	15	116	10	45	25	161	6:00 PM	55	224	102	311	157	535
6:15 AM	21		10		31		6:15 PM	48		83		131	
6:30 AM	25		9		34		6:30 PM	43		64		107	
6:45 AM	55		16		71		6:45 PM	78		62		140	
7:00 AM	183	507	27	242	210	749	7:00 PM	37	155	63	181	100	336
7:15 AM	115		82		197		7:15 PM	51		43		94	
7:30 AM	100		75		175		7:30 PM	29		41		70	
7:45 AM	109		58		167		7:45 PM	38		34		72	
8:00 AM	85	311	57	308	142	619	8:00 PM	11	119	32	219	43	338
8:15 AM	68		72		140		8:15 PM	28		61		89	
8:30 AM	78		105		183		8:30 PM	33		52		85	
8:45 AM	80		74		154		8:45 PM	47		74		121	
9:00 AM	56	204	60	223	116	427	9:00 PM	35	92	63	151	98	243
9:15 AM	47		69		116		9:15 PM	28		38		66	
9:30 AM	54		53		107		9:30 PM	17		24		41	
9:45 AM	47		41		88		9:45 PM	12		26		38	
10:00 AM	65	205	40	156	105	361	10:00 PM	18	32	29	71	47	103
10:15 AM	54		35		89		10:15 PM	7		16		23	
10:30 AM	41		39		80		10:30 PM	4		11		15	
10:45 AM	45		42		87		10:45 PM	3		15		18	
11:00 AM	47	191	41	191	88	382	11:00 PM	3	9	6	20	9	29
11:15 AM	47		33		80		11:15 PM	3		7		10	
11:30 AM	48		58		106		11:30 PM	2		3		5	
11:45 AM	49		59		108		11:45 PM	1		4		5	

	Westbou nd	Eastbou nd	Combined
24 Hour Volume	4040 (49.6%)	4110 (50.4%)	8150

	12:00 AM - 12:00 PM			12:00 PM - 12:00 AM		
	Westbou nd	Eastbou nd	Combined	Westbou nd	Eastbou nd	Combined
Count	1605	1212	2817	2435	2898	5333
	57.0 %	43.0 %		45.7 %	54.3 %	
Peak Hour	7:00 AM	8:15 AM	7:00 AM	2:45 PM	3:15 PM	3:00 PM
Volume	507	311	749	397	585	946
Factor	0.69	0.74	0.89	0.78	0.86	0.95

Diablo Rd. :
e/o Cameron :
Danville, CA :

Site: 000000000000
Date: 10/28/2010
Thursday

24 Hour Volume

Begin	Westbound		Eastbound		Combined		Begin	Westbound		Eastbound		Combined	
12:00 AM	5	8	2	11	7	19	12:00 PM	40	244	46	204	86	448
12:15 AM	1		3		4		12:15 PM	57		59		116	
12:30 AM	0		2		2		12:30 PM	76		46		122	
12:45 AM	2		4		6		12:45 PM	71		53		124	
1:00 AM	2	7	1	8	3	15	1:00 PM	68	232	56	219	124	451
1:15 AM	2		2		4		1:15 PM	61		54		115	
1:30 AM	2		4		6		1:30 PM	42		66		108	
1:45 AM	1		1		2		1:45 PM	61		43		104	
2:00 AM	0	2	0	1	0	3	2:00 PM	59	313	53	227	112	540
2:15 AM	0		0		0		2:15 PM	69		60		129	
2:30 AM	0		0		0		2:30 PM	81		69		150	
2:45 AM	2		1		3		2:45 PM	104		45		149	
3:00 AM	0	3	1	5	1	8	3:00 PM	121	376	77	510	198	886
3:15 AM	1		1		2		3:15 PM	93		128		221	
3:30 AM	1		2		3		3:30 PM	82		158		240	
3:45 AM	1		1		2		3:45 PM	80		147		227	
4:00 AM	2	11	1	9	3	20	4:00 PM	82	337	122	373	204	710
4:15 AM	1		3		4		4:15 PM	84		87		171	
4:30 AM	6		2		8		4:30 PM	73		70		143	
4:45 AM	2		3		5		4:45 PM	98		94		192	
5:00 AM	9	41	1	16	10	57	5:00 PM	89	370	109	379	198	749
5:15 AM	7		3		10		5:15 PM	97		83		180	
5:30 AM	12		4		16		5:30 PM	101		97		198	
5:45 AM	13		8		21		5:45 PM	83		90		173	
6:00 AM	21	117	3	43	24	160	6:00 PM	63	223	86	332	149	555
6:15 AM	22		9		31		6:15 PM	54		72		126	
6:30 AM	26		15		41		6:30 PM	45		102		147	
6:45 AM	48		16		64		6:45 PM	61		72		133	
7:00 AM	175	508	22	257	197	765	7:00 PM	29	153	49	171	78	324
7:15 AM	110		87		197		7:15 PM	52		38		90	
7:30 AM	101		91		192		7:30 PM	33		45		78	
7:45 AM	122		57		179		7:45 PM	39		39		78	
8:00 AM	85	296	71	268	156	564	8:00 PM	29	118	52	235	81	353
8:15 AM	96		52		148		8:15 PM	27		87		114	
8:30 AM	51		93		144		8:30 PM	25		44		69	
8:45 AM	64		52		116		8:45 PM	37		52		89	
9:00 AM	56	227	62	223	118	450	9:00 PM	39	78	35	129	74	207
9:15 AM	67		63		130		9:15 PM	12		43		55	
9:30 AM	48		48		96		9:30 PM	16		26		42	
9:45 AM	56		50		106		9:45 PM	11		25		36	
10:00 AM	61	199	44	199	105	398	10:00 PM	16	39	15	52	31	91
10:15 AM	53		56		109		10:15 PM	12		16		28	
10:30 AM	36		44		80		10:30 PM	5		11		16	
10:45 AM	49		55		104		10:45 PM	6		10		16	
11:00 AM	53	218	52	218	105	436	11:00 PM	6	17	11	35	17	52
11:15 AM	54		57		111		11:15 PM	4		10		14	
11:30 AM	60		54		114		11:30 PM	7		7		14	
11:45 AM	51		55		106		11:45 PM	0		7		7	

	Westbound	Eastbound	Combined
24 Hour Volume	4137 (50.1%)	4124 (49.9%)	8261

	12:00 AM - 12:00 PM			12:00 PM - 12:00 AM		
	Westbound	Eastbound	Combined	Westbound	Eastbound	Combined
Count	1637	1258	2895	2500	2866	5366
	56.5 %	43.5 %		46.6 %	53.4 %	
Peak Hour	7:00 AM	7:15 AM	7:00 AM	2:45 PM	3:15 PM	3:15 PM
Volume	508	306	765	400	555	892
Factor	0.73	0.84	0.97	0.83	0.88	0.93

Victoria Pl.:
Danville, CA:
Hexagon:

Site: 000000000000
Date: 5/17/2011
Tuesday

24 Hour Volume

Begin	Eastbou nd		Westbou nd		Combined		Begin	Eastbou nd		Westbou nd		Combined	
12:00 AM	0	2	0	0	0	2	12:00 PM	4	12	1	6	5	18
12:15 AM	0		0		0		12:15 PM	6		1		7	
12:30 AM	0		0		0		12:30 PM	0		1		1	
12:45 AM	2		0		2		12:45 PM	2		3		5	
1:00 AM	0	0	0	0	0	0	1:00 PM	0	11	1	5	1	16
1:15 AM	0		0		0		1:15 PM	7		2		9	
1:30 AM	0		0		0		1:30 PM	0		0		0	
1:45 AM	0		0		0		1:45 PM	4		2		6	
2:00 AM	0	0	0	0	0	0	2:00 PM	0	13	3	9	3	22
2:15 AM	0		0		0		2:15 PM	4		3		7	
2:30 AM	0		0		0		2:30 PM	5		1		6	
2:45 AM	0		0		0		2:45 PM	4		2		6	
3:00 AM	0	0	0	0	0	0	3:00 PM	4	29	3	8	7	37
3:15 AM	0		0		0		3:15 PM	13		1		14	
3:30 AM	0		0		0		3:30 PM	10		2		12	
3:45 AM	0		0		0		3:45 PM	2		2		4	
4:00 AM	2	2	1	2	3	4	4:00 PM	0	14	1	6	1	20
4:15 AM	0		0		0		4:15 PM	5		0		5	
4:30 AM	0		0		0		4:30 PM	7		1		8	
4:45 AM	0		1		1		4:45 PM	2		4		6	
5:00 AM	0	0	0	1	0	1	5:00 PM	3	13	0	5	3	18
5:15 AM	0		0		0		5:15 PM	2		4		6	
5:30 AM	0		0		0		5:30 PM	5		0		5	
5:45 AM	0		1		1		5:45 PM	3		1		4	
6:00 AM	2	2	1	3	3	5	6:00 PM	4	21	1	8	5	29
6:15 AM	0		0		0		6:15 PM	4		4		8	
6:30 AM	0		1		1		6:30 PM	8		2		10	
6:45 AM	0		1		1		6:45 PM	5		1		6	
7:00 AM	0	0	1	10	1	10	7:00 PM	3	7	0	4	3	11
7:15 AM	0		0		0		7:15 PM	0		2		2	
7:30 AM	0		3		3		7:30 PM	4		1		5	
7:45 AM	0		6		6		7:45 PM	0		1		1	
8:00 AM	3	14	5	16	8	30	8:00 PM	1	11	1	4	2	15
8:15 AM	4		5		9		8:15 PM	4		1		5	
8:30 AM	6		4		10		8:30 PM	2		1		3	
8:45 AM	1		2		3		8:45 PM	4		1		5	
9:00 AM	2	7	2	8	4	15	9:00 PM	2	2	0	0	2	2
9:15 AM	0		1		1		9:15 PM	0		0		0	
9:30 AM	1		3		4		9:30 PM	0		0		0	
9:45 AM	4		2		6		9:45 PM	0		0		0	
10:00 AM	0	8	3	12	3	20	10:00 PM	0	0	0	0	0	0
10:15 AM	0		1		1		10:15 PM	0		0		0	
10:30 AM	4		2		6		10:30 PM	0		0		0	
10:45 AM	4		6		10		10:45 PM	0		0		0	
11:00 AM	5	18	0	6	5	24	11:00 PM	0	0	0	0	0	0
11:15 AM	6		3		9		11:15 PM	0		0		0	
11:30 AM	2		1		3		11:30 PM	0		0		0	
11:45 AM	5		2		7		11:45 PM	0		0		0	

	Eastbou nd	Westbou nd	Combined
24 Hour Volume	186 (62.2%)	113 (37.8%)	299

	12:00 AM - 12:00 PM			12:00 PM - 12:00 AM		
	Eastbou nd	Westbou nd	Combined	Eastbou nd	Westbou nd	Combined
Count	53	58	111	133	55	188
	47.7 %	52.3 %		70.7 %	29.3 %	
Peak Hour	10:30 AM	7:45 AM	7:45 AM	2:45 PM	1:45 PM	2:45 PM
Volume	19	20	33	31	9	39
Factor	0.79	0.83	0.83	0.60	0.75	0.70

Victoria Pl.:
Danville, CA:
Hexagon:

Site: 000000000000
Date: 5/18/2011
Wednesday

24 Hour Volume

Begin	Eastbou nd		Westbou nd		Combined		Begin	Eastbou nd		Westbou nd		Combined	
12:00 AM	0	0	0	0	0	0	12:00 PM	0	9	1	8	1	17
12:15 AM	0		0		0		12:15 PM	2		2		4	
12:30 AM	0		0		0		12:30 PM	7		4		11	
12:45 AM	0		0		0		12:45 PM	0		1		1	
1:00 AM	0	1	0	0	0	1	1:00 PM	1	11	0	6	1	17
1:15 AM	1		0		1		1:15 PM	2		2		4	
1:30 AM	0		0		0		1:30 PM	4		1		5	
1:45 AM	0		0		0		1:45 PM	4		3		7	
2:00 AM	0	0	0	0	0	0	2:00 PM	9	18	2	7	11	25
2:15 AM	0		0		0		2:15 PM	5		1		6	
2:30 AM	0		0		0		2:30 PM	0		1		1	
2:45 AM	0		0		0		2:45 PM	4		3		7	
3:00 AM	0	2	0	1	0	3	3:00 PM	6	12	6	8	12	20
3:15 AM	0		0		0		3:15 PM	2		2		4	
3:30 AM	2		0		2		3:30 PM	3		0		3	
3:45 AM	0		1		1		3:45 PM	1		0		1	
4:00 AM	0	0	0	0	0	0	4:00 PM	4	13	1	3	5	16
4:15 AM	0		0		0		4:15 PM	4		2		6	
4:30 AM	0		0		0		4:30 PM	3		0		3	
4:45 AM	0		0		0		4:45 PM	2		0		2	
5:00 AM	0	0	1	2	1	2	5:00 PM	0	15	2	7	2	22
5:15 AM	0		1		1		5:15 PM	1		2		3	
5:30 AM	0		0		0		5:30 PM	11		2		13	
5:45 AM	0		0		0		5:45 PM	3		1		4	
6:00 AM	0	2	1	3	1	5	6:00 PM	8	23	3	11	11	34
6:15 AM	0		0		0		6:15 PM	2		2		4	
6:30 AM	2		0		2		6:30 PM	4		4		8	
6:45 AM	0		2		2		6:45 PM	9		2		11	
7:00 AM	0	3	1	10	1	13	7:00 PM	2	14	3	6	5	20
7:15 AM	0		2		2		7:15 PM	5		1		6	
7:30 AM	1		4		5		7:30 PM	2		2		4	
7:45 AM	2		3		5		7:45 PM	5		0		5	
8:00 AM	2	11	5	13	7	24	8:00 PM	0	6	0	6	0	12
8:15 AM	4		4		8		8:15 PM	1		2		3	
8:30 AM	5		2		7		8:30 PM	3		2		5	
8:45 AM	0		2		2		8:45 PM	2		2		4	
9:00 AM	6	14	2	6	8	20	9:00 PM	0	6	1	3	1	9
9:15 AM	2		2		4		9:15 PM	1		0		1	
9:30 AM	2		1		3		9:30 PM	3		1		4	
9:45 AM	4		1		5		9:45 PM	2		1		3	
10:00 AM	0	9	4	11	4	20	10:00 PM	2	2	0	0	2	2
10:15 AM	2		1		3		10:15 PM	0		0		0	
10:30 AM	7		4		11		10:30 PM	0		0		0	
10:45 AM	0		2		2		10:45 PM	0		0		0	
11:00 AM	2	5	1	4	3	9	11:00 PM	0	2	0	0	0	2
11:15 AM	0		3		3		11:15 PM	2		0		2	
11:30 AM	0		0		0		11:30 PM	0		0		0	
11:45 AM	3		0		3		11:45 PM	0		0		0	

	Eastbou nd	Westbou nd	Combined
24 Hour Volume	178 (60.8%)	115 (39.2%)	293

	12:00 AM - 12:00 PM			12:00 PM - 12:00 AM		
	Eastbou nd	Westbou nd	Combined	Eastbou nd	Westbou nd	Combined
Count	47	50	97	131	65	196
	48.5 %	51.5 %		66.8 %	33.2 %	
Peak Hour	8:15 AM	7:30 AM	7:45 AM	5:30 PM	2:30 PM	6:00 PM
Volume	15	16	27	24	12	34
Factor	0.63	0.80	0.84	0.55	0.50	0.77

Victoria Pl.:
Danville, CA:
Hexagon:

Site: 000000000000
Date: 5/19/2011
Thursday

24 Hour Volume

Begin	Eastbou nd		Westbou nd		Combined		Begin	Eastbou nd		Westbou nd		Combined	
12:00 AM	2	2	0	0	2	2	12:00 PM	9	23	1	9	10	32
12:15 AM	0		0		0		12:15 PM	8		2		10	
12:30 AM	0		0		0		12:30 PM	6		3		9	
12:45 AM	0		0		0		12:45 PM	0		3		3	
1:00 AM	0	1	0	0	0	1	1:00 PM	0	3	2	6	2	9
1:15 AM	0		0		0		1:15 PM	0		3		3	
1:30 AM	1		0		1		1:30 PM	1		0		1	
1:45 AM	0		0		0		1:45 PM	2		1		3	
2:00 AM	0	0	0	1	0	1	2:00 PM	3	13	2	9	5	22
2:15 AM	0		0		0		2:15 PM	6		2		8	
2:30 AM	0		1		1		2:30 PM	0		1		1	
2:45 AM	0		0		0		2:45 PM	4		4		8	
3:00 AM	0	1	0	1	0	2	3:00 PM	5	15	4	5	9	20
3:15 AM	0		0		0		3:15 PM	7		0		7	
3:30 AM	0		0		0		3:30 PM	1		0		1	
3:45 AM	1		1		2		3:45 PM	2		1		3	
4:00 AM	0	0	0	0	0	0	4:00 PM	8	23	2	11	10	34
4:15 AM	0		0		0		4:15 PM	4		1		5	
4:30 AM	0		0		0		4:30 PM	1		3		4	
4:45 AM	0		0		0		4:45 PM	10		5		15	
5:00 AM	0	0	1	1	1	1	5:00 PM	4	13	2	5	6	18
5:15 AM	0		0		0		5:15 PM	3		1		4	
5:30 AM	0		0		0		5:30 PM	0		1		1	
5:45 AM	0		0		0		5:45 PM	6		1		7	
6:00 AM	0	1	1	5	1	6	6:00 PM	2	10	1	8	3	18
6:15 AM	0		1		1		6:15 PM	0		2		2	
6:30 AM	1		2		3		6:30 PM	2		1		3	
6:45 AM	0		1		1		6:45 PM	6		4		10	
7:00 AM	0	6	1	12	1	18	7:00 PM	2	6	4	9	6	15
7:15 AM	0		1		1		7:15 PM	3		2		5	
7:30 AM	4		4		8		7:30 PM	0		1		1	
7:45 AM	2		6		8		7:45 PM	1		2		3	
8:00 AM	2	10	4	13	6	23	8:00 PM	4	17	0	5	4	22
8:15 AM	4		6		10		8:15 PM	3		0		3	
8:30 AM	4		3		7		8:30 PM	7		3		10	
8:45 AM	0		0		0		8:45 PM	3		2		5	
9:00 AM	4	6	1	7	5	13	9:00 PM	6	7	3	5	9	12
9:15 AM	0		0		0		9:15 PM	0		0		0	
9:30 AM	0		4		4		9:30 PM	1		1		2	
9:45 AM	2		2		4		9:45 PM	0		1		1	
10:00 AM	2	9	0	7	2	16	10:00 PM	7	12	0	0	7	12
10:15 AM	2		2		4		10:15 PM	3		0		3	
10:30 AM	5		4		9		10:30 PM	0		0		0	
10:45 AM	0		1		1		10:45 PM	2		0		2	
11:00 AM	1	7	4	7	5	14	11:00 PM	0	0	1	1	1	1
11:15 AM	1		2		3		11:15 PM	0		0		0	
11:30 AM	0		0		0		11:30 PM	0		0		0	
11:45 AM	5		1		6		11:45 PM	0		0		0	

	Eastbou nd	Westbou nd	Combined
24 Hour Volume	185 (59.3%)	127 (40.7%)	312

	12:00 AM - 12:00 PM			12:00 PM - 12:00 AM		
	Eastbou nd	Westbou nd	Combined	Eastbou nd	Westbou nd	Combined
Count	43	54	97	142	73	215
	44.3 %	55.7 %		66.0 %	34.0 %	
Peak Hour	7:30 AM	7:30 AM	7:30 AM	12:00 PM	12:30 PM	4:00 PM
Volume	12	20	32	23	11	34
Factor	0.75	0.83	0.80	0.64	0.92	0.57

Intersecton LOS Comparison Matrix

PREPARED BY: AD

10/1/2009

INTERSECTION TURN MOVEMENT COUNTS

GREEN VALLEY/DIABLO INTERSECTION

	GREEN VALLEY RD - SB				DIABLO RD - WB				MCCAULEY RD - NB				DIABLO RD - EB				
	RT	TH	LT	App. Tot.	RT	TH	LT	App. Tot.	RT	TH	LT	App. Tot.	RT	TH	LT	App. Tot.	GRAND TOTAL
AM CUMULATIVE																	
5/2004 7:00 - 9:00 AM	992	85	378	1,455	655	705	67	1,427	43	128	219	390	125	487	703	1,315	4,587
5/2006 7:30 - 9:30 AM	975	163	320	1,458	480	876	30	1,386	55	154	161	370	121	657	589	1,367	4,581
5/2008 7:00 - 9:00 AM	720	54	432	1,206	423	776	62	1,261	18	71	140	229	139	486	905	1,530	4,226
9/2009* 7:30 - 9:30 AM	674	90	334	1,098	421	787	68	1,276	48	87	193	328	92	616	565	1,273	3,975
AM PEAK																	
5/2004 8:00 - 9:00 AM	576	80	235	891	317	341	61	719	35	111	125	271	100	295	449	844	2,725
5/2006 7:30 - 8:30 AM	546	89	159	794	351	440	25	816	30	100	91	221	74	362	447	883	2,714
5/2008 7:30 - 8:30 AM	383	36	245	664	212	387	39	638	8	48	85	141	99	259	479	837	2,280
9/2009* 7:30 - 8:30 AM	448	50	251	749	356	458	35	849	21	46	83	150	47	338	399	784	2,532
PM-MID CUMULATIVE																	
5/2004 2:00 - 4:00 PM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5/2006 2:00 - 4:00 PM	773	74	371	1,218	392	759	31	1,182	80	150	106	336	147	743	641	1,531	4,267
5/2008 2:00 - 4:00 PM	664	54	365	1,083	324	729	96	1,149	48	50	116	214	138	677	662	1,477	3,923
9/2009* 1:30 - 3:30 PM	454	60	274	788	325	633	37	995	49	53	128	230	158	571	565	1,294	3,307
PM-MID PEAK																	
5/2004 2:00 - 4:00 PM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5/2006 2:45 - 3:45 PM	475	50	262	787	211	359	24	594	52	79	57	188	83	442	366	891	2,460
5/2008 3:00 - 4:00 PM	299	24	186	509	196	384	44	624	24	19	51	94	79	390	353	822	2,049
9/2009* 2:30 - 3:30 PM	288	48	185	521	222	345	27	594	42	42	81	165	85	369	353	807	2,087

LEVEL OF SERVICE CALCULATIONS

	CCTALOS		HCM	
	AM PEAK	PM-MD PEAK	AM PEAK	PM-MD PEAK
5/1/2004	N/A	N/A	N/A	N/A
11/1/2004	B (0.65)	A (0.61)	F (227.9)	E (59.8)
5/1/2006	B (0.63)	B (0.71)	E (61.0)	D (52.8)
5/1/2008	C (0.70)	A (0.56)	C (34.6)	C (31.3)
9/1/2009*				

*2009 DATA COLLECTED AFTER LAUNCH OF TRAFFIX PROGRAM

WEBER STUDY

INTERSECTION TURN MOVEMENT COUNTS

GREEN VALLEY/BLEMER INTERSECTION

	GREEN VALLEY RD - SB				BLEMER RD - EB				GREEN VALLEY RD - NB				GRAND TOTAL	
	RT	TH	LT	App. Tot.	RT	TH	LT	App. Tot.	RT	TH	LT	App. Tot.		
AM CUMULATIVE														
11/2004 7:30 - 9:30 AM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10/2006 7:00 - 9:00 AM	135	1025	0	1160	251	0	94	345	0	986	398	1,384	2,889	
5/2008 7:00 - 9:00 AM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
9/2009* 7:30 - 9:30 AM	77	908	0	985	207	0	81	288	0	834	233	1,067	2,340	
AM PEAK														
11/2004 7:30 - 9:30 AM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10/2006 7:45 - 8:45 AM	93	693	0	786	160	0	60	220	0	667	229	896	1,902	
5/2008 7:30 - 8:30 AM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
9/2009* 7:30 - 8:30 AM	68	594	0	662	180	0	72	252	0	602	201	803	1,717	
PM-MID CUMULATIVE														
11/2004 2:00 - 4:00 PM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10/2006 2:00 - 4:00 PM	23	853	0	876	176	0	55	231	0	830	128	958	2,065	
5/2008 2:00 - 4:00 PM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
9/2009* 1:30 - 3:30 PM	56	582	0	638	227	0	74		0	719	238	957	1,896	
PM-MID PEAK														
11/2004 2:00 - 4:00 PM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10/2006 3:00 - 4:00 PM	9	563	0	572	125	0	32	157	0	484	80	564	1,293	
5/2008 3:00 - 4:00 PM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
9/2009* 2:30 - 3:30 PM	29	367	0		173	0	61	234	0	464	142	606	1,236	

LEVEL OF SERVICE CALCULATIONS

	CCTALOS		HCM	
	AM PEAK	PM-MD PEAK	AM PEAK	PM-MD PEAK
5/1/2004				
11/1/2004	C (0.80)	A (0.46)	F (95.7)	B (18.1)
10/1/2006	B (0.66)	A (0.71)	E (70.3)	E (55.7)
5/1/2008				
9/1/2009*				

*2009 DATA COLLECTED AFTER LAUNCH OF TRAFFIX PROGRAM

WEBER STUDY

INTERSECTION TURN MOVEMENT COUNTS

GREEN VALLEY/CAMEO INTERSECTION

	GREEN VALLEY RD - SB				CAMEO DR - WB				GREEN VALLEY RD - NB				GRAND TOTAL	
	RT	TH	LT	App. Tot.	RT	TH	LT	App. Tot.	RT	TH	LT	App. Tot.		
AM CUMULATIVE														
11/2004 7:30 - 9:30 AM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5/2006 7:30 - 9:30 AM	0	990	22	1,012	49	0	234	283	94	1,000	0	1,094	2,389	
5/2008 7:30- 9:30 AM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
9/2009* 7:30 - 9:30 AM	0	783	20	803	63	0	185	248	77	839	0	916	1,967	
AM PEAK														
11/2004 7:30 - 9:30 AM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5/2006 7:30 - 8:30 AM	0	607	13	620	24	0	141	165	66	671	0	737	1,522	
5/2008 7:30 - 8:30 AM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
9/2009* 7:30 - 8:30 AM	0	560	9	569	33	0	105	138	28	646	0	674	1,381	
PM-MID CUMULATIVE														
11/2004 2:00 - 4:00 PM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5/2006 2:00 - 4:00 PM	0	867	132	999	25	0	118	143	144	183	0	975	2,117	
5/2008 2:00 - 4:00 PM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
9/2009* 1:30 - 3:30 PM	0	542	30	572	24	0	89	113	129	653	0	782	1,467	
PM-MID PEAK														
11/2004 2:00 - 4:00 PM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5/2006 2:45 - 3:45 PM	0	522	78	60	12	0	49	61	69	430	0	499	1,161	
5/2008 3:00 - 4:00 PM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
9/2009* 2:30 - 3:30 PM	0	336	15	351	12	0	55	67	78	441	0	519	937	

LEVEL OF SERVICE CALCULATIONS

	CCTALOS		HCM	
	AM PEAK	PM-MD PEAK	AM PEAK	PM-MD PEAK
5/1/2004	N/A	N/A	N/A	N/A
11/1/2004	A (.053)	A (.045)	F (94.4)	B (15.3)
5/1/2006	B (0.66)	A (0.71)	E (70.3)	E (55.7)
5/1/2008	N/A	N/A	N/A	N/A
9/1/2009*				

*2009 DATA COLLECTED AFTER LAUNCH OF TRAFFIX PROGRAM

WEBER STUDY

MULT ANS
SAN RAMON, CALIFORNIA
(925) 355-7300

Jurisdiction: DANVILLE
Intersection:CROW CANYON/CAMINOTASSAJARA
North/South Street: CROW CANYON RD.
East/West Street: CAMINO TASSAJARA

File Name : 703AM
Site Code : 00000703
Start Date : 5/3/2006
Page No : 1

Groups Printed- Vehicles

	BLACKHAWK RD. Southbound				CAMINO TASSAJARA Westbound				CROW CANYON RD. Northbound				CAMINO TASSAJARA Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Factor	1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		
07:00 AM	15	87	34	136	45	161	129	335	26	52	77	155	55	65	16	136	762
07:15 AM	58	104	36	198	47	184	136	367	43	57	95	195	58	95	23	176	936
07:30 AM	64	122	33	219	45	202	166	413	55	71	106	232	63	99	38	200	1064
07:45 AM	71	93	41	205	66	243	177	486	61	98	107	266	65	102	25	192	1149
Total	208	406	144	758	203	790	608	1601	185	278	385	848	241	361	102	704	3911
08:00 AM	36	103	55	194	73	229	157	459	62	91	108	261	78	85	48	211	1125
08:15 AM	60	93	45	198	53	212	164	429	73	136	153	362	88	112	41	241	1230
08:30 AM	51	90	33	174	35	189	123	347	72	101	112	285	73	98	38	209	1015
08:45 AM	27	57	31	115	32	130	101	263	65	64	109	238	70	92	35	197	813
Total	174	343	164	681	193	760	545	1498	272	392	482	1146	309	387	162	858	4183
Grand Total	382	749	308	1439	396	1550	1153	3099	457	670	867	1994	550	748	264	1562	8094
Apprch %	26.5	52.1	21.4		12.8	50.0	37.2		22.9	33.6	43.5		35.2	47.9	16.9		
Total %	4.7	9.3	3.8	17.8	4.9	19.1	14.2	38.3	5.6	8.3	10.7	24.6	6.8	9.2	3.3	19.3	

	BLACKHAWK RD. Southbound				CAMINO TASSAJARA Westbound				CROW CANYON RD. Northbound				CAMINO TASSAJARA Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Intersection	07:30 AM																
Volume	231	411	174	816	237	886	664	1787	251	396	474	1121	294	398	152	844	4568
Percent	28.3	50.4	21.3		13.3	49.6	37.2		22.4	35.3	42.3		34.8	47.2	18.0		
08:15 Volume	60	93	45	198	53	212	164	429	73	136	153	362	88	112	41	241	1230
Peak Factor																	0.928
High Int.	07:30 AM				07:45 AM				08:15 AM				08:15 AM				
Volume	64	122	33	219	66	243	177	486	73	136	153	362	88	112	41	241	
Peak Factor				0.932				0.919				0.774				0.876	

MULT ANS
SAN RAMON, CALIFORNIA
(925) 355-7300

Jurisdiction: DANVILLE
Intersection:CROW CANYON/CAMINOTASSAJARA
North/South Street:CROW CANYON RD.
East/West Street: CAMINO TASSAJARA

File Name : 703MD
Site Code : 00000703
Start Date : 5/3/2006
Page No : 1

Groups Printed- Vehicles

	BLACKHAWK RD. Southbound				CAMINO TASSAJARA Westbound				CROW CANYON RD. Northbound				CAMINO TASSAJARA Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Factor	1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		
02:00 PM	31	60	31	122	49	75	62	186	67	74	77	218	25	86	22	133	659
02:15 PM	40	95	56	191	55	91	86	232	65	95	79	239	48	70	35	153	815
02:30 PM	41	74	42	157	72	132	96	300	73	99	96	268	38	75	43	156	881
02:45 PM	30	72	48	150	77	177	116	370	99	107	133	339	47	100	40	187	1046
Total	142	301	177	620	253	475	360	1088	304	375	385	1064	158	331	140	629	3401
03:00 PM	26	72	52	150	70	135	114	319	89	104	93	286	75	148	52	275	1030
03:15 PM	21	92	43	156	76	134	108	318	94	103	145	342	50	139	51	240	1056
03:30 PM	26	90	64	180	37	142	88	267	102	93	97	292	64	180	37	281	1020
03:45 PM	24	78	64	166	42	131	120	293	97	135	85	317	74	133	43	250	1026
Total	97	332	223	652	225	542	430	1197	382	435	420	1237	263	600	183	1046	4132
Grand Total	239	633	400	1272	478	1017	790	2285	686	810	805	2301	421	931	323	1675	7533
Apprch %	18.8	49.8	31.4		20.9	44.5	34.6		29.8	35.2	35.0		25.1	55.6	19.3		
Total %	3.2	8.4	5.3	16.9	6.3	13.5	10.5	30.3	9.1	10.8	10.7	30.5	5.6	12.4	4.3	22.2	

	BLACKHAWK RD. Southbound				CAMINO TASSAJARA Westbound				CROW CANYON RD. Northbound				CAMINO TASSAJARA Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour From 02:00 PM to 03:45 PM - Peak 1 of 1																	
Intersection	02:45 PM																
Volume	103	326	207	636	260	588	426	1274	384	407	468	1259	236	567	180	983	4152
Percent	16.2	51.3	32.5		20.4	46.2	33.4		30.5	32.3	37.2		24.0	57.7	18.3		
03:15 Volume	21	92	43	156	76	134	108	318	94	103	145	342	50	139	51	240	1056
Peak Factor																	0.983
High Int.	03:30 PM				02:45 PM				03:15 PM				03:30 PM				
Volume	26	90	64	180	77	177	116	370	94	103	145	342	64	180	37	281	
Peak Factor				0.883				0.861				0.920				0.875	

MUL[illegible]ANS
SAN RAMON, CALIFORNIA
(925) 355-7300

Jurisdiction: DANVILLE
Intersection:CROW CANYON/CAMINO TASSAJAR
North/South Street:CROW CANYON RD.
East/West Street: CAMINO TASSAJARA

File Name : 703PM
Site Code : 00000703
Start Date : 5/2/2006
Page No : 1

Groups Printed- Vehicles

	BLACKHAWK RD. Southbound				CAMINO TASSAJARA Westbound				CROW CANYON RD. Northbound				CAMINO TASSAJARA Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Factor	1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		
04:00 PM	33	49	71	153	33	217	114	364	131	121	112	364	43	165	34	242	1123
04:15 PM	27	71	59	157	51	188	106	345	111	126	139	376	37	174	45	256	1134
04:30 PM	31	79	24	134	36	136	74	246	126	127	109	362	40	163	51	254	996
04:45 PM	7	102	33	142	27	170	94	291	100	133	101	334	52	164	38	254	1021
Total	98	301	187	586	147	711	388	1246	468	507	461	1436	172	666	168	1006	4274
05:00 PM	29	73	59	161	35	146	96	277	95	145	139	379	71	174	55	300	1117
05:15 PM	11	29	40	80	65	178	120	363	102	138	135	375	53	196	37	286	1104
05:30 PM	12	35	31	78	69	154	77	300	116	149	137	402	50	214	28	292	1072
05:45 PM	9	50	54	113	64	152	78	294	114	151	133	398	47	173	23	243	1048
Total	61	187	184	432	233	630	371	1234	427	583	544	1554	221	757	143	1121	4341
Grand Total	159	488	371	1018	380	1341	759	2480	895	1090	1005	2990	393	1423	311	2127	8615
Apprch %	15.6	47.9	36.4		15.3	54.1	30.6		29.9	36.5	33.6		18.5	66.9	14.6		
Total %	1.8	5.7	4.3	11.8	4.4	15.6	8.8	28.8	10.4	12.7	11.7	34.7	4.6	16.5	3.6	24.7	

	BLACKHAWK RD. Southbound				CAMINO TASSAJARA Westbound				CROW CANYON RD. Northbound				CAMINO TASSAJARA Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Intersection	05:00 PM																
Volume	61	187	184	432	233	630	371	1234	427	583	544	1554	221	757	143	1121	4341
Percent	14.1	43.3	42.6		18.9	51.1	30.1		27.5	37.5	35.0		19.7	67.5	12.8		
05:00 Volume	29	73	59	161	35	146	96	277	95	145	139	379	71	174	55	300	1117
Peak Factor																	0.972
High Int.	05:00 PM				05:15 PM				05:30 PM				05:00 PM				
Volume	29	73	59	161	65	178	120	363	116	149	137	402	71	174	55	300	
Peak Factor				0.671				0.850				0.966				0.934	

MULT ANS
SAN RAMON, CALIFORNIA
(925) 355-7300

Jurisdiction: DANVILLE
Intersection: DIABLO RD./EL CERRO BLVD.
North/South Street:DIABLO RD. - ACKERMAN
East/West Street: DIABLO RD. - EL CERRO

File Name : 725AM4
Site Code : 00000725
Start Date : 5/16/2006
Page No : 1

Groups Printed- Vehicles

	ACKERMAN DR. Southbound				DIABLO RD. Westbound				DIABLO RD. Northbound				EL CERRO BLVD. Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Factor	1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		
07:30 AM	1	7	2	10	0	133	154	287	86	8	19	113	7	86	1	94	504
07:45 AM	2	2	4	8	0	141	140	281	121	1	10	132	8	106	3	117	538
Total	3	9	6	18	0	274	294	568	207	9	29	245	15	192	4	211	1042
08:00 AM	4	5	1	10	1	127	134	262	146	2	31	179	11	95	4	110	561
08:15 AM	1	9	0	10	0	104	139	243	66	2	41	109	25	71	7	103	465
08:30 AM	3	6	0	9	0	122	145	267	77	0	19	96	22	58	0	80	452
08:45 AM	1	6	2	9	0	97	103	200	59	1	13	73	14	81	0	95	377
Total	9	26	3	38	1	450	521	972	348	5	104	457	72	305	11	388	1855
09:00 AM	1	6	2	9	0	86	104	190	73	1	13	87	11	66	3	80	366
09:15 AM	3	4	0	7	0	79	118	197	62	0	12	74	10	65	1	76	354
Grand Total	16	45	11	72	1	889	1037	1927	690	15	158	863	108	628	19	755	3617
Apprch %	22.2	62.5	15.3		0.1	46.1	53.8		80.0	1.7	18.3		14.3	83.2	2.5		
Total %	0.4	1.2	0.3	2.0	0.0	24.6	28.7	53.3	19.1	0.4	4.4	23.9	3.0	17.4	0.5	20.9	

	ACKERMAN DR. Southbound				DIABLO RD. Westbound				DIABLO RD. Northbound				EL CERRO BLVD. Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour From 07:30 AM to 09:15 AM - Peak 1 of 1																	
Intersection	07:30 AM																
Volume	8	23	7	38	1	505	567	1073	419	13	101	533	51	358	15	424	2068
Percent	21.1	60.5	18.4		0.1	47.1	52.8		78.6	2.4	18.9		12.0	84.4	3.5		
08:00 Volume	4	5	1	10	1	127	134	262	146	2	31	179	11	95	4	110	561
Peak Factor																	0.922
High Int.	07:30 AM				07:30 AM				08:00 AM				07:45 AM				
Volume	1	7	2	10	0	133	154	287	146	2	31	179	8	106	3	117	
Peak Factor				0.950				0.935				0.744				0.906	

MULT ANS
SAN RAMON, CALIFORNIA
(925) 355-7300

Jurisdiction: DANVILLE
Intersection: DIABLO RD./EL CERRO BLVD.
North/South Street: DIABLO RD. - ACKERMA
East/West Street: DIABLO RD. - EL CERRO

File Name : 725MD
Site Code : 00000725
Start Date : 5/16/2006
Page No : 1

Groups Printed- Vehicles

	ACKERMAN DR. Southbound				DIABLO RD. Westbound				DIABLO RD. Northbound				EL CERRO BLVD. Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Factor	1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		
02:00 PM	2	4	5	11	0	84	80	164	101	6	6	113	3	74	9	86	374
02:15 PM	0	7	1	8	3	81	100	184	103	8	8	119	6	92	1	99	410
02:30 PM	3	7	1	11	0	100	123	223	118	8	17	143	16	94	2	112	489
02:45 PM	2	15	4	21	2	95	113	210	118	2	7	127	10	107	2	119	477
Total	7	33	11	51	5	360	416	781	440	24	38	502	35	367	14	416	1750
03:00 PM	4	5	2	11	3	126	100	229	129	14	26	169	19	126	0	145	554
03:15 PM	0	5	0	5	0	111	139	250	119	9	32	160	23	132	1	156	571
03:30 PM	0	14	3	17	10	96	112	218	117	7	9	133	12	135	0	147	515
03:45 PM	1	6	0	7	1	129	143	273	94	5	9	108	17	97	1	115	503
Total	5	30	5	40	14	462	494	970	459	35	76	570	71	490	2	563	2143
Grand Total	12	63	16	91	19	822	910	1751	899	59	114	1072	106	857	16	979	3893
Apprch %	13.2	69.2	17.6		1.1	46.9	52.0		83.9	5.5	10.6		10.8	87.5	1.6		
Total %	0.3	1.6	0.4	2.3	0.5	21.1	23.4	45.0	23.1	1.5	2.9	27.5	2.7	22.0	0.4	25.1	

	ACKERMAN DR. Southbound				DIABLO RD. Westbound				DIABLO RD. Northbound				EL CERRO BLVD. Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour From 02:00 PM to 03:45 PM - Peak 1 of 1																	
Intersection	03:00 PM																
Volume	5	30	5	40	14	462	494	970	459	35	76	570	71	490	2	563	2143
Percent	12.5	75.0	12.5		1.4	47.6	50.9		80.5	6.1	13.3		12.6	87.0	0.4		
03:15 Volume	0	5	0	5	0	111	139	250	119	9	32	160	23	132	1	156	571
Peak Factor																	0.938
High Int.	03:30 PM				03:45 PM				03:00 PM				03:15 PM				
Volume	0	14	3	17	1	129	143	273	129	14	26	169	23	132	1	156	
Peak Factor				0.588				0.888				0.843				0.902	

MUL RANS
SAN RAMON, CALIFORNIA
(925) 355-7300

Jurisdiction: DANVILLE
Intersection: DIABLO RD./EL CERRO BLVD.
North/South Street: DIABLO RD. - ACKERMA
East/West Street: DIABLO RD. - EL CERRO

File Name : 725PM
Site Code : 00000725
Start Date : 5/16/2006
Page No : 1

Groups Printed- Vehicles

	ACKERMAN DR. Southbound				DIABLO RD. Westbound				DIABLO RD. Northbound				EL CERRO BLVD. Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Factor	1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		
04:00 PM	0	4	6	10	0	91	105	196	108	8	19	135	16	113	0	129	470
04:15 PM	1	4	0	5	3	80	95	178	113	6	23	142	14	82	0	96	421
04:30 PM	0	3	2	5	3	78	79	160	123	13	20	156	14	94	2	110	431
04:45 PM	2	6	3	11	4	88	93	185	112	10	16	138	16	70	6	92	426
Total	3	17	11	31	10	337	372	719	456	37	78	571	60	359	8	427	1748
05:00 PM	3	3	1	7	0	81	75	156	138	10	15	163	19	98	1	118	444
05:15 PM	2	9	0	11	0	91	78	169	133	14	23	170	25	100	1	126	476
05:30 PM	0	3	15	18	28	95	91	214	158	21	13	192	29	96	1	126	550
05:45 PM	0	2	0	2	2	82	82	166	136	21	15	172	23	99	1	123	463
Total	5	17	16	38	30	349	326	705	565	66	66	697	96	393	4	493	1933
Grand Total	8	34	27	69	40	686	698	1424	1021	103	144	1268	156	752	12	920	3681
Apprch %	11.6	49.3	39.1		2.8	48.2	49.0		80.5	8.1	11.4		17.0	81.7	1.3		
Total %	0.2	0.9	0.7	1.9	1.1	18.6	19.0	38.7	27.7	2.8	3.9	34.4	4.2	20.4	0.3	25.0	

	ACKERMAN DR. Southbound				DIABLO RD. Westbound				DIABLO RD. Northbound				EL CERRO BLVD. Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Intersection	05:00 PM																
Volume	5	17	16	38	30	349	326	705	565	66	66	697	96	393	4	493	1933
Percent	13.2	44.7	42.1		4.3	49.5	46.2		81.1	9.5	9.5		19.5	79.7	0.8		
05:30 Volume	0	3	15	18	28	95	91	214	158	21	13	192	29	96	1	126	550
Peak Factor																	0.879
High Int.	05:30 PM				05:30 PM				05:30 PM				05:15 PM				
Volume	0	3	15	18	28	95	91	214	158	21	13	192	25	100	1	126	
Peak Factor				0.528				0.824				0.908				0.978	

MULTI[illegible]ANS
SAN RAMON[illegible] ALIFORNIA
(925) 355-7300

Jurisdiction: DANVILLE
Intersection: DIABLO RD./GREEN VALLEY RD
North/South Street: GREEN VALLEY RD.
East/West Street: DIABLO RD.

File Name : 726AM2
Site Code : 00000726
Start Date : 5/2/2006
Page No : 1

Groups Printed- Vehicles

	GREEN VALLEY RD. Southbound				DIABLO RD. Westbound				GREEN VALLEY RD. Northbound				DIABLO RD. Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Factor	1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		
07:30 AM	137	21	23	181	96	97	8	201	4	19	15	38	14	84	98	196	616
07:45 AM	122	26	26	174	97	104	4	205	5	23	17	45	17	121	122	260	684
Total	259	47	49	355	193	201	12	406	9	42	32	83	31	205	220	456	1300
08:00 AM	138	20	46	204	102	118	7	227	2	24	16	42	22	79	118	219	692
08:15 AM	149	22	64	235	56	121	6	183	19	34	43	96	21	78	109	208	722
08:30 AM	156	23	65	244	40	138	1	179	8	12	25	45	14	75	28	117	585
08:45 AM	154	21	55	230	39	116	3	158	2	9	11	22	14	84	37	135	545
Total	597	86	230	913	237	493	17	747	31	79	95	205	71	316	292	679	2544
09:00 AM	65	18	21	104	27	101	1	129	3	8	13	24	15	73	37	125	382
09:15 AM	54	12	20	86	23	81	0	104	12	25	21	58	4	63	40	107	355
Grand Total	975	163	320	1458	480	876	30	1386	55	154	161	370	121	657	589	1367	4581
Apprch %	66.9	11.2	21.9		34.6	63.2	2.2		14.9	41.6	43.5		8.9	48.1	43.1		
Total %	21.3	3.6	7.0	31.8	10.5	19.1	0.7	30.3	1.2	3.4	3.5	8.1	2.6	14.3	12.9	29.8	

	GREEN VALLEY RD. Southbound				DIABLO RD. Westbound				GREEN VALLEY RD. Northbound				DIABLO RD. Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour From 07:30 AM to 09:15 AM - Peak 1 of 1																	
Intersection	07:30 AM																
Volume	546	89	159	794	351	440	25	816	30	100	91	221	74	362	447	883	2714
Percent	68.8	11.2	20.0		43.0	53.9	3.1		13.6	45.2	41.2		8.4	41.0	50.6		
08:15 Volume	149	22	64	235	56	121	6	183	19	34	43	96	21	78	109	208	722
Peak Factor																	0.940
High Int.	08:15 AM				08:00 AM				08:15 AM				07:45 AM				
Volume	149	22	64	235	102	118	7	227	19	34	43	96	17	121	122	260	
Peak Factor				0.845				0.899				0.576				0.849	

MULTI[illegible]ANS
SAN RAMON, [illegible]LIFORNIA
(925) 355-7300

Jurisdiction: DANVILLE
Intersection: GREEN VALLEY/DIABLO RD.
North/South Street:GREEN VALLEY RD.
East/West Street: DIABLO RD.

File Name : 726MD
Site Code : 00000726
Start Date : 5/2/2006
Page No : 1

Groups Printed- Vehicles

	GREEN VALLEY RD. Southbound				DIABLO RD. Westbound				GREEN VALLEY RD. Northbound				DIABLO RD. Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Factor	1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		
02:00 PM	54	11	21	86	37	64	3	104	9	20	11	40	19	67	57	143	373
02:15 PM	62	3	25	90	41	93	3	137	10	23	8	41	14	69	77	160	428
02:30 PM	101	8	29	138	33	112	0	145	7	15	16	38	19	74	81	174	495
02:45 PM	119	21	57	197	70	108	15	193	1	13	9	23	20	90	82	192	605
Total	336	43	132	511	181	377	21	579	27	71	44	142	72	300	297	669	1901
03:00 PM	143	16	83	242	34	90	2	126	26	36	25	87	26	131	109	266	721
03:15 PM	111	12	66	189	40	98	5	143	17	25	15	57	17	123	99	239	628
03:30 PM	102	1	56	159	67	63	2	132	8	5	8	21	20	98	76	194	506
03:45 PM	81	2	34	117	70	131	1	202	2	13	14	29	12	91	60	163	511
Total	437	31	239	707	211	382	10	603	53	79	62	194	75	443	344	862	2366
Grand Total	773	74	371	1218	392	759	31	1182	80	150	106	336	147	743	641	1531	4267
Apprch %	63.5	6.1	30.5		33.2	64.2	2.6		23.8	44.6	31.5		9.6	48.5	41.9		
Total %	18.1	1.7	8.7	28.5	9.2	17.8	0.7	27.7	1.9	3.5	2.5	7.9	3.4	17.4	15.0	35.9	

	GREEN VALLEY RD. Southbound				DIABLO RD. Westbound				GREEN VALLEY RD. Northbound				DIABLO RD. Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour From 02:00 PM to 03:45 PM - Peak 1 of 1																	
Intersection	02:45 PM																
Volume	475	50	262	787	211	359	24	594	52	79	57	188	83	442	366	891	2460
Percent	60.4	6.4	33.3		35.5	60.4	4.0		27.7	42.0	30.3		9.3	49.6	41.1		
03:00 Volume	143	16	83	242	34	90	2	126	26	36	25	87	26	131	109	266	721
Peak Factor																	0.853
High Int.	03:00 PM				02:45 PM				03:00 PM				03:00 PM				
Volume	143	16	83	242	70	108	15	193	26	36	25	87	26	131	109	266	
Peak Factor				0.813				0.769				0.540				0.837	

MULTI[illegible]ANS
SAN RAMON, [illegible]ALIFORNIA
(925) 355-7300

Jurisdiction: DANVILLE
Intersection: GREEN VALLEY/DIABLO RD.
North/South Street:GREEN VALLEY RD.
East/West Street: DIABLO RD.

File Name : 726PM4
Site Code : 00000726
Start Date : 5/2/2006
Page No : 1

Groups Printed- Vehicles

	GREEN VALLEY RD. Southbound				DIABLO RD. Westbound				GREEN VALLEY RD. Northbound				DIABLO RD. Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Factor	1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		
04:00 PM	54	3	51	108	94	95	0	189	1	4	9	14	11	96	41	148	459
04:15 PM	71	2	30	103	98	96	8	202	7	4	6	17	7	91	60	158	480
04:30 PM	32	2	25	59	141	68	5	214	3	2	10	15	16	96	49	161	449
04:45 PM	47	6	38	91	83	71	4	158	4	0	0	4	11	107	43	161	414
Total	204	13	144	361	416	330	17	763	15	10	25	50	45	390	193	628	1802
05:00 PM	40	12	39	91	70	98	5	173	1	7	11	19	11	93	60	164	447
05:15 PM	69	14	55	138	62	88	3	153	2	1	10	13	14	95	57	166	470
05:30 PM	82	15	45	142	118	76	2	196	1	10	9	20	12	98	83	193	551
05:45 PM	67	13	66	146	74	79	4	157	1	10	14	25	21	120	94	235	563
Total	258	54	205	517	324	341	14	679	5	28	44	77	58	406	294	758	2031
Grand Total	462	67	349	878	740	671	31	1442	20	38	69	127	103	796	487	1386	3833
Apprch %	52.6	7.6	39.7		51.3	46.5	2.1		15.7	29.9	54.3		7.4	57.4	35.1		
Total %	12.1	1.7	9.1	22.9	19.3	17.5	0.8	37.6	0.5	1.0	1.8	3.3	2.7	20.8	12.7	36.2	

	GREEN VALLEY RD. Southbound				DIABLO RD. Westbound				GREEN VALLEY RD. Northbound				DIABLO RD. Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Intersection	05:00 PM																
Volume	258	54	205	517	324	341	14	679	5	28	44	77	58	406	294	758	2031
Percent	49.9	10.4	39.7		47.7	50.2	2.1		6.5	36.4	57.1		7.7	53.6	38.8		
05:45 Volume	67	13	66	146	74	79	4	157	1	10	14	25	21	120	94	235	563
Peak Factor																	0.902
High Int.	05:45 PM				05:30 PM				05:45 PM				05:45 PM				
Volume	67	13	66	146	118	76	2	196	1	10	14	25	21	120	94	235	
Peak Factor				0.885				0.866				0.770				0.806	

MULT' ANS
SAN RAMON, CALIFORNIA
(925) 355-7300

Jurisdiction: DANVILLE
Intersection: GREEN VALLEY/CAMEO DR.
North/South Street:GREEN VALLEY RD.
East/West Street: CAMEO DR.

File Name : 727AM8
Site Code : 00000727
Start Date : 5/4/2006
Page No : 1

Groups Printed- Vehicles

	GREEN VALLEY RD. Southbound				CAMEO DR. Westbound				GREEN VALLEY RD. Northbound				Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Factor	1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		
07:30 AM	0	161	3	164	3	0	14	17	5	81	0	86	0	0	0	0	267
07:45 AM	0	105	4	109	7	0	21	28	2	102	0	104	0	0	0	0	241
Total	0	266	7	273	10	0	35	45	7	183	0	190	0	0	0	0	508
08:00 AM	0	144	2	146	7	0	22	29	6	193	0	199	0	0	0	0	374
08:15 AM	0	194	2	196	7	0	51	58	18	211	0	229	0	0	0	0	483
08:30 AM	0	171	3	174	8	0	20	28	15	141	0	156	0	0	0	0	358
08:45 AM	0	98	6	104	2	0	48	50	27	126	0	153	0	0	0	0	307
Total	0	607	13	620	24	0	141	165	66	671	0	737	0	0	0	0	1522
09:00 AM	0	63	1	64	8	0	30	38	13	75	0	88	0	0	0	0	190
09:15 AM	0	54	1	55	7	0	28	35	8	71	0	79	0	0	0	0	169
Grand Total	0	990	22	1012	49	0	234	283	94	1000	0	1094	0	0	0	0	2389
Apprch %	0.0	97.8	2.2		17.3	0.0	82.7		8.6	91.4	0.0		0.0	0.0	0.0		
Total %	0.0	41.4	0.9	42.4	2.1	0.0	9.8	11.8	3.9	41.9	0.0	45.8	0.0	0.0	0.0	0.0	

	GREEN VALLEY RD. Southbound				CAMEO DR. Westbound				GREEN VALLEY RD. Northbound				Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour From 07:30 AM to 09:15 AM - Peak 1 of 1																	
Intersection	08:00 AM																
Volume	0	607	13	620	24	0	141	165	66	671	0	737	0	0	0	0	1522
Percent	0.0	97.9	2.1		14.5	0.0	85.5		9.0	91.0	0.0		0.0	0.0	0.0		
08:15 Volume	0	194	2	196	7	0	51	58	18	211	0	229	0	0	0	0	483
Peak Factor																	0.788
High Int.	08:15 AM				08:15 AM				08:15 AM				7:15:00 AM				
Volume	0	194	2	196	7	0	51	58	18	211	0	229					
Peak Factor				0.791				0.711				0.805					

MULTI ANS
SAN RAMON, CALIFORNIA
(925) 355-7300

Jurisdiction: DANVILLE
Intersection:GREEN VALLEY RD./CAMEO RD.
North/South Street: GREEN VALLEY RD.
East/West Street: CAMEO DR.

File Name : 727MD
Site Code : 00000727
Start Date : 5/4/2006
Page No : 1

Groups Printed- Vehicles

	GREEN VALLEY RD. Southbound				CAMEO DR. Westbound				GREEN VALLEY RD. Northbound				Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Factor	1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		
02:00 PM	0	54	11	65	2	0	16	18	14	61	0	75	0	0	0	0	158
02:15 PM	0	113	13	126	3	0	19	22	18	112	0	130	0	0	0	0	278
02:30 PM	0	94	12	106	6	0	22	28	22	112	0	134	0	0	0	0	268
02:45 PM	0	84	18	102	2	0	12	14	21	116	0	137	0	0	0	0	253
Total	0	345	54	399	13	0	69	82	75	401	0	476	0	0	0	0	957
03:00 PM	0	111	15	126	2	0	13	15	26	129	0	155	0	0	0	0	296
03:15 PM	0	145	23	168	5	0	19	24	18	109	0	127	0	0	0	0	319
03:30 PM	0	125	19	144	3	0	5	8	12	93	0	105	0	0	0	0	257
03:45 PM	0	141	21	162	2	0	12	14	13	99	0	112	0	0	0	0	288
Total	0	522	78	600	12	0	49	61	69	430	0	499	0	0	0	0	1160
Grand Total	0	867	132	999	25	0	118	143	144	831	0	975	0	0	0	0	2117
Apprch %	0.0	86.8	13.2		17.5	0.0	82.5		14.8	85.2	0.0		0.0	0.0	0.0		
Total %	0.0	41.0	6.2	47.2	1.2	0.0	5.6	6.8	6.8	39.3	0.0	46.1	0.0	0.0	0.0	0.0	

	GREEN VALLEY RD. Southbound				CAMEO DR. Westbound				GREEN VALLEY RD. Northbound				Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour From 02:00 PM to 03:45 PM - Peak 1 of 1																	
Intersection	03:00 PM																
Volume	0	522	78	600	12	0	49	61	69	430	0	499	0	0	0	0	1160
Percent	0.0	87.0	13.0		19.7	0.0	80.3		13.8	86.2	0.0		0.0	0.0	0.0		
03:15 Volume	0	145	23	168	5	0	19	24	18	109	0	127	0	0	0	0	319
Peak Factor																	0.909
High Int.	03:15 PM				03:15 PM				03:00 PM				1:45:00 PM				
Volume	0	145	23	168	5	0	19	24	26	129	0	155					
Peak Factor				0.893				0.635				0.805					

MULTI[illegible]ANS
SAN RAMON, [illegible]ALIFORNIA
(925) 355-7300

Jurisdiction: DANVILLE
Intersection:GREEN VALLEY RD./CAMEO RD.
North/South Street: GREEN VALLEY RD.
East/West Street: CAMEO DR.

File Name : 727PM1
Site Code : 00000727
Start Date : 5/4/2006
Page No : 1

Groups Printed- Vehicles

	GREEN VALLEY RD. Southbound				CAMEO DR. Westbound				GREEN VALLEY RD. Northbound				Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Factor	1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		
04:00 PM	0	83	14	97	3	0	5	8	16	101	0	117	0	0	0	0	222
04:15 PM	0	79	14	93	2	0	12	14	18	104	0	122	0	0	0	0	229
04:30 PM	0	71	12	83	3	0	5	8	22	95	0	117	0	0	0	0	208
04:45 PM	0	85	2	87	3	0	3	6	23	99	0	122	0	0	0	0	215
Total	0	318	42	360	11	0	25	36	79	399	0	478	0	0	0	0	874
05:00 PM	0	92	4	96	2	0	5	7	28	135	0	163	0	0	0	0	266
05:15 PM	0	96	9	105	1	0	11	12	26	141	0	167	0	0	0	0	284
05:30 PM	0	90	5	95	2	0	2	4	24	152	0	176	0	0	0	0	275
05:45 PM	0	93	7	100	1	0	9	10	25	131	0	156	0	0	0	0	266
Total	0	371	25	396	6	0	27	33	103	559	0	662	0	0	0	0	1091
Grand Total	0	689	67	756	17	0	52	69	182	958	0	1140	0	0	0	0	1965
Apprch %	0.0	91.1	8.9		24.6	0.0	75.4		16.0	84.0	0.0		0.0	0.0	0.0		
Total %	0.0	35.1	3.4	38.5	0.9	0.0	2.6	3.5	9.3	48.8	0.0	58.0	0.0	0.0	0.0	0.0	

	GREEN VALLEY RD. Southbound				CAMEO DR. Westbound				GREEN VALLEY RD. Northbound				Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Intersection	05:00 PM																
Volume	0	371	25	396	6	0	27	33	103	559	0	662	0	0	0	0	1091
Percent	0.0	93.7	6.3		18.2	0.0	81.8		15.6	84.4	0.0		0.0	0.0	0.0		
05:15 Volume	0	96	9	105	1	0	11	12	26	141	0	167	0	0	0	0	284
Peak Factor																	0.960
High Int.	05:15 PM				05:15 PM				05:30 PM				3:45:00 PM				
Volume	0	96	9	105	1	0	11	12	24	152	0	176					
Peak Factor				0.943				0.688				0.940					

MULT' ANS
SAN RAMON, CALIFORNIA
(925) 355-7300

Jurisdiction: DANVILLE
Intersection:GREEN VALLEY/BLEMER RD.
North/South Street:GREEN VALLEY RD.
East/West Street:BLEMER RD.

File Name : 728AM8
Site Code : 00000728
Start Date : 5/3/2006
Page No : 1

Groups Printed- Vehicles

	GREEN VALLEY RD. Southbound				Westbound				GREEN VALLEY RD. Northbound				BLEMER RD. Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Factor	1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		
07:30 AM	8	173	0	181	0	0	0	0	0	86	12	98	4	0	1	5	284
07:45 AM	27	104	0	131	0	0	0	0	0	100	16	116	14	0	6	20	267
Total	35	277	0	312	0	0	0	0	0	186	28	214	18	0	7	25	551
08:00 AM	34	129	0	163	0	0	0	0	0	222	19	241	17	0	6	23	427
08:15 AM	32	206	0	238	0	0	0	0	0	226	20	246	25	0	8	33	517
08:30 AM	31	159	0	190	0	0	0	0	0	136	84	220	79	0	24	103	513
08:45 AM	28	121	0	149	0	0	0	0	0	84	99	183	122	0	39	161	493
Total	125	615	0	740	0	0	0	0	0	668	222	890	243	0	77	320	1950
09:00 AM	25	72	0	97	0	0	0	0	0	87	8	95	32	0	13	45	237
09:15 AM	5	75	0	80	0	0	0	0	0	85	5	90	7	0	3	10	180
Grand Total	190	1039	0	1229	0	0	0	0	0	1026	263	1289	300	0	100	400	2918
Apprch %	15.5	84.5	0.0		0.0	0.0	0.0		0.0	79.6	20.4		75.0	0.0	25.0		
Total %	6.5	35.6	0.0	42.1	0.0	0.0	0.0	0.0	0.0	35.2	9.0	44.2	10.3	0.0	3.4	13.7	

	GREEN VALLEY RD. Southbound				Westbound				GREEN VALLEY RD. Northbound				BLEMER RD. Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour From 07:30 AM to 09:15 AM - Peak 1 of 1																	
Intersection	08:00 AM																
Volume	125	615	0	740	0	0	0	0	0	668	222	890	243	0	77	320	1950
Percent	16.9	83.1	0.0		0.0	0.0	0.0		0.0	75.1	24.9		75.9	0.0	24.1		
08:15 Volume	32	206	0	238	0	0	0	0	0	226	20	246	25	0	8	33	517
Peak Factor																	0.943
High Int.	08:15 AM				7:15:00 AM				08:15 AM				08:45 AM				
Volume	32	206	0	238	0	0	0	0	0	226	20	246	122	0	39	161	
Peak Factor				0.777								0.904				0.497	

MULTI ANS
SAN RAMON, ALIFORNIA
(925) 355-7300

Jurisdiction: DANVILLE
Intersection: GREEN VALLEY/BELEMER RD.
North/South Street:GREEN VALLEY RD.
East/West Street:BELEMER RD.

File Name : 728MD
Site Code : 00000728
Start Date : 5/3/2006
Page No : 1

Groups Printed- Vehicles

	GREEN VALLEY RD. Southbound				Westbound				GREEN VALLEY RD. Northbound				BLEMER RD. Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Factor	1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		
02:00 PM	8	65	0	73	0	0	0	0	0	75	20	95	12	0	2	14	182
02:15 PM	28	79	0	107	0	0	0	0	0	101	21	122	13	0	2	15	244
02:30 PM	15	96	0	111	0	0	0	0	0	123	27	150	94	0	37	131	392
02:45 PM	16	116	0	132	0	0	0	0	0	102	24	126	28	0	9	37	295
Total	67	356	0	423	0	0	0	0	0	401	92	493	147	0	50	197	1113
03:00 PM	15	146	0	161	0	0	0	0	0	151	25	176	20	0	5	25	362
03:15 PM	29	145	0	174	0	0	0	0	0	162	23	185	62	0	27	89	448
03:30 PM	22	108	0	130	0	0	0	0	0	156	5	161	48	0	18	66	357
03:45 PM	6	151	0	157	0	0	0	0	0	142	9	151	21	0	8	29	337
Total	72	550	0	622	0	0	0	0	0	611	62	673	151	0	58	209	1504
Grand Total	139	906	0	1045	0	0	0	0	0	1012	154	1166	298	0	108	406	2617
Apprch %	13.3	86.7	0.0		0.0	0.0	0.0		0.0	86.8	13.2		73.4	0.0	26.6		
Total %	5.3	34.6	0.0	39.9	0.0	0.0	0.0	0.0	0.0	38.7	5.9	44.6	11.4	0.0	4.1	15.5	

	GREEN VALLEY RD. Southbound				Westbound				GREEN VALLEY RD. Northbound				BLEMER RD. Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour From 02:00 PM to 03:45 PM - Peak 1 of 1																	
Intersection	03:00 PM																
Volume	72	550	0	622	0	0	0	0	0	611	62	673	151	0	58	209	1504
Percent	11.6	88.4	0.0		0.0	0.0	0.0		0.0	90.8	9.2		72.2	0.0	27.8		
03:15 Volume	29	145	0	174	0	0	0	0	0	162	23	185	62	0	27	89	448
Peak Factor																	0.839
High Int.	03:15 PM				1:45:00 PM				03:15 PM				03:15 PM				
Volume	29	145	0	174	0	0	0	0	0	162	23	185	62	0	27	89	
Peak Factor				0.894								0.909				0.587	

MULTI .NS
SAN RAMON, CALIFORNIA
(925) 355-7300

Jurisdiction: DANVILLE
Intersection: GREEN VALLEY/BELEMER RD.
North/South Street:GREEN VALLEY RD.
East/West Street:BELEMER RD.

File Name : 728PM
Site Code : 00000728
Start Date : 5/3/2006
Page No : 1

Groups Printed- Vehicles

	GREEN VALLEY RD. Southbound				Westbound				GREEN VALLEY RD. Northbound				BLEMER RD. Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Factor	1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		
04:00 PM	8	97	0	105	0	0	0	0	0	121	10	131	14	0	2	16	252
04:15 PM	9	82	0	91	0	0	0	0	0	112	14	126	18	0	5	23	240
04:30 PM	6	71	0	77	0	0	0	0	0	121	15	136	14	0	5	19	232
04:45 PM	9	81	0	90	0	0	0	0	0	131	27	158	18	0	3	21	269
Total	32	331	0	363	0	0	0	0	0	485	66	551	64	0	15	79	993
05:00 PM	6	86	0	92	0	0	0	0	0	141	33	174	22	0	7	29	295
05:15 PM	23	109	0	132	0	0	0	0	0	154	38	192	13	0	3	16	340
05:30 PM	12	103	0	115	0	0	0	0	0	162	31	193	9	0	3	12	320
05:45 PM	13	105	0	118	0	0	0	0	0	149	30	179	8	0	3	11	308
Total	54	403	0	457	0	0	0	0	0	606	132	738	52	0	16	68	1263
Grand Total	86	734	0	820	0	0	0	0	0	1091	198	1289	116	0	31	147	2256
Apprch %	10.5	89.5	0.0		0.0	0.0	0.0		0.0	84.6	15.4		78.9	0.0	21.1		
Total %	3.8	32.5	0.0	36.3	0.0	0.0	0.0	0.0	0.0	48.4	8.8	57.1	5.1	0.0	1.4	6.5	

	GREEN VALLEY RD. Southbound				Westbound				GREEN VALLEY RD. Northbound				BLEMER RD. Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Intersection	05:00 PM																
Volume	54	403	0	457	0	0	0	0	0	606	132	738	52	0	16	68	1263
Percent	11.8	88.2	0.0		0.0	0.0	0.0		0.0	82.1	17.9		76.5	0.0	23.5		
05:15 Volume	23	109	0	132	0	0	0	0	0	154	38	192	13	0	3	16	340
Peak Factor																	0.929
High Int.	05:15 PM				3:45:00 PM				05:30 PM				05:00 PM				
Volume	23	109	0	132	0	0	0	0	0	162	31	193	22	0	7	29	
Peak Factor				0.866								0.956				0.586	

(>>>>>>>>>This Page Intentionally Left Blank<<<<<<<<)

Appendix B

Intersection Level of Service Calculations

(>>>>>>>>>This Page Intentionally Left Blank<<<<<<<<)

Note:

In the course of the Magee Ranch TIA analysis, the Cumulative Sensitivity Analysis scenarios were revised/updated in cooperation with the Town of Danville to best reflect the alternative scenarios appropriate for study. For this reason, after the cumulative level of service (LOS) calculations were completed, some of the scenario names/numbers were changed. The changes are as follows:

- Cum Sc4 AM w/Proj, Cum Sc4 school PM w/Proj, and Cum Sc4 PM w/Proj LOS calculation sheets in this appendix refer to Cumulative Scenario 3 results shown in the report.
- Cum Sc5 AM w/Proj, Cum Sc5 school PM w/Proj, and Cum Sc5 PM w/Proj LOS calculation sheets in this appendix refer to Cumulative Scenario 4 results shown in the report.

All of the other LOS calculations in this appendix correspond to the same name/number as shown in the report.

(>>>>>>>>>This Page Intentionally Left Blank<<<<<<<<)

2000 HCM AM LOS Calcs

Existing, Project, Cum No Proj, and Cum Sc1

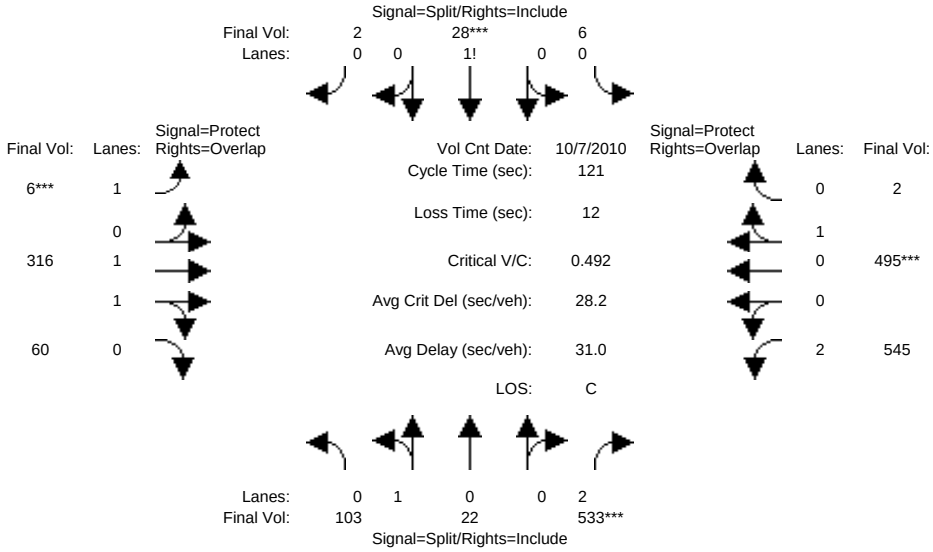
(>>>>>>>>>This Page Intentionally Left Blank<<<<<<<<)

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #1: Diablo Rd and El Cerro Blvd



Street Name:	Diablo Road						El Cerro Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 7 Oct 2010 <<												
Base Vol:	90	19	464	5	24	2	5	275	52	474	431	2
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	90	19	464	5	24	2	5	275	52	474	431	2
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	90	19	464	5	24	2	5	275	52	474	431	2
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
PHF Volume:	103	22	533	6	28	2	6	316	60	545	495	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	103	22	533	6	28	2	6	316	60	545	495	2
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	103	22	533	6	28	2	6	316	60	545	495	2
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Lanes:	0.83	0.17	2.00	0.16	0.78	0.06	1.00	1.68	0.32	2.00	0.99	0.01
Final Sat.:	1569	331	3344	306	1471	123	1900	3196	604	3686	1891	9
Capacity Analysis Module:												
Vol/Sat:	0.07	0.07	0.16	0.02	0.02	0.02	0.00	0.10	0.10	0.15	0.26	0.26
Crit Moves:			****		****		****				****	
Green Time:	38.4	38.4	38.4	4.5	4.5	4.5	3.0	26.5	64.9	39.6	63.1	67.6
Volume/Cap:	0.21	0.21	0.50	0.50	0.50	0.50	0.12	0.45	0.18	0.45	0.50	0.47
Delay/Veh:	30.4	30.4	33.9	62.7	62.7	62.7	58.9	41.4	14.5	32.4	19.2	16.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	30.4	30.4	33.9	62.7	62.7	62.7	58.9	41.4	14.5	32.4	19.2	16.3
LOS by Move:	C	C	C	E	E	E	E	D	B	C	B	B
HCM2k95thQ:	7	7	17	4	4	4	1	12	7	16	21	20

Note: Queue reported is the number of cars per lane.

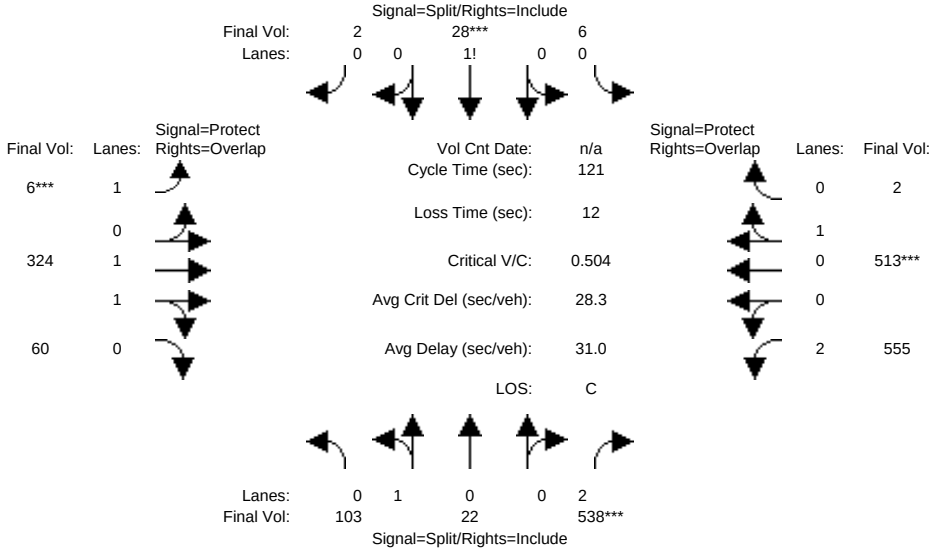
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Project AM

Intersection #1: Diablo Rd and El Cerro Blvd



Street Name:	Diablo Road						El Cerro Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	90	19	468	5	24	2	5	282	52	483	446	2
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	90	19	468	5	24	2	5	282	52	483	446	2
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	90	19	468	5	24	2	5	282	52	483	446	2
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
PHF Volume:	103	22	538	6	28	2	6	324	60	555	513	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	103	22	538	6	28	2	6	324	60	555	513	2
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	103	22	538	6	28	2	6	324	60	555	513	2
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Lanes:	0.83	0.17	2.00	0.16	0.78	0.06	1.00	1.69	0.31	2.00	0.99	0.01
Final Sat.:	1569	331	3344	306	1471	123	1900	3208	592	3686	1892	8
Capacity Analysis Module:												
Vol/Sat:	0.07	0.07	0.16	0.02	0.02	0.02	0.00	0.10	0.10	0.15	0.27	0.27
Crit Moves:			****		****		****				****	
Green Time:	37.8	37.8	37.8	4.4	4.4	4.4	3.0	26.8	64.6	40.0	63.8	68.2
Volume/Cap:	0.21	0.21	0.51	0.51	0.51	0.51	0.12	0.46	0.19	0.46	0.51	0.48
Delay/Veh:	30.8	30.8	34.5	63.7	63.7	63.7	58.9	41.2	14.6	32.2	19.0	16.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	30.8	30.8	34.5	63.7	63.7	63.7	58.9	41.2	14.6	32.2	19.0	16.2
LOS by Move:	C	C	C	E	E	E	E	D	B	C	B	B
HCM2k95thQ:	7	7	18	4	4	4	1	12	7	16	22	21

Note: Queue reported is the number of cars per lane.

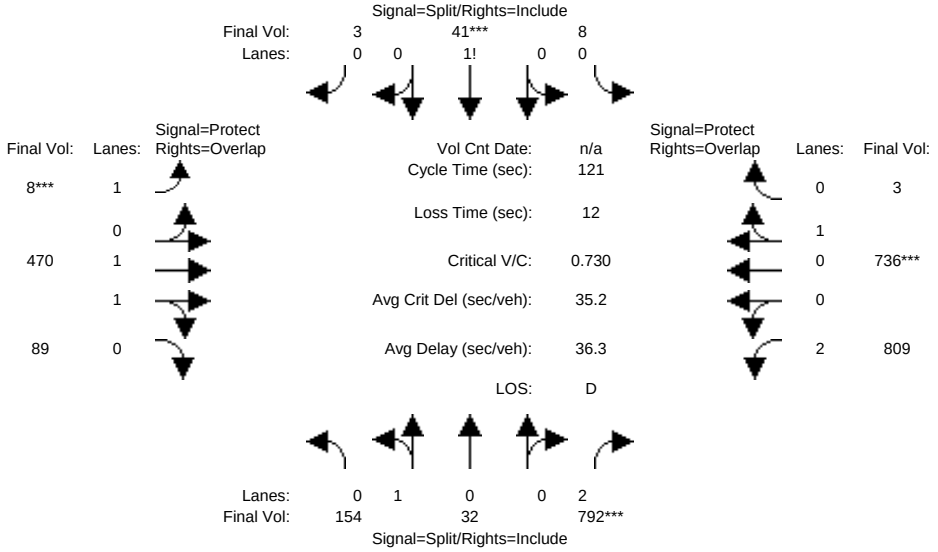
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum AM No Project

Intersection #1: Diablo Rd and El Cerro Blvd



Street Name:	Diablo Road						El Cerro Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	134	28	689	7	36	3	7	409	77	704	640	3
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	134	28	689	7	36	3	7	409	77	704	640	3
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	134	28	689	7	36	3	7	409	77	704	640	3
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
PHF Volume:	154	32	792	8	41	3	8	470	89	809	736	3
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	154	32	792	8	41	3	8	470	89	809	736	3
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	154	32	792	8	41	3	8	470	89	809	736	3
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Lanes:	0.83	0.17	2.00	0.15	0.78	0.07	1.00	1.68	0.32	2.00	0.99	0.01
Final Sat.:	1572	328	3344	289	1487	124	1900	3198	602	3686	1891	9
Capacity Analysis Module:												
Vol/Sat:	0.10	0.10	0.24	0.03	0.03	0.03	0.00	0.15	0.15	0.22	0.39	0.39
Crit Moves:			****		****		****				****	
Green Time:	38.4	38.4	38.4	4.5	4.5	4.5	3.0	26.5	64.9	39.6	63.1	67.6
Volume/Cap:	0.31	0.31	0.75	0.75	0.75	0.75	0.17	0.67	0.27	0.67	0.75	0.70
Delay/Veh:	31.5	31.5	39.9	92.3	92.3	92.3	59.5	45.4	15.3	36.6	25.8	21.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	31.5	31.5	39.9	92.3	92.3	92.3	59.5	45.4	15.3	36.6	25.8	21.3
LOS by Move:	C	C	D	F	F	F	E	D	B	D	C	C
HCM2k95thQ:	10	10	28	7	7	7	1	19	11	25	37	34

Note: Queue reported is the number of cars per lane.

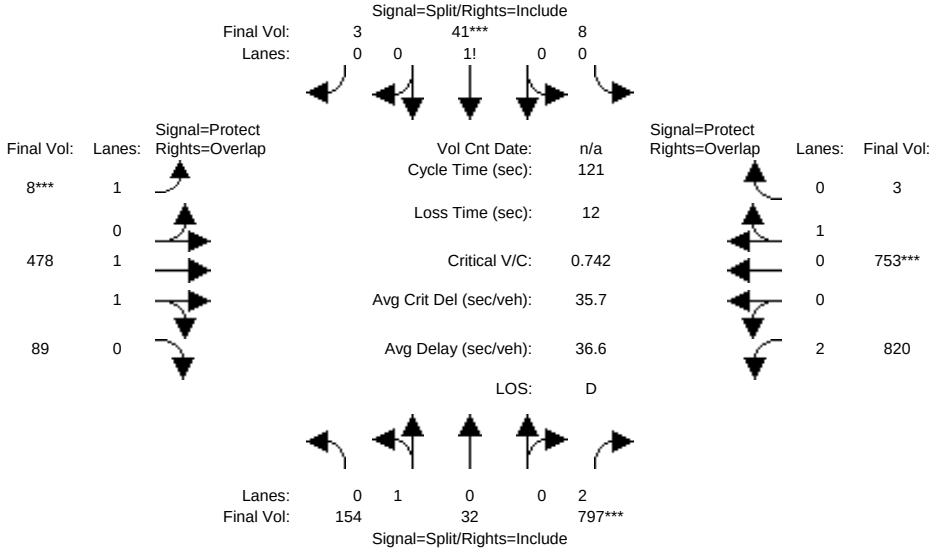
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc1 AM w/Proj

Intersection #1: Diablo Rd and El Cerro Blvd



Street Name:	Diablo Road						El Cerro Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	134	28	693	7	36	3	7	416	77	713	655	3
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	134	28	693	7	36	3	7	416	77	713	655	3
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	134	28	693	7	36	3	7	416	77	713	655	3
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
PHF Volume:	154	32	797	8	41	3	8	478	89	820	753	3
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	154	32	797	8	41	3	8	478	89	820	753	3
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	154	32	797	8	41	3	8	478	89	820	753	3
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Lanes:	0.83	0.17	2.00	0.15	0.78	0.07	1.00	1.69	0.31	2.00	0.99	0.01
Final Sat.:	1572	328	3344	289	1487	124	1900	3206	594	3686	1891	9
Capacity Analysis Module:												
Vol/Sat:	0.10	0.10	0.24	0.03	0.03	0.03	0.00	0.15	0.15	0.22	0.40	0.40
Crit Moves:			****		****		****				****	
Green Time:	38.0	38.0	38.0	4.4	4.4	4.4	3.0	26.7	64.7	39.8	63.5	68.0
Volume/Cap:	0.31	0.31	0.76	0.76	0.76	0.76	0.17	0.68	0.28	0.68	0.76	0.71
Delay/Veh:	31.8	31.8	40.6	95.1	95.1	95.1	59.5	45.4	15.5	36.5	26.1	21.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	31.8	31.8	40.6	95.1	95.1	95.1	59.5	45.4	15.5	36.5	26.1	21.5
LOS by Move:	C	C	D	F	F	F	E	D	B	D	C	C
HCM2k95thQ:	10	10	29	7	7	7	1	19	11	25	38	35

Note: Queue reported is the number of cars per lane.

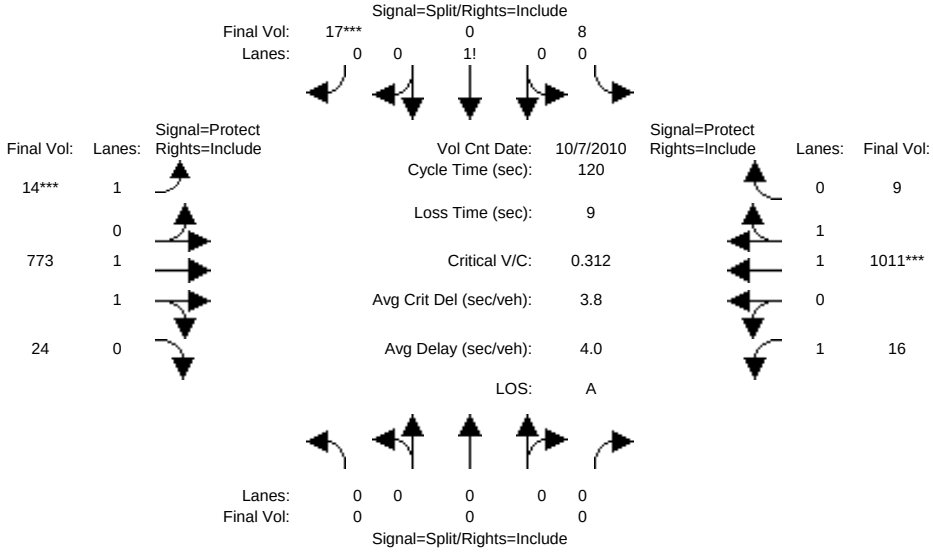
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #2: Matadera Wy and Diablo Rd



Street Name:	Matadera Way						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 7 Oct 2010 <<												
Base Vol:	0	0	0	7	0	15	12	680	21	14	890	8
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	7	0	15	12	680	21	14	890	8
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	7	0	15	12	680	21	14	890	8
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
PHF Volume:	0	0	0	8	0	17	14	773	24	16	1011	9
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	8	0	17	14	773	24	16	1011	9
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	8	0	17	14	773	24	16	1011	9
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.32	0.00	0.68	1.00	1.94	0.06	1.00	1.98	0.02
Final Sat.:	0	0	0	605	0	1295	1900	3686	114	1900	3766	34
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.21	0.21	0.01	0.27	0.27
Crit Moves:						****	****				****	
Green Time:	0.0	0.0	0.0	5.0	0.0	5.0	3.0	94.7	94.7	11.3	103	103.0
Volume/Cap:	0.00	0.00	0.00	0.31	0.00	0.31	0.29	0.27	0.27	0.09	0.31	0.31
Delay/Veh:	0.0	0.0	0.0	58.0	0.0	58.0	60.8	3.4	3.4	49.9	1.7	1.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	58.0	0.0	58.0	60.8	3.4	3.4	49.9	1.7	1.7
LOS by Move:	A	A	A	E	A	E	E	A	A	D	A	A
HCM2k95thQ:	0	0	0	3	0	3	2	8	8	1	7	7

Note: Queue reported is the number of cars per lane.

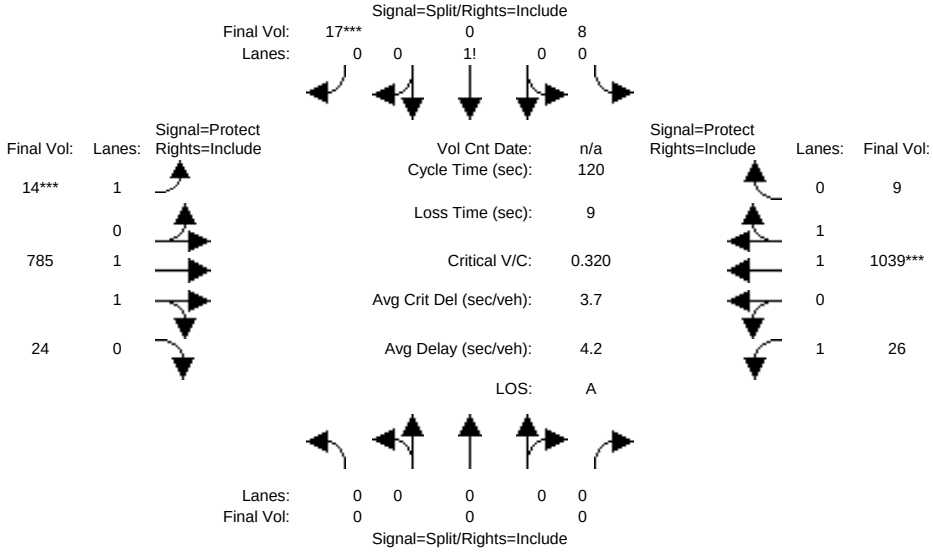
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Project AM

Intersection #2: Matadera Wy and Diablo Rd



Street Name:	Matadera Way						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	7	0	15	12	691	21	23	914	8
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	7	0	15	12	691	21	23	914	8
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	7	0	15	12	691	21	23	914	8
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
PHF Volume:	0	0	0	8	0	17	14	785	24	26	1039	9
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	8	0	17	14	785	24	26	1039	9
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	8	0	17	14	785	24	26	1039	9
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.32	0.00	0.68	1.00	1.94	0.06	1.00	1.98	0.02
Final Sat.:	0	0	0	605	0	1295	1900	3688	112	1900	3767	33
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.21	0.21	0.01	0.28	0.28
Crit Moves:						****	****				****	
Green Time:	0.0	0.0	0.0	4.9	0.0	4.9	3.0	94.9	94.9	11.1	103	103.1
Volume/Cap:	0.00	0.00	0.00	0.32	0.00	0.32	0.29	0.27	0.27	0.15	0.32	0.32
Delay/Veh:	0.0	0.0	0.0	58.3	0.0	58.3	60.8	3.4	3.4	50.4	1.7	1.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	58.3	0.0	58.3	60.8	3.4	3.4	50.4	1.7	1.7
LOS by Move:	A	A	A	E	A	E	E	A	A	D	A	A
HCM2k95thQ:	0	0	0	3	0	3	2	8	8	2	8	8

Note: Queue reported is the number of cars per lane.

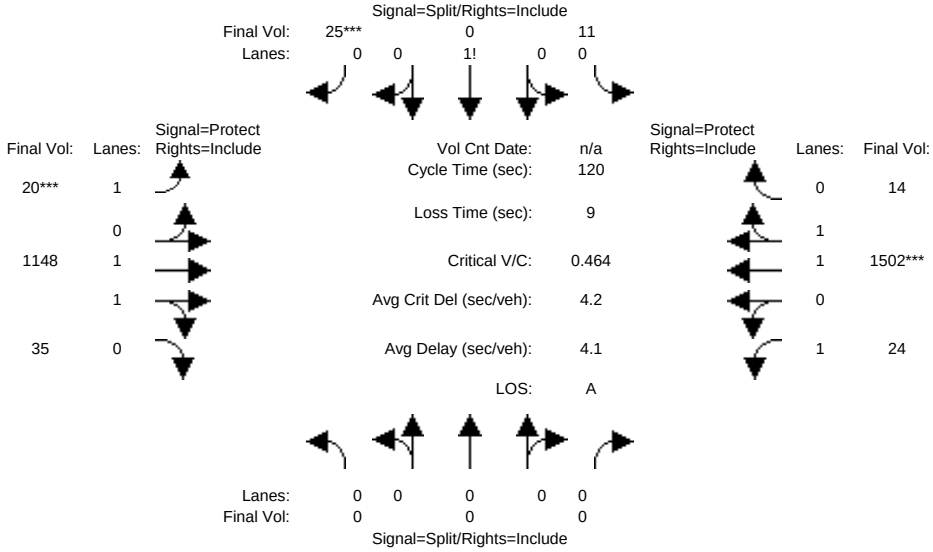
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum AM No Project

Intersection #2: Matadera Wy and Diablo Rd



Street Name:	Matadera Way						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	10	0	22	18	1010	31	21	1322	12
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	10	0	22	18	1010	31	21	1322	12
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	10	0	22	18	1010	31	21	1322	12
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
PHF Volume:	0	0	0	11	0	25	20	1148	35	24	1502	14
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	11	0	25	20	1148	35	24	1502	14
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	11	0	25	20	1148	35	24	1502	14
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.31	0.00	0.69	1.00	1.94	0.06	1.00	1.98	0.02
Final Sat.:	0	0	0	594	0	1306	1900	3687	113	1900	3766	34
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.02	0.00	0.02	0.01	0.31	0.31	0.01	0.40	0.40
Crit Moves:						****	****				****	
Green Time:	0.0	0.0	0.0	4.9	0.0	4.9	3.0	98.2	98.2	7.9	103	103.1
Volume/Cap:	0.00	0.00	0.00	0.46	0.00	0.46	0.43	0.38	0.38	0.19	0.46	0.46
Delay/Veh:	0.0	0.0	0.0	60.5	0.0	60.5	63.8	3.0	3.0	53.8	2.1	2.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	60.5	0.0	60.5	63.8	3.0	3.0	53.8	2.1	2.1
LOS by Move:	A	A	A	E	A	E	E	A	A	D	A	A
HCM2k95thQ:	0	0	0	4	0	4	3	11	11	2	13	13

Note: Queue reported is the number of cars per lane.

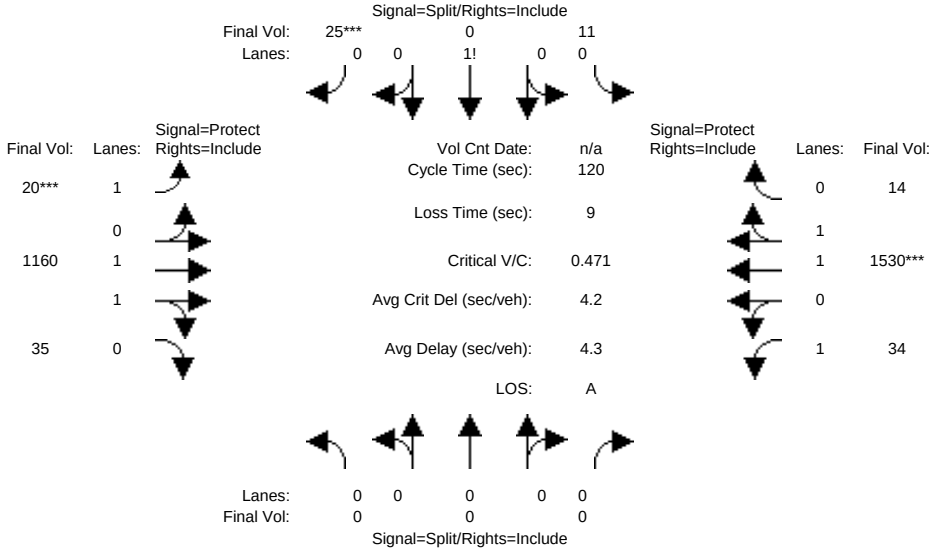
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc1 AM w/Proj

Intersection #2: Matadera Wy and Diablo Rd



Street Name:	Matadera Way						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	10	0	22	18	1021	31	30	1346	12
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	10	0	22	18	1021	31	30	1346	12
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	10	0	22	18	1021	31	30	1346	12
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
PHF Volume:	0	0	0	11	0	25	20	1160	35	34	1530	14
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	11	0	25	20	1160	35	34	1530	14
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	11	0	25	20	1160	35	34	1530	14
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.31	0.00	0.69	1.00	1.94	0.06	1.00	1.98	0.02
Final Sat.:	0	0	0	594	0	1306	1900	3688	112	1900	3766	34
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.02	0.00	0.02	0.01	0.31	0.31	0.02	0.41	0.41
Crit Moves:						****	****				****	
Green Time:	0.0	0.0	0.0	4.9	0.0	4.9	3.0	98.3	98.3	7.8	103	103.1
Volume/Cap:	0.00	0.00	0.00	0.47	0.00	0.47	0.43	0.38	0.38	0.28	0.47	0.47
Delay/Veh:	0.0	0.0	0.0	60.8	0.0	60.8	63.8	2.9	2.9	54.6	2.1	2.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	60.8	0.0	60.8	63.8	2.9	2.9	54.6	2.1	2.1
LOS by Move:	A	A	A	E	A	E	E	A	A	D	A	A
HCM2k95thQ:	0	0	0	4	0	4	3	11	11	3	13	13

Note: Queue reported is the number of cars per lane.

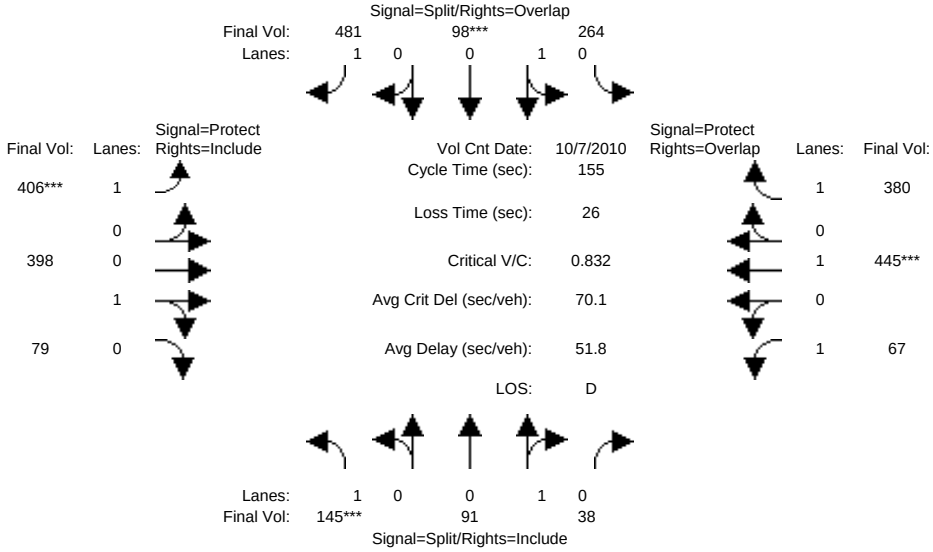
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #3: Green Valley Rd and Diablo Rd



Street Name:	Green Valley Road						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 7 Oct 2010 <<												
Base Vol:	125	78	33	227	84	414	349	342	68	58	383	327
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	125	78	33	227	84	414	349	342	68	58	383	327
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	125	78	33	227	84	414	349	342	68	58	383	327
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
PHF Volume:	145	91	38	264	98	481	406	398	79	67	445	380
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	145	91	38	264	98	481	406	398	79	67	445	380
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	145	91	38	264	98	481	406	398	79	67	445	380
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.70	0.30	0.73	0.27	1.00	1.00	0.83	0.17	1.00	1.00	1.00
Final Sat.:	1900	1335	565	1387	513	1900	1900	1585	315	1900	2100	1900
Capacity Analysis Module:												
Vol/Sat:	0.08	0.07	0.07	0.19	0.19	0.25	0.21	0.25	0.25	0.04	0.21	0.20
Crit Moves:	****				****		****				****	
Green Time:	14.3	14.3	14.3	35.5	35.5	75.2	39.8	69.5	69.5	9.8	39.5	75.0
Volume/Cap:	0.83	0.74	0.74	0.83	0.83	0.52	0.83	0.56	0.56	0.56	0.83	0.41
Delay/Veh:	96.6	83.9	83.9	69.8	69.8	28.0	66.0	32.4	32.4	76.3	65.3	26.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	96.6	83.9	83.9	69.8	69.8	28.0	66.0	32.4	32.4	76.3	65.3	26.1
LOS by Move:	F	F	F	E	E	C	E	C	C	E	E	C
HCM2k95thQ:	17	14	14	32	32	27	34	28	28	8	37	21

Note: Queue reported is the number of cars per lane.

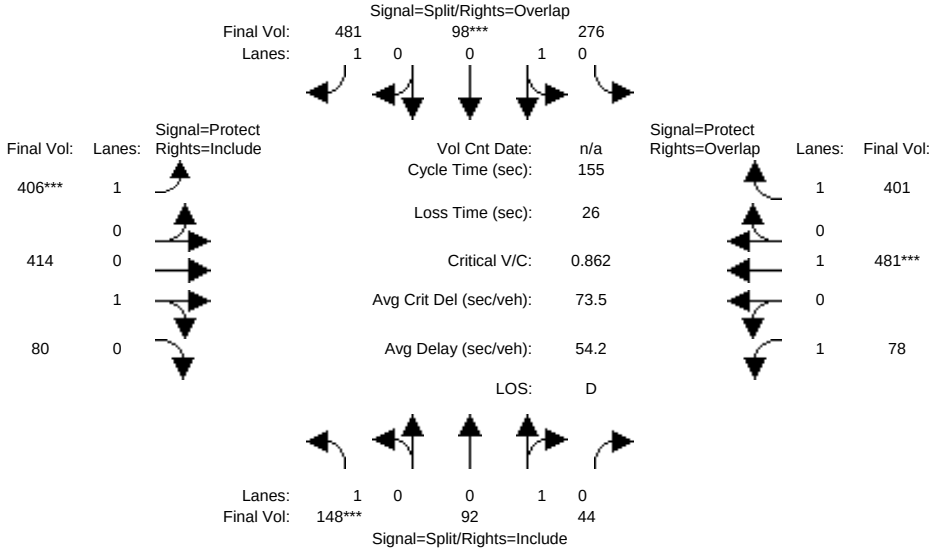
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Project AM

Intersection #3: Green Valley Rd and Diablo Rd



Street Name:	Green Valley Road						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	127	79	38	237	84	414	349	356	69	67	414	345
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	127	79	38	237	84	414	349	356	69	67	414	345
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	127	79	38	237	84	414	349	356	69	67	414	345
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
PHF Volume:	148	92	44	276	98	481	406	414	80	78	481	401
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	148	92	44	276	98	481	406	414	80	78	481	401
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	148	92	44	276	98	481	406	414	80	78	481	401
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.68	0.32	0.74	0.26	1.00	1.00	0.84	0.16	1.00	1.00	1.00
Final Sat.:	1900	1283	617	1403	497	1900	1900	1592	308	1900	2100	1900
Capacity Analysis Module:												
Vol/Sat:	0.08	0.07	0.07	0.20	0.20	0.25	0.21	0.26	0.26	0.04	0.23	0.21
Crit Moves:	****				****		****				****	
Green Time:	14.0	14.0	14.0	35.3	35.3	73.8	38.4	68.8	68.8	10.8	41.2	76.6
Volume/Cap:	0.86	0.79	0.79	0.86	0.86	0.53	0.86	0.59	0.59	0.59	0.86	0.43
Delay/Veh:	102.7	91.0	91.0	73.5	73.5	29.1	70.7	33.5	33.5	76.5	67.1	25.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	102.7	91.0	91.0	73.5	73.5	29.1	70.7	33.5	33.5	76.5	67.1	25.5
LOS by Move:	F	F	F	E	E	C	E	C	C	E	E	C
HCM2k95thQ:	17	15	15	33	33	27	35	30	30	9	40	21

Note: Queue reported is the number of cars per lane.

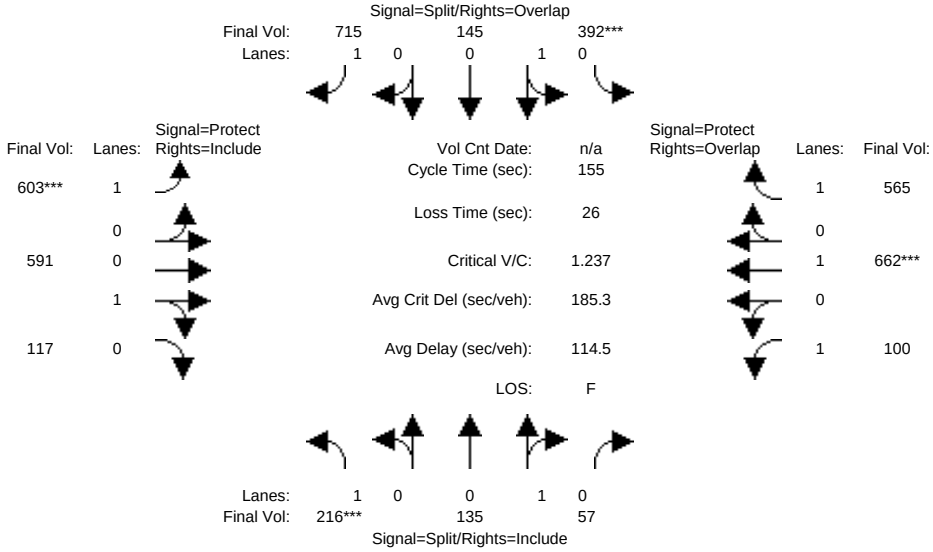
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum AM No Project

Intersection #3: Green Valley Rd and Diablo Rd



Street Name:	Green Valley Road						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	186	116	49	337	125	615	519	508	101	86	569	486
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	186	116	49	337	125	615	519	508	101	86	569	486
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	186	116	49	337	125	615	519	508	101	86	569	486
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
PHF Volume:	216	135	57	392	145	715	603	591	117	100	662	565
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	216	135	57	392	145	715	603	591	117	100	662	565
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	216	135	57	392	145	715	603	591	117	100	662	565
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.70	0.30	0.73	0.27	1.00	1.00	0.83	0.17	1.00	1.00	1.00
Final Sat.:	1900	1336	564	1386	514	1900	1900	1585	315	1900	2100	1900
Capacity Analysis Module:												
Vol/Sat:	0.11	0.10	0.10	0.28	0.28	0.38	0.32	0.37	0.37	0.05	0.32	0.30
Crit Moves:	****			****			****				****	
Green Time:	14.3	14.3	14.3	35.4	35.4	75.2	39.8	69.5	69.5	9.8	39.5	74.9
Volume/Cap:	1.24	1.10	1.10	1.24	1.24	0.78	1.24	0.83	0.83	0.83	1.24	0.62
Delay/Veh:	216.2	167	166.8	184.8	185	37.1	180.8	44.6	44.6	108.2	180	30.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	216.2	167	166.8	184.8	185	37.1	180.8	44.6	44.6	108.2	180	30.7
LOS by Move:	F	F	F	F	F	D	F	D	D	F	F	C
HCM2k95thQ:	31	25	25	63	63	46	69	50	50	13	75	33

Note: Queue reported is the number of cars per lane.

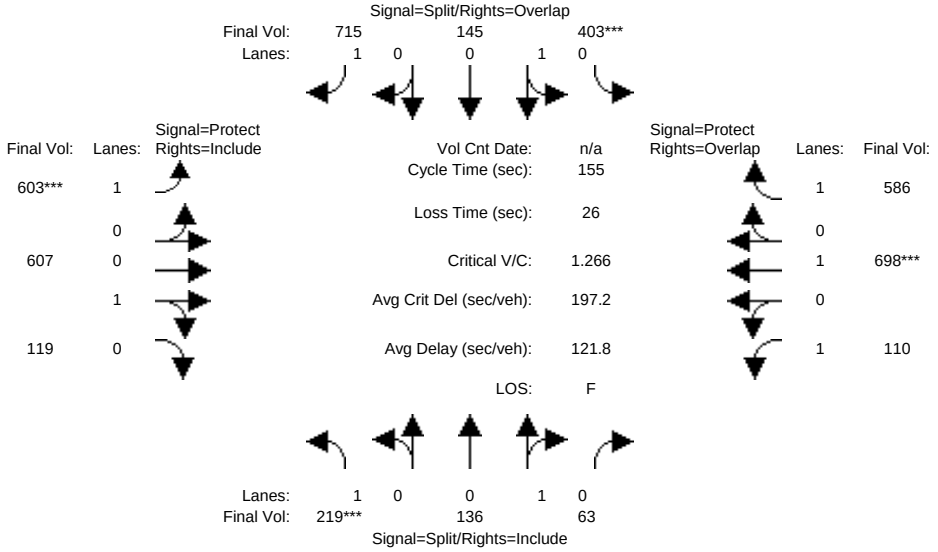
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc1 AM w/Proj

Intersection #3: Green Valley Rd and Diablo Rd



Street Name:	Green Valley Road						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	188	117	54	347	125	615	519	522	102	95	600	504
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	188	117	54	347	125	615	519	522	102	95	600	504
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	188	117	54	347	125	615	519	522	102	95	600	504
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
PHF Volume:	219	136	63	403	145	715	603	607	119	110	698	586
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	219	136	63	403	145	715	603	607	119	110	698	586
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	219	136	63	403	145	715	603	607	119	110	698	586
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.68	0.32	0.74	0.26	1.00	1.00	0.84	0.16	1.00	1.00	1.00
Final Sat.:	1900	1300	600	1397	503	1900	1900	1589	311	1900	2100	1900
Capacity Analysis Module:												
Vol/Sat:	0.12	0.10	0.10	0.29	0.29	0.38	0.32	0.38	0.38	0.06	0.33	0.31
Crit Moves:	****			****			****				****	
Green Time:	14.1	14.1	14.1	35.4	35.4	74.2	38.9	69.0	69.0	10.5	40.7	76.0
Volume/Cap:	1.27	1.15	1.15	1.27	1.27	0.79	1.27	0.86	0.86	0.86	1.27	0.63
Delay/Veh:	227.9	186	185.6	196.9	197	38.3	193.7	47.2	47.2	111.4	191	30.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	227.9	186	185.6	196.9	197	38.3	193.7	47.2	47.2	111.4	191	30.5
LOS by Move:	F	F	F	F	F	D	F	D	D	F	F	C
HCM2k95thQ:	31	27	27	65	65	47	71	52	52	14	80	34

Note: Queue reported is the number of cars per lane.

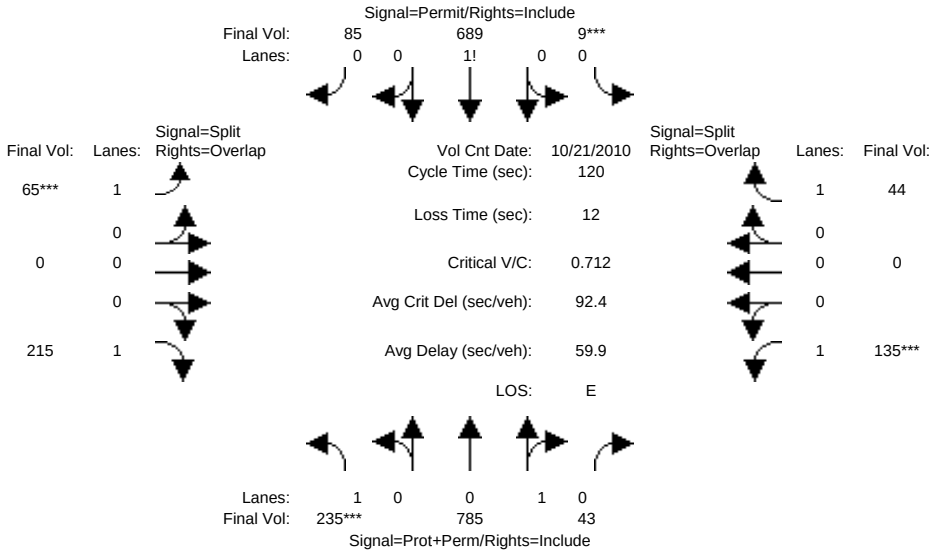
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #4: Green Valley Rd and Blemer Rd/Cameo Dr



Street Name:	Green Valley Road						Blemer Road/Cameo Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	3	3	3	3	3	3	2	3	3	2	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 21 Oct 2010 <<												
Base Vol:	193	644	35	7	565	70	53	0	176	111	0	36
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	193	644	35	7	565	70	53	0	176	111	0	36
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	193	644	35	7	565	70	53	0	176	111	0	36
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
PHF Volume:	235	785	43	9	689	85	65	0	215	135	0	44
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	235	785	43	9	689	85	65	0	215	135	0	44
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	235	785	43	9	689	85	65	0	215	135	0	44
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.95	0.05	0.01	0.88	0.11	1.00	0.00	1.00	1.00	0.00	1.00
Final Sat.:	1900	1802	98	21	1672	207	1900	0	1900	1900	0	1900
Capacity Analysis Module:												
Vol/Sat:	0.00	0.44	0.44	0.41	0.41	0.41	0.03	0.00	0.11	0.07	0.00	0.02
Crit Moves:	****			****			****			****		
Green Time:	22.2	49.4	49.4	46.7	73.9	73.9	3.9	0.0	26.1	8.1	0.0	54.8
Volume/Cap:	0.67	1.06	1.06	1.06	0.67	0.67	1.06	0.00	0.52	1.06	0.00	0.05
Delay/Veh:	50.4	84.3	84.3	86.5	16.6	16.6	190.7	0.0	42.6	152.2	0.0	18.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	50.4	84.3	84.3	86.5	16.6	16.6	190.7	0.0	42.6	152.2	0.0	18.2
LOS by Move:	D	F	F	F	B	B	F	A	D	F	A	B
HCM2k95thQ:	17	64	64	61	32	32	10	0	14	17	0	2

Note: Queue reported is the number of cars per lane.

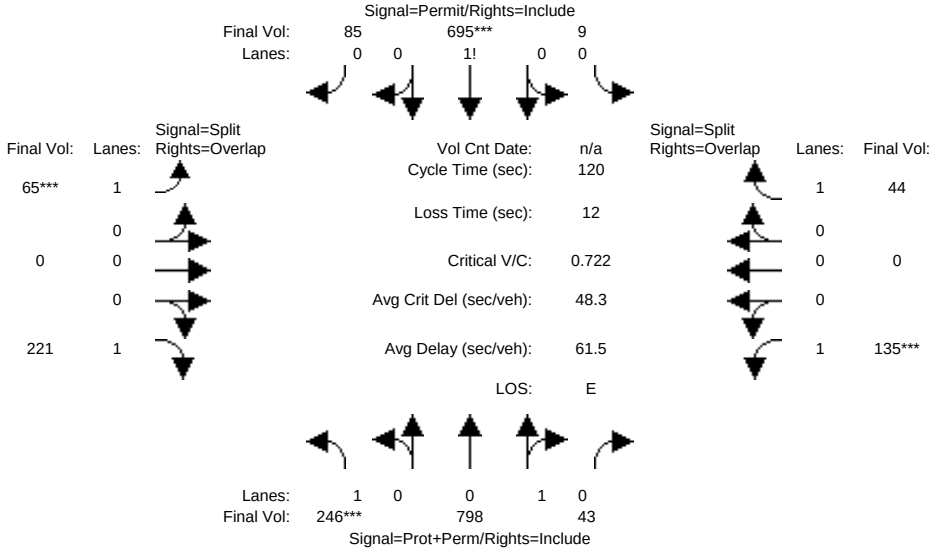
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Project AM

Intersection #4: Green Valley Rd and Blemer Rd/Cameo Dr



Street Name:	Green Valley Road						Blemer Road/Cameo Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	3	3	3	3	3	3	2	3	3	2	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	202	654	35	7	570	70	53	0	181	111	0	36
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	202	654	35	7	570	70	53	0	181	111	0	36
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	202	654	35	7	570	70	53	0	181	111	0	36
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
PHF Volume:	246	798	43	9	695	85	65	0	221	135	0	44
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	246	798	43	9	695	85	65	0	221	135	0	44
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	246	798	43	9	695	85	65	0	221	135	0	44
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.95	0.05	0.01	0.88	0.11	1.00	0.00	1.00	1.00	0.00	1.00
Final Sat.:	1900	1803	97	21	1674	206	1900	0	1900	1900	0	1900
Capacity Analysis Module:												
Vol/Sat:	0.00	0.44	0.44	0.42	0.42	0.42	0.03	0.00	0.12	0.07	0.00	0.02
Crit Moves:	****				****		****			****		
Green Time:	22.9	49.6	49.6	46.6	73.3	73.3	3.8	0.0	26.7	8.0	0.0	54.6
Volume/Cap:	0.68	1.07	1.07	1.07	0.68	0.68	1.07	0.00	0.52	1.07	0.00	0.05
Delay/Veh:	50.3	87.6	87.6	90.1	17.2	17.2	194.6	0.0	42.2	155.9	0.0	18.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	50.3	87.6	87.6	90.1	17.2	17.2	194.6	0.0	42.2	155.9	0.0	18.3
LOS by Move:	D	F	F	F	B	B	F	A	D	F	A	B
HCM2k95thQ:	18	66	66	63	33	33	10	0	14	17	0	2

Note: Queue reported is the number of cars per lane.

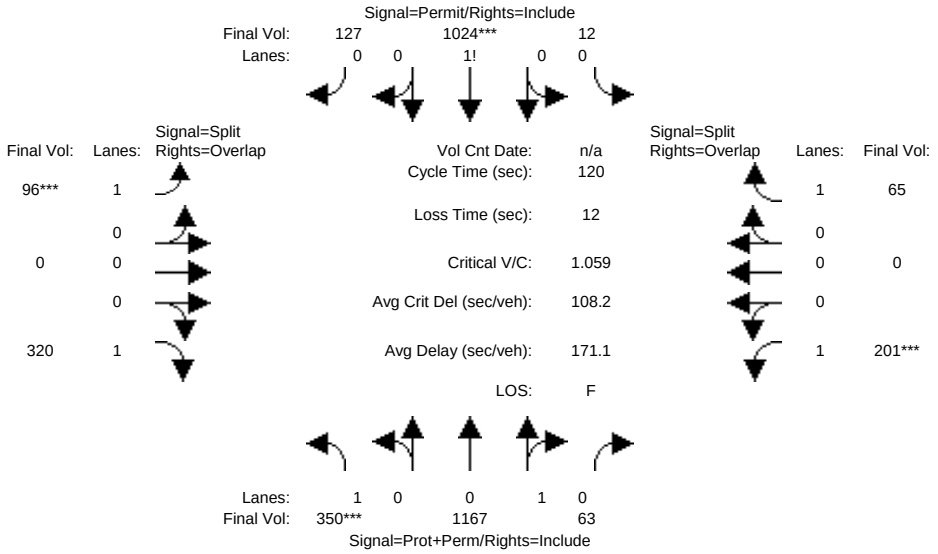
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum AM No Project

Intersection #4: Green Valley Rd and Blemer Rd/Cameo Dr



Street Name:	Green Valley Road						Blemer Road/Cameo Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	3	3	3	3	3	3	2	3	3	2	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	287	957	52	10	840	104	79	0	262	165	0	53
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	287	957	52	10	840	104	79	0	262	165	0	53
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	287	957	52	10	840	104	79	0	262	165	0	53
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
PHF Volume:	350	1167	63	12	1024	127	96	0	320	201	0	65
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	350	1167	63	12	1024	127	96	0	320	201	0	65
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	350	1167	63	12	1024	127	96	0	320	201	0	65
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.95	0.05	0.01	0.88	0.11	1.00	0.00	1.00	1.00	0.00	1.00
Final Sat.:	1900	1802	98	20	1673	207	1900	0	1900	1900	0	1900
Capacity Analysis Module:												
Vol/Sat:	0.00	0.65	0.65	0.61	0.61	0.61	0.05	0.00	0.17	0.11	0.00	0.03
Crit Moves:	****				****		****			****		
Green Time:	22.2	49.4	49.4	46.7	73.8	73.8	3.9	0.0	26.1	8.1	0.0	54.8
Volume/Cap:	1.00	1.57	1.57	1.57	1.00	1.00	1.57	0.00	0.77	1.57	0.00	0.07
Delay/Veh:	95.4	300	299.8	301.5	48.0	48.0	380.9	0.0	53.0	348.3	0.0	18.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	95.4	300	299.8	301.5	48.0	48.0	380.9	0.0	53.0	348.3	0.0	18.4
LOS by Move:	F	F	F	F	D	D	F	A	D	F	A	B
HCM2k95thQ:	31	150	150	142	77	77	18	0	23	31	0	3

Note: Queue reported is the number of cars per lane.

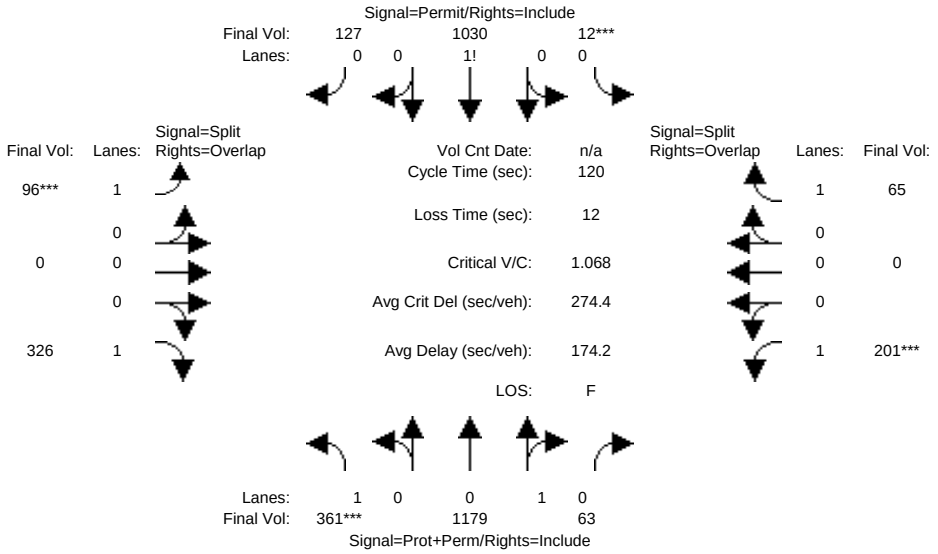
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc1 AM w/Proj

Intersection #4: Green Valley Rd and Blemer Rd/Cameo Dr



Street Name:	Green Valley Road						Blemer Road/Cameo Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	3	3	3	3	3	3	2	3	3	2	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	296	967	52	10	845	104	79	0	267	165	0	53
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	296	967	52	10	845	104	79	0	267	165	0	53
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	296	967	52	10	845	104	79	0	267	165	0	53
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
PHF Volume:	361	1179	63	12	1030	127	96	0	326	201	0	65
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	361	1179	63	12	1030	127	96	0	326	201	0	65
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	361	1179	63	12	1030	127	96	0	326	201	0	65
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.95	0.05	0.01	0.88	0.11	1.00	0.00	1.00	1.00	0.00	1.00
Final Sat.:	1900	1803	97	20	1674	206	1900	0	1900	1900	0	1900
Capacity Analysis Module:												
Vol/Sat:	0.00	0.65	0.65	0.62	0.62	0.62	0.05	0.00	0.17	0.11	0.00	0.03
Crit Moves:	****			****			****			****		
Green Time:	22.7	49.5	49.5	46.6	73.5	73.5	3.8	0.0	26.5	8.0	0.0	54.6
Volume/Cap:	1.01	1.58	1.58	1.58	1.01	1.01	1.58	0.00	0.78	1.58	0.00	0.07
Delay/Veh:	97.5	304	304.4	306.2	51.0	51.0	385.6	0.0	52.7	353.1	0.0	18.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	97.5	304	304.4	306.2	51.0	51.0	385.6	0.0	52.7	353.1	0.0	18.5
LOS by Move:	F	F	F	F	D	D	F	A	D	F	A	B
HCM2k95thQ:	32	152	152	144	79	79	18	0	23	31	0	3

Note: Queue reported is the number of cars per lane.

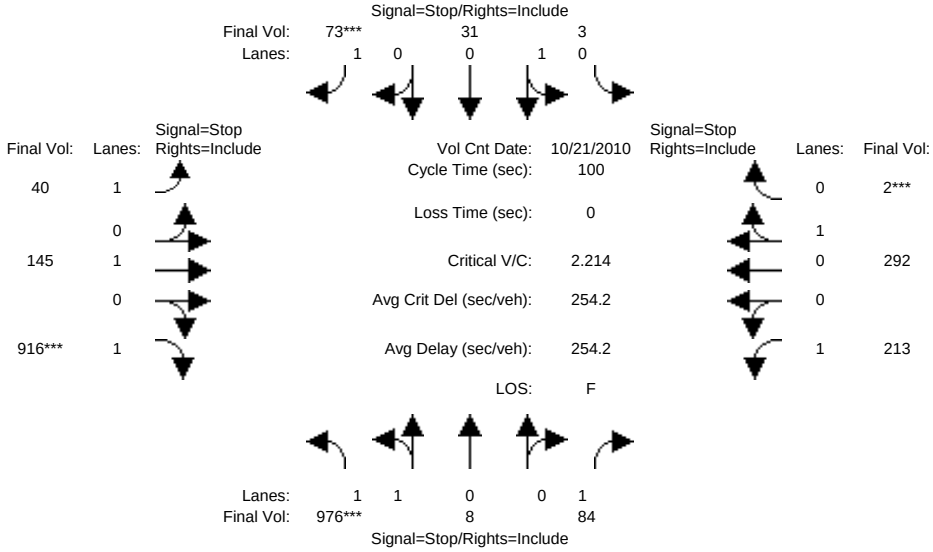
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing AM

Intersection #5: Green Valley Rd and Stone Valley Rd




```
Street Name:        Green Valley Road                 Stone Valley Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 21 Oct 2010 <<
Base Vol:     605    5    52     2   19    45    25   90   568   132  181     1
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  605    5    52     2   19    45    25   90   568   132  181     1
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  605    5    52     2   19    45    25   90   568   132  181     1
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.62 0.62  0.62  0.62 0.62  0.62  0.62 0.62  0.62  0.62 0.62  0.62
PHF Volume:   976    8    84     3   31    73    40  145   916   213  292     2
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  976    8    84     3   31    73    40  145   916   213  292     2
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  976    8    84     3   31    73    40  145   916   213  292     2
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.98 0.02  1.00  0.10 0.90  1.00  1.00 1.00  1.00  1.00 0.99  0.01
Final Sat.:   769    6   435    34  325   389   358  378   414   392  413     2
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     1.27 1.27  0.19  0.09 0.09  0.19  0.11 0.38  2.21  0.54 0.71  0.71
Crit Moves:  ****                         ****              ****              ****
Delay/Veh:  166.8  167  12.7  13.4 13.4  13.7  13.8 17.7 572.3  22.1 29.4  29.4
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh: 166.8  167  12.7  13.4 13.4  13.7  13.8 17.7 572.3  22.1 29.4  29.4
LOS by Move:    F    F     B     B    B     B     B    C     F     C    D     D
ApproachDel:     154.7             13.6            478.8             26.3
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:      154.7             13.6            478.8             26.3
LOS by Appr:         F                B                F                D
AllWayAvgQ:  16.7 16.7   0.2   0.1  0.1   0.2   0.1  0.6  64.5   1.1  2.1   2.1
Note: Queue reported is the number of cars per lane.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #5 Green Valley Rd and Stone Valley Rd

****

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Stop Sign					Stop Sign					Stop Sign					Stop Sign				
Lanes:	1	1	0	0	1	0	1	0	0	1	1	0	1	0	1	1	0	0	1	0
Initial Vol:	605		5		52		2	19		45		25	90		568	132	181			1

Major Street Volume: 997
Minor Approach Volume: 662
Minor Approach Volume Threshold: 375

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

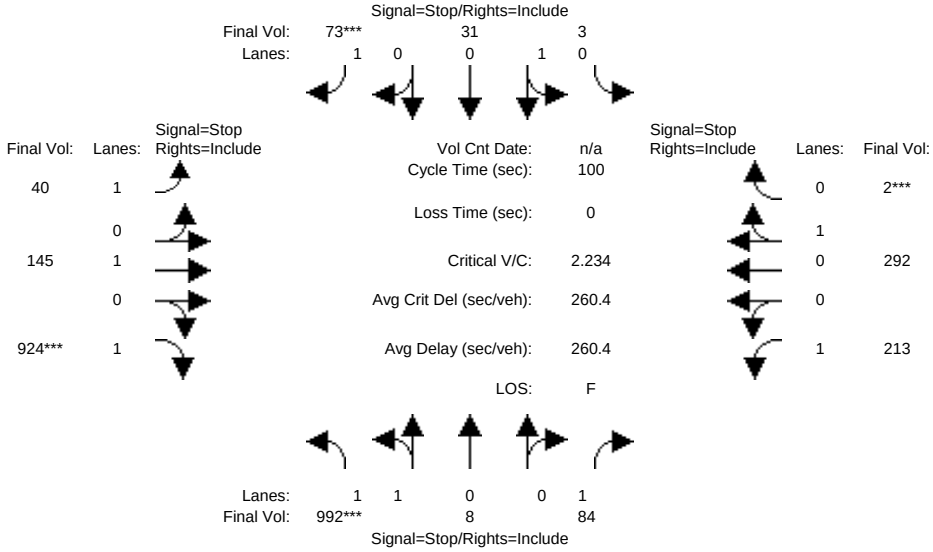
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Project AM

Intersection #5: Green Valley Rd and Stone Valley Rd



Street Name:	Green Valley Road						Stone Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Volume Module:												
Base Vol:	615	5	52	2	19	45	25	90	573	132	181	1
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	615	5	52	2	19	45	25	90	573	132	181	1
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	615	5	52	2	19	45	25	90	573	132	181	1
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62
PHF Volume:	992	8	84	3	31	73	40	145	924	213	292	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	992	8	84	3	31	73	40	145	924	213	292	2
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	992	8	84	3	31	73	40	145	924	213	292	2
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.98	0.02	1.00	0.10	0.90	1.00	1.00	1.00	1.00	1.00	0.99	0.01
Final Sat.:	769	6	435	34	325	389	358	378	414	392	413	2
Capacity Analysis Module:												
Vol/Sat:	1.29	1.29	0.19	0.09	0.09	0.19	0.11	0.38	2.23	0.54	0.71	0.71
Crit Moves:	****					****			****			****
Delay/Veh:	175.0	175	12.7	13.4	13.4	13.7	13.8	17.7	580.9	22.1	29.4	29.4
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	175.0	175	12.7	13.4	13.4	13.7	13.8	17.7	580.9	22.1	29.4	29.4
LOS by Move:	F	F	B	B	B	B	B	C	F	C	D	D
ApproachDel:	162.4			13.6			486.6			26.3		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	162.4			13.6			486.6			26.3		
LOS by Appr:	F			B			F			D		
AllWayAvgQ:	17.5	17.5	0.2	0.1	0.1	0.2	0.1	0.6	65.5	1.1	2.1	2.1

Note: Queue reported is the number of cars per lane.

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #5 Green Valley Rd and Stone Valley Rd

****

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Lanes:	1	1	0	0 1	0	1	0	0 1	1	0	1	0 1	1	0	0	1 0
Initial Vol:	615	5		52	2	19		45	25	90		573	132	181		1

Major Street Volume: 1002
Minor Approach Volume: 672
Minor Approach Volume Threshold: 373

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

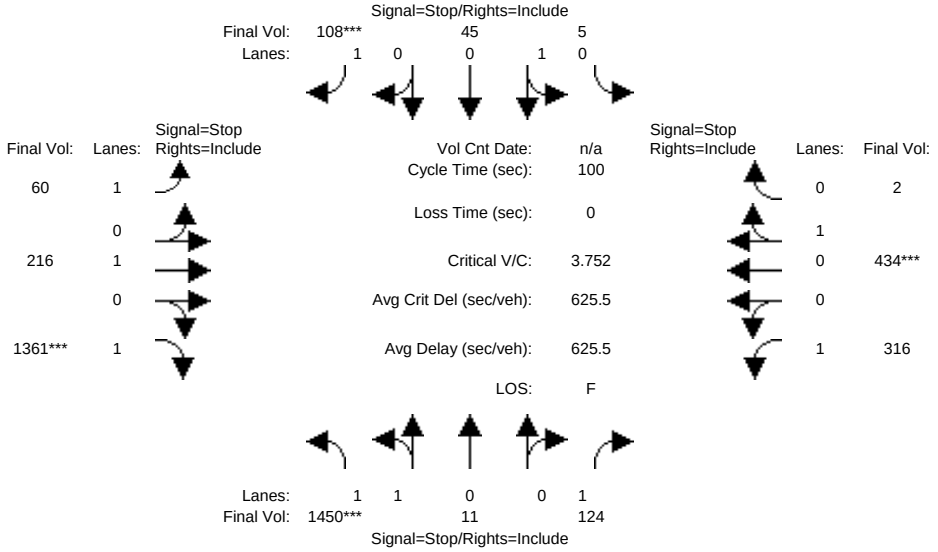
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Cum AM No Project

Intersection #5: Green Valley Rd and Stone Valley Rd




```
Street Name:        Green Valley Road                  Stone Valley Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     899    7    77     3   28    67    37  134   844   196  269     1
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  899    7    77     3   28    67    37  134   844   196  269     1
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  899    7    77     3   28    67    37  134   844   196  269     1
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.62 0.62  0.62  0.62 0.62  0.62  0.62 0.62  0.62  0.62 0.62  0.62
PHF Volume:  1450   11   124     5   45   108    60  216  1361   316  434     2
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol: 1450   11   124     5   45   108    60  216  1361   316  434     2
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume: 1450   11   124     5   45   108    60  216  1361   316  434     2
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.98 0.02  1.00  0.10 0.90  1.00  1.00 1.00  1.00  1.00 0.99  0.01
Final Sat.:   681    5   379    32  300   358   318  336   363   372  391     1
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     2.13 2.13  0.33  0.15 0.15  0.30  0.19 0.64  3.75  0.85 1.11  1.11
Crit Moves:  ****                         ****              ****       ****
Delay/Veh:  539.8  539  16.3  15.2 15.2  16.8  16.3 30.3  1265  48.0  108 108.1
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh: 539.8  539  16.3  15.2 15.2  16.8  16.3 30.3  1265  48.0  108 108.1
LOS by Move:    F    F     C     C    C     C     C    D     F     E    F     F
ApproachDel:     498.8             16.3           1056.1             82.8
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:      498.8             16.3           1056.1             82.8
LOS by Appr:         F                C                F                F
AllWayAvgQ:  50.2 50.2   0.5   0.2  0.2   0.4   0.2  1.6 126.2   3.7 10.5  10.5
Note: Queue reported is the number of cars per lane.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #5 Green Valley Rd and Stone Valley Rd

****

Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Lanes:	1	1	0	0 1	0	1	0	0 1	1	0	1	0 1	1	0	0	1 0
Initial Vol:	899	7	77		3	28	67		37	134	844		196	269	1	

Major Street Volume: 1481
Minor Approach Volume: 983
Minor Approach Volume Threshold: 205

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

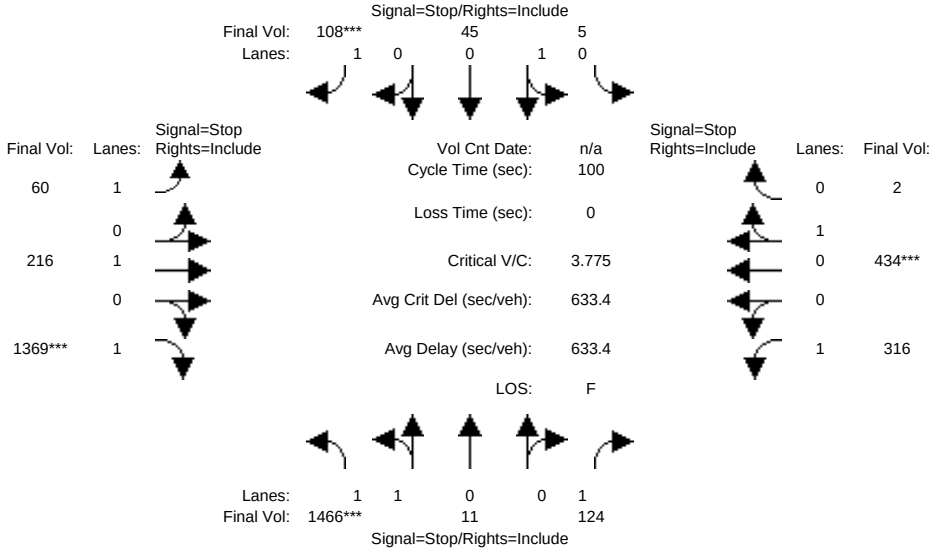
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Cum Sc1 AM w/Proj

Intersection #5: Green Valley Rd and Stone Valley Rd




```
Street Name:        Green Valley Road                  Stone Valley Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     909    7    77     3   28    67    37  134   849   196  269     1
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  909    7    77     3   28    67    37  134   849   196  269     1
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  909    7    77     3   28    67    37  134   849   196  269     1
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.62 0.62  0.62  0.62 0.62  0.62  0.62 0.62  0.62  0.62 0.62  0.62
PHF Volume:  1466   11   124     5   45   108    60  216  1369   316  434     2
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol: 1466   11   124     5   45   108    60  216  1369   316  434     2
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume: 1466   11   124     5   45   108    60  216  1369   316  434     2
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.98 0.02  1.00  0.10 0.90  1.00  1.00 1.00  1.00  1.00 0.99  0.01
Final Sat.:   681    5   379    32  300   358   318  336   363   372  391     1
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     2.15 2.15  0.33  0.15 0.15  0.30  0.19 0.64  3.77  0.85 1.11  1.11
Crit Moves:  ****                         ****              ****       ****
Delay/Veh:  550.2  550  16.3  15.2 15.2  16.8  16.3 30.3  1275  48.0  108 108.1
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh: 550.2  550  16.3  15.2 15.2  16.8  16.3 30.3  1275  48.0  108 108.1
LOS by Move:    F    F     C     C    C     C     C    D     F     E    F     F
ApproachDel:     508.8             16.3           1065.4             82.8
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:      508.8             16.3           1065.4             82.8
LOS by Appr:         F                C                F                F
AllWayAvgQ:  51.2 51.2   0.5   0.2  0.2   0.4   0.2  1.6 127.2   3.7 10.5  10.5
Note: Queue reported is the number of cars per lane.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #5 Green Valley Rd and Stone Valley Rd

****

Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

```
Future Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        1  1  0  0  1    0  1  0  0  1    1  0  1  0  1    1  0  0  1  0
Initial Vol:  909    7    77     3   28    67    37  134   849   196  269     1
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1486
Minor Approach Volume:           993
Minor Approach Volume Threshold: 204
-------------------------------------------------------------------------------
```

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

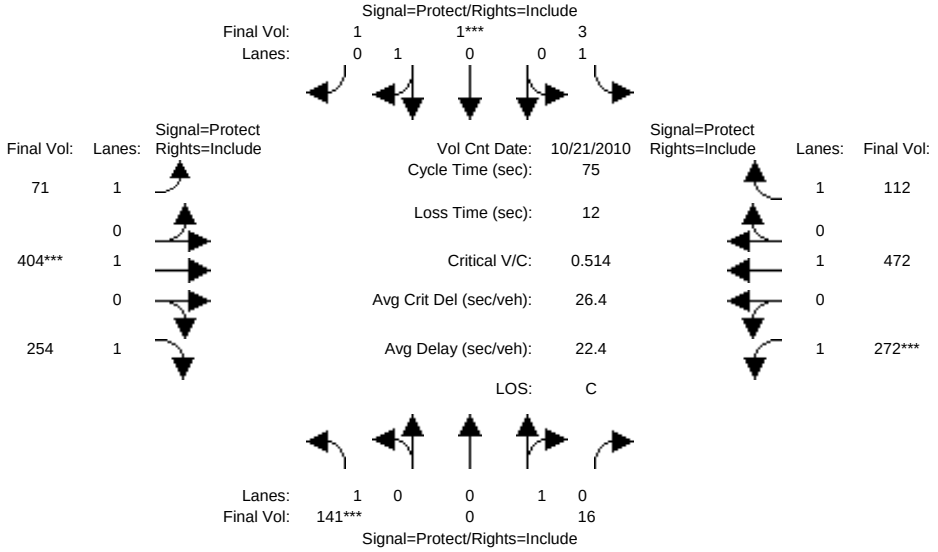
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #6: Monte Vista H.S. Main and Stone Valley Rd



Street Name:	Monte Vista H.S. Main Parking Lot						Stone Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 21 Oct 2010 <<												
Base Vol:	97	0	11	2	1	1	49	279	175	188	326	77
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	97	0	11	2	1	1	49	279	175	188	326	77
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	97	0	11	2	1	1	49	279	175	188	326	77
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69
PHF Volume:	141	0	16	3	1	1	71	404	254	272	472	112
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	141	0	16	3	1	1	71	404	254	272	472	112
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	141	0	16	3	1	1	71	404	254	272	472	112
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.00	1.00	1.00	0.50	0.50	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1900	0	1900	1900	950	950	1900	1900	1900	1900	1900	1900
Capacity Analysis Module:												
Vol/Sat:	0.07	0.00	0.01	0.00	0.00	0.00	0.04	0.21	0.13	0.14	0.25	0.06
Crit Moves:	****				****			****		****		
Green Time:	10.0	0.0	10.0	10.0	10.0	10.0	11.7	25.7	25.7	17.3	31.3	31.3
Volume/Cap:	0.55	0.00	0.06	0.01	0.01	0.01	0.24	0.62	0.39	0.62	0.60	0.14
Delay/Veh:	33.1	0.0	28.5	28.2	28.2	28.2	28.1	22.5	19.1	28.6	18.2	13.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	33.1	0.0	28.5	28.2	28.2	28.2	28.1	22.5	19.1	28.6	18.2	13.6
LOS by Move:	C	A	C	C	C	C	C	C	B	C	B	B
HCM2k95thQ:	8	0	1	0	0	0	3	16	9	13	17	3

Note: Queue reported is the number of cars per lane.

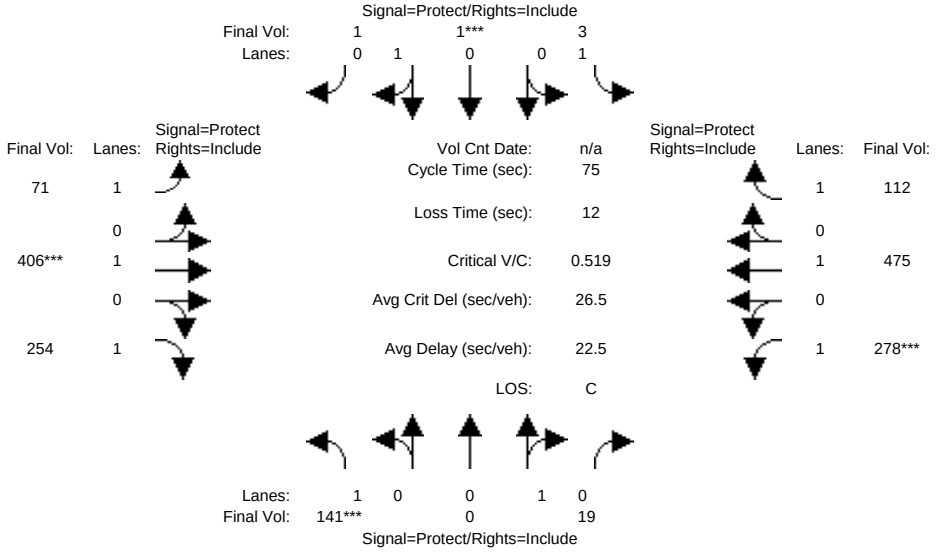
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Project AM

Intersection #6: Monte Vista H.S. Main and Stone Valley Rd



Street Name:	Monte Vista H.S. Main Parking Lot						Stone Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	97	0	13	2	1	1	49	280	175	192	328	77
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	97	0	13	2	1	1	49	280	175	192	328	77
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	97	0	13	2	1	1	49	280	175	192	328	77
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69
PHF Volume:	141	0	19	3	1	1	71	406	254	278	475	112
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	141	0	19	3	1	1	71	406	254	278	475	112
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	141	0	19	3	1	1	71	406	254	278	475	112
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.00	1.00	1.00	0.50	0.50	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1900	0	1900	1900	950	950	1900	1900	1900	1900	1900	1900
Capacity Analysis Module:												
Vol/Sat:	0.07	0.00	0.01	0.00	0.00	0.00	0.04	0.21	0.13	0.15	0.25	0.06
Crit Moves:	****				****			****		****		
Green Time:	10.0	0.0	10.0	10.0	10.0	10.0	11.7	25.5	25.5	17.5	31.3	31.3
Volume/Cap:	0.55	0.00	0.07	0.01	0.01	0.01	0.24	0.63	0.39	0.63	0.60	0.14
Delay/Veh:	33.1	0.0	28.6	28.2	28.2	28.2	28.2	22.7	19.2	28.7	18.2	13.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	33.1	0.0	28.6	28.2	28.2	28.2	28.2	22.7	19.2	28.7	18.2	13.6
LOS by Move:	C	A	C	C	C	C	C	C	B	C	B	B
HCM2k95thQ:	8	0	1	0	0	0	3	16	9	13	17	3

Note: Queue reported is the number of cars per lane.

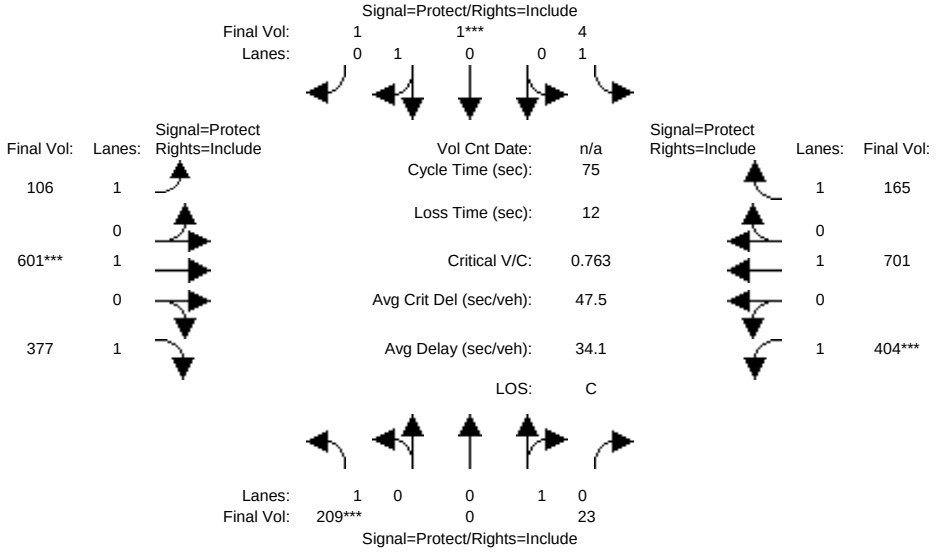
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum AM No Project

Intersection #6: Monte Vista H.S. Main and Stone Valley Rd



Street Name:	Monte Vista H.S. Main Parking Lot						Stone Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	144	0	16	3	1	1	73	415	260	279	484	114
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	144	0	16	3	1	1	73	415	260	279	484	114
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	144	0	16	3	1	1	73	415	260	279	484	114
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69
PHF Volume:	209	0	23	4	1	1	106	601	377	404	701	165
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	209	0	23	4	1	1	106	601	377	404	701	165
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	209	0	23	4	1	1	106	601	377	404	701	165
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.00	1.00	1.00	0.50	0.50	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1900	0	1900	1900	950	950	1900	1900	1900	1900	1900	1900
Capacity Analysis Module:												
Vol/Sat:	0.11	0.00	0.01	0.00	0.00	0.00	0.06	0.32	0.20	0.21	0.37	0.09
Crit Moves:	****				****			****		****		
Green Time:	10.0	0.0	10.0	10.0	10.0	10.0	8.7	25.7	25.7	17.3	34.3	34.3
Volume/Cap:	0.82	0.00	0.09	0.02	0.01	0.01	0.48	0.92	0.58	0.92	0.81	0.19
Delay/Veh:	50.8	0.0	28.7	28.3	28.2	28.2	32.7	42.6	21.5	53.3	23.1	12.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	50.8	0.0	28.7	28.3	28.2	28.2	32.7	42.6	21.5	53.3	23.1	12.2
LOS by Move:	D	A	C	C	C	C	C	D	C	D	C	B
HCM2k95thQ:	14	0	1	0	0	0	6	31	15	24	28	5

Note: Queue reported is the number of cars per lane.

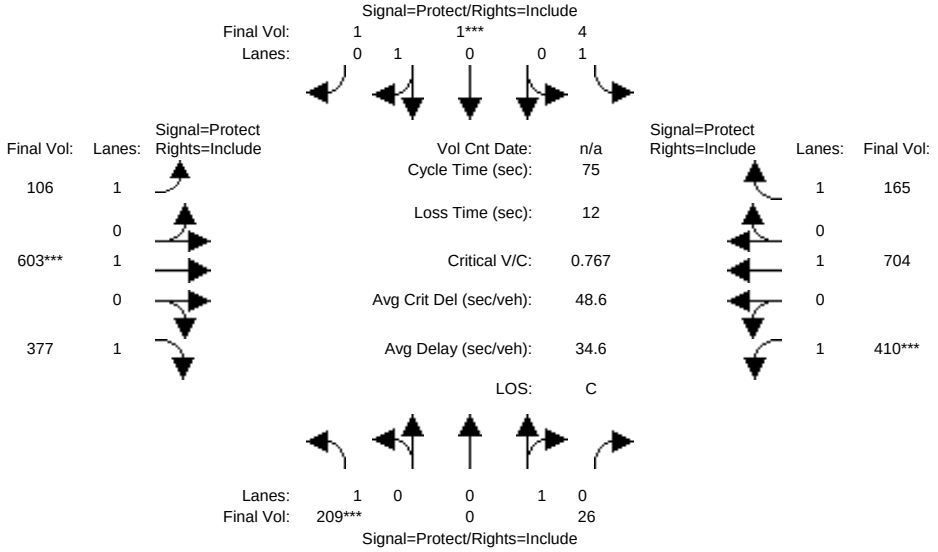
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc1 AM w/Proj

Intersection #6: Monte Vista H.S. Main and Stone Valley Rd



Street Name:	Monte Vista H.S. Main Parking Lot						Stone Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	144	0	18	3	1	1	73	416	260	283	486	114
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	144	0	18	3	1	1	73	416	260	283	486	114
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	144	0	18	3	1	1	73	416	260	283	486	114
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69
PHF Volume:	209	0	26	4	1	1	106	603	377	410	704	165
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	209	0	26	4	1	1	106	603	377	410	704	165
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	209	0	26	4	1	1	106	603	377	410	704	165
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.00	1.00	1.00	0.50	0.50	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1900	0	1900	1900	950	950	1900	1900	1900	1900	1900	1900
Capacity Analysis Module:												
Vol/Sat:	0.11	0.00	0.01	0.00	0.00	0.00	0.06	0.32	0.20	0.22	0.37	0.09
Crit Moves:	****				****			****		****		
Green Time:	10.0	0.0	10.0	10.0	10.0	10.0	8.6	25.6	25.6	17.4	34.4	34.4
Volume/Cap:	0.82	0.00	0.10	0.02	0.01	0.01	0.48	0.93	0.58	0.93	0.81	0.19
Delay/Veh:	50.8	0.0	28.7	28.3	28.2	28.2	32.8	43.9	21.6	54.5	23.2	12.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	50.8	0.0	28.7	28.3	28.2	28.2	32.8	43.9	21.6	54.5	23.2	12.2
LOS by Move:	D	A	C	C	C	C	C	D	C	D	C	B
HCM2k95thQ:	14	0	1	0	0	0	6	32	15	25	28	5

Note: Queue reported is the number of cars per lane.

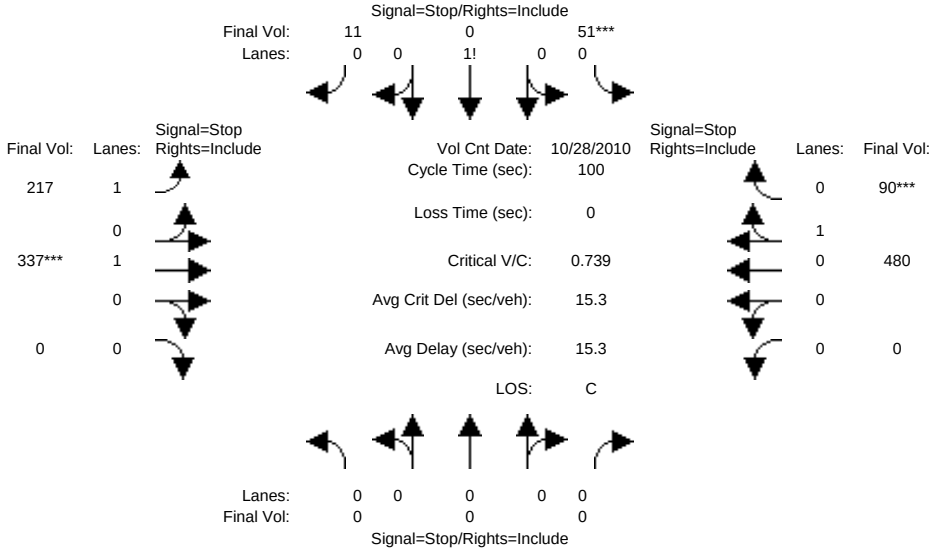
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing AM

Intersection #7: Mt Diablo Scenic Blvd and Diablo Rd




```
Street Name:      Mt Diablo Scenic Blvd                  Diablo Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 28 Oct 2010 <<
Base Vol:       0    0     0    42    0     9   180  280     0     0  398    75
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    42    0     9   180  280     0     0  398    75
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0    42    0     9   180  280     0     0  398    75
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.83 0.83  0.83  0.83 0.83  0.83  0.83 0.83  0.83  0.83 0.83  0.83
PHF Volume:     0    0     0    51    0    11   217  337     0     0  480    90
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0    0     0    51    0    11   217  337     0     0  480    90
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0    0     0    51    0    11   217  337     0     0  480    90
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 0.00  0.00  0.82 0.00  0.18  1.00 1.00  0.00  0.00 0.84  0.16
Final Sat.:     0    0     0   446    0    96   638  700     0     0  649   122
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx xxxx  xxxx  0.11 xxxx  0.11  0.34 0.48  xxxx  xxxx 0.74  0.74
Crit Moves:                   ****                   ****                    ****
Delay/Veh:    0.0  0.0   0.0   9.8  0.0   9.8  11.1 12.4   0.0   0.0 19.3  19.3
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0  0.0   0.0   9.8  0.0   9.8  11.1 12.4   0.0   0.0 19.3  19.3
LOS by Move:    *    *     *     A    *     A     B    B     *     *    C     C
ApproachDel:    xxxxxx              9.8             11.9             19.3
Delay Adj:       xxxxx             1.00             1.00             1.00
ApprAdjDel:     xxxxxx              9.8             11.9             19.3
LOS by Appr:         *                A                B                C
AllWayAvgQ:   0.0  0.0   0.0   0.1  0.1   0.1   0.5  0.9   0.0   2.5  2.5   2.5
Note: Queue reported is the number of cars per lane.
                Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #7 Mt Diablo Scenic Blvd and Diablo Rd
*******************************************************************************
```

```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    0  0  1! 0  0    1  0  1  0  0    0  0  0  1  0
Initial Vol:    0    0     0    42    0     9   180  280     0     0  398    75
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             933
Minor Approach Volume:           51
Minor Approach Volume Threshold: 309
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

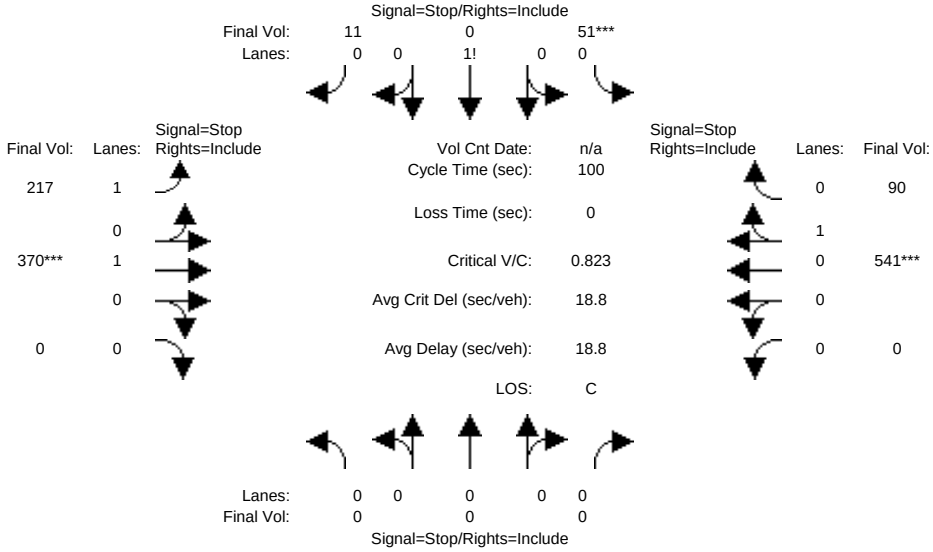

Copyright (c) 2008 Dowling Associates, Inc.

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Project AM

Intersection #7: Mt Diablo Scenic Blvd and Diablo Rd




```
Street Name:      Mt Diablo Scenic Blvd                  Diablo Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    42    0     9   180  307     0     0  449    75
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    42    0     9   180  307     0     0  449    75
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0    42    0     9   180  307     0     0  449    75
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.83 0.83  0.83  0.83 0.83  0.83  0.83 0.83  0.83  0.83 0.83  0.83
PHF Volume:     0    0     0    51    0    11   217  370     0     0  541    90
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0    0     0    51    0    11   217  370     0     0  541    90
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0    0     0    51    0    11   217  370     0     0  541    90
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 0.00  0.00  0.82 0.00  0.18  1.00 1.00  0.00  0.00 0.86  0.14
Final Sat.:     0    0     0   443    0    95   632  692     0     0  657   110
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx xxxx  xxxx  0.11 xxxx  0.11  0.34 0.53  xxxx  xxxx 0.82  0.82
Crit Moves:                   ****                   ****             ****
Delay/Veh:    0.0  0.0   0.0  10.0  0.0  10.0  11.3 13.5   0.0   0.0 25.3  25.3
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0  0.0   0.0  10.0  0.0  10.0  11.3 13.5   0.0   0.0 25.3  25.3
LOS by Move:    *    *     *     B    *     B     B    B     *     *    D     D
ApproachDel:    xxxxxx             10.0             12.7             25.3
Delay Adj:       xxxxx             1.00             1.00             1.00
ApprAdjDel:     xxxxxx             10.0             12.7             25.3
LOS by Appr:         *                B                B                D
AllWayAvgQ:   0.0  0.0   0.0   0.1  0.1   0.1   0.5  1.1   0.0   3.7  3.7   3.7
Note: Queue reported is the number of cars per lane.
                Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #7 Mt Diablo Scenic Blvd and Diablo Rd
*******************************************************************************
```

 Copyright (c) 2008 Dowling Associates, Inc.

```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    0  0  1! 0  0    1  0  1  0  0    0  0  0  1  0
Initial Vol:    0    0     0    42    0     9   180  307     0     0  449    75
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1011
Minor Approach Volume:           51
Minor Approach Volume Threshold: 281
-------------------------------------------------------------------------------
```

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

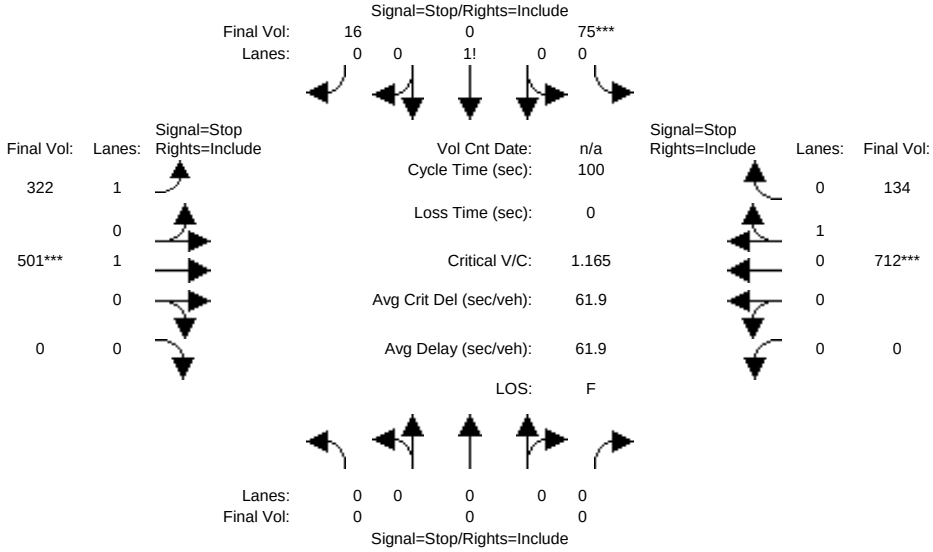
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Cum AM No Project

Intersection #7: Mt Diablo Scenic Blvd and Diablo Rd




```
Street Name:      Mt Diablo Scenic Blvd                  Diablo Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    62    0    13   267  416     0     0  591   111
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    62    0    13   267  416     0     0  591   111
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0    62    0    13   267  416     0     0  591   111
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.83 0.83  0.83  0.83 0.83  0.83  0.83 0.83  0.83  0.83 0.83  0.83
PHF Volume:     0    0     0    75    0    16   322  501     0     0  712   134
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0    0     0    75    0    16   322  501     0     0  712   134
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0    0     0    75    0    16   322  501     0     0  712   134
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 0.00  0.00  0.83 0.00  0.17  1.00 1.00  0.00  0.00 0.84  0.16
Final Sat.:     0    0     0   437    0    92   608  665     0     0  611   115
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx xxxx  xxxx  0.17 xxxx  0.17  0.53 0.75  xxxx  xxxx 1.17  1.17
Crit Moves:                   ****                   ****             ****
Delay/Veh:    0.0  0.0   0.0  11.0  0.0  11.0  15.0 22.7   0.0   0.0  108 108.3
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0  0.0   0.0  11.0  0.0  11.0  15.0 22.7   0.0   0.0  108 108.3
LOS by Move:    *    *     *     B    *     B     C    C     *     *    F     F
ApproachDel:    xxxxxx             11.0             19.7            108.3
Delay Adj:       xxxxx             1.00             1.00             1.00
ApprAdjDel:     xxxxxx             11.0             19.7            108.3
LOS by Appr:         *                B                C                F
AllWayAvgQ:   0.0  0.0   0.0   0.2  0.2   0.2   1.1  2.7   0.0  20.2 20.2  20.2
Note: Queue reported is the number of cars per lane.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #7 Mt Diablo Scenic Blvd and Diablo Rd

****

```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    0  0  1! 0  0    1  0  1  0  0    0  0  0  1  0
Initial Vol:    0    0     0    62    0    13   267  416     0     0  591   111
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1385
Minor Approach Volume:           75
Minor Approach Volume Threshold: 173
-------------------------------------------------------------------------------
```

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

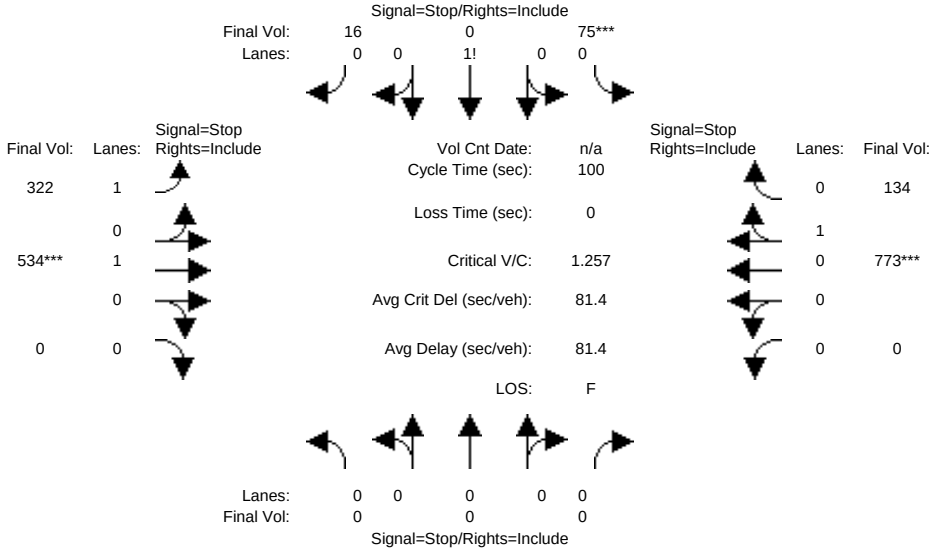
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Cum Sc1 AM w/Proj

Intersection #7: Mt Diablo Scenic Blvd and Diablo Rd




```
Street Name:      Mt Diablo Scenic Blvd                  Diablo Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    62    0    13   267  443     0     0  642   111
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    62    0    13   267  443     0     0  642   111
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0    62    0    13   267  443     0     0  642   111
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.83 0.83  0.83  0.83 0.83  0.83  0.83 0.83  0.83  0.83 0.83  0.83
PHF Volume:     0    0     0    75    0    16   322  534     0     0  773   134
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0    0     0    75    0    16   322  534     0     0  773   134
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0    0     0    75    0    16   322  534     0     0  773   134
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 0.00  0.00  0.83 0.00  0.17  1.00 1.00  0.00  0.00 0.85  0.15
Final Sat.:     0    0     0   437    0    92   608  665     0     0  615   106
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx xxxx  xxxx  0.17 xxxx  0.17  0.53 0.80  xxxx  xxxx 1.26  1.26
Crit Moves:                   ****                   ****             ****
Delay/Veh:    0.0  0.0   0.0  11.1  0.0  11.1  15.0 26.3   0.0   0.0  144 144.3
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0  0.0   0.0  11.1  0.0  11.1  15.0 26.3   0.0   0.0  144 144.3
LOS by Move:    *    *     *     B    *     B     C    D     *     *    F     F
ApproachDel:    xxxxxx             11.1             22.0            144.3
Delay Adj:       xxxxx             1.00             1.00             1.00
ApprAdjDel:     xxxxxx             11.1             22.0            144.3
LOS by Appr:         *                B                C                F
AllWayAvgQ:   0.0  0.0   0.0   0.2  0.2   0.2   1.1  3.4   0.0  27.3 27.3  27.3
Note: Queue reported is the number of cars per lane.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #7 Mt Diablo Scenic Blvd and Diablo Rd

****

```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    0  0  1! 0  0    1  0  1  0  0    0  0  0  1  0
Initial Vol:    0    0     0    62    0    13   267  443     0     0  642   111
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1463
Minor Approach Volume:           75
Minor Approach Volume Threshold: 154
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

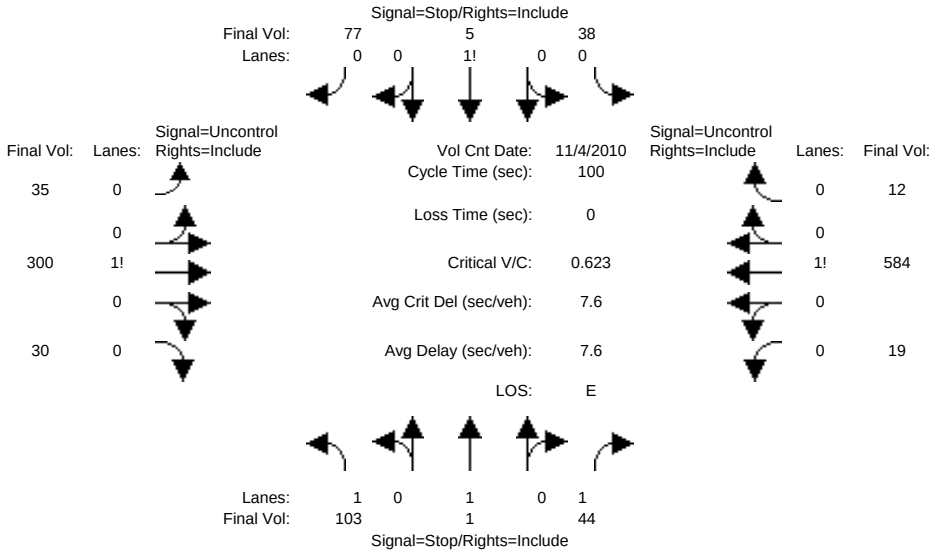

Copyright (c) 2008 Dowling Associates, Inc.
Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #8: HIdden Oaks Dr/Magee Ranch Rd and Blackhawk Rd




```
Street Name:  Hidden Oaks Dr/Magee Ranch Rd            Blackhawk Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 4 Nov 2010 <<
Base Vol:      79    1    34    29    4    59    27  231    23    15  450     9
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   79    1    34    29    4    59    27  231    23    15  450     9
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   79    1    34    29    4    59    27  231    23    15  450     9
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.77 0.77  0.77  0.77 0.77  0.77  0.77 0.77  0.77  0.77 0.77  0.77
PHF Volume:   103    1    44    38    5    77    35  300    30    19  584    12
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  103    1    44    38    5    77    35  300    30    19  584    12
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1055 1020   315  1037 1029   590   596 xxxx xxxxx   330 xxxx xxxxx
Potent Cap.:  205  238   730   211  236   511   990 xxxx xxxxx  1241 xxxx xxxxx
Move Cap.:    165  226   730   190  223   511   990 xxxx xxxxx  1241 xxxx xxxxx
Volume/Cap:  0.62 0.01  0.06  0.20 0.02  0.15  0.04 xxxx  xxxx  0.02 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    3.4  0.0   0.2  xxxx xxxx xxxxx   0.1 xxxx xxxxx   0.0 xxxx xxxxx
Control Del: 57.5 21.0  10.2 xxxxx xxxx xxxxx   8.8 xxxx xxxxx   7.9 xxxx xxxxx
LOS by Move:    F    C     B     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  322 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  1.7 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 22.7 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    C     *     *    *     *     *    *     *
ApproachDel:      43.1             22.7           xxxxxx           xxxxxx
ApproachLOS:         E                C                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #8 HIdden Oaks Dr/Magee Ranch Rd and Blackhawk Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```


Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  1  0  1    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   79    1    34    29    4    59    27  231    23    15  450     9
ApproachDel:      43.1             22.7           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=3][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.4]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=114]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=961]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
--------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.6]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=92]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=961]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                Peak Hour Volume Signal Warrant Report [Urban]
********************************************************************************
Intersection #8 HIdden Oaks Dr/Magee Ranch Rd and Blackhawk Rd
********************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  1  0  1    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   79    1    34    29    4    59    27  231    23    15  450     9
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             755
Minor Approach Volume:           114
Minor Approach Volume Threshold: 381
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

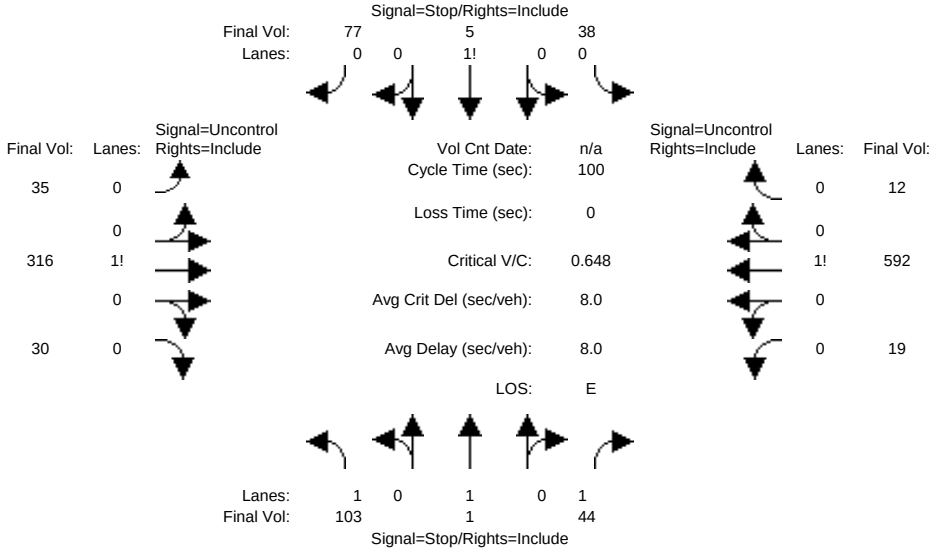

Copyright (c) 2008 Dowling Associates, Inc.
Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Project AM

Intersection #8: HIdden Oaks Dr/Magee Ranch Rd and Blackhawk Rd




```
Street Name:  Hidden Oaks Dr/Magee Ranch Rd            Blackhawk Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      79    1    34    29    4    59    27  243    23    15  456     9
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   79    1    34    29    4    59    27  243    23    15  456     9
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   79    1    34    29    4    59    27  243    23    15  456     9
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.77 0.77  0.77  0.77 0.77  0.77  0.77 0.77  0.77  0.77 0.77  0.77
PHF Volume:   103    1    44    38    5    77    35  316    30    19  592    12
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  103    1    44    38    5    77    35  316    30    19  592    12
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1079 1044   331  1060 1053   598   604 xxxx xxxxx   345 xxxx xxxxx
Potent Cap.:  198  231   716   204  228   506   984 xxxx xxxxx  1225 xxxx xxxxx
Move Cap.:    158  219   716   183  216   506   984 xxxx xxxxx  1225 xxxx xxxxx
Volume/Cap:  0.65 0.01  0.06  0.21 0.02  0.15  0.04 xxxx  xxxx  0.02 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    3.6  0.0   0.2  xxxx xxxx xxxxx   0.1 xxxx xxxxx   0.0 xxxx xxxxx
Control Del: 62.1 21.5  10.4 xxxxx xxxx xxxxx   8.8 xxxx xxxxx   8.0 xxxx xxxxx
LOS by Move:    F    C     B     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  313 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  1.7 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 23.4 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    C     *     *    *     *     *    *     *
ApproachDel:      46.3             23.4           xxxxxx           xxxxxx
ApproachLOS:         E                C                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #8 HIdden Oaks Dr/Magee Ranch Rd and Blackhawk Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```

 Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  1  0  1    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   79    1    34    29    4    59    27  243    23    15  456     9
ApproachDel:      46.3             23.4           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=3][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.5]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=114]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=979]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
--------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.6]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=92]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=979]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                Peak Hour Volume Signal Warrant Report [Urban]
********************************************************************************
Intersection #8 HIdden Oaks Dr/Magee Ranch Rd and Blackhawk Rd
********************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  1  0  1    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   79    1    34    29    4    59    27  243    23    15  456     9
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             773
Minor Approach Volume:           114
Minor Approach Volume Threshold: 373
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

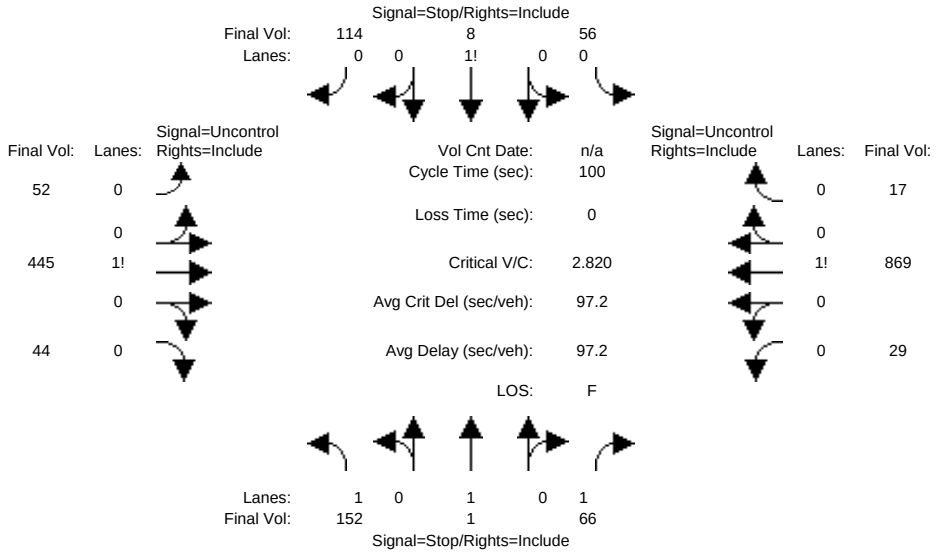

Copyright (c) 2008 Dowling Associates, Inc.
Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Cum AM No Project

Intersection #8: HIdden Oaks Dr/Magee Ranch Rd and Blackhawk Rd




```
Street Name:  Hidden Oaks Dr/Magee Ranch Rd            Blackhawk Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     117    1    51    43    6    88    40  343    34    22  669    13
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  117    1    51    43    6    88    40  343    34    22  669    13
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  117    1    51    43    6    88    40  343    34    22  669    13
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.77 0.77  0.77  0.77 0.77  0.77  0.77 0.77  0.77  0.77 0.77  0.77
PHF Volume:   152    1    66    56    8   114    52  445    44    29  869    17
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  152    1    66    56    8   114    52  445    44    29  869    17
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1567 1514   468  1540 1528   877   886 xxxx xxxxx   490 xxxx xxxxx
Potent Cap.:   91  121   600    95  119   350   773 xxxx xxxxx  1084 xxxx xxxxx
Move Cap.:     54  109   600    78  107   350   773 xxxx xxxxx  1084 xxxx xxxxx
Volume/Cap:  2.82 0.01  0.11  0.72 0.07  0.33  0.07 xxxx  xxxx  0.03 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   15.9  0.0   0.4  xxxx xxxx xxxxx   0.2 xxxx xxxxx   0.1 xxxx xxxxx
Control Del:983.8 38.3  11.7 xxxxx xxxx xxxxx  10.0 xxxx xxxxx   8.4 xxxx xxxxx
LOS by Move:    F    E     B     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  159 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  9.4 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx  163 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    F     *     *    *     *     *    *     *
ApproachDel:     684.9            163.2           xxxxxx           xxxxxx
ApproachLOS:         F                F                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #8 HIdden Oaks Dr/Magee Ranch Rd and Blackhawk Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```

 Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  1  0  1    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  117    1    51    43    6    88    40  343    34    22  669    13
ApproachDel:     684.9            163.2           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=3][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=32.1]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=169]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1427]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
--------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=6.2]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=137]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1427]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                Peak Hour Volume Signal Warrant Report [Urban]
********************************************************************************
Intersection #8 HIdden Oaks Dr/Magee Ranch Rd and Blackhawk Rd
********************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  1  0  1    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  117    1    51    43    6    88    40  343    34    22  669    13
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1121
Minor Approach Volume:           169
Minor Approach Volume Threshold: 256
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

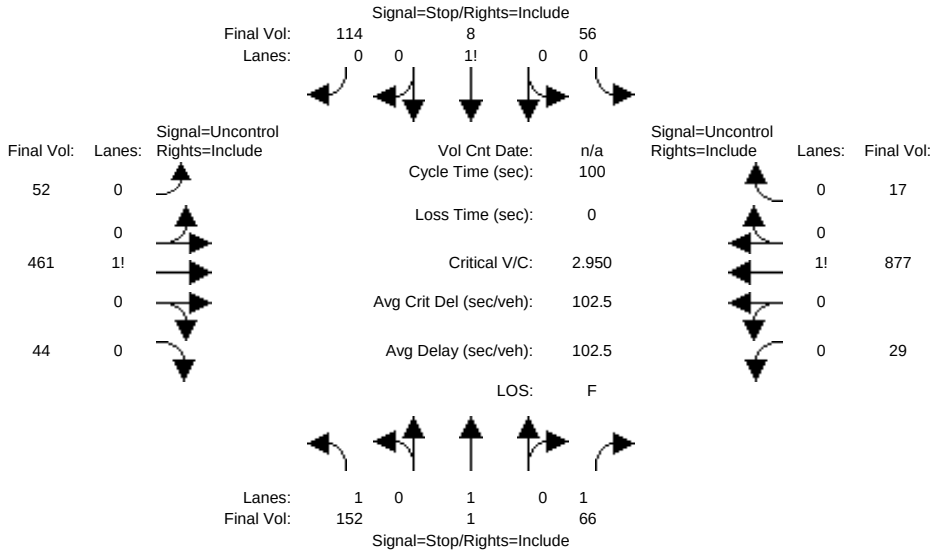

Copyright (c) 2008 Dowling Associates, Inc.
Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Cum Sc1 AM w/Proj

Intersection #8: HIdden Oaks Dr/Magee Ranch Rd and Blackhawk Rd




```
Street Name:  Hidden Oaks Dr/Magee Ranch Rd            Blackhawk Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     117    1    51    43    6    88    40  355    34    22  675    13
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  117    1    51    43    6    88    40  355    34    22  675    13
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  117    1    51    43    6    88    40  355    34    22  675    13
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.77 0.77  0.77  0.77 0.77  0.77  0.77 0.77  0.77  0.77 0.77  0.77
PHF Volume:   152    1    66    56    8   114    52  461    44    29  877    17
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  152    1    66    56    8   114    52  461    44    29  877    17
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1590 1538   483  1563 1551   885   894 xxxx xxxxx   505 xxxx xxxxx
Potent Cap.:   88  117   588    92  115   347   768 xxxx xxxxx  1070 xxxx xxxxx
Move Cap.:     52  106   588    75  104   347   768 xxxx xxxxx  1070 xxxx xxxxx
Volume/Cap:  2.95 0.01  0.11  0.75 0.08  0.33  0.07 xxxx  xxxx  0.03 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   16.1  0.0   0.4  xxxx xxxx xxxxx   0.2 xxxx xxxxx   0.1 xxxx xxxxx
Control Del: 1048 39.4  11.9 xxxxx xxxx xxxxx  10.0 xxxx xxxxx   8.5 xxxx xxxxx
LOS by Move:    F    E     B     *    *     *     B    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  155 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  9.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx  177 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    F     *     *    *     *     *    *     *
ApproachDel:     729.3            177.4           xxxxxx           xxxxxx
ApproachLOS:         F                F                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #8 HIdden Oaks Dr/Magee Ranch Rd and Blackhawk Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```

 Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  1  0  1    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  117    1    51    43    6    88    40  355    34    22  675    13
ApproachDel:     729.3            177.4           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=3][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=34.2]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=169]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1445]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
--------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=6.8]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=137]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1445]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                Peak Hour Volume Signal Warrant Report [Urban]
********************************************************************************
Intersection #8 HIdden Oaks Dr/Magee Ranch Rd and Blackhawk Rd
********************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  1  0  1    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  117    1    51    43    6    88    40  355    34    22  675    13
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1139
Minor Approach Volume:           169
Minor Approach Volume Threshold: 251
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

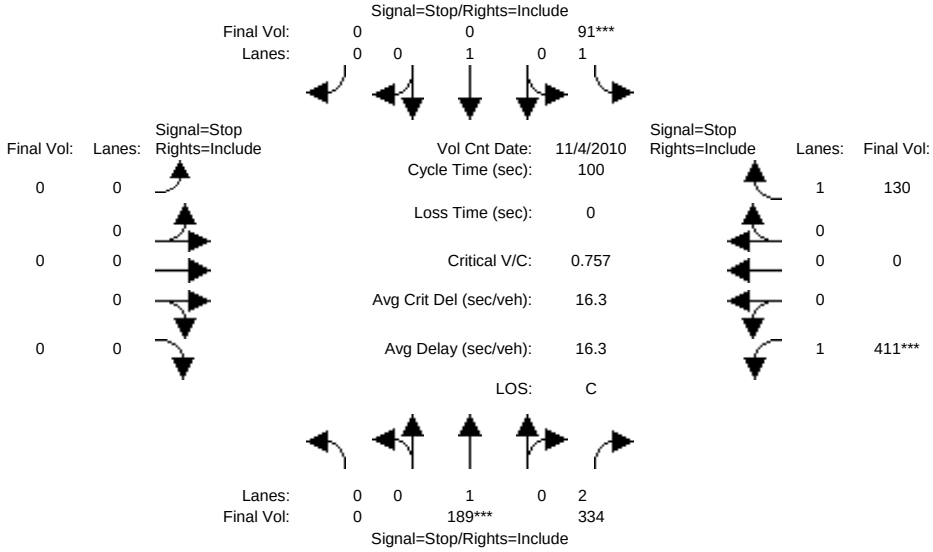

Copyright (c) 2008 Dowling Associates, Inc.
Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing AM

Intersection #9: Blackhawk Rd and Blackhawk Dr




```
Street Name:          Blackhawk Road                    Blackhawk Drive
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 4 Nov 2010 <<
Base Vol:       0  155   274    75  334     0     0    0     0   337    0   107
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  155   274    75  334     0     0    0     0   337    0   107
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  155   274    75  334     0     0    0     0   337    0   107
User Adj:    1.00 1.00  1.00  1.00 0.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.82 0.82  0.82  0.82 0.82  0.82  0.82 0.82  0.82  0.82 0.82  0.82
PHF Volume:     0  189   334    91    0     0     0    0     0   411    0   130
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0  189   334    91    0     0     0    0     0   411    0   130
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0  189   334    91    0     0     0    0     0   411    0   130
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 1.00  2.00  1.00 1.00  0.00  0.00 0.00  0.00  1.00 0.00  1.00
Final Sat.:     0  538  1198   468  498     0     0    0     0   543    0   653
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx 0.35  0.28  0.20 0.00  xxxx  xxxx xxxx  xxxx  0.76 xxxx  0.20
Crit Moves:       ****        ****                              ****
Delay/Veh:    0.0 12.5  10.6  11.6  0.0   0.0   0.0  0.0   0.0  26.0  0.0   9.3
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0 12.5  10.6  11.6  0.0   0.0   0.0  0.0   0.0  26.0  0.0   9.3
LOS by Move:    *    B     B     B    *     *     *    *     *     D    *     A
ApproachDel:      11.3             11.6           xxxxxx             22.0
Delay Adj:        1.00             1.00            xxxxx             1.00
ApprAdjDel:       11.3             11.6           xxxxxx             22.0
LOS by Appr:         B                B                *                C
AllWayAvgQ:   0.0  0.5   0.4   0.2  0.0   0.0   0.0  0.0   0.0   2.5  0.0   0.2
Note: Queue reported is the number of cars per lane.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #9 Blackhawk Rd and Blackhawk Dr

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Lanes:	0 0 1 0 2			1 0 1 0 0			0 0 0 0 0			1 0 0 0 1		
Initial Vol:	0 155	274		75 334	0		0	0	0	337	0	107

Major Street Volume: 838
Minor Approach Volume: 444
Minor Approach Volume Threshold: 450

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

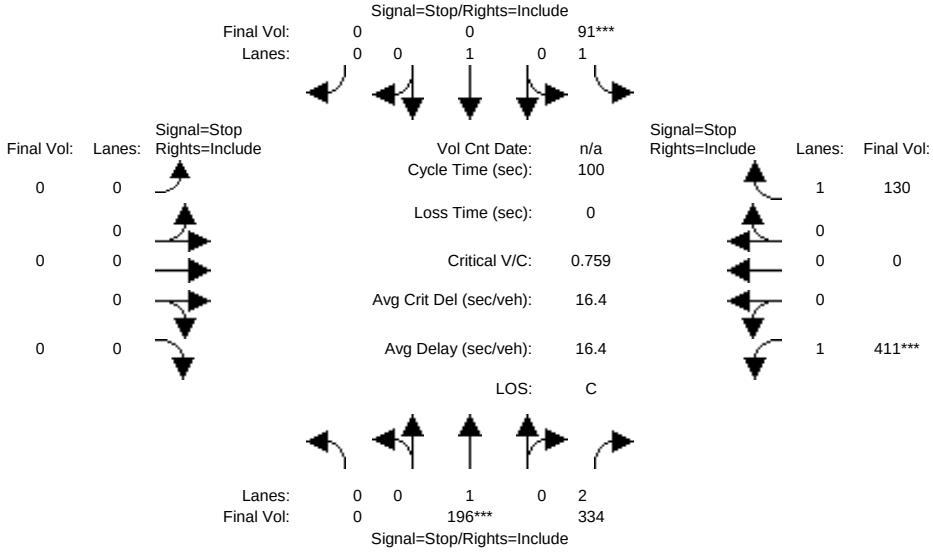
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Project AM

Intersection #9: Blackhawk Rd and Blackhawk Dr



Street Name:	Blackhawk Road						Blackhawk Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Volume Module:												
Base Vol:	0	161	274	75	346	0	0	0	0	337	0	107
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	161	274	75	346	0	0	0	0	337	0	107
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	161	274	75	346	0	0	0	0	337	0	107
User Adj:	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
PHF Volume:	0	196	334	91	0	0	0	0	0	411	0	130
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	196	334	91	0	0	0	0	0	411	0	130
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	196	334	91	0	0	0	0	0	411	0	130
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	1.00	2.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	538	1198	467	497	0	0	0	0	542	0	651
Capacity Analysis Module:												
Vol/Sat:	xxxx	0.36	0.28	0.20	0.00	xxxx	xxxx	xxxx	xxxx	0.76	xxxx	0.20
Crit Moves:		****		****						****		
Delay/Veh:	0.0	12.7	10.6	11.6	0.0	0.0	0.0	0.0	0.0	26.2	0.0	9.4
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	12.7	10.6	11.6	0.0	0.0	0.0	0.0	0.0	26.2	0.0	9.4
LOS by Move:	*	B	B	B	*	*	*	*	*	D	*	A
ApproachDel:		11.4			11.6			xxxxxx			22.1	
Delay Adj:		1.00			1.00			xxxxx			1.00	
ApprAdjDel:		11.4			11.6			xxxxxx			22.1	
LOS by Appr:		B			B			*			C	
AllWayAvgQ:	0.0	0.5	0.4	0.2	0.0	0.0	0.0	0.0	0.0	2.6	0.0	0.2

Note: Queue reported is the number of cars per lane.

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #9 Blackhawk Rd and Blackhawk Dr

****

Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Lanes:	0 0 1 0 2			1 0 1 0 0			0 0 0 0 0			1 0 0 0 1		
Initial Vol:	0 161	274		75 346	0		0	0	0	337	0	107

Major Street Volume: 856
Minor Approach Volume: 444
Minor Approach Volume Threshold: 441

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

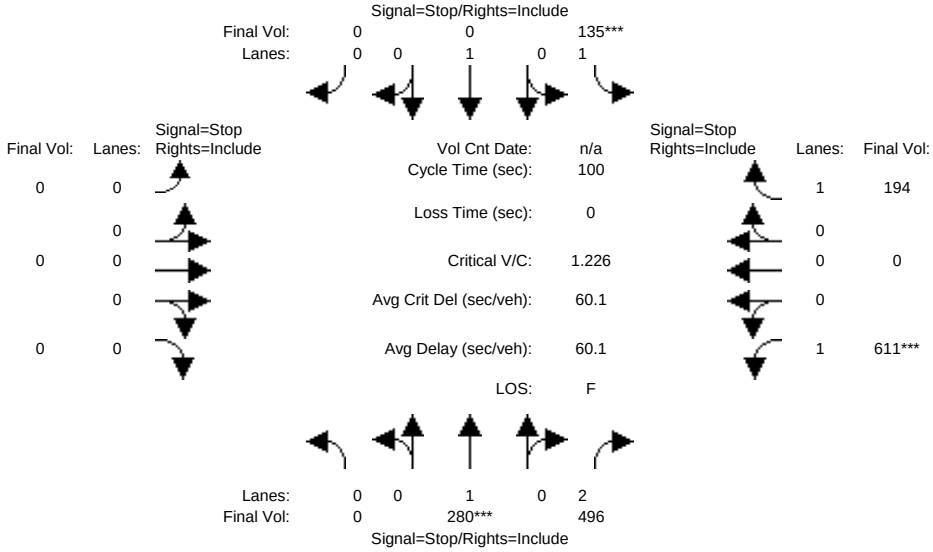
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Cum AM No Project

Intersection #9: Blackhawk Rd and Blackhawk Dr




```
Street Name:          Blackhawk Road                    Blackhawk Drive
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  230   407   111  496     0     0    0     0   501    0   159
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  230   407   111  496     0     0    0     0   501    0   159
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  230   407   111  496     0     0    0     0   501    0   159
User Adj:    1.00 1.00  1.00  1.00 0.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.82 0.82  0.82  0.82 0.82  0.82  0.82 0.82  0.82  0.82 0.82  0.82
PHF Volume:     0  280   496   135    0     0     0    0     0   611    0   194
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0  280   496   135    0     0     0    0     0   611    0   194
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0  280   496   135    0     0     0    0     0   611    0   194
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 1.00  2.00  1.00 1.00  0.00  0.00 0.00  0.00  1.00 0.00  1.00
Final Sat.:     0  499  1103   429  454     0     0    0     0   498    0   587
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx 0.56  0.45  0.32 0.00  xxxx  xxxx xxxx  xxxx  1.23 xxxx  0.33
Crit Moves:       ****        ****                              ****
Delay/Veh:    0.0 18.6  14.3  14.5  0.0   0.0   0.0  0.0   0.0 141.9  0.0  11.6
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0 18.6  14.3  14.5  0.0   0.0   0.0  0.0   0.0 141.9  0.0  11.6
LOS by Move:    *    C     B     B    *     *     *    *     *     F    *     B
ApproachDel:      15.9             14.5           xxxxxx            110.5
Delay Adj:        1.00             1.00            xxxxx             1.00
ApprAdjDel:       15.9             14.5           xxxxxx            110.5
LOS by Appr:         C                B                *                 F
AllWayAvgQ:   0.0  1.2   0.8   0.4  0.0   0.0   0.0  0.0   0.0  18.3  0.0   0.5
Note: Queue reported is the number of cars per lane.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #9 Blackhawk Rd and Blackhawk Dr

****

Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Lanes:	0 0 1 0 2			1 0 1 0 0			0 0 0 0 0			1 0 0 0 1		
Initial Vol:	0 230 407			111 496 0			0 0 0			501 0 159		

Major Street Volume: 1244
Minor Approach Volume: 660
Minor Approach Volume Threshold: 280

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

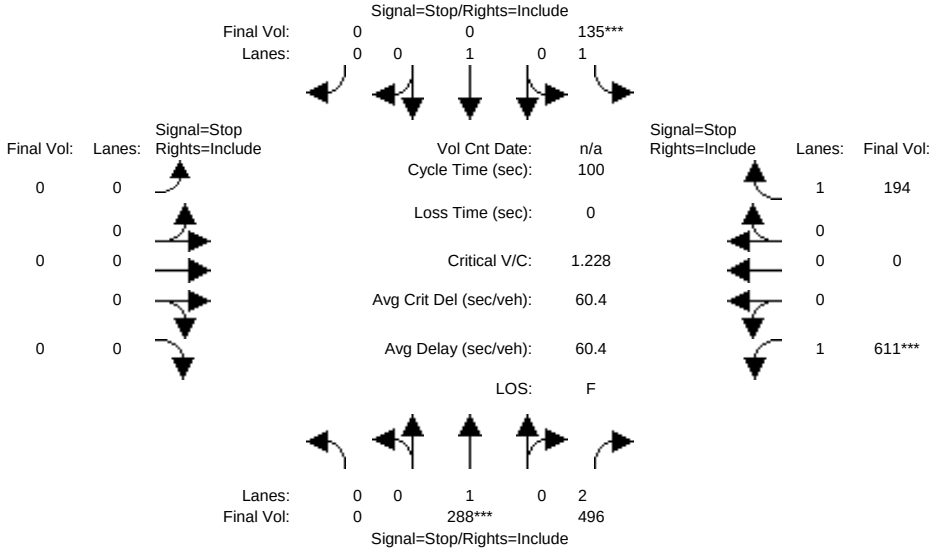
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Cum Sc1 AM w/Proj

Intersection #9: Blackhawk Rd and Blackhawk Dr



Street Name:	Blackhawk Road						Blackhawk Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Volume Module:												
Base Vol:	0	236	407	111	508	0	0	0	0	501	0	159
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	236	407	111	508	0	0	0	0	501	0	159
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	236	407	111	508	0	0	0	0	501	0	159
User Adj:	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
PHF Volume:	0	288	496	135	0	0	0	0	0	611	0	194
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	288	496	135	0	0	0	0	0	611	0	194
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	288	496	135	0	0	0	0	0	611	0	194
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	1.00	2.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	499	1104	429	453	0	0	0	0	497	0	585
Capacity Analysis Module:												
Vol/Sat:	xxxx	0.58	0.45	0.32	0.00	xxxx	xxxx	xxxx	xxxx	1.23	xxxx	0.33
Crit Moves:		****		****						****		
Delay/Veh:	0.0	19.2	14.3	14.6	0.0	0.0	0.0	0.0	0.0	142.8	0.0	11.7
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	19.2	14.3	14.6	0.0	0.0	0.0	0.0	0.0	142.8	0.0	11.7
LOS by Move:	*	C	B	B	*	*	*	*	*	F	*	B
ApproachDel:		16.1			14.6			xxxxxx			111.2	
Delay Adj:		1.00			1.00			xxxxx			1.00	
ApprAdjDel:		16.1			14.6			xxxxxx			111.2	
LOS by Appr:		C			B			*			F	
AllWayAvgQ:	0.0	1.3	0.8	0.4	0.0	0.0	0.0	0.0	0.0	18.4	0.0	0.5

Note: Queue reported is the number of cars per lane.

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #9 Blackhawk Rd and Blackhawk Dr

****

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Lanes:	0 0 1 0 2			1 0 1 0 0			0 0 0 0 0			1 0 0 0 1		
Initial Vol:	0 236 407			111 508 0			0 0 0			501 0 159		

Major Street Volume: 1262
Minor Approach Volume: 660
Minor Approach Volume Threshold: 274

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

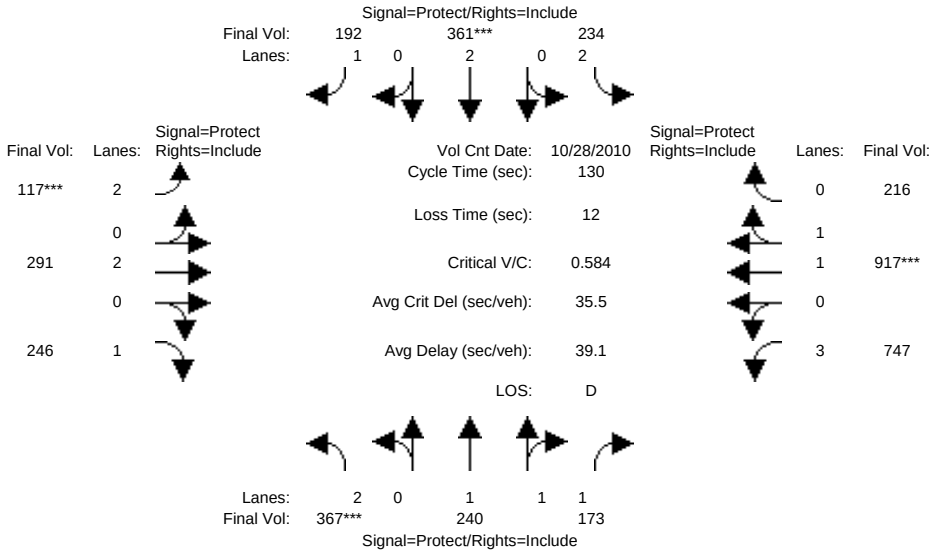
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #10: Blackhawk Rd/Crow Canyon Rd and Camino Tassajara



Street Name:	Blackhawk Rd/Crow Canyon Rd						Camino Tassajara					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 28 Oct 2010 <<												
Base Vol:	338	221	159	215	332	177	108	268	226	687	844	199
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	338	221	159	215	332	177	108	268	226	687	844	199
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	338	221	159	215	332	177	108	268	226	687	844	199
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	367	240	173	234	361	192	117	291	246	747	917	216
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	367	240	173	234	361	192	117	291	246	747	917	216
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	367	240	173	234	361	192	117	291	246	747	917	216
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.97	1.00	1.00	0.97	0.95	1.00	0.97	0.95	1.00	0.97	1.00	1.00
Lanes:	2.00	1.74	1.26	2.00	2.00	1.00	2.00	2.00	1.00	3.00	1.62	0.38
Final Sat.:	3686	3315	2385	3686	3610	1900	3686	3610	1900	5529	3075	725
Capacity Analysis Module:												
Vol/Sat:	0.10	0.07	0.07	0.06	0.10	0.10	0.03	0.08	0.13	0.14	0.30	0.30
Crit Moves:	****				****		****				****	
Green Time:	22.2	24.4	24.4	20.1	22.3	22.3	7.1	36.0	36.0	37.6	66.4	66.4
Volume/Cap:	0.58	0.39	0.39	0.41	0.58	0.59	0.58	0.29	0.47	0.47	0.58	0.58
Delay/Veh:	51.1	46.5	46.5	50.1	51.0	52.6	64.4	37.2	39.7	38.2	22.6	22.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	51.1	46.5	46.5	50.1	51.0	52.6	64.4	37.2	39.7	38.2	22.6	22.6
LOS by Move:	D	D	D	D	D	D	E	D	D	D	C	C
HCM2k95thQ:	14	10	10	9	14	15	7	9	15	16	27	27

Note: Queue reported is the number of cars per lane.

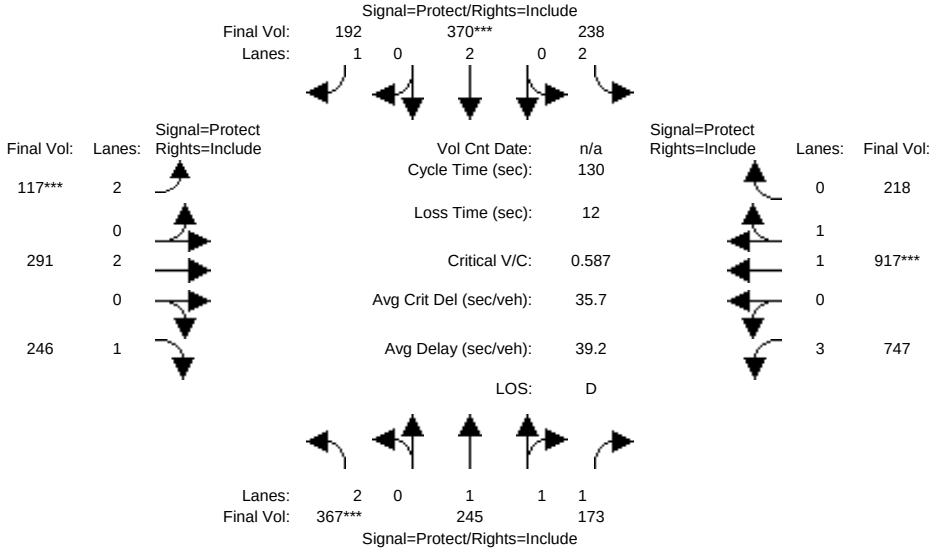
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Project AM

Intersection #10: Blackhawk Rd/Crow Canyon Rd and Camino Tassajara



Street Name:	Blackhawk Rd/Crow Canyon Rd						Camino Tassajara					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	338	225	159	219	340	177	108	268	226	687	844	201
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	338	225	159	219	340	177	108	268	226	687	844	201
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	338	225	159	219	340	177	108	268	226	687	844	201
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	367	245	173	238	370	192	117	291	246	747	917	218
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	367	245	173	238	370	192	117	291	246	747	917	218
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	367	245	173	238	370	192	117	291	246	747	917	218
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.97	1.00	1.00	0.97	0.95	1.00	0.97	0.95	1.00	0.97	1.00	1.00
Lanes:	2.00	1.76	1.24	2.00	2.00	1.00	2.00	2.00	1.00	3.00	1.62	0.38
Final Sat.:	3686	3340	2360	3686	3610	1900	3686	3610	1900	5529	3069	731
Capacity Analysis Module:												
Vol/Sat:	0.10	0.07	0.07	0.06	0.10	0.10	0.03	0.08	0.13	0.14	0.30	0.30
Crit Moves:	****				****		****				****	
Green Time:	22.1	24.3	24.3	20.4	22.7	22.7	7.1	35.8	35.8	37.4	66.2	66.2
Volume/Cap:	0.59	0.39	0.39	0.41	0.59	0.58	0.59	0.29	0.47	0.47	0.59	0.59
Delay/Veh:	51.2	46.6	46.6	49.8	50.8	51.9	64.5	37.3	39.8	38.3	22.8	22.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	51.2	46.6	46.6	49.8	50.8	51.9	64.5	37.3	39.8	38.3	22.8	22.8
LOS by Move:	D	D	D	D	D	D	E	D	D	D	C	C
HCM2k95thQ:	14	10	10	9	15	15	7	9	15	16	28	28

Note: Queue reported is the number of cars per lane.

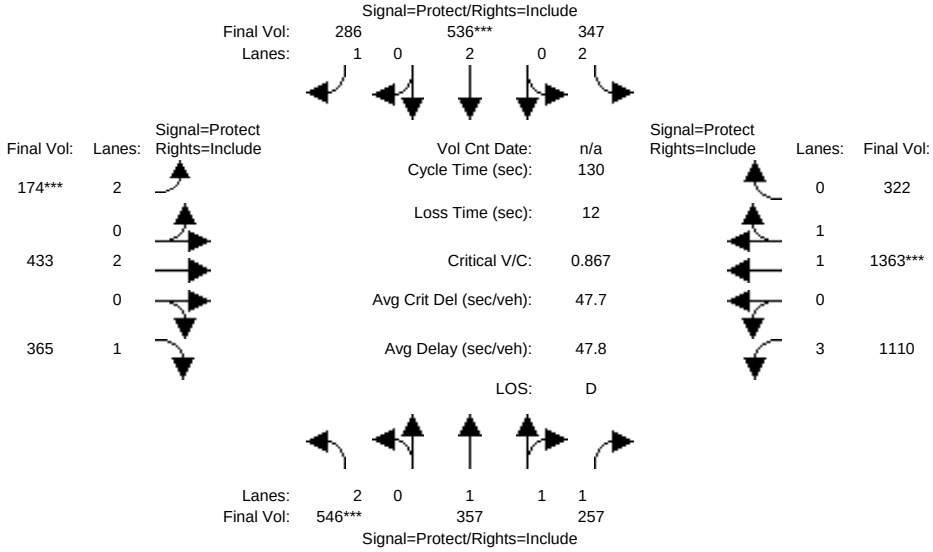
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum AM No Project

Intersection #10: Blackhawk Rd/Crow Canyon Rd and Camino Tassajara



Street Name:	Blackhawk Rd/Crow Canyon Rd						Camino Tassajara					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	502	328	236	319	493	263	160	398	336	1021	1254	296
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	502	328	236	319	493	263	160	398	336	1021	1254	296
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	502	328	236	319	493	263	160	398	336	1021	1254	296
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	546	357	257	347	536	286	174	433	365	1110	1363	322
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	546	357	257	347	536	286	174	433	365	1110	1363	322
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	546	357	257	347	536	286	174	433	365	1110	1363	322
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.97	1.00	1.00	0.97	0.95	1.00	0.97	0.95	1.00	0.97	1.00	1.00
Lanes:	2.00	1.74	1.26	2.00	2.00	1.00	2.00	2.00	1.00	3.00	1.62	0.38
Final Sat.:	3686	3315	2385	3686	3610	1900	3686	3610	1900	5529	3074	726
Capacity Analysis Module:												
Vol/Sat:	0.15	0.11	0.11	0.09	0.15	0.15	0.05	0.12	0.19	0.20	0.44	0.44
Crit Moves:	****				****		****				****	
Green Time:	22.2	23.7	23.7	20.7	22.3	22.3	7.1	36.0	36.0	37.6	66.5	66.5
Volume/Cap:	0.87	0.59	0.59	0.59	0.87	0.88	0.87	0.43	0.69	0.69	0.87	0.87
Delay/Veh:	64.7	49.6	49.6	52.3	64.8	75.4	91.5	38.9	46.1	42.5	32.3	32.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	64.7	49.6	49.6	52.3	64.8	75.4	91.5	38.9	46.1	42.5	32.3	32.3
LOS by Move:	E	D	D	D	E	E	F	D	D	D	C	C
HCM2k95thQ:	24	15	15	14	24	25	11	14	25	25	51	51

Note: Queue reported is the number of cars per lane.

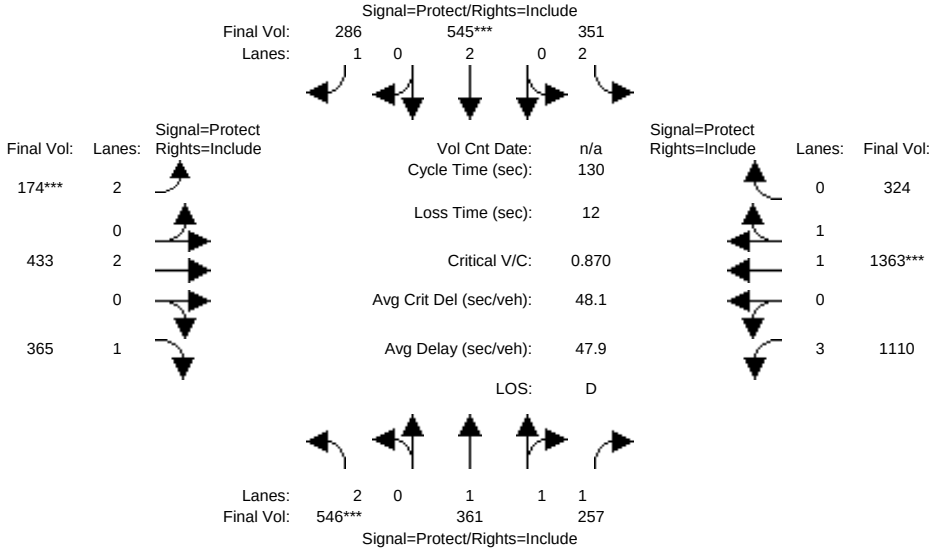
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc1 AM w/Proj

Intersection #10: Blackhawk Rd/Crow Canyon Rd and Camino Tassajara



Street Name:	Blackhawk Rd/Crow Canyon Rd						Camino Tassajara					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	502	332	236	323	501	263	160	398	336	1021	1254	298
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	502	332	236	323	501	263	160	398	336	1021	1254	298
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	502	332	236	323	501	263	160	398	336	1021	1254	298
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	546	361	257	351	545	286	174	433	365	1110	1363	324
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	546	361	257	351	545	286	174	433	365	1110	1363	324
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	546	361	257	351	545	286	174	433	365	1110	1363	324
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.97	1.00	1.00	0.97	0.95	1.00	0.97	0.95	1.00	0.97	1.00	1.00
Lanes:	2.00	1.75	1.25	2.00	2.00	1.00	2.00	2.00	1.00	3.00	1.62	0.38
Final Sat.:	3686	3332	2368	3686	3610	1900	3686	3610	1900	5529	3070	730
Capacity Analysis Module:												
Vol/Sat:	0.15	0.11	0.11	0.10	0.15	0.15	0.05	0.12	0.19	0.20	0.44	0.44
Crit Moves:	****				****		****				****	
Green Time:	22.1	23.8	23.8	20.9	22.5	22.5	7.0	35.9	35.9	37.5	66.3	66.3
Volume/Cap:	0.87	0.59	0.59	0.59	0.87	0.87	0.87	0.43	0.70	0.70	0.87	0.87
Delay/Veh:	65.1	49.6	49.6	52.2	64.9	73.3	92.2	39.0	46.3	42.6	32.6	32.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	65.1	49.6	49.6	52.2	64.9	73.3	92.2	39.0	46.3	42.6	32.6	32.6
LOS by Move:	E	D	D	D	E	E	F	D	D	D	C	C
HCM2k95thQ:	24	15	15	14	25	25	11	14	25	25	51	51

Note: Queue reported is the number of cars per lane.

Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

2000 HCM School PM LOS Calcs

Existing, Project, Cum No Proj, and Cum Sc1

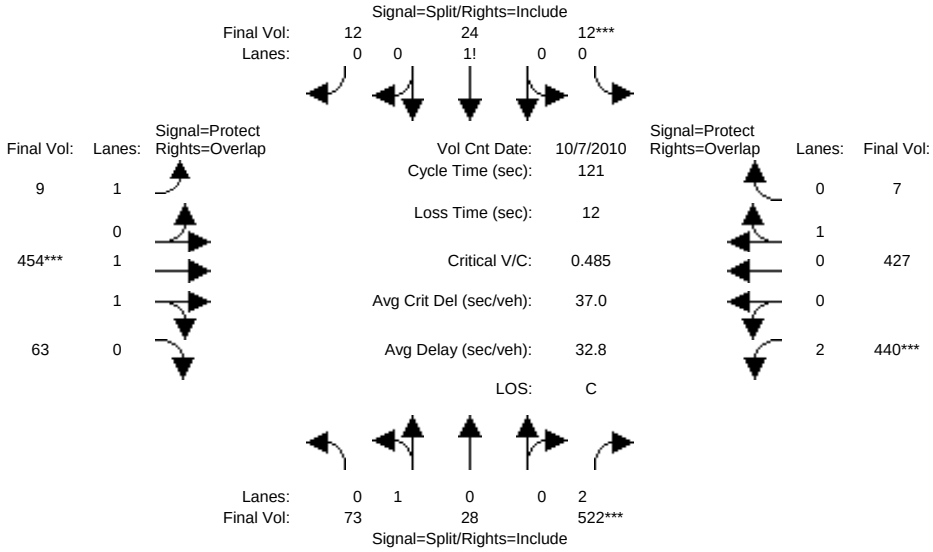
(>>>>>>>>>This Page Intentionally Left Blank<<<<<<<<)

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing School PM

Intersection #1: Diablo Rd and El Cerro Blvd



Street Name:	Diablo Road						El Cerro Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 7 Oct 2010 <<												
Base Vol:	69	26	491	11	23	11	8	427	59	414	401	7
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	69	26	491	11	23	11	8	427	59	414	401	7
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	69	26	491	11	23	11	8	427	59	414	401	7
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	73	28	522	12	24	12	9	454	63	440	427	7
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	73	28	522	12	24	12	9	454	63	440	427	7
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	73	28	522	12	24	12	9	454	63	440	427	7
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Lanes:	0.73	0.27	2.00	0.24	0.52	0.24	1.00	1.76	0.24	2.00	0.98	0.02
Final Sat.:	1380	520	3344	464	971	464	1900	3339	461	3686	1867	33
Capacity Analysis Module:												
Vol/Sat:	0.05	0.05	0.16	0.03	0.03	0.03	0.00	0.14	0.14	0.12	0.23	0.23
Crit Moves:			****	****				****		****		
Green Time:	39.0	39.0	39.0	6.3	6.3	6.3	6.2	33.9	72.9	29.8	57.5	63.8
Volume/Cap:	0.17	0.17	0.49	0.49	0.49	0.49	0.09	0.49	0.23	0.49	0.48	0.43
Delay/Veh:	29.5	29.5	33.3	59.5	59.5	59.5	55.0	36.6	11.1	39.4	22.0	17.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	29.5	29.5	33.3	59.5	59.5	59.5	55.0	36.6	11.1	39.4	22.0	17.8
LOS by Move:	C	C	C	E	E	E	E	D	B	D	C	B
HCM2k95thQ:	5	5	17	5	5	5	1	15	8	14	20	18

Note: Queue reported is the number of cars per lane.

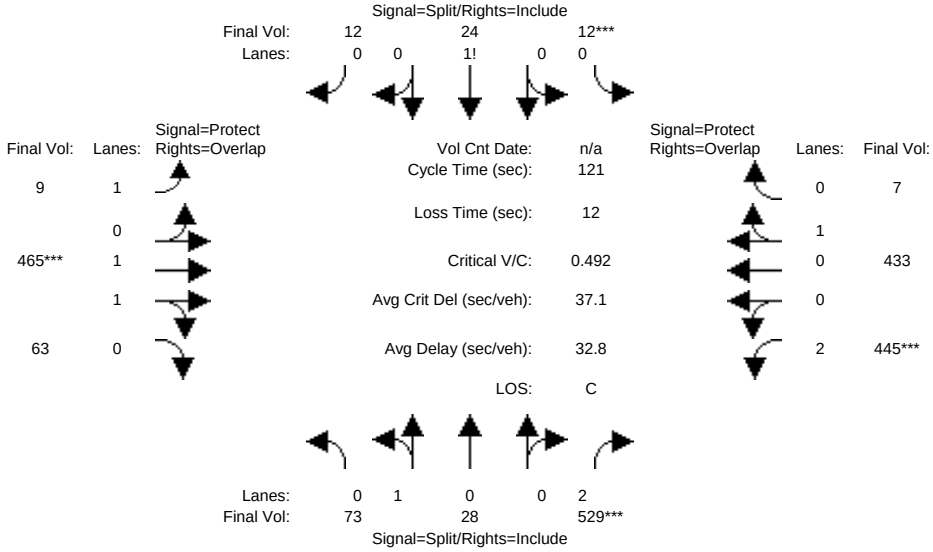
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Project School PM

Intersection #1: Diablo Rd and El Cerro Blvd



Street Name:	Diablo Road						El Cerro Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	69	26	497	11	23	11	8	437	59	418	407	7
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	69	26	497	11	23	11	8	437	59	418	407	7
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	69	26	497	11	23	11	8	437	59	418	407	7
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	73	28	529	12	24	12	9	465	63	445	433	7
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	73	28	529	12	24	12	9	465	63	445	433	7
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	73	28	529	12	24	12	9	465	63	445	433	7
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Lanes:	0.73	0.27	2.00	0.24	0.52	0.24	1.00	1.76	0.24	2.00	0.98	0.02
Final Sat.:	1380	520	3344	464	971	464	1900	3348	452	3686	1868	32
Capacity Analysis Module:												
Vol/Sat:	0.05	0.05	0.16	0.03	0.03	0.03	0.00	0.14	0.14	0.12	0.23	0.23
Crit Moves:			****	****				****		****		
Green Time:	38.9	38.9	38.9	6.2	6.2	6.2	6.2	34.2	73.1	29.7	57.7	63.9
Volume/Cap:	0.17	0.17	0.49	0.49	0.49	0.49	0.09	0.49	0.23	0.49	0.49	0.44
Delay/Veh:	29.5	29.5	33.4	59.7	59.7	59.7	55.1	36.5	11.1	39.6	22.0	17.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	29.5	29.5	33.4	59.7	59.7	59.7	55.1	36.5	11.1	39.6	22.0	17.8
LOS by Move:	C	C	C	E	E	E	E	D	B	D	C	B
HCM2k95thQ:	5	5	17	5	5	5	1	16	9	14	20	18

Note: Queue reported is the number of cars per lane.

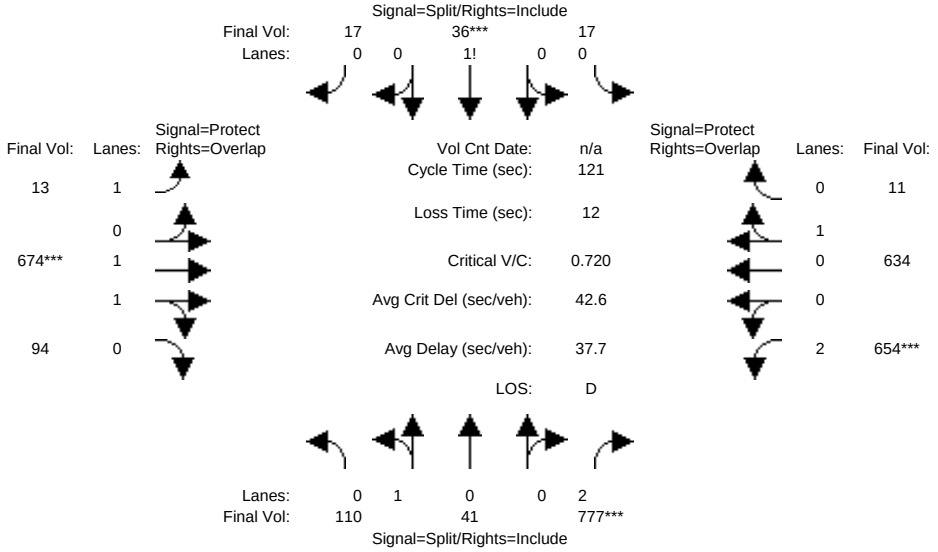
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum School PM No Project

Intersection #1: Diablo Rd and El Cerro Blvd



Street Name:	Diablo Road						El Cerro Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	103	39	730	16	34	16	12	634	88	615	596	10
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	103	39	730	16	34	16	12	634	88	615	596	10
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	103	39	730	16	34	16	12	634	88	615	596	10
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	110	41	777	17	36	17	13	674	94	654	634	11
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	110	41	777	17	36	17	13	674	94	654	634	11
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	110	41	777	17	36	17	13	674	94	654	634	11
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Lanes:	0.73	0.27	2.00	0.24	0.52	0.24	1.00	1.76	0.24	2.00	0.98	0.02
Final Sat.:	1378	522	3344	461	979	461	1900	3337	463	3686	1869	31
Capacity Analysis Module:												
Vol/Sat:	0.08	0.08	0.23	0.04	0.04	0.04	0.01	0.20	0.20	0.18	0.34	0.34
Crit Moves:			****		****			****		****		
Green Time:	39.0	39.0	39.0	6.2	6.2	6.2	4.3	34.0	73.0	29.8	59.4	65.6
Volume/Cap:	0.25	0.25	0.72	0.72	0.72	0.72	0.19	0.72	0.34	0.72	0.69	0.63
Delay/Veh:	30.4	30.4	38.6	79.4	79.4	79.4	57.9	41.7	12.0	44.6	25.9	20.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	30.4	30.4	38.6	79.4	79.4	79.4	57.9	41.7	12.0	44.6	25.9	20.4
LOS by Move:	C	C	D	E	E	E	E	D	B	D	C	C
HCM2k95thQ:	8	8	27	8	8	8	1	25	13	23	32	29

Note: Queue reported is the number of cars per lane.

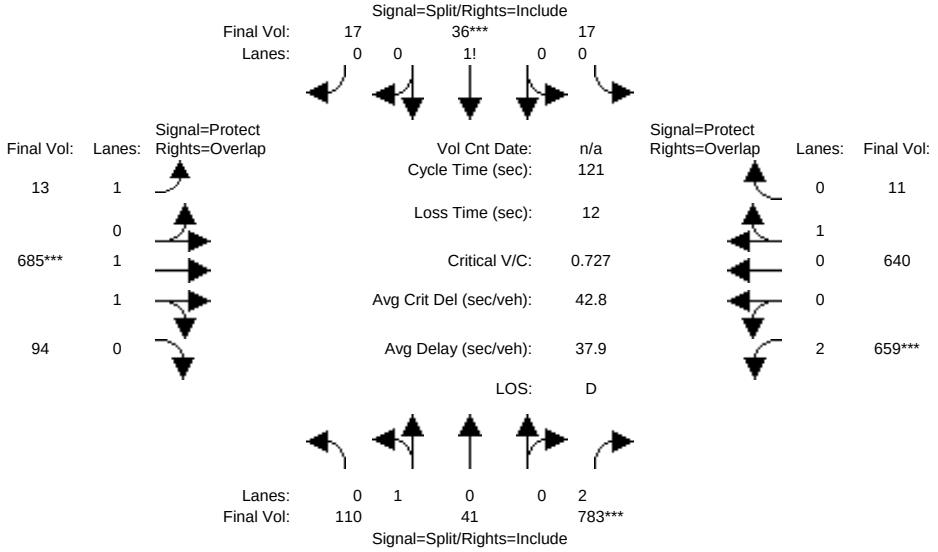
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc1 School PM w/Proj

Intersection #1: Diablo Rd and El Cerro Blvd



Street Name:	Diablo Road						El Cerro Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	103	39	736	16	34	16	12	644	88	619	602	10
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	103	39	736	16	34	16	12	644	88	619	602	10
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	103	39	736	16	34	16	12	644	88	619	602	10
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	110	41	783	17	36	17	13	685	94	659	640	11
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	110	41	783	17	36	17	13	685	94	659	640	11
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	110	41	783	17	36	17	13	685	94	659	640	11
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Lanes:	0.73	0.27	2.00	0.24	0.52	0.24	1.00	1.76	0.24	2.00	0.98	0.02
Final Sat.:	1378	522	3344	461	979	461	1900	3343	457	3686	1869	31
Capacity Analysis Module:												
Vol/Sat:	0.08	0.08	0.23	0.04	0.04	0.04	0.01	0.20	0.20	0.18	0.34	0.34
Crit Moves:			****		****			****		****		
Green Time:	39.0	39.0	39.0	6.2	6.2	6.2	4.3	34.1	73.1	29.7	59.6	65.7
Volume/Cap:	0.25	0.25	0.73	0.73	0.73	0.73	0.19	0.73	0.34	0.73	0.70	0.63
Delay/Veh:	30.4	30.4	38.8	80.5	80.5	80.5	58.0	41.8	12.0	44.9	26.1	20.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	30.4	30.4	38.8	80.5	80.5	80.5	58.0	41.8	12.0	44.9	26.1	20.5
LOS by Move:	C	C	D	F	F	F	E	D	B	D	C	C
HCM2k95thQ:	8	8	27	8	8	8	1	25	13	23	33	29

Note: Queue reported is the number of cars per lane.

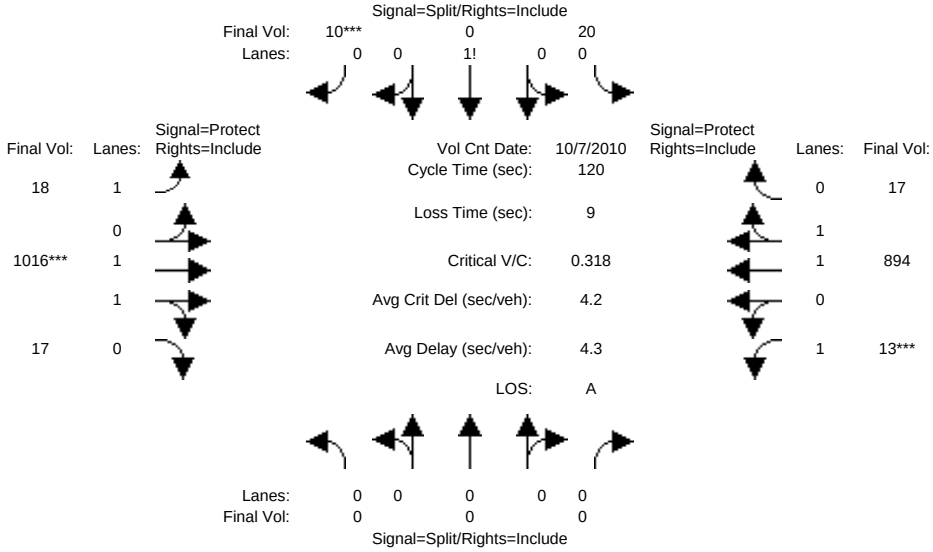
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing School PM

Intersection #2: Matadera Wy and Diablo Rd



Street Name:	Matadera Way						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 7 Oct 2010 <<												
Base Vol:	0	0	0	17	0	8	15	843	14	11	742	14
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	17	0	8	15	843	14	11	742	14
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	17	0	8	15	843	14	11	742	14
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
PHF Volume:	0	0	0	20	0	10	18	1016	17	13	894	17
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	20	0	10	18	1016	17	13	894	17
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	20	0	10	18	1016	17	13	894	17
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.68	0.00	0.32	1.00	1.97	0.03	1.00	1.96	0.04
Final Sat.:	0	0	0	1292	0	608	1900	3738	62	1900	3730	70
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.02	0.00	0.02	0.01	0.27	0.27	0.01	0.24	0.24
Crit Moves:						****		****		****		
Green Time:	0.0	0.0	0.0	6.0	0.0	6.0	9.9	102	102.0	3.0	95.1	95.1
Volume/Cap:	0.00	0.00	0.00	0.32	0.00	0.32	0.12	0.32	0.32	0.28	0.30	0.30
Delay/Veh:	0.0	0.0	0.0	57.0	0.0	57.0	51.3	1.9	1.9	60.6	3.4	3.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	57.0	0.0	57.0	51.3	1.9	1.9	60.6	3.4	3.4
LOS by Move:	A	A	A	E	A	E	D	A	A	E	A	A
HCM2k95thQ:	0	0	0	3	0	3	1	8	8	2	9	9

Note: Queue reported is the number of cars per lane.

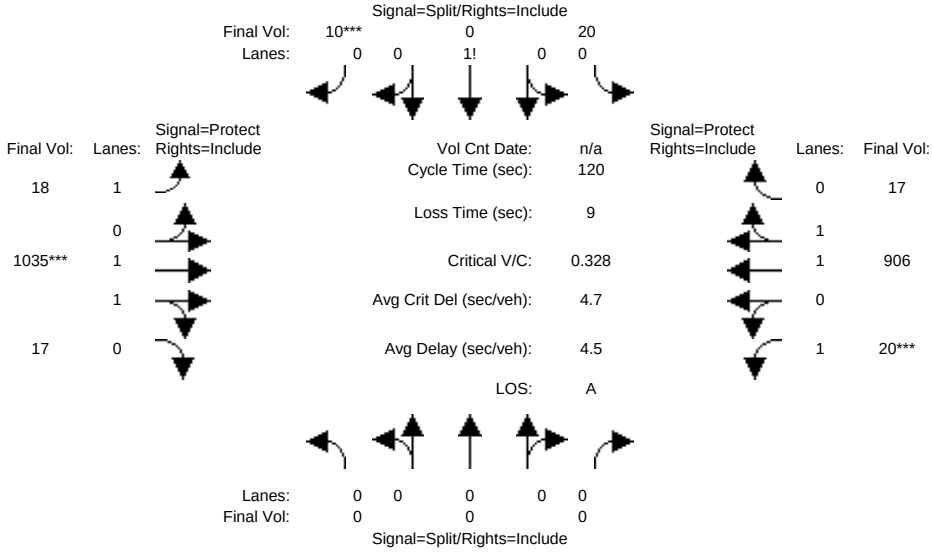
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Project School PM

Intersection #2: Matadera Wy and Diablo Rd



Street Name:	Matadera Way						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	17	0	8	15	859	14	17	752	14
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	17	0	8	15	859	14	17	752	14
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	17	0	8	15	859	14	17	752	14
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
PHF Volume:	0	0	0	20	0	10	18	1035	17	20	906	17
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	20	0	10	18	1035	17	20	906	17
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	20	0	10	18	1035	17	20	906	17
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.68	0.00	0.32	1.00	1.97	0.03	1.00	1.96	0.04
Final Sat.:	0	0	0	1292	0	608	1900	3739	61	1900	3731	69
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.02	0.00	0.02	0.01	0.28	0.28	0.01	0.24	0.24
Crit Moves:						****		****		****		
Green Time:	0.0	0.0	0.0	5.8	0.0	5.8	9.8	101	101.3	3.9	95.4	95.4
Volume/Cap:	0.00	0.00	0.00	0.33	0.00	0.33	0.12	0.33	0.33	0.33	0.31	0.31
Delay/Veh:	0.0	0.0	0.0	57.3	0.0	57.3	51.4	2.1	2.1	59.8	3.4	3.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	57.3	0.0	57.3	51.4	2.1	2.1	59.8	3.4	3.4
LOS by Move:	A	A	A	E	A	E	D	A	A	E	A	A
HCM2k95thQ:	0	0	0	3	0	3	1	8	8	2	9	9

Note: Queue reported is the number of cars per lane.

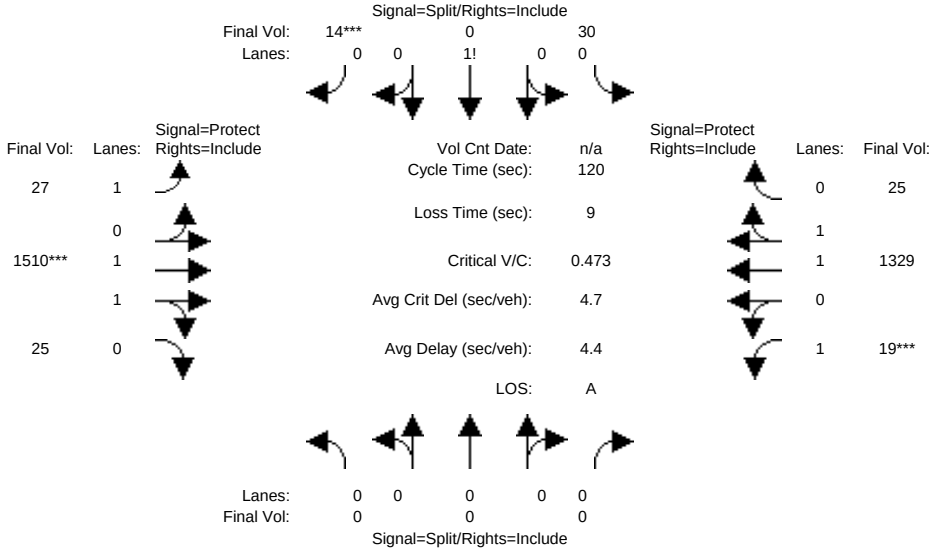
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum School PM No Project

Intersection #2: Matadera Wy and Diablo Rd



Street Name:	Matadera Way						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	25	0	12	22	1253	21	16	1103	21
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	25	0	12	22	1253	21	16	1103	21
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	25	0	12	22	1253	21	16	1103	21
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
PHF Volume:	0	0	0	30	0	14	27	1510	25	19	1329	25
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	30	0	14	27	1510	25	19	1329	25
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	30	0	14	27	1510	25	19	1329	25
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.68	0.00	0.32	1.00	1.97	0.03	1.00	1.96	0.04
Final Sat.:	0	0	0	1284	0	616	1900	3737	63	1900	3729	71
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.02	0.00	0.02	0.01	0.40	0.40	0.01	0.36	0.36
Crit Moves:						****		****		****		
Green Time:	0.0	0.0	0.0	5.9	0.0	5.9	6.9	102	102.1	3.0	98.2	98.2
Volume/Cap:	0.00	0.00	0.00	0.47	0.00	0.47	0.24	0.47	0.47	0.41	0.44	0.44
Delay/Veh:	0.0	0.0	0.0	59.3	0.0	59.3	55.2	2.4	2.4	63.2	3.2	3.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	59.3	0.0	59.3	55.2	2.4	2.4	63.2	3.2	3.2
LOS by Move:	A	A	A	E	A	E	E	A	A	E	A	A
HCM2k95thQ:	0	0	0	5	0	5	2	14	14	3	14	14

Note: Queue reported is the number of cars per lane.

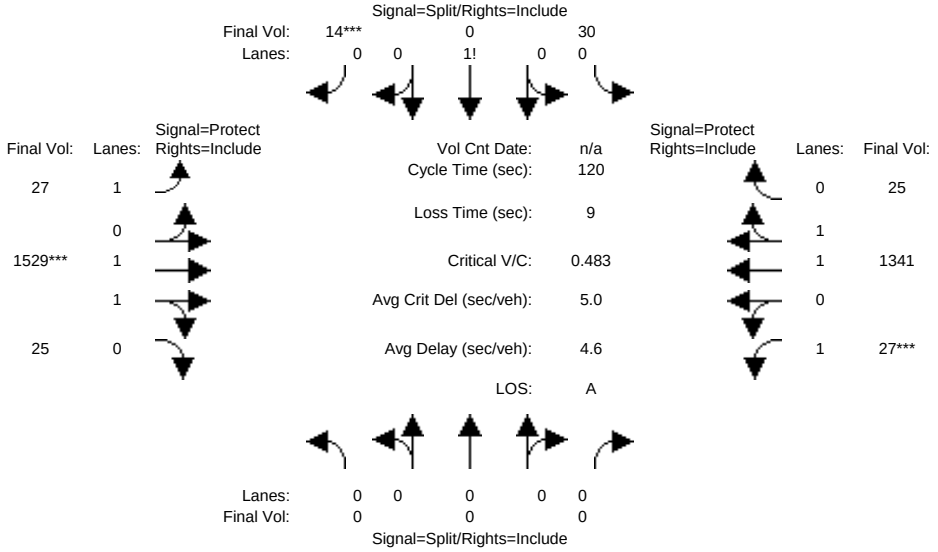
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc1 School PM w/Proj

Intersection #2: Matadera Wy and Diablo Rd



Street Name:	Matadera Way						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	25	0	12	22	1269	21	22	1113	21
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	25	0	12	22	1269	21	22	1113	21
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	25	0	12	22	1269	21	22	1113	21
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
PHF Volume:	0	0	0	30	0	14	27	1529	25	27	1341	25
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	30	0	14	27	1529	25	27	1341	25
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	30	0	14	27	1529	25	27	1341	25
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.68	0.00	0.32	1.00	1.97	0.03	1.00	1.96	0.04
Final Sat.:	0	0	0	1284	0	616	1900	3738	62	1900	3730	70
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.02	0.00	0.02	0.01	0.41	0.41	0.01	0.36	0.36
Crit Moves:						****		****		****		
Green Time:	0.0	0.0	0.0	5.8	0.0	5.8	6.8	102	101.7	3.5	98.3	98.3
Volume/Cap:	0.00	0.00	0.00	0.48	0.00	0.48	0.24	0.48	0.48	0.48	0.44	0.44
Delay/Veh:	0.0	0.0	0.0	59.5	0.0	59.5	55.3	2.5	2.5	63.9	3.2	3.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	59.5	0.0	59.5	55.3	2.5	2.5	63.9	3.2	3.2
LOS by Move:	A	A	A	E	A	E	E	A	A	E	A	A
HCM2k95thQ:	0	0	0	5	0	5	2	14	14	3	14	14

Note: Queue reported is the number of cars per lane.

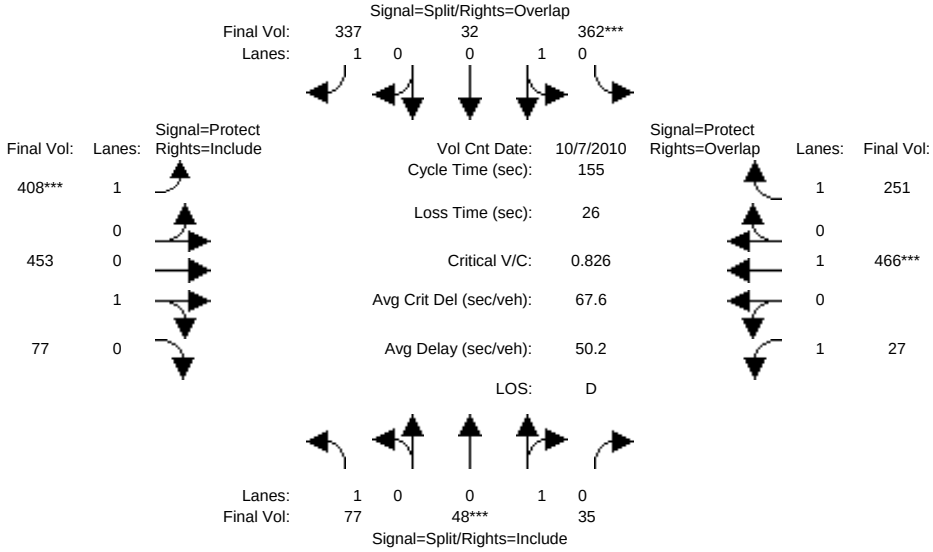
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing School PM

Intersection #3: Green Valley Rd and Diablo Rd



Street Name:	Green Valley Road						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 7 Oct 2010 <<												
Base Vol:	71	44	32	333	29	310	375	417	71	25	429	231
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	71	44	32	333	29	310	375	417	71	25	429	231
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	71	44	32	333	29	310	375	417	71	25	429	231
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	77	48	35	362	32	337	408	453	77	27	466	251
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	77	48	35	362	32	337	408	453	77	27	466	251
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	77	48	35	362	32	337	408	453	77	27	466	251
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.58	0.42	0.92	0.08	1.00	1.00	0.85	0.15	1.00	1.00	1.00
Final Sat.:	1900	1100	800	1748	152	1900	1900	1624	276	1900	2100	1900
Capacity Analysis Module:												
Vol/Sat:	0.04	0.04	0.04	0.21	0.21	0.18	0.21	0.28	0.28	0.01	0.22	0.13
Crit Moves:		****		****			****				****	
Green Time:	8.2	8.2	8.2	38.9	38.9	79.2	40.3	76.6	76.6	5.3	41.7	80.6
Volume/Cap:	0.77	0.83	0.83	0.83	0.83	0.35	0.83	0.56	0.56	0.42	0.83	0.25
Delay/Veh:	102.5	113	113.2	66.1	66.1	22.8	65.0	28.3	28.3	77.6	62.9	20.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	102.5	113	113.2	66.1	66.1	22.8	65.0	28.3	28.3	77.6	62.9	20.7
LOS by Move:	F	F	F	E	E	C	E	C	C	E	E	C
HCM2k95thQ:	10	11	11	33	33	17	34	30	30	4	38	12

Note: Queue reported is the number of cars per lane.

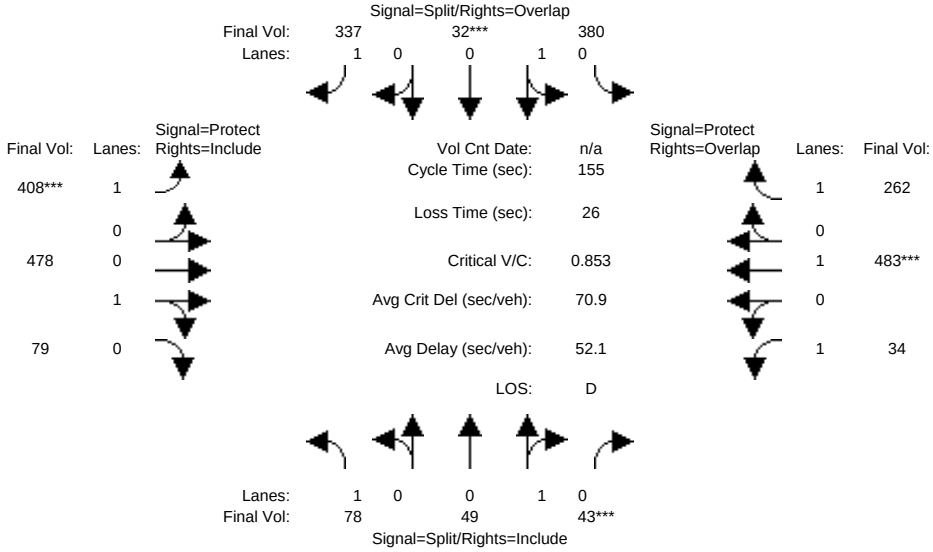
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Project School PM

Intersection #3: Green Valley Rd and Diablo Rd



Street Name:	Green Valley Road						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	72	45	40	350	29	310	375	440	73	31	444	241
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	72	45	40	350	29	310	375	440	73	31	444	241
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	72	45	40	350	29	310	375	440	73	31	444	241
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	78	49	43	380	32	337	408	478	79	34	483	262
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	78	49	43	380	32	337	408	478	79	34	483	262
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	78	49	43	380	32	337	408	478	79	34	483	262
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.53	0.47	0.92	0.08	1.00	1.00	0.86	0.14	1.00	1.00	1.00
Final Sat.:	1900	1006	894	1755	145	1900	1900	1630	270	1900	2100	1900
Capacity Analysis Module:												
Vol/Sat:	0.04	0.05	0.05	0.22	0.22	0.18	0.21	0.29	0.29	0.02	0.23	0.14
Crit Moves:			****		****		****				****	
Green Time:	8.8	8.8	8.8	39.4	39.4	78.4	39.0	75.8	75.8	5.0	41.8	81.2
Volume/Cap:	0.72	0.85	0.85	0.85	0.85	0.35	0.85	0.60	0.60	0.55	0.85	0.26
Delay/Veh:	93.0	117	116.6	68.7	68.7	23.2	69.1	29.8	29.8	84.2	65.6	20.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	93.0	117	116.6	68.7	68.7	23.2	69.1	29.8	29.8	84.2	65.6	20.5
LOS by Move:	F	F	F	E	E	C	E	C	C	F	E	C
HCM2k95thQ:	10	12	12	35	35	17	35	32	32	5	40	13

Note: Queue reported is the number of cars per lane.

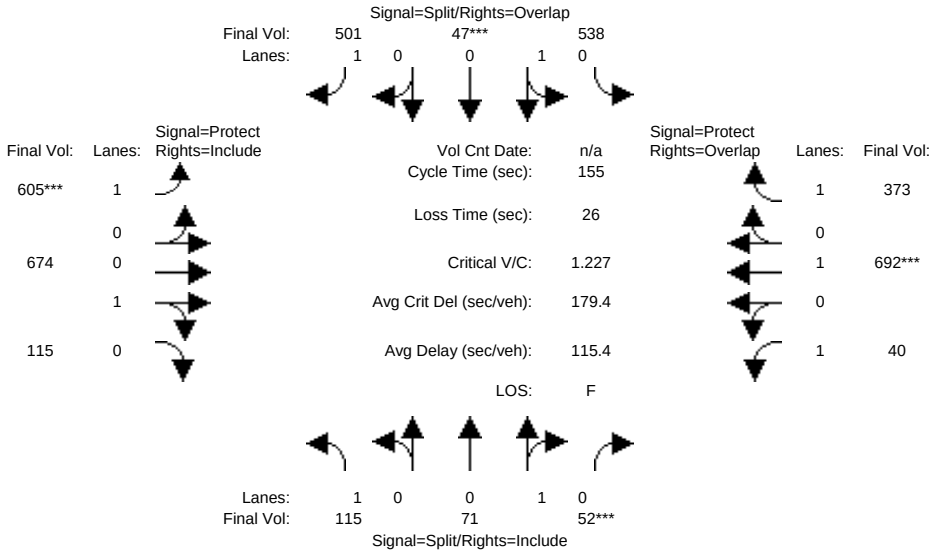
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum School PM No Project

Intersection #3: Green Valley Rd and Diablo Rd



Street Name:	Green Valley Road						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	106	65	48	495	43	461	557	620	106	37	637	343
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	106	65	48	495	43	461	557	620	106	37	637	343
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	106	65	48	495	43	461	557	620	106	37	637	343
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	115	71	52	538	47	501	605	674	115	40	692	373
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	115	71	52	538	47	501	605	674	115	40	692	373
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	115	71	52	538	47	501	605	674	115	40	692	373
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.58	0.42	0.92	0.08	1.00	1.00	0.85	0.15	1.00	1.00	1.00
Final Sat.:	1900	1093	807	1748	152	1900	1900	1623	277	1900	2100	1900
Capacity Analysis Module:												
Vol/Sat:	0.06	0.06	0.06	0.31	0.31	0.26	0.32	0.42	0.42	0.02	0.33	0.20
Crit Moves:			****		****		****				****	
Green Time:	8.2	8.2	8.2	38.9	38.9	79.2	40.3	78.0	78.0	4.0	41.7	80.6
Volume/Cap:	1.15	1.23	1.23	1.23	1.23	0.52	1.23	0.83	0.83	0.83	1.23	0.38
Delay/Veh:	209.5	236	236.3	177.4	177	25.7	176.2	38.7	38.7	142.9	174	22.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	209.5	236	236.3	177.4	177	25.7	176.2	38.7	38.7	142.9	174	22.5
LOS by Move:	F	F	F	F	F	C	F	D	D	F	F	C
HCM2k95thQ:	18	20	20	67	67	27	69	52	52	7	77	19

Note: Queue reported is the number of cars per lane.

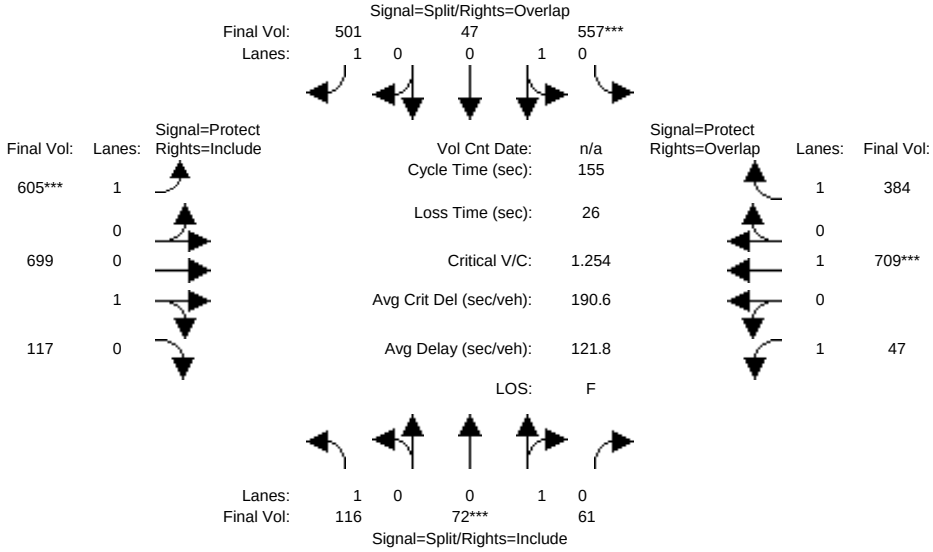
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc1 School PM w/Proj

Intersection #3: Green Valley Rd and Diablo Rd



Street Name:	Green Valley Road						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	107	66	56	512	43	461	557	643	108	43	652	353
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	107	66	56	512	43	461	557	643	108	43	652	353
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	107	66	56	512	43	461	557	643	108	43	652	353
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	116	72	61	557	47	501	605	699	117	47	709	384
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	116	72	61	557	47	501	605	699	117	47	709	384
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	116	72	61	557	47	501	605	699	117	47	709	384
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.54	0.46	0.92	0.08	1.00	1.00	0.86	0.14	1.00	1.00	1.00
Final Sat.:	1900	1028	872	1753	147	1900	1900	1627	273	1900	2100	1900
Capacity Analysis Module:												
Vol/Sat:	0.06	0.07	0.07	0.32	0.32	0.26	0.32	0.43	0.43	0.02	0.34	0.20
Crit Moves:		****		****			****				****	
Green Time:	8.6	8.6	8.6	39.3	39.3	78.6	39.4	76.7	76.7	4.4	41.7	81.0
Volume/Cap:	1.10	1.25	1.25	1.25	1.25	0.52	1.25	0.87	0.87	0.87	1.25	0.39
Delay/Veh:	190.1	244	243.7	188.2	188	26.0	188.1	43.3	43.3	151.0	185	22.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	190.1	244	243.7	188.2	188	26.0	188.1	43.3	43.3	151.0	185	22.4
LOS by Move:	F	F	F	F	F	C	F	D	D	F	F	C
HCM2k95thQ:	18	21	21	70	70	27	70	57	57	8	80	19

Note: Queue reported is the number of cars per lane.

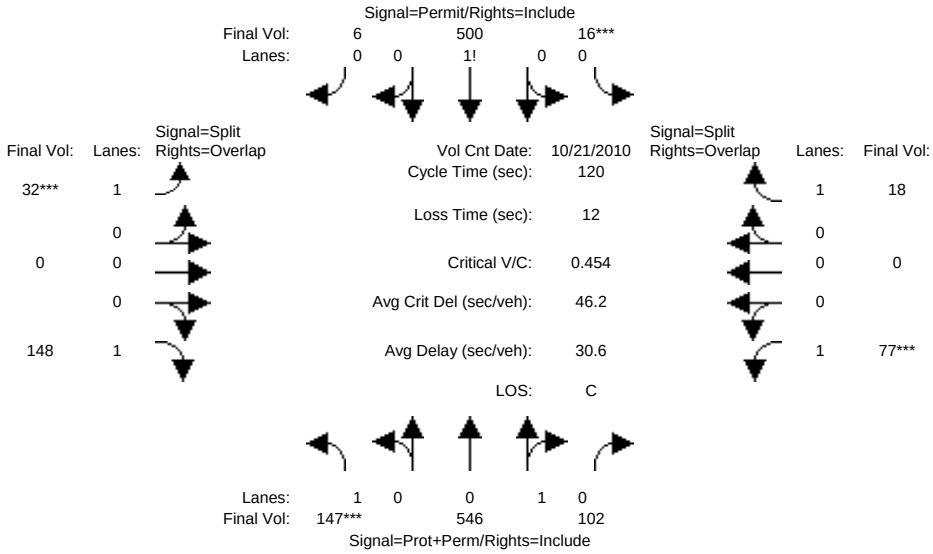
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing School PM

Intersection #4: Green Valley Rd and Blemer Rd/Cameo Dr



Street Name:	Green Valley Road						Blemer Road/Cameo Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	3	3	3	3	3	3	2	3	3	2	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 21 Oct 2010 <<												
Base Vol:	132	491	92	14	450	5	29	0	133	69	0	16
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	132	491	92	14	450	5	29	0	133	69	0	16
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	132	491	92	14	450	5	29	0	133	69	0	16
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	147	546	102	16	500	6	32	0	148	77	0	18
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	147	546	102	16	500	6	32	0	148	77	0	18
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	147	546	102	16	500	6	32	0	148	77	0	18
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.84	0.16	0.03	0.96	0.01	1.00	0.00	1.00	1.00	0.00	1.00
Final Sat.:	1900	1600	300	57	1823	20	1900	0	1900	1900	0	1900
Capacity Analysis Module:												
Vol/Sat:	0.00	0.34	0.34	0.27	0.27	0.27	0.02	0.00	0.08	0.04	0.00	0.01
Crit Moves:	****			****			****			****		
Green Time:	21.7	54.8	54.8	44.0	77.1	77.1	2.7	0.0	24.4	6.5	0.0	50.5
Volume/Cap:	0.43	0.75	0.75	0.75	0.43	0.43	0.75	0.00	0.38	0.75	0.00	0.02
Delay/Veh:	44.5	30.5	30.5	37.6	10.8	10.8	109.8	0.0	41.9	81.6	0.0	20.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	44.5	30.5	30.5	37.6	10.8	10.8	109.8	0.0	41.9	81.6	0.0	20.3
LOS by Move:	D	C	C	D	B	B	F	A	D	F	A	C
HCM2k95thQ:	10	35	35	31	17	17	5	0	10	9	0	1

Note: Queue reported is the number of cars per lane.

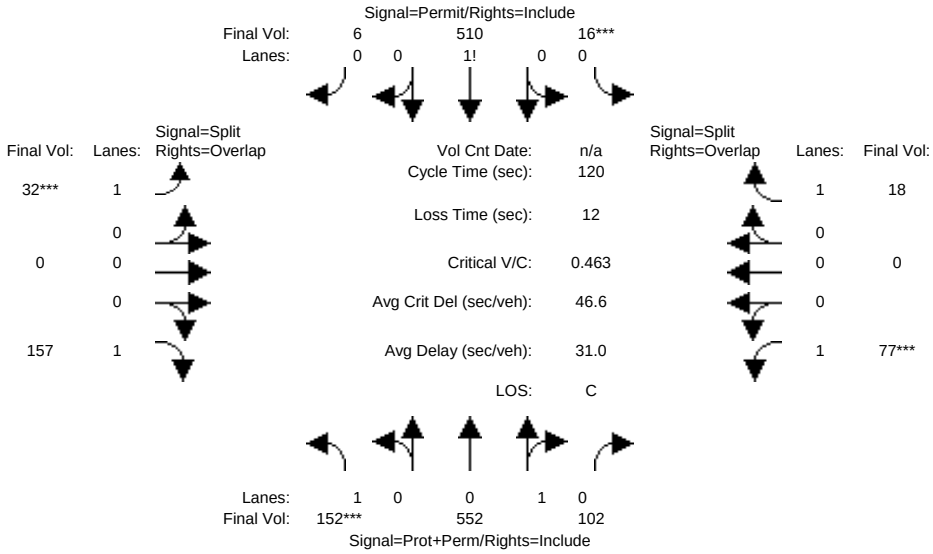
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Project School PM

Intersection #4: Green Valley Rd and Blemer Rd/Cameo Dr



Street Name:	Green Valley Road						Blemer Road/Cameo Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	3	3	3	3	3	3	2	3	3	2	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	137	497	92	14	459	5	29	0	141	69	0	16
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	137	497	92	14	459	5	29	0	141	69	0	16
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	137	497	92	14	459	5	29	0	141	69	0	16
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	152	552	102	16	510	6	32	0	157	77	0	18
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	152	552	102	16	510	6	32	0	157	77	0	18
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	152	552	102	16	510	6	32	0	157	77	0	18
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.84	0.16	0.03	0.96	0.01	1.00	0.00	1.00	1.00	0.00	1.00
Final Sat.:	1900	1603	297	56	1824	20	1900	0	1900	1900	0	1900
Capacity Analysis Module:												
Vol/Sat:	0.00	0.34	0.34	0.28	0.28	0.28	0.02	0.00	0.08	0.04	0.00	0.01
Crit Moves:	****			****			****			****		
Green Time:	22.0	54.6	54.6	44.3	76.9	76.9	2.7	0.0	24.7	6.4	0.0	50.7
Volume/Cap:	0.44	0.76	0.76	0.76	0.44	0.44	0.76	0.00	0.40	0.76	0.00	0.02
Delay/Veh:	44.3	31.1	31.1	37.9	11.0	11.0	112.8	0.0	41.9	83.5	0.0	20.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	44.3	31.1	31.1	37.9	11.0	11.0	112.8	0.0	41.9	83.5	0.0	20.2
LOS by Move:	D	C	C	D	B	B	F	A	D	F	A	C
HCM2k95thQ:	10	35	35	31	18	18	5	0	10	9	0	1

Note: Queue reported is the number of cars per lane.

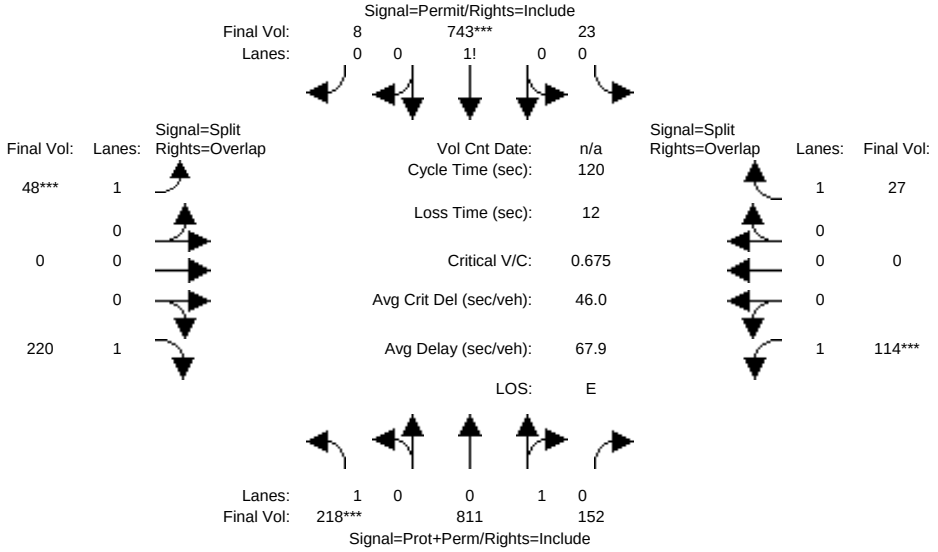
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum School PM No Project

Intersection #4: Green Valley Rd and Blemer Rd/Cameo Dr



Street Name:	Green Valley Road						Blemer Road/Cameo Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	3	3	3	3	3	3	2	3	3	2	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	196	730	137	21	669	7	43	0	198	103	0	24
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	196	730	137	21	669	7	43	0	198	103	0	24
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	196	730	137	21	669	7	43	0	198	103	0	24
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	218	811	152	23	743	8	48	0	220	114	0	27
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	218	811	152	23	743	8	48	0	220	114	0	27
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	218	811	152	23	743	8	48	0	220	114	0	27
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.84	0.16	0.03	0.96	0.01	1.00	0.00	1.00	1.00	0.00	1.00
Final Sat.:	1900	1600	300	57	1824	19	1900	0	1900	1900	0	1900
Capacity Analysis Module:												
Vol/Sat:	0.00	0.51	0.51	0.41	0.41	0.41	0.03	0.00	0.12	0.06	0.00	0.01
Crit Moves:	****				****		****			****		
Green Time:	21.7	54.8	54.8	44.0	77.1	77.1	2.7	0.0	24.4	6.5	0.0	50.5
Volume/Cap:	0.63	1.11	1.11	1.11	0.63	0.63	1.11	0.00	0.57	1.11	0.00	0.03
Delay/Veh:	49.4	98.4	98.4	106.8	14.1	14.1	230.5	0.0	45.1	178.5	0.0	20.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	49.4	98.4	98.4	106.8	14.1	14.1	230.5	0.0	45.1	178.5	0.0	20.4
LOS by Move:	D	F	F	F	B	B	F	A	D	F	A	C
HCM2k95thQ:	16	78	78	65	30	30	9	0	15	16	0	1

Note: Queue reported is the number of cars per lane.

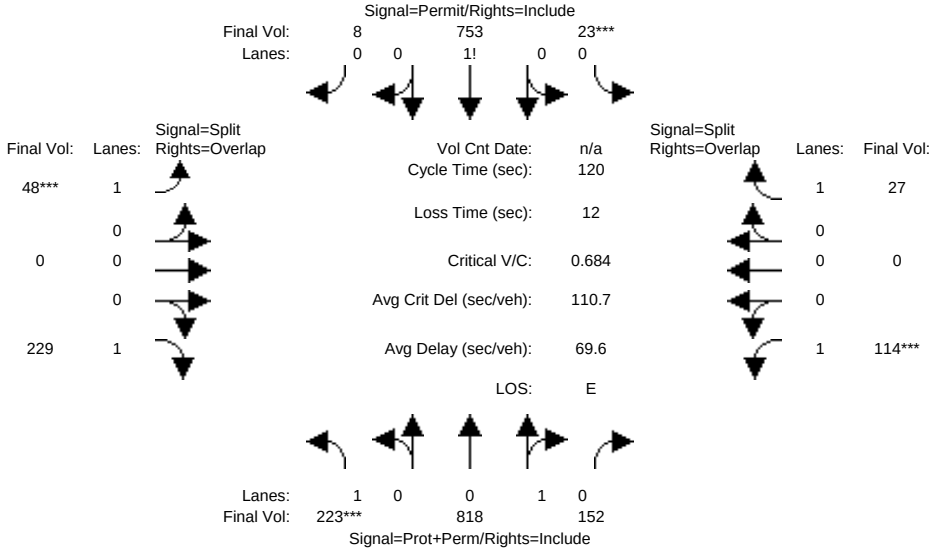
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc1 School PM w/Proj

Intersection #4: Green Valley Rd and Blemer Rd/Cameo Dr



Street Name:	Green Valley Road						Blemer Road/Cameo Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	3	3	3	3	3	3	2	3	3	2	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	201	736	137	21	678	7	43	0	206	103	0	24
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	201	736	137	21	678	7	43	0	206	103	0	24
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	201	736	137	21	678	7	43	0	206	103	0	24
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	223	818	152	23	753	8	48	0	229	114	0	27
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	223	818	152	23	753	8	48	0	229	114	0	27
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	223	818	152	23	753	8	48	0	229	114	0	27
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.84	0.16	0.03	0.96	0.01	1.00	0.00	1.00	1.00	0.00	1.00
Final Sat.:	1900	1602	298	57	1825	19	1900	0	1900	1900	0	1900
Capacity Analysis Module:												
Vol/Sat:	0.00	0.51	0.51	0.41	0.41	0.41	0.03	0.00	0.12	0.06	0.00	0.01
Crit Moves:	****			****			****			****		
Green Time:	21.9	54.7	54.7	44.2	77.0	77.0	2.7	0.0	24.6	6.4	0.0	50.7
Volume/Cap:	0.64	1.12	1.12	1.12	0.64	0.64	1.12	0.00	0.59	1.12	0.00	0.03
Delay/Veh:	49.5	102	102.2	110.2	14.3	14.3	234.3	0.0	45.5	182.1	0.0	20.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	49.5	102	102.2	110.2	14.3	14.3	234.3	0.0	45.5	182.1	0.0	20.3
LOS by Move:	D	F	F	F	B	B	F	A	D	F	A	C
HCM2k95thQ:	16	79	79	66	31	31	9	0	15	16	0	1

Note: Queue reported is the number of cars per lane.

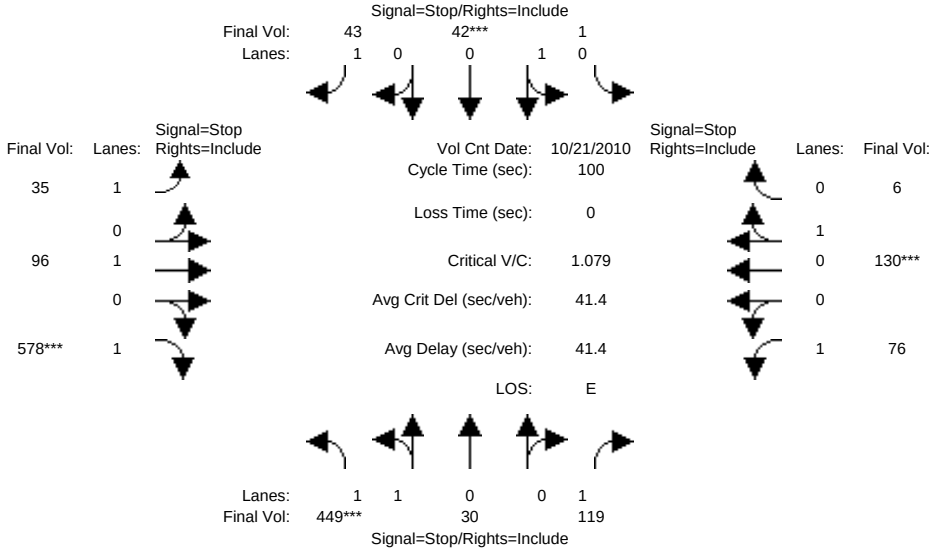
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing School PM

Intersection #5: Green Valley Rd and Stone Valley Rd




```
Street Name:        Green Valley Road                 Stone Valley Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 21 Oct 2010 <<
Base Vol:     355   24    94     1   33    34    28   76   457    60  103     5
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  355   24    94     1   33    34    28   76   457    60  103     5
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  355   24    94     1   33    34    28   76   457    60  103     5
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.79 0.79  0.79  0.79 0.79  0.79  0.79 0.79  0.79  0.79 0.79  0.79
PHF Volume:   449   30   119     1   42    43    35   96   578    76  130     6
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  449   30   119     1   42    43    35   96   578    76  130     6
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  449   30   119     1   42    43    35   96   578    76  130     6
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.87 0.13  1.00  0.03 0.97  1.00  1.00 1.00  1.00  1.00 0.95  0.05
Final Sat.:   830   56   515    12  410   461   443  474   536   428  437    21
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.54 0.54  0.23  0.10 0.10  0.09  0.08 0.20  1.08  0.18 0.30  0.30
Crit Moves:  ****                 ****                  ****       ****
Delay/Veh:   19.7 19.6  11.6  11.8 11.8  10.9  11.3 11.9  87.1  12.6 13.4  13.4
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  19.7 19.6  11.6  11.8 11.8  10.9  11.3 11.9  87.1  12.6 13.4  13.4
LOS by Move:    C    C     B     B    B     B     B    B     F     B    B     B
ApproachDel:      18.1             11.4             73.1             13.1
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:       18.1             11.4             73.1             13.1
LOS by Appr:         C                B                F                B
AllWayAvgQ:   1.1  1.1   0.3   0.1  0.1   0.1   0.1  0.2  11.6   0.2  0.4   0.4
Note: Queue reported is the number of cars per lane.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #5 Green Valley Rd and Stone Valley Rd

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Lanes:	1	1	0	0 1	0	1	0	0 1	1	0	1	0 1	1	0	0	1 0
Initial Vol:	355	24		94	1	33		34	28	76		457	60	103		5

Major Street Volume: 729
Minor Approach Volume: 473
Minor Approach Volume Threshold: 510

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

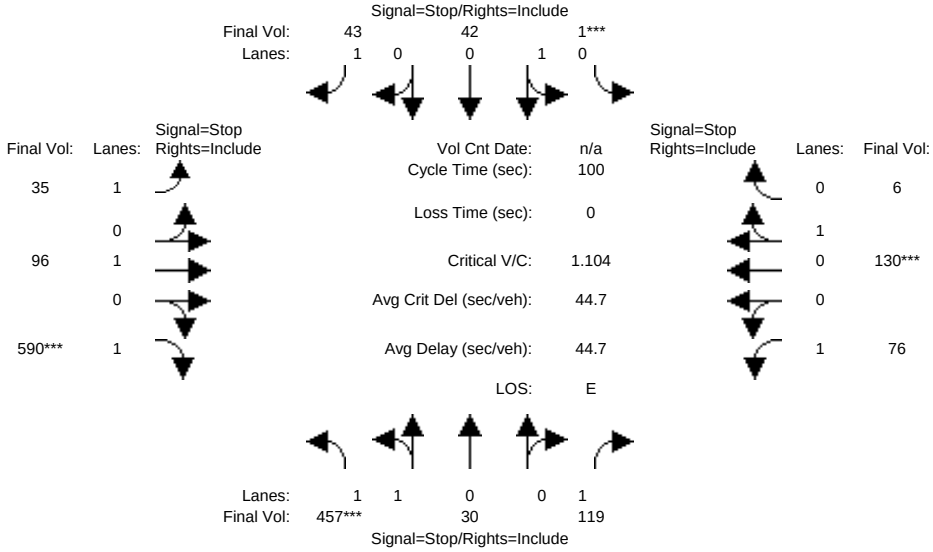
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Project School PM

Intersection #5: Green Valley Rd and Stone Valley Rd




```
Street Name:        Green Valley Road                  Stone Valley Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     361   24    94     1   33    34    28   76   466    60  103     5
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  361   24    94     1   33    34    28   76   466    60  103     5
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  361   24    94     1   33    34    28   76   466    60  103     5
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.79 0.79  0.79  0.79 0.79  0.79  0.79 0.79  0.79  0.79 0.79  0.79
PHF Volume:   457   30   119     1   42    43    35   96   590    76  130     6
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  457   30   119     1   42    43    35   96   590    76  130     6
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  457   30   119     1   42    43    35   96   590    76  130     6
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.88 0.12  1.00  0.03 0.97  1.00  1.00 1.00  1.00  1.00 0.95  0.05
Final Sat.:   831   55   515    12  409   460   442  473   534   427  436    21
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.55 0.55  0.23  0.10 0.10  0.09  0.08 0.20  1.10  0.18 0.30  0.30
Crit Moves:  ****              ****                          ****       ****
Delay/Veh:   20.0 19.9  11.6  11.8 11.8  11.0  11.3 12.0  95.3  12.6 13.5  13.5
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  20.0 19.9  11.6  11.8 11.8  11.0  11.3 12.0  95.3  12.6 13.5  13.5
LOS by Move:    C    C     B     B    B     B     B    B     F     B    B     B
ApproachDel:      18.4             11.4             80.0             13.2
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:       18.4             11.4             80.0             13.2
LOS by Appr:         C                B                F                B
AllWayAvgQ:   1.1  1.1   0.3   0.1  0.1   0.1   0.1  0.2  12.7   0.2  0.4   0.4
Note: Queue reported is the number of cars per lane.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #5 Green Valley Rd and Stone Valley Rd

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Lanes:	1	1	0	0 1	0	1	0	0 1	1	0	1	0 1	1	0	0	1 0
Initial Vol:	361	24		94	1	33		34	28	76		466	60	103		5

Major Street Volume: 738
Minor Approach Volume: 479
Minor Approach Volume Threshold: 505

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

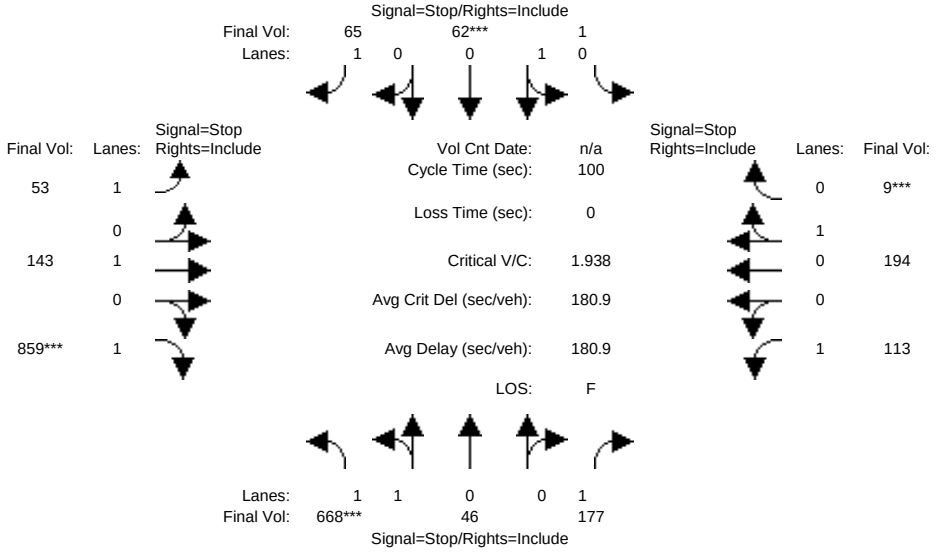
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Cum School PM No Project

Intersection #5: Green Valley Rd and Stone Valley Rd



Street Name:	Green Valley Road						Stone Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Volume Module:												
Base Vol:	528	36	140	1	49	51	42	113	679	89	153	7
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	528	36	140	1	49	51	42	113	679	89	153	7
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	528	36	140	1	49	51	42	113	679	89	153	7
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
PHF Volume:	668	46	177	1	62	65	53	143	859	113	194	9
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	668	46	177	1	62	65	53	143	859	113	194	9
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	668	46	177	1	62	65	53	143	859	113	194	9
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.87	0.13	1.00	0.02	0.98	1.00	1.00	1.00	1.00	1.00	0.96	0.04
Final Sat.:	766	52	466	7	367	404	374	398	444	384	391	18
Capacity Analysis Module:												
Vol/Sat:	0.87	0.87	0.38	0.17	0.17	0.16	0.14	0.36	1.94	0.29	0.50	0.50
Crit Moves:	****				****				****			****
Delay/Veh:	47.9	47.3	14.8	13.7	13.7	12.7	13.5	16.2	448.1	15.5	19.2	19.2
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	47.9	47.3	14.8	13.7	13.7	12.7	13.5	16.2	448.1	15.5	19.2	19.2
LOS by Move:	E	E	B	B	B	B	B	C	F	C	C	C
ApproachDel:		41.3			13.2			367.7			17.8	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		41.3			13.2			367.7			17.8	
LOS by Appr:		E			B			F			C	
AllWayAvgQ:	4.1	4.1	0.6	0.2	0.2	0.2	0.2	0.5	53.9	0.4	0.9	0.9

Note: Queue reported is the number of cars per lane.

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #5 Green Valley Rd and Stone Valley Rd

****

Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Lanes:	1	1	0	0 1	0	1	0	0 1	1	0	1	0 1	1	0	0	1 0
Initial Vol:	528	36		140	1	49		51	42	113		679	89	153		7

Major Street Volume: 1083
Minor Approach Volume: 704
Minor Approach Volume Threshold: 340

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

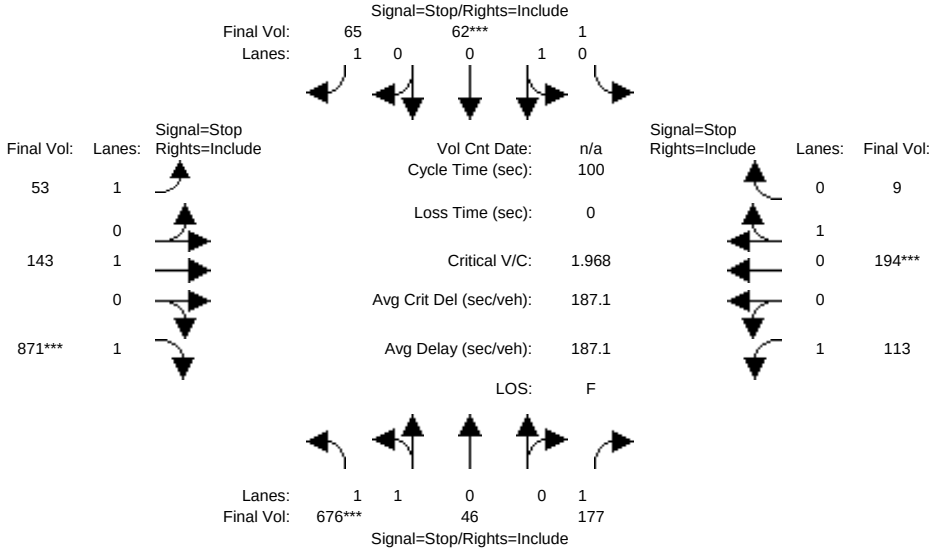
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Cum Sc1 School PM w/Proj

Intersection #5: Green Valley Rd and Stone Valley Rd



Street Name:	Green Valley Road						Stone Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Volume Module:												
Base Vol:	534	36	140	1	49	51	42	113	688	89	153	7
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	534	36	140	1	49	51	42	113	688	89	153	7
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	534	36	140	1	49	51	42	113	688	89	153	7
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
PHF Volume:	676	46	177	1	62	65	53	143	871	113	194	9
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	676	46	177	1	62	65	53	143	871	113	194	9
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	676	46	177	1	62	65	53	143	871	113	194	9
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.87	0.13	1.00	0.02	0.98	1.00	1.00	1.00	1.00	1.00	0.96	0.04
Final Sat.:	766	52	466	7	367	404	374	397	442	383	390	18
Capacity Analysis Module:												
Vol/Sat:	0.88	0.88	0.38	0.17	0.17	0.16	0.14	0.36	1.97	0.29	0.50	0.50
Crit Moves:	****				****				****		****	
Delay/Veh:	49.5	48.8	14.8	13.7	13.7	12.7	13.5	16.2	461.6	15.5	19.2	19.2
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	49.5	48.8	14.8	13.7	13.7	12.7	13.5	16.2	461.6	15.5	19.2	19.2
LOS by Move:	E	E	B	B	B	B	B	C	F	C	C	C
ApproachDel:		42.6			13.2			379.6			17.9	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		42.6			13.2			379.6			17.9	
LOS by Appr:		E			B			F			C	
AllWayAvgQ:	4.3	4.3	0.6	0.2	0.2	0.2	0.2	0.5	55.4	0.4	0.9	0.9

Note: Queue reported is the number of cars per lane.

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #5 Green Valley Rd and Stone Valley Rd

****

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Lanes:	1	1	0	0 1	0	1	0	0 1	1	0	1	0 1	1	0	0	1 0
Initial Vol:	534	36		140	1	49		51	42	113		688	89	153		7

Major Street Volume: 1092
Minor Approach Volume: 710
Minor Approach Volume Threshold: 336

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

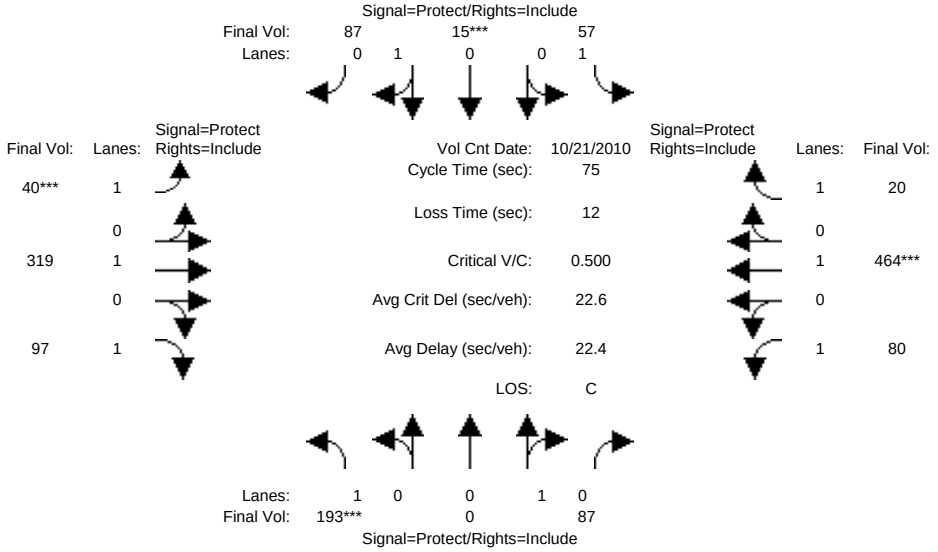
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing School PM

Intersection #6: Monte Vista H.S. Main and Stone Valley Rd



Street Name:	Monte Vista H.S. Main Parking Lot						Stone Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 21 Oct 2010 <<												
Base Vol:	145	0	65	43	11	65	30	239	73	60	348	15
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	145	0	65	43	11	65	30	239	73	60	348	15
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	145	0	65	43	11	65	30	239	73	60	348	15
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
PHF Volume:	193	0	87	57	15	87	40	319	97	80	464	20
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	193	0	87	57	15	87	40	319	97	80	464	20
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	193	0	87	57	15	87	40	319	97	80	464	20
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.00	1.00	1.00	0.14	0.86	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1900	0	1900	1900	275	1625	1900	1900	1900	1900	1900	1900
Capacity Analysis Module:												
Vol/Sat:	0.10	0.00	0.05	0.03	0.05	0.05	0.02	0.17	0.05	0.04	0.24	0.01
Crit Moves:	****				****		****				****	
Green Time:	13.5	0.0	11.8	11.8	10.0	10.0	7.0	25.4	25.4	14.1	32.5	32.5
Volume/Cap:	0.56	0.00	0.29	0.19	0.40	0.40	0.23	0.50	0.15	0.22	0.56	0.02
Delay/Veh:	30.2	0.0	28.5	27.8	30.8	30.8	32.1	20.3	17.4	26.1	16.9	12.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	30.2	0.0	28.5	27.8	30.8	30.8	32.1	20.3	17.4	26.1	16.9	12.2
LOS by Move:	C	A	C	C	C	C	C	C	B	C	B	B
HCM2k95thQ:	10	0	4	3	5	5	2	12	3	3	16	1

Note: Queue reported is the number of cars per lane.

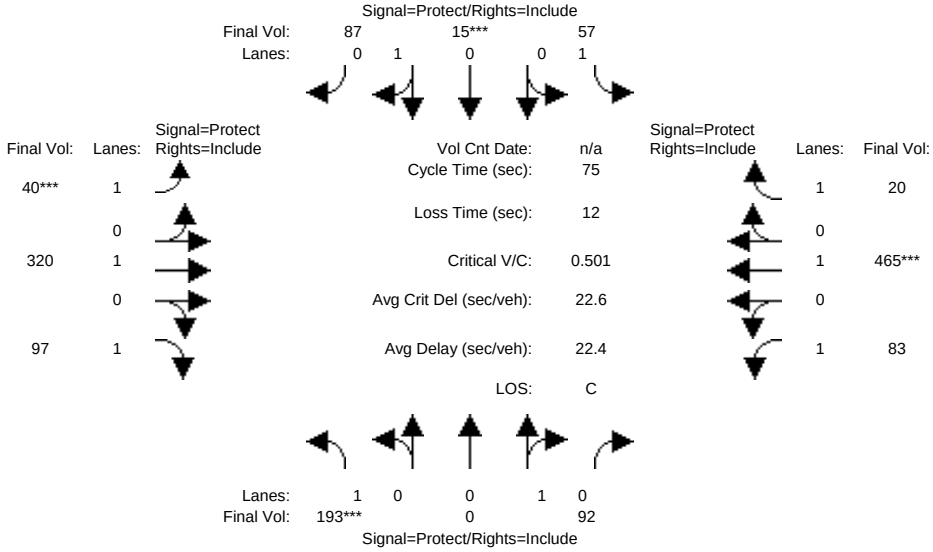
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Project School PM

Intersection #6: Monte Vista H.S. Main and Stone Valley Rd



Street Name:	Monte Vista H.S. Main Parking Lot						Stone Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	145	0	69	43	11	65	30	240	73	62	349	15
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	145	0	69	43	11	65	30	240	73	62	349	15
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	145	0	69	43	11	65	30	240	73	62	349	15
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
PHF Volume:	193	0	92	57	15	87	40	320	97	83	465	20
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	193	0	92	57	15	87	40	320	97	83	465	20
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	193	0	92	57	15	87	40	320	97	83	465	20
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.00	1.00	1.00	0.14	0.86	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1900	0	1900	1900	275	1625	1900	1900	1900	1900	1900	1900
Capacity Analysis Module:												
Vol/Sat:	0.10	0.00	0.05	0.03	0.05	0.05	0.02	0.17	0.05	0.04	0.24	0.01
Crit Moves:	****				****		****				****	
Green Time:	13.5	0.0	11.8	11.8	10.0	10.0	7.0	25.4	25.4	14.1	32.5	32.5
Volume/Cap:	0.57	0.00	0.31	0.19	0.40	0.40	0.23	0.50	0.15	0.23	0.57	0.02
Delay/Veh:	30.3	0.0	28.6	27.8	30.8	30.8	32.1	20.3	17.4	26.2	16.9	12.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	30.3	0.0	28.6	27.8	30.8	30.8	32.1	20.3	17.4	26.2	16.9	12.2
LOS by Move:	C	A	C	C	C	C	C	C	B	C	B	B
HCM2k95thQ:	10	0	4	3	5	5	2	12	3	4	16	1

Note: Queue reported is the number of cars per lane.

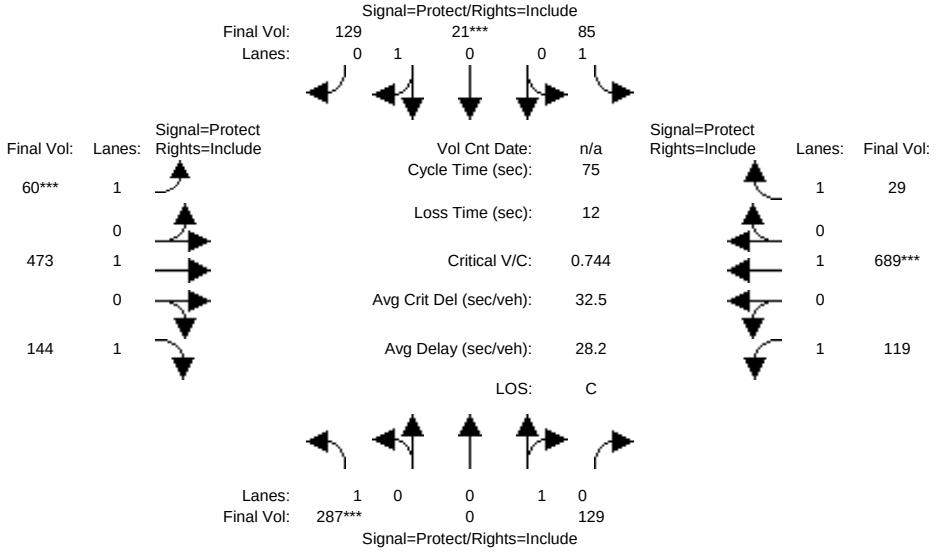
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum School PM No Project

Intersection #6: Monte Vista H.S. Main and Stone Valley Rd



Street Name:	Monte Vista H.S. Main Parking Lot						Stone Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	215	0	97	64	16	97	45	355	108	89	517	22
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	215	0	97	64	16	97	45	355	108	89	517	22
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	215	0	97	64	16	97	45	355	108	89	517	22
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
PHF Volume:	287	0	129	85	21	129	60	473	144	119	689	29
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	287	0	129	85	21	129	60	473	144	119	689	29
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	287	0	129	85	21	129	60	473	144	119	689	29
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.00	1.00	1.00	0.14	0.86	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1900	0	1900	1900	269	1631	1900	1900	1900	1900	1900	1900
Capacity Analysis Module:												
Vol/Sat:	0.15	0.00	0.07	0.04	0.08	0.08	0.03	0.25	0.08	0.06	0.36	0.02
Crit Moves:	****				****		****				****	
Green Time:	13.5	0.0	11.8	11.8	10.0	10.0	7.0	28.7	28.7	10.8	32.5	32.5
Volume/Cap:	0.84	0.00	0.43	0.29	0.59	0.59	0.34	0.65	0.20	0.44	0.84	0.04
Delay/Veh:	46.1	0.0	29.6	28.5	34.4	34.4	33.0	21.1	15.6	30.5	26.5	12.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	46.1	0.0	29.6	28.5	34.4	34.4	33.0	21.1	15.6	30.5	26.5	12.3
LOS by Move:	D	A	C	C	C	C	C	C	B	C	C	B
HCM2k95thQ:	17	0	6	4	8	8	3	18	5	6	29	1

Note: Queue reported is the number of cars per lane.

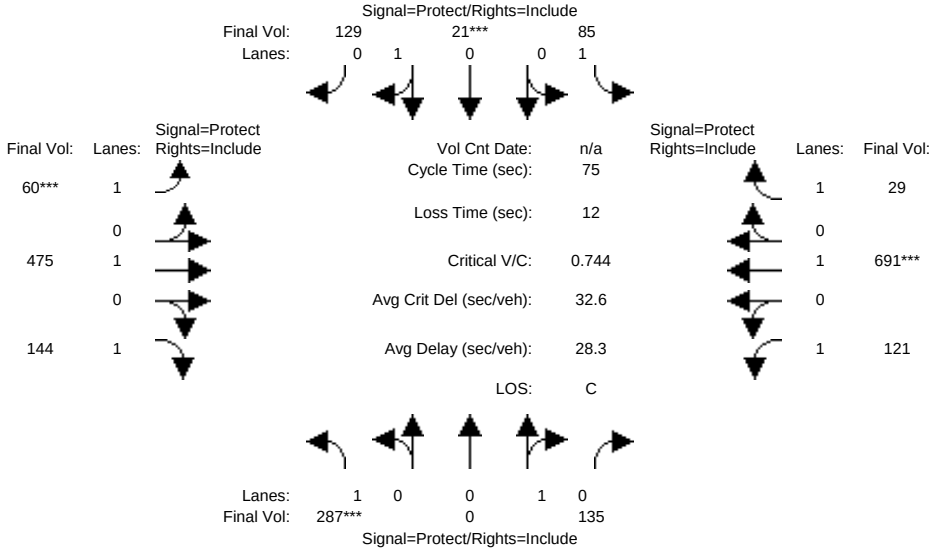
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc1 School PM w/Proj

Intersection #6: Monte Vista H.S. Main and Stone Valley Rd



Street Name:	Monte Vista H.S. Main Parking Lot						Stone Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	215	0	101	64	16	97	45	356	108	91	518	22
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	215	0	101	64	16	97	45	356	108	91	518	22
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	215	0	101	64	16	97	45	356	108	91	518	22
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
PHF Volume:	287	0	135	85	21	129	60	475	144	121	691	29
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	287	0	135	85	21	129	60	475	144	121	691	29
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	287	0	135	85	21	129	60	475	144	121	691	29
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.00	1.00	1.00	0.14	0.86	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1900	0	1900	1900	269	1631	1900	1900	1900	1900	1900	1900
Capacity Analysis Module:												
Vol/Sat:	0.15	0.00	0.07	0.04	0.08	0.08	0.03	0.25	0.08	0.06	0.36	0.02
Crit Moves:	****				****		****				****	
Green Time:	13.5	0.0	11.7	11.7	10.0	10.0	7.0	28.8	28.8	10.7	32.5	32.5
Volume/Cap:	0.84	0.00	0.45	0.29	0.59	0.59	0.34	0.65	0.20	0.45	0.84	0.04
Delay/Veh:	46.2	0.0	29.8	28.5	34.4	34.4	33.0	21.1	15.6	30.6	26.5	12.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	46.2	0.0	29.8	28.5	34.4	34.4	33.0	21.1	15.6	30.6	26.5	12.2
LOS by Move:	D	A	C	C	C	C	C	C	B	C	C	B
HCM2k95thQ:	17	0	7	4	8	8	3	18	5	6	29	1

Note: Queue reported is the number of cars per lane.

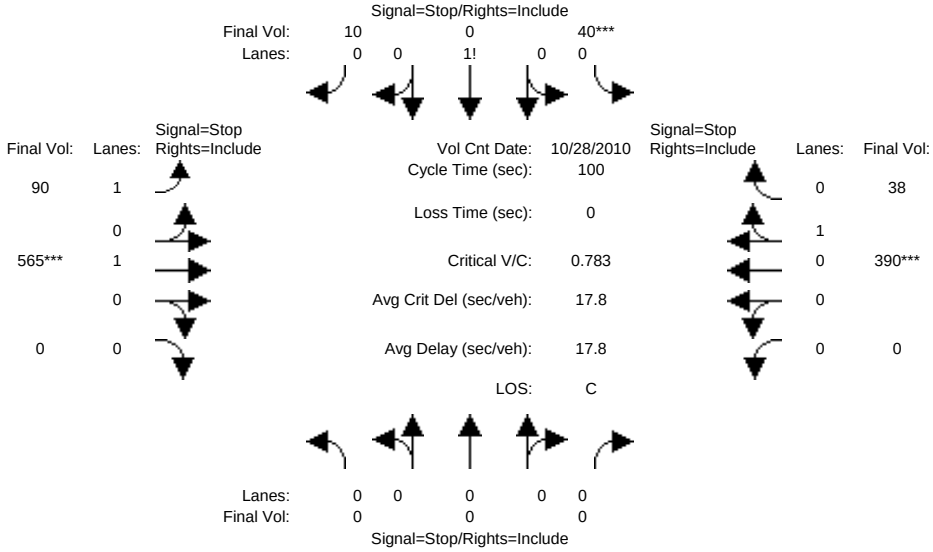
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing School PM

Intersection #7: Mt Diablo Scenic Blvd and Diablo Rd




```
Street Name:      Mt Diablo Scenic Blvd                  Diablo Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 28 Oct 2010 <<
Base Vol:       0    0     0    36    0     9    80  503     0     0  347    34
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    36    0     9    80  503     0     0  347    34
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0    36    0     9    80  503     0     0  347    34
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.89 0.89  0.89  0.89 0.89  0.89  0.89 0.89  0.89  0.89 0.89  0.89
PHF Volume:     0    0     0    40    0    10    90  565     0     0  390    38
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0    0     0    40    0    10    90  565     0     0  390    38
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0    0     0    40    0    10    90  565     0     0  390    38
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 0.00  0.00  0.79 0.01  0.20  1.00 1.00  0.00  0.00 0.91  0.09
Final Sat.:     0    0     0   436    0   109   656  722     0     0  681    67
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx xxxx  xxxx  0.09 0.00  0.09  0.14 0.78  xxxx  xxxx 0.57  0.57
Crit Moves:                  ****                   ****             ****
Delay/Veh:    0.0  0.0   0.0   9.6  9.6   9.6   9.0 22.9   0.0   0.0 13.8  13.8
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0  0.0   0.0   9.6  9.6   9.6   9.0 22.9   0.0   0.0 13.8  13.8
LOS by Move:    *    *     *     A    A     A     A    C     *     *    B     B
ApproachDel:    xxxxxx              9.6             21.0             13.8
Delay Adj:       xxxxx             1.00             1.00             1.00
ApprAdjDel:     xxxxxx              9.6             21.0             13.8
LOS by Appr:         *                A                C                B
AllWayAvgQ:   0.0  0.0   0.0   0.1  0.1   0.1   0.2  3.1   0.0   1.3  1.3   1.3
Note: Queue reported is the number of cars per lane.
                Peak Hour Volume Signal Warrant Report [Urban]
*******************************************************************************
Intersection #7 Mt Diablo Scenic Blvd and Diablo Rd
*******************************************************************************
```

```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    0  0  1! 0  0    1  0  1  0  0    0  0  0  1  0
Initial Vol:    0    0     0    36    0     9    80  503     0     0  347    34
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             964
Minor Approach Volume:           45
Minor Approach Volume Threshold: 297
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

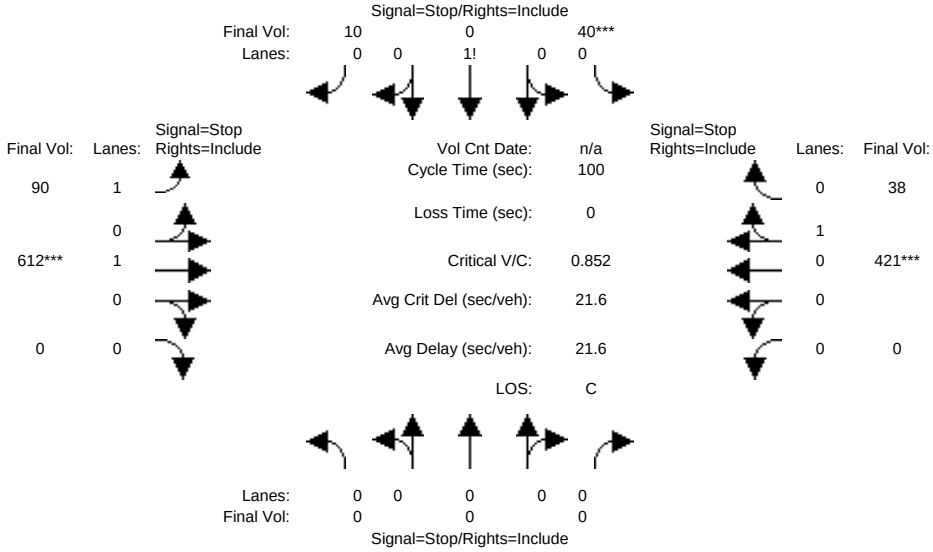

Copyright (c) 2008 Dowling Associates, Inc.

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Project School PM

Intersection #7: Mt Diablo Scenic Blvd and Diablo Rd




```
Street Name:      Mt Diablo Scenic Blvd                  Diablo Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    36    0     9    80  545     0     0  375    34
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    36    0     9    80  545     0     0  375    34
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0    36    0     9    80  545     0     0  375    34
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.89 0.89  0.89  0.89 0.89  0.89  0.89 0.89  0.89  0.89 0.89  0.89
PHF Volume:     0    0     0    40    0    10    90  612     0     0  421    38
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0    0     0    40    0    10    90  612     0     0  421    38
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0    0     0    40    0    10    90  612     0     0  421    38
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 0.00  0.00  0.79 0.01  0.20  1.00 1.00  0.00  0.00 0.92  0.08
Final Sat.:     0    0     0   432    0   108   653  719     0     0  678    61
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx xxxx  xxxx  0.09 0.00  0.09  0.14 0.85  xxxx  xxxx 0.62  0.62
Crit Moves:                  ****                   ****             ****
Delay/Veh:    0.0  0.0   0.0   9.8  9.8   9.8   9.1 29.2   0.0   0.0 15.2  15.2
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0  0.0   0.0   9.8  9.8   9.8   9.1 29.2   0.0   0.0 15.2  15.2
LOS by Move:    *    *     *     A    A     A     A    D     *     *    C     C
ApproachDel:    xxxxxx              9.8             26.6             15.2
Delay Adj:       xxxxx             1.00             1.00             1.00
ApprAdjDel:     xxxxxx              9.8             26.6             15.2
LOS by Appr:         *                A                D                C
AllWayAvgQ:   0.0  0.0   0.0   0.1  0.1   0.1   0.2  4.3   0.0   1.5  1.5   1.5
Note: Queue reported is the number of cars per lane.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #7 Mt Diablo Scenic Blvd and Diablo Rd

****

Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    0  0  1! 0  0    1  0  1  0  0    0  0  0  1  0
Initial Vol:    0    0     0    36    0     9    80  545     0     0  375    34
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1034
Minor Approach Volume:           45
Minor Approach Volume Threshold: 273
-------------------------------------------------------------------------------
```

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

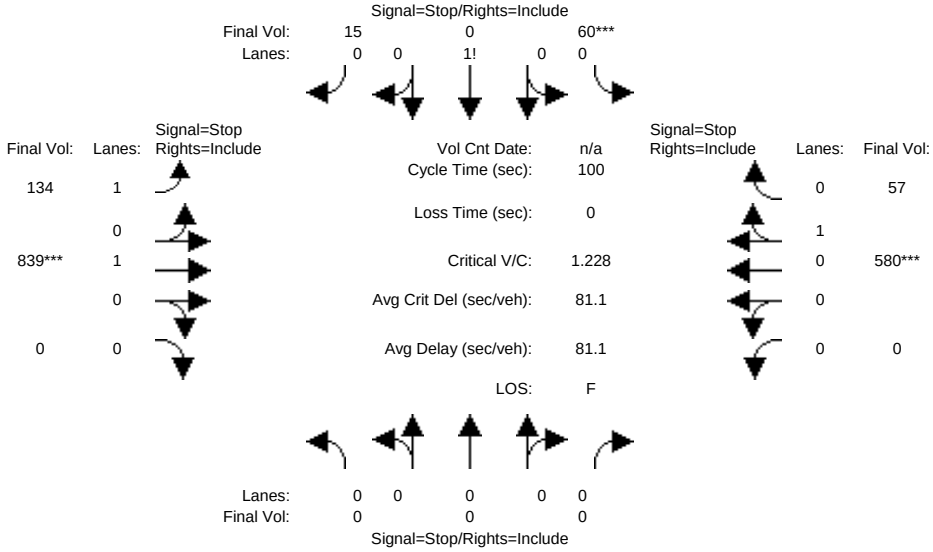
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Cum School PM No Project

Intersection #7: Mt Diablo Scenic Blvd and Diablo Rd




```
Street Name:      Mt Diablo Scenic Blvd                  Diablo Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    53    0    13   119  747     0     0  516    51
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    53    0    13   119  747     0     0  516    51
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0    53    0    13   119  747     0     0  516    51
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.89 0.89  0.89  0.89 0.89  0.89  0.89 0.89  0.89  0.89 0.89  0.89
PHF Volume:     0    0     0    60    0    15   134  839     0     0  580    57
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0    0     0    60    0    15   134  839     0     0  580    57
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0    0     0    60    0    15   134  839     0     0  580    57
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 0.00  0.00  0.80 0.00  0.20  1.00 1.00  0.00  0.00 0.91  0.09
Final Sat.:     0    0     0   425    0   104   624  683     0     0  650    64
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx xxxx  xxxx  0.14 xxxx  0.14  0.21 1.23  xxxx  xxxx 0.89  0.89
Crit Moves:                   ****                   ****             ****
Delay/Veh:    0.0  0.0   0.0  10.7  0.0  10.7  10.0  134   0.0   0.0 34.7  34.7
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0  0.0   0.0  10.7  0.0  10.7  10.0  134   0.0   0.0 34.7  34.7
LOS by Move:    *    *     *     B    *     B     B    F     *     *    D     D
ApproachDel:    xxxxxx             10.7            116.8             34.7
Delay Adj:       xxxxx             1.00             1.00             1.00
ApprAdjDel:     xxxxxx             10.7            116.8             34.7
LOS by Appr:         *                B                F                D
AllWayAvgQ:   0.0  0.0   0.0   0.2  0.2   0.2   0.3 23.9   0.0   5.3  5.3   5.3
Note: Queue reported is the number of cars per lane.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #7 Mt Diablo Scenic Blvd and Diablo Rd

****

```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    0  0  1! 0  0    1  0  1  0  0    0  0  0  1  0
Initial Vol:    0    0     0    53    0    13   119  747     0     0  516    51
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1433
Minor Approach Volume:           66
Minor Approach Volume Threshold: 161
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

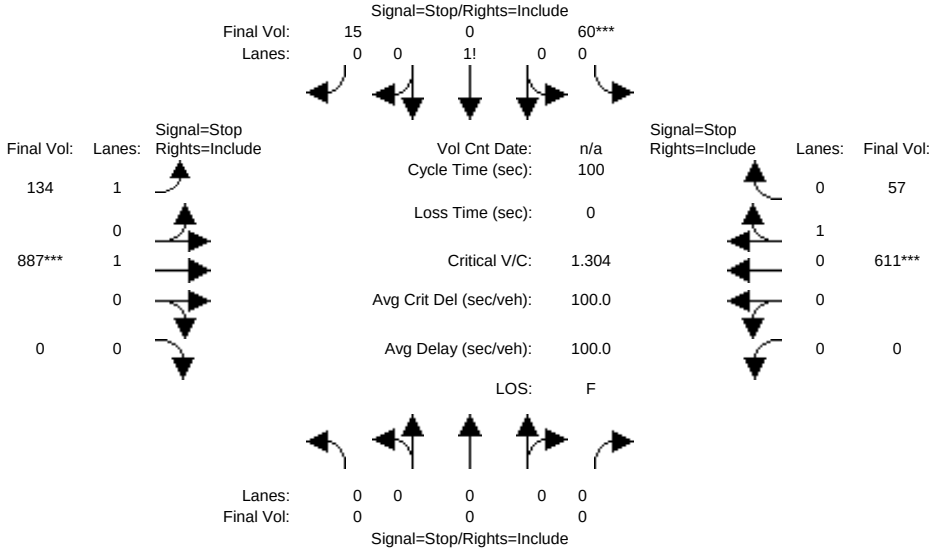

Copyright (c) 2008 Dowling Associates, Inc.
Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Cum Sc1 School PM w/Proj

Intersection #7: Mt Diablo Scenic Blvd and Diablo Rd




```
Street Name:      Mt Diablo Scenic Blvd                  Diablo Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    53    0    13   119  789     0     0  544    51
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    53    0    13   119  789     0     0  544    51
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0    53    0    13   119  789     0     0  544    51
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.89 0.89  0.89  0.89 0.89  0.89  0.89 0.89  0.89  0.89 0.89  0.89
PHF Volume:     0    0     0    60    0    15   134  887     0     0  611    57
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0    0     0    60    0    15   134  887     0     0  611    57
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0    0     0    60    0    15   134  887     0     0  611    57
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 0.00  0.00  0.80 0.00  0.20  1.00 1.00  0.00  0.00 0.91  0.09
Final Sat.:     0    0     0   425    0   104   621  680     0     0  653    61
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx xxxx  xxxx  0.14 xxxx  0.14  0.22 1.30  xxxx  xxxx 0.94  0.94
Crit Moves:                   ****                   ****             ****
Delay/Veh:    0.0  0.0   0.0  10.8  0.0  10.8  10.1  165   0.0   0.0 41.9  41.9
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0  0.0   0.0  10.8  0.0  10.8  10.1  165   0.0   0.0 41.9  41.9
LOS by Move:    *    *     *     B    *     B     B    F     *     *    E     E
ApproachDel:    xxxxxx             10.8            144.5             41.9
Delay Adj:       xxxxx             1.00             1.00             1.00
ApprAdjDel:     xxxxxx             10.8            144.5             41.9
LOS by Appr:         *                B                F                E
AllWayAvgQ:   0.0  0.0   0.0   0.2  0.2   0.2   0.3 29.6   0.0   6.7  6.7   6.7
Note: Queue reported is the number of cars per lane.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #7 Mt Diablo Scenic Blvd and Diablo Rd

****

```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    0  0  1! 0  0    1  0  1  0  0    0  0  0  1  0
Initial Vol:    0    0     0    53    0    13   119  789     0     0  544    51
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1503
Minor Approach Volume:           66
Minor Approach Volume Threshold: 144
-------------------------------------------------------------------------------
```

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

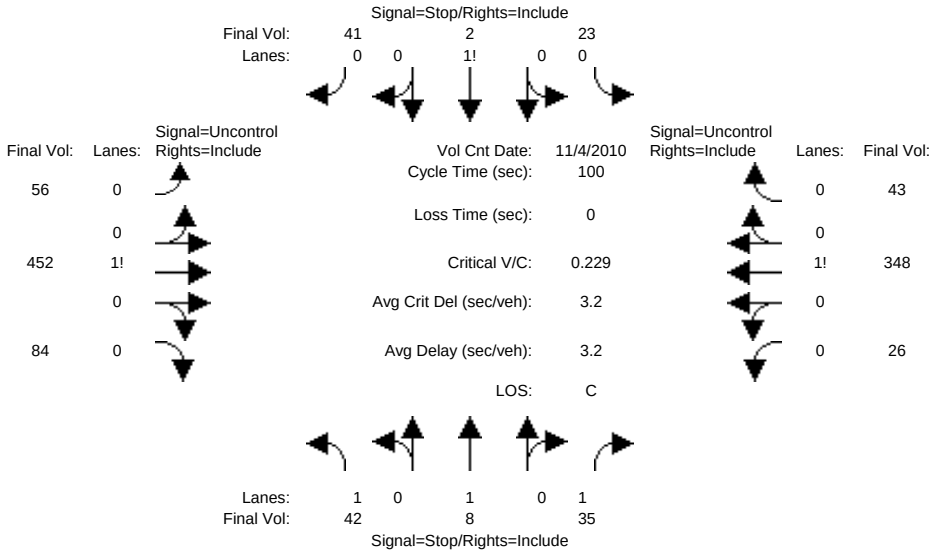
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing School PM

Intersection #8: HIdden Oaks Dr/Magee Ranch Rd and Blackhawk Rd




```
Street Name:  Hidden Oaks Dr/Magee Ranch Rd            Blackhawk Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 4 Nov 2010 <<
Base Vol:      38    7    32    21    2    37    51  411    76    24  317    39
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   38    7    32    21    2    37    51  411    76    24  317    39
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   38    7    32    21    2    37    51  411    76    24  317    39
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.91 0.91  0.91  0.91 0.91  0.91  0.91 0.91  0.91  0.91 0.91  0.91
PHF Volume:    42    8    35    23    2    41    56  452    84    26  348    43
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   42    8    35    23    2    41    56  452    84    26  348    43
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1049 1049   493  1049 1070   370   391 xxxx xxxxx   535 xxxx xxxxx
Potent Cap.:  207  229   580   207  223   680  1178 xxxx xxxxx  1043 xxxx xxxxx
Move Cap.:    182  212   580   179  207   680  1178 xxxx xxxxx  1043 xxxx xxxxx
Volume/Cap:  0.23 0.04  0.06  0.13 0.01  0.06  0.05 xxxx  xxxx  0.03 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.9  0.1   0.2  xxxx xxxx xxxxx   0.1 xxxx xxxxx   0.1 xxxx xxxxx
Control Del: 30.5 22.6  11.6 xxxxx xxxx xxxxx   8.2 xxxx xxxxx   8.5 xxxx xxxxx
LOS by Move:    D    C     B     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  330 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  0.7 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 18.6 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    C     *     *    *     *     *    *     *
ApproachDel:      21.9             18.6           xxxxxx           xxxxxx
ApproachLOS:         C                C                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #8 HIdden Oaks Dr/Magee Ranch Rd and Blackhawk Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```


Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  1  0  1    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   38    7    32    21    2    37    51  411    76    24  317    39
ApproachDel:      21.9             18.6           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=3][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=77]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1055]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
--------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=60]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1055]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                Peak Hour Volume Signal Warrant Report [Urban]
********************************************************************************
Intersection #8 HIdden Oaks Dr/Magee Ranch Rd and Blackhawk Rd
********************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  1  0  1    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   38    7    32    21    2    37    51  411    76    24  317    39
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             918
Minor Approach Volume:           77
Minor Approach Volume Threshold: 319
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

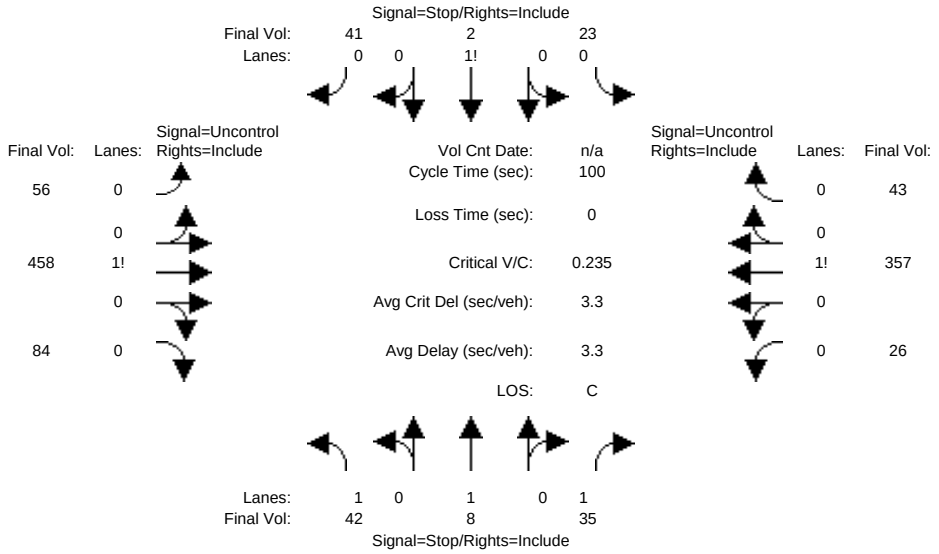

Copyright (c) 2008 Dowling Associates, Inc.
Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Project School PM

Intersection #8: HIdden Oaks Dr/Magee Ranch Rd and Blackhawk Rd




```
Street Name:  Hidden Oaks Dr/Magee Ranch Rd            Blackhawk Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      38    7    32    21    2    37    51  417    76    24  325    39
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   38    7    32    21    2    37    51  417    76    24  325    39
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   38    7    32    21    2    37    51  417    76    24  325    39
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.91 0.91  0.91  0.91 0.91  0.91  0.91 0.91  0.91  0.91 0.91  0.91
PHF Volume:    42    8    35    23    2    41    56  458    84    26  357    43
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   42    8    35    23    2    41    56  458    84    26  357    43
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1065 1065   500  1065 1085   379   400 xxxx xxxxx   542 xxxx xxxxx
Potent Cap.:  202  224   575   202  218   673  1170 xxxx xxxxx  1037 xxxx xxxxx
Move Cap.:    178  208   575   174  202   673  1170 xxxx xxxxx  1037 xxxx xxxxx
Volume/Cap:  0.23 0.04  0.06  0.13 0.01  0.06  0.05 xxxx  xxxx  0.03 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.9  0.1   0.2  xxxx xxxx xxxxx   0.2 xxxx xxxxx   0.1 xxxx xxxxx
Control Del: 31.4 23.0  11.7 xxxxx xxxx xxxxx   8.2 xxxx xxxxx   8.6 xxxx xxxxx
LOS by Move:    D    C     B     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  323 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  0.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 19.0 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    C     *     *    *     *     *    *     *
ApproachDel:      22.4             19.0           xxxxxx           xxxxxx
ApproachLOS:         C                C                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #8 HIdden Oaks Dr/Magee Ranch Rd and Blackhawk Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```


Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  1  0  1    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   38    7    32    21    2    37    51  417    76    24  325    39
ApproachDel:      22.4             19.0           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=3][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=77]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1069]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
--------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=60]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1069]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                Peak Hour Volume Signal Warrant Report [Urban]
********************************************************************************
Intersection #8 HIdden Oaks Dr/Magee Ranch Rd and Blackhawk Rd
********************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  1  0  1    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   38    7    32    21    2    37    51  417    76    24  325    39
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             932
Minor Approach Volume:           77
Minor Approach Volume Threshold: 315
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

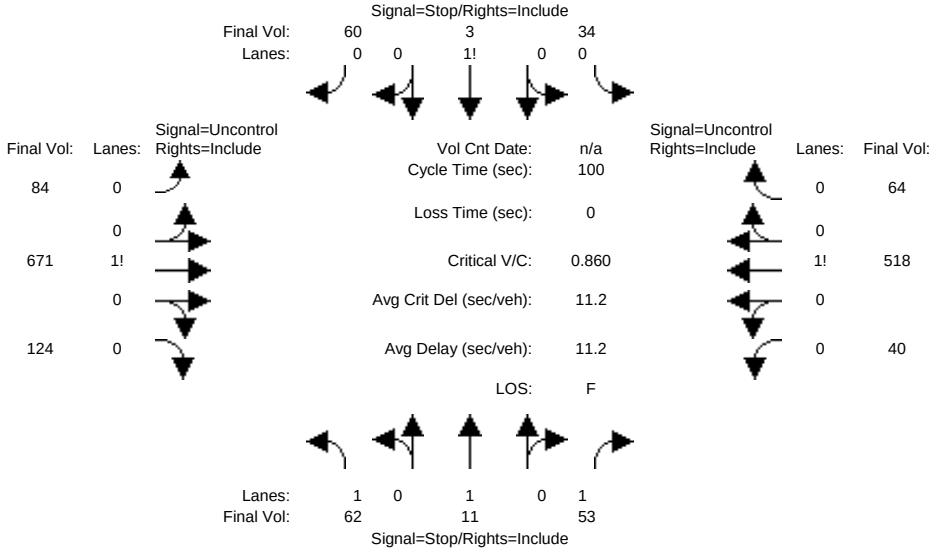

Copyright (c) 2008 Dowling Associates, Inc.
Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Cum School PM No Project

Intersection #8: HIdden Oaks Dr/Magee Ranch Rd and Blackhawk Rd




```
Street Name:  Hidden Oaks Dr/Magee Ranch Rd            Blackhawk Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      56   10    48    31    3    55    76  611   113    36  471    58
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   56   10    48    31    3    55    76  611   113    36  471    58
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   56   10    48    31    3    55    76  611   113    36  471    58
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.91 0.91  0.91  0.91 0.91  0.91  0.91 0.91  0.91  0.91 0.91  0.91
PHF Volume:    62   11    53    34    3    60    84  671   124    40  518    64
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   62   11    53    34    3    60    84  671   124    40  518    64
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1561 1561   734  1561 1591   549   581 xxxx xxxxx   796 xxxx xxxxx
Potent Cap.:   92  113   424    92  108   539  1003 xxxx xxxxx   835 xxxx xxxxx
Move Cap.:     72   98   424    66   94   539  1003 xxxx xxxxx   835 xxxx xxxxx
Volume/Cap:  0.86 0.11  0.12  0.51 0.04  0.11  0.08 xxxx  xxxx  0.05 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    4.2  0.4   0.4  xxxx xxxx xxxxx   0.3 xxxx xxxxx   0.1 xxxx xxxxx
Control Del:166.9 46.2  14.7 xxxxx xxxx xxxxx   8.9 xxxx xxxxx   9.5 xxxx xxxxx
LOS by Move:    F    E     B     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  148 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  3.7 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 67.2 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    F     *     *    *     *     *    *     *
ApproachDel:      92.3             67.2           xxxxxx           xxxxxx
ApproachLOS:         F                F                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #8 HIdden Oaks Dr/Magee Ranch Rd and Blackhawk Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```

 Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  1  0  1    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   56   10    48    31    3    55    76  611   113    36  471    58
ApproachDel:      92.3             67.2           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=3][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.9]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=114]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1568]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
--------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.7]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=89]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1568]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                Peak Hour Volume Signal Warrant Report [Urban]
********************************************************************************
Intersection #8 HIdden Oaks Dr/Magee Ranch Rd and Blackhawk Rd
********************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  1  0  1    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   56   10    48    31    3    55    76  611   113    36  471    58
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1365
Minor Approach Volume:           114
Minor Approach Volume Threshold: 194
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

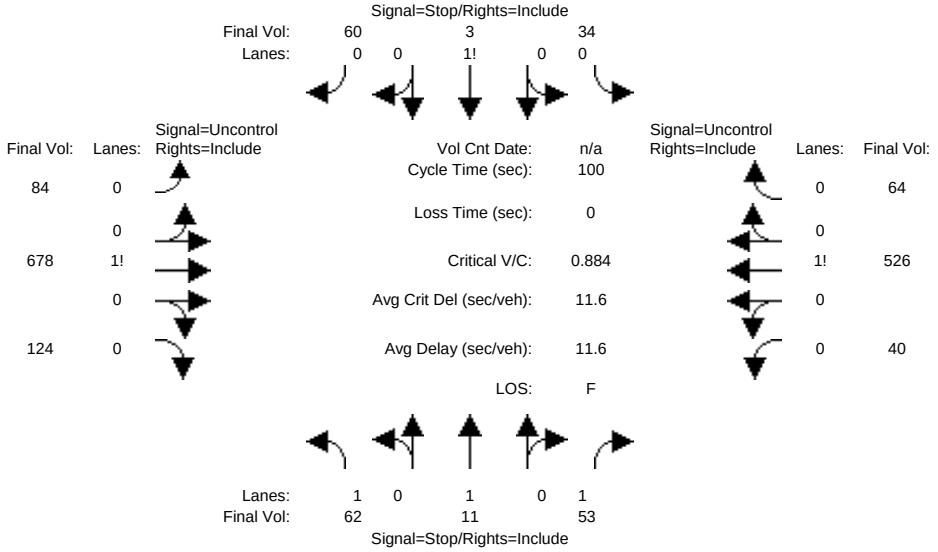

Copyright (c) 2008 Dowling Associates, Inc.
Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Cum Sc1 School PM w/Proj

Intersection #8: HIdden Oaks Dr/Magee Ranch Rd and Blackhawk Rd




```
Street Name:  Hidden Oaks Dr/Magee Ranch Rd            Blackhawk Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      56   10    48    31    3    55    76  617   113    36  479    58
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   56   10    48    31    3    55    76  617   113    36  479    58
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   56   10    48    31    3    55    76  617   113    36  479    58
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.91 0.91  0.91  0.91 0.91  0.91  0.91 0.91  0.91  0.91 0.91  0.91
PHF Volume:    62   11    53    34    3    60    84  678   124    40  526    64
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   62   11    53    34    3    60    84  678   124    40  526    64
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1576 1576   740  1576 1607   558   590 xxxx xxxxx   802 xxxx xxxxx
Potent Cap.:   90  111   420    90  106   533   995 xxxx xxxxx   830 xxxx xxxxx
Move Cap.:     70   96   420    64   92   533   995 xxxx xxxxx   830 xxxx xxxxx
Volume/Cap:  0.88 0.11  0.13  0.53 0.04  0.11  0.08 xxxx  xxxx  0.05 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    4.3  0.4   0.4  xxxx xxxx xxxxx   0.3 xxxx xxxxx   0.1 xxxx xxxxx
Control Del:176.5 47.3  14.8 xxxxx xxxx xxxxx   8.9 xxxx xxxxx   9.6 xxxx xxxxx
LOS by Move:    F    E     B     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  144 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  3.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 70.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    F     *     *    *     *     *    *     *
ApproachDel:      97.1             70.8           xxxxxx           xxxxxx
ApproachLOS:         F                F                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #8 HIdden Oaks Dr/Magee Ranch Rd and Blackhawk Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```

 Copyright (c) 2008 Dowling Associates, Inc.

```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  1  0  1    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   56   10    48    31    3    55    76  617   113    36  479    58
ApproachDel:      97.1             70.8           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=3][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=3.1]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=114]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1582]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
--------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.8]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=89]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1582]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                Peak Hour Volume Signal Warrant Report [Urban]
********************************************************************************
Intersection #8 HIdden Oaks Dr/Magee Ranch Rd and Blackhawk Rd
********************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  1  0  1    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   56   10    48    31    3    55    76  617   113    36  479    58
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1379
Minor Approach Volume:           114
Minor Approach Volume Threshold: 191
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

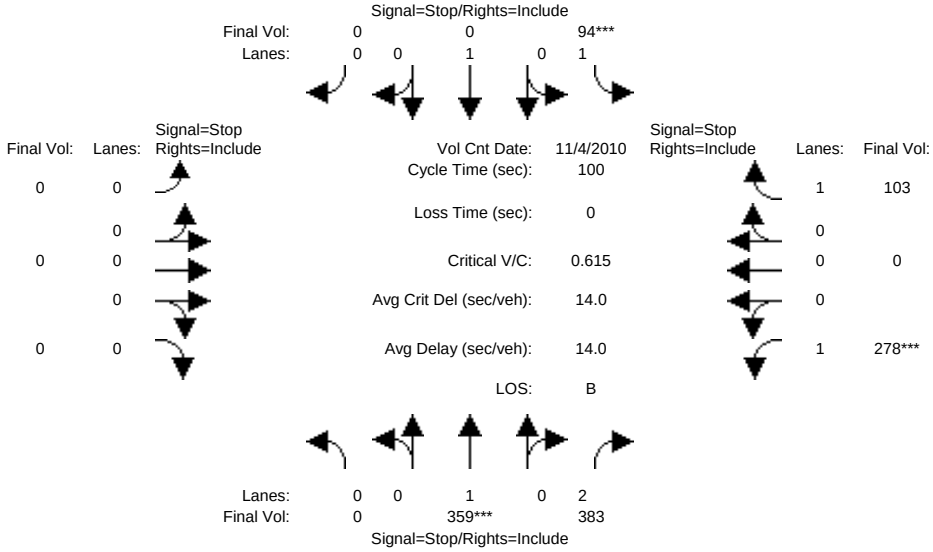

Copyright (c) 2008 Dowling Associates, Inc.
Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing School PM

Intersection #9: Blackhawk Rd and Blackhawk Dr




```
Street Name:          Blackhawk Road                    Blackhawk Drive
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 4 Nov 2010 <<
Base Vol:       0  309   329    81  348     0     0    0     0   239    0    89
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  309   329    81  348     0     0    0     0   239    0    89
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  309   329    81  348     0     0    0     0   239    0    89
User Adj:    1.00 1.00  1.00  1.00 0.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.86 0.86  0.86  0.86 0.86  0.86  0.86 0.86  0.86  0.86 0.86  0.86
PHF Volume:     0  359   383    94    0     0     0    0     0   278    0   103
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0  359   383    94    0     0     0    0     0   278    0   103
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0  359   383    94    0     0     0    0     0   278    0   103
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 1.00  2.00  1.00 1.00  0.00  0.00 0.00  0.00  1.00 0.00  1.00
Final Sat.:     0  584  1308   483  515     0     0    0     0   509    0   606
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx 0.61  0.29  0.19 0.00  xxxx  xxxx xxxx  xxxx  0.55 xxxx  0.17
Crit Moves:       ****        ****                               ****
Delay/Veh:    0.0 17.6  10.2  11.4  0.0   0.0   0.0  0.0   0.0  17.1  0.0   9.5
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0 17.6  10.2  11.4  0.0   0.0   0.0  0.0   0.0  17.1  0.0   9.5
LOS by Move:    *    C     B     B    *     *     *    *     *     C    *     A
ApproachDel:      13.8             11.4           xxxxxx             15.0
Delay Adj:        1.00             1.00            xxxxx             1.00
ApprAdjDel:       13.8             11.4           xxxxxx             15.0
LOS by Appr:         B                B                *                C
AllWayAvgQ:   0.0  1.4   0.4   0.2  0.0   0.0   0.0  0.0   0.0   1.1  0.0   0.2
Note: Queue reported is the number of cars per lane.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #9 Blackhawk Rd and Blackhawk Dr

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Lanes:	0	0	1	0 2	1	0	1	0 0	0	0	0	0 0	1	0	0	0 1
Initial Vol:	0	309		329	81	348		0	0		0	0	239		0	89

Major Street Volume: 1067
Minor Approach Volume: 328
Minor Approach Volume Threshold: 346

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

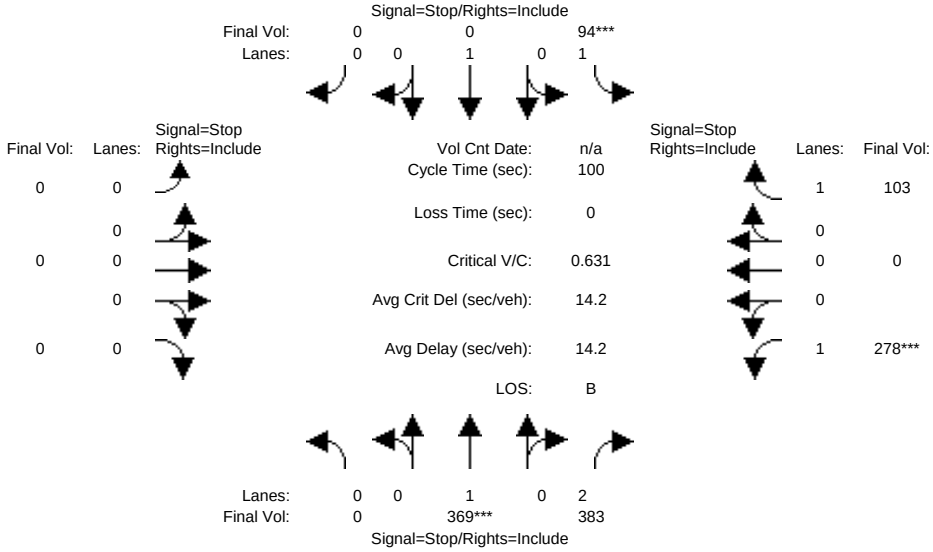
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Project School PM

Intersection #9: Blackhawk Rd and Blackhawk Dr




```
Street Name:          Blackhawk Road                    Blackhawk Drive
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  317   329    81  354     0     0    0     0   239    0    89
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  317   329    81  354     0     0    0     0   239    0    89
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  317   329    81  354     0     0    0     0   239    0    89
User Adj:    1.00 1.00  1.00  1.00 0.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.86 0.86  0.86  0.86 0.86  0.86  0.86 0.86  0.86  0.86 0.86  0.86
PHF Volume:     0  369   383    94    0     0     0    0     0   278    0   103
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0  369   383    94    0     0     0    0     0   278    0   103
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0  369   383    94    0     0     0    0     0   278    0   103
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 1.00  2.00  1.00 1.00  0.00  0.00 0.00  0.00  1.00 0.00  1.00
Final Sat.:     0  584  1307   482  513     0     0    0     0   508    0   604
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx 0.63  0.29  0.20 0.00  xxxx  xxxx xxxx  xxxx  0.55 xxxx  0.17
Crit Moves:       ****        ****                               ****
Delay/Veh:    0.0 18.2  10.2  11.4  0.0   0.0   0.0  0.0   0.0  17.2  0.0   9.5
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0 18.2  10.2  11.4  0.0   0.0   0.0  0.0   0.0  17.2  0.0   9.5
LOS by Move:    *    C     B     B    *     *     *    *     *     C    *     A
ApproachDel:      14.1             11.4           xxxxxx             15.1
Delay Adj:        1.00             1.00            xxxxx             1.00
ApprAdjDel:       14.1             11.4           xxxxxx             15.1
LOS by Appr:         B                B                *                C
AllWayAvgQ:   0.0  1.5   0.4   0.2  0.0   0.0   0.0  0.0   0.0   1.1  0.0   0.2
Note: Queue reported is the number of cars per lane.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #9 Blackhawk Rd and Blackhawk Dr

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Lanes:	0	0	1	0 2	1	0	1	0 0	0	0	0	0 0	1	0	0	0 1
Initial Vol:	0	317		329	81	354		0	0		0	0	239		0	89

Major Street Volume: 1081
Minor Approach Volume: 328
Minor Approach Volume Threshold: 341

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

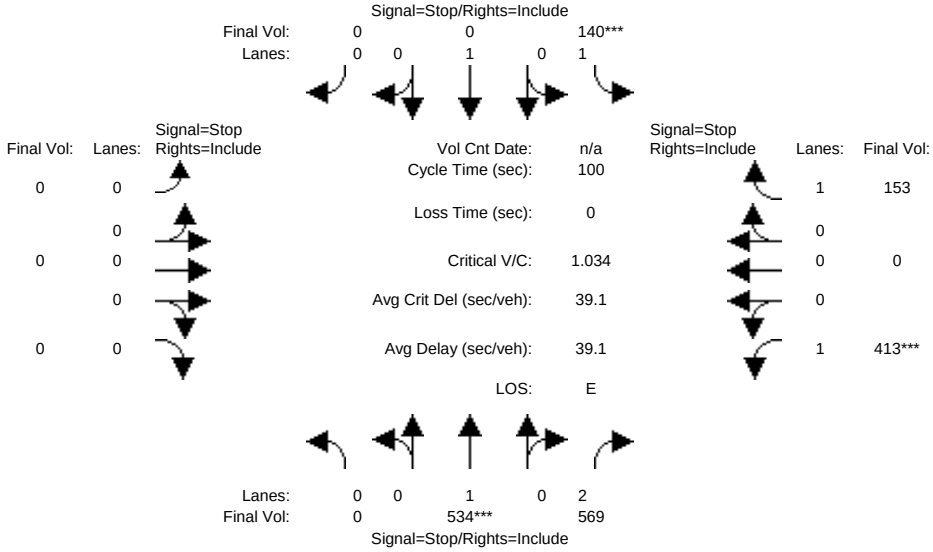
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Cum School PM No Project

Intersection #9: Blackhawk Rd and Blackhawk Dr




```
Street Name:          Blackhawk Road                    Blackhawk Drive
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  459   489   120  517     0     0    0     0   355    0   132
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  459   489   120  517     0     0    0     0   355    0   132
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  459   489   120  517     0     0    0     0   355    0   132
User Adj:    1.00 1.00  1.00  1.00 0.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.86 0.86  0.86  0.86 0.86  0.86  0.86 0.86  0.86  0.86 0.86  0.86
PHF Volume:     0  534   569   140    0     0     0    0     0   413    0   153
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0  534   569   140    0     0     0    0     0   413    0   153
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0  534   569   140    0     0     0    0     0   413    0   153
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 1.00  2.00  1.00 1.00  0.00  0.00 0.00  0.00  1.00 0.00  1.00
Final Sat.:     0  516  1134   417  439     0     0    0     0   468    0   550
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx 1.03  0.50  0.33 0.00  xxxx  xxxx xxxx  xxxx  0.88 xxxx  0.28
Crit Moves:       ****        ****                              ****
Delay/Veh:    0.0 74.8  15.0  15.0  0.0   0.0   0.0  0.0   0.0  44.4  0.0  11.6
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0 74.8  15.0  15.0  0.0   0.0   0.0  0.0   0.0  44.4  0.0  11.6
LOS by Move:    *    F     B     C    *     *     *    *     *     E    *     B
ApproachDel:      44.0             15.0           xxxxxx             35.6
Delay Adj:        1.00             1.00            xxxxx             1.00
ApprAdjDel:       44.0             15.0           xxxxxx             35.6
LOS by Appr:         E                C                *                E
AllWayAvgQ:   0.0  9.3   0.9   0.5  0.0   0.0   0.0  0.0   0.0   4.4  0.0   0.4
Note: Queue reported is the number of cars per lane.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #9 Blackhawk Rd and Blackhawk Dr

****

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T	-	R	L - T	-	R	L - T	-	R	L - T	-	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Lanes:	0 0 1	0	2	1 0 1	0	0	0 0 0	0	0	1 0 0	0	1
Initial Vol:	0 459	489		120 517		0	0 0		0	355 0		132

Major Street Volume: 1585
Minor Approach Volume: 487
Minor Approach Volume Threshold: 176

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

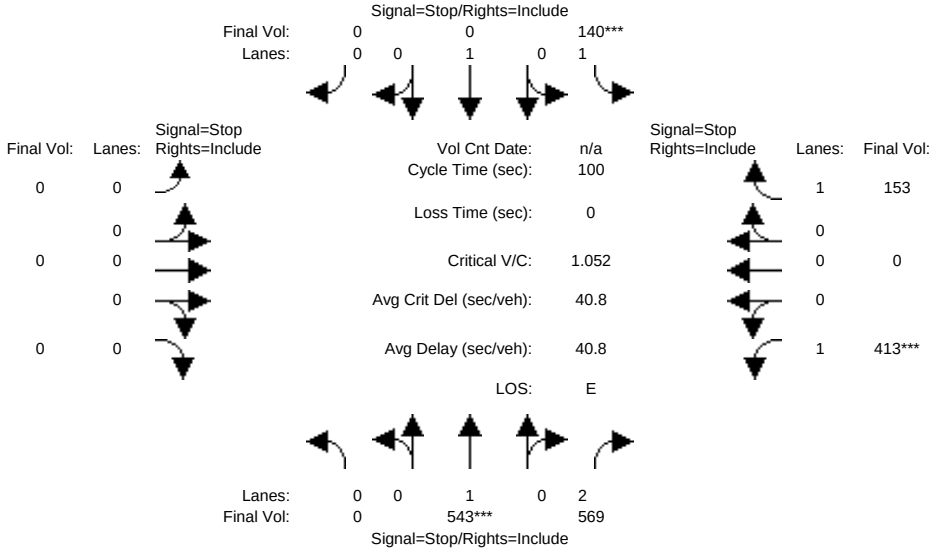
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Cum Sc1 School PM w/Proj

Intersection #9: Blackhawk Rd and Blackhawk Dr




```
Street Name:          Blackhawk Road                    Blackhawk Drive
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  467   489   120  523     0     0    0     0   355    0   132
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  467   489   120  523     0     0    0     0   355    0   132
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  467   489   120  523     0     0    0     0   355    0   132
User Adj:    1.00 1.00  1.00  1.00 0.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.86 0.86  0.86  0.86 0.86  0.86  0.86 0.86  0.86  0.86 0.86  0.86
PHF Volume:     0  543   569   140    0     0     0    0     0   413    0   153
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0  543   569   140    0     0     0    0     0   413    0   153
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0  543   569   140    0     0     0    0     0   413    0   153
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 1.00  2.00  1.00 1.00  0.00  0.00 0.00  0.00  1.00 0.00  1.00
Final Sat.:     0  516  1134   417  439     0     0    0     0   468    0   550
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx 1.05  0.50  0.33 0.00  xxxx  xxxx xxxx  xxxx  0.88 xxxx  0.28
Crit Moves:       ****        ****                              ****
Delay/Veh:    0.0 80.1  15.0  15.0  0.0   0.0   0.0  0.0   0.0  44.4  0.0  11.6
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0 80.1  15.0  15.0  0.0   0.0   0.0  0.0   0.0  44.4  0.0  11.6
LOS by Move:    *    F     B     C    *     *     *    *     *     E    *     B
ApproachDel:      46.8             15.0           xxxxxx             35.6
Delay Adj:        1.00             1.00            xxxxx             1.00
ApprAdjDel:       46.8             15.0           xxxxxx             35.6
LOS by Appr:         E                C                *                E
AllWayAvgQ:   0.0 10.1   0.9   0.5  0.0   0.0   0.0  0.0   0.0   4.4  0.0   0.4
Note: Queue reported is the number of cars per lane.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #9 Blackhawk Rd and Blackhawk Dr

****

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T	-	R	L - T	-	R	L - T	-	R	L - T	-	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Lanes:	0 0 1	0	2	1 0 1	0	0	0 0 0	0	0	1 0 0	0	1
Initial Vol:	0 467	489		120 523		0	0 0		0	355 0		132

Major Street Volume: 1599
Minor Approach Volume: 487
Minor Approach Volume Threshold: 172

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

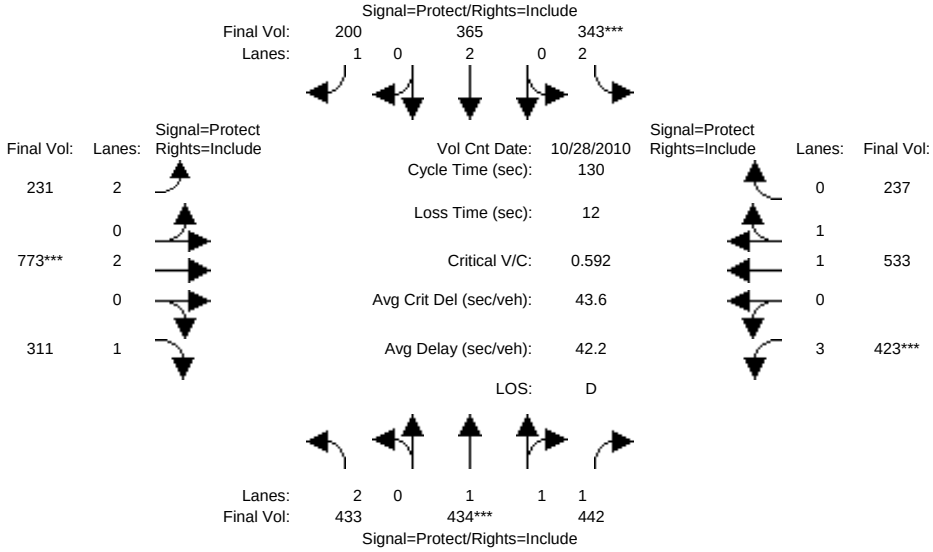
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing School PM

Intersection #10: Blackhawk Rd/Crow Canyon Rd and Camino Tassajara



Street Name:	Blackhawk Rd/Crow Canyon Rd						Camino Tassajara					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 28 Oct 2010 <<												
Base Vol:	359	360	367	285	303	166	192	642	258	351	442	197
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	359	360	367	285	303	166	192	642	258	351	442	197
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	359	360	367	285	303	166	192	642	258	351	442	197
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
PHF Volume:	433	434	442	343	365	200	231	773	311	423	533	237
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	433	434	442	343	365	200	231	773	311	423	533	237
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	433	434	442	343	365	200	231	773	311	423	533	237
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.97	1.00	1.00	0.97	0.95	1.00	0.97	0.95	1.00	0.97	1.00	1.00
Lanes:	2.00	1.49	1.51	2.00	2.00	1.00	2.00	2.00	1.00	3.00	1.38	0.62
Final Sat.:	3686	2823	2877	3686	3610	1900	3686	3610	1900	5529	2628	1172
Capacity Analysis Module:												
Vol/Sat:	0.12	0.15	0.15	0.09	0.10	0.11	0.06	0.21	0.16	0.08	0.20	0.20
Crit Moves:		****		****				****		****		
Green Time:	28.6	33.7	33.7	20.4	25.6	25.6	15.1	47.0	47.0	16.8	48.7	48.7
Volume/Cap:	0.53	0.59	0.59	0.59	0.51	0.53	0.54	0.59	0.45	0.59	0.54	0.54
Delay/Veh:	45.5	42.8	42.8	52.5	47.3	48.3	55.6	34.4	32.1	54.7	32.3	32.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	45.5	42.8	42.8	52.5	47.3	48.3	55.6	34.4	32.1	54.7	32.3	32.3
LOS by Move:	D	D	D	D	D	D	E	C	C	D	C	C
HCM2k95thQ:	15	19	19	14	14	14	10	24	17	12	22	22

Note: Queue reported is the number of cars per lane.

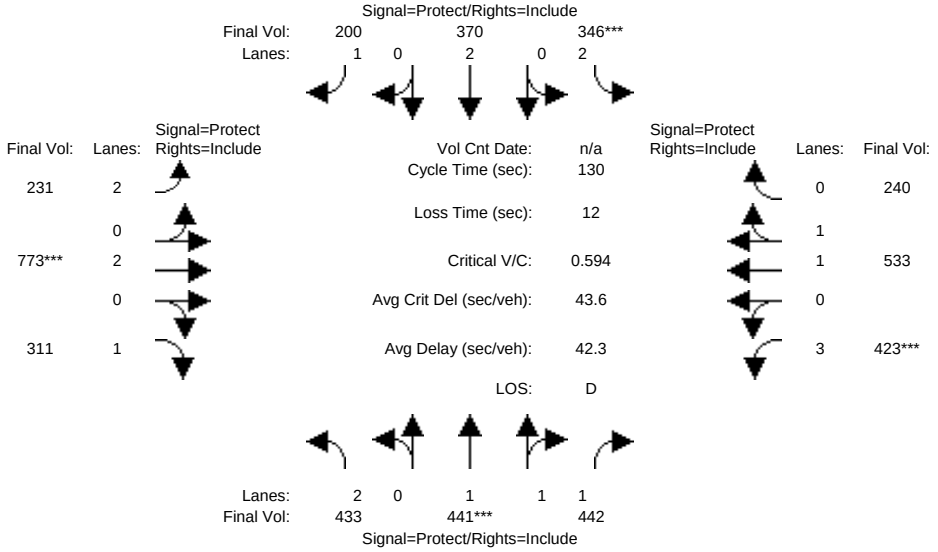
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Project School PM

Intersection #10: Blackhawk Rd/Crow Canyon Rd and Camino Tassajara



Street Name:	Blackhawk Rd/Crow Canyon Rd						Camino Tassajara					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	359	366	367	287	307	166	192	642	258	351	442	199
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	359	366	367	287	307	166	192	642	258	351	442	199
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	359	366	367	287	307	166	192	642	258	351	442	199
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
PHF Volume:	433	441	442	346	370	200	231	773	311	423	533	240
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	433	441	442	346	370	200	231	773	311	423	533	240
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	433	441	442	346	370	200	231	773	311	423	533	240
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.97	1.00	1.00	0.97	0.95	1.00	0.97	0.95	1.00	0.97	1.00	1.00
Lanes:	2.00	1.50	1.50	2.00	2.00	1.00	2.00	2.00	1.00	3.00	1.38	0.62
Final Sat.:	3686	2846	2854	3686	3610	1900	3686	3610	1900	5529	2620	1180
Capacity Analysis Module:												
Vol/Sat:	0.12	0.15	0.15	0.09	0.10	0.11	0.06	0.21	0.16	0.08	0.20	0.20
Crit Moves:		****		****				****		****		
Green Time:	28.7	33.9	33.9	20.5	25.7	25.7	15.0	46.9	46.9	16.7	48.6	48.6
Volume/Cap:	0.53	0.59	0.59	0.59	0.52	0.53	0.54	0.59	0.45	0.59	0.54	0.54
Delay/Veh:	45.4	42.7	42.7	52.5	47.3	48.2	55.7	34.6	32.3	54.8	32.4	32.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	45.4	42.7	42.7	52.5	47.3	48.2	55.7	34.6	32.3	54.8	32.4	32.4
LOS by Move:	D	D	D	D	D	D	E	C	C	D	C	C
HCM2k95thQ:	15	20	20	14	14	14	10	24	17	12	22	22

Note: Queue reported is the number of cars per lane.

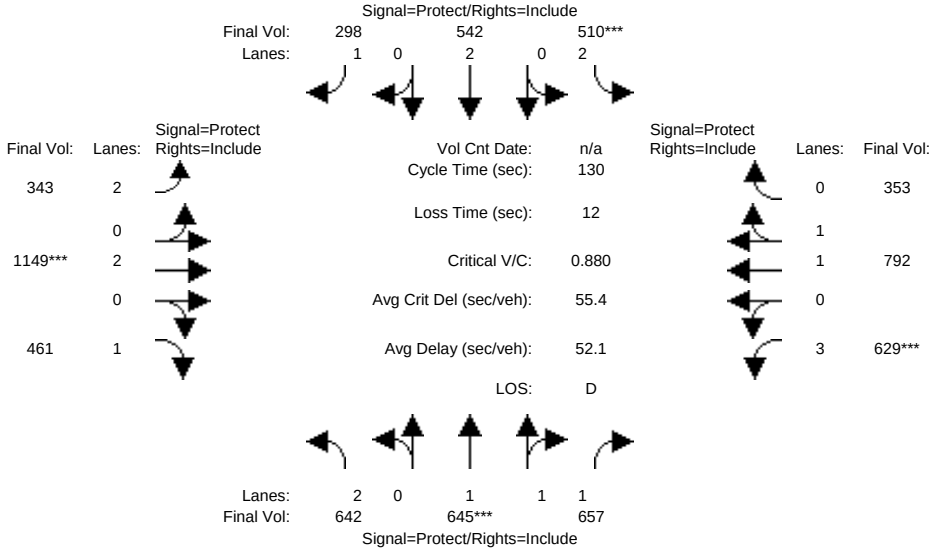
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum School PM No Project

Intersection #10: Blackhawk Rd/Crow Canyon Rd and Camino Tassajara



Street Name:	Blackhawk Rd/Crow Canyon Rd						Camino Tassajara					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	533	535	545	423	450	247	285	954	383	522	657	293
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	533	535	545	423	450	247	285	954	383	522	657	293
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	533	535	545	423	450	247	285	954	383	522	657	293
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
PHF Volume:	642	645	657	510	542	298	343	1149	461	629	792	353
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	642	645	657	510	542	298	343	1149	461	629	792	353
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	642	645	657	510	542	298	343	1149	461	629	792	353
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.97	1.00	1.00	0.97	0.95	1.00	0.97	0.95	1.00	0.97	1.00	1.00
Lanes:	2.00	1.49	1.51	2.00	2.00	1.00	2.00	2.00	1.00	3.00	1.38	0.62
Final Sat.:	3686	2824	2876	3686	3610	1900	3686	3610	1900	5529	2628	1172
Capacity Analysis Module:												
Vol/Sat:	0.17	0.23	0.23	0.14	0.15	0.16	0.09	0.32	0.24	0.11	0.30	0.30
Crit Moves:		****		****				****		****		
Green Time:	28.5	33.7	33.7	20.4	25.6	25.6	15.1	47.0	47.0	16.8	48.8	48.8
Volume/Cap:	0.79	0.88	0.88	0.88	0.76	0.79	0.80	0.88	0.67	0.88	0.80	0.80
Delay/Veh:	53.4	52.6	52.6	68.1	54.1	60.8	66.5	46.0	37.6	67.8	39.7	39.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	53.4	52.6	52.6	68.1	54.1	60.8	66.5	46.0	37.6	67.8	39.7	39.7
LOS by Move:	D	D	D	E	D	E	E	D	D	E	D	D
HCM2k95thQ:	25	33	33	24	22	24	17	42	28	21	37	37

Note: Queue reported is the number of cars per lane.

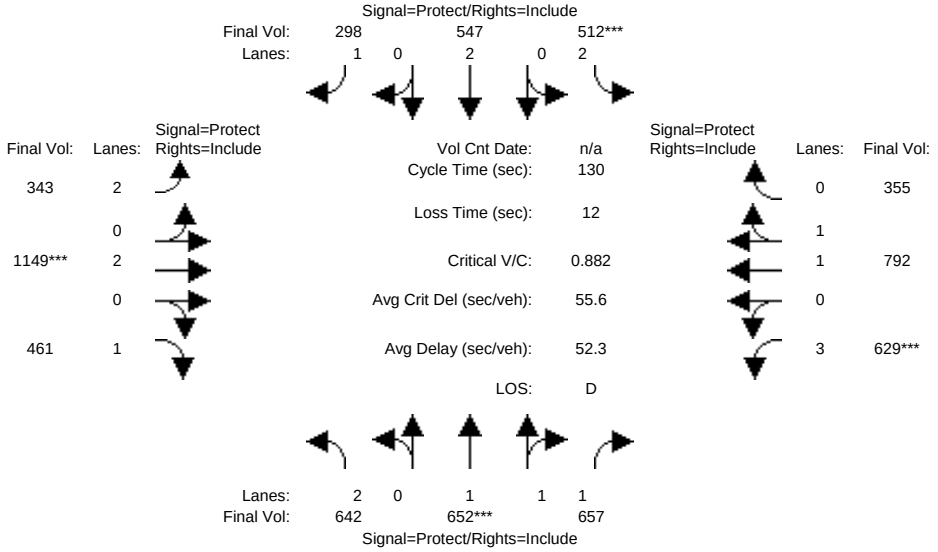
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc1 School PM w/Proj

Intersection #10: Blackhawk Rd/Crow Canyon Rd and Camino Tassajara



Street Name:	Blackhawk Rd/Crow Canyon Rd						Camino Tassajara					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	533	541	545	425	454	247	285	954	383	522	657	295
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	533	541	545	425	454	247	285	954	383	522	657	295
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	533	541	545	425	454	247	285	954	383	522	657	295
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
PHF Volume:	642	652	657	512	547	298	343	1149	461	629	792	355
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	642	652	657	512	547	298	343	1149	461	629	792	355
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	642	652	657	512	547	298	343	1149	461	629	792	355
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.97	1.00	1.00	0.97	0.95	1.00	0.97	0.95	1.00	0.97	1.00	1.00
Lanes:	2.00	1.49	1.51	2.00	2.00	1.00	2.00	2.00	1.00	3.00	1.38	0.62
Final Sat.:	3686	2840	2860	3686	3610	1900	3686	3610	1900	5529	2622	1178
Capacity Analysis Module:												
Vol/Sat:	0.17	0.23	0.23	0.14	0.15	0.16	0.09	0.32	0.24	0.11	0.30	0.30
Crit Moves:		****		****				****		****		
Green Time:	28.6	33.8	33.8	20.5	25.7	25.7	15.0	46.9	46.9	16.8	48.7	48.7
Volume/Cap:	0.79	0.88	0.88	0.88	0.77	0.79	0.81	0.88	0.67	0.88	0.81	0.81
Delay/Veh:	53.2	52.7	52.7	68.3	54.3	60.5	66.9	46.3	37.7	68.1	39.9	39.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	53.2	52.7	52.7	68.3	54.3	60.5	66.9	46.3	37.7	68.1	39.9	39.9
LOS by Move:	D	D	D	E	D	E	E	D	D	E	D	D
HCM2k95thQ:	25	34	34	24	22	24	17	42	28	21	37	37

Note: Queue reported is the number of cars per lane.

Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

2000 HCM PM LOS Calcs

Existing, Project, Cum No Proj, and Cum Sc1

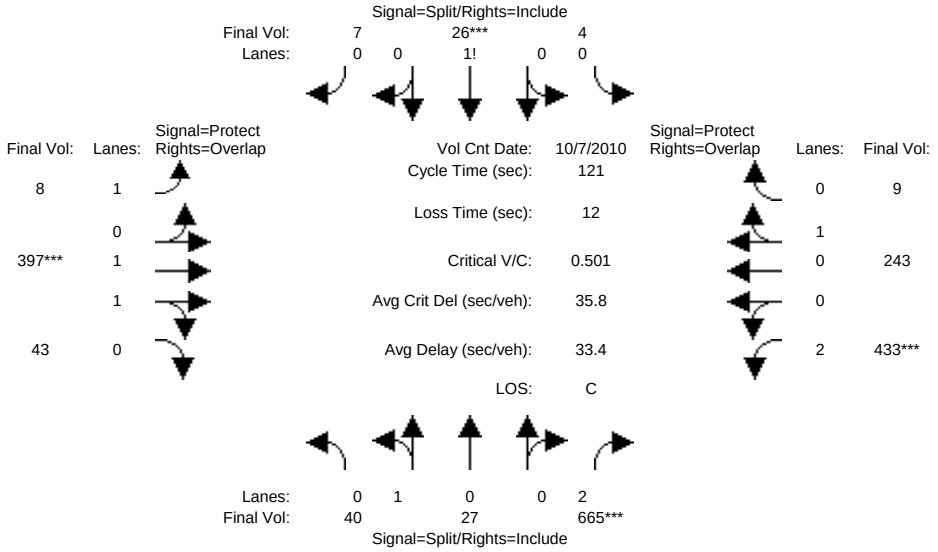
(>>>>>>>>>This Page Intentionally Left Blank<<<<<<<<)

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #1: Diablo Rd and El Cerro Blvd



Street Name:	Diablo Road						El Cerro Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 7 Oct 2010 <<												
Base Vol:	36	25	605	4	24	6	7	361	39	394	221	8
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	36	25	605	4	24	6	7	361	39	394	221	8
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	36	25	605	4	24	6	7	361	39	394	221	8
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	40	27	665	4	26	7	8	397	43	433	243	9
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	40	27	665	4	26	7	8	397	43	433	243	9
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	40	27	665	4	26	7	8	397	43	433	243	9
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Lanes:	0.59	0.41	2.00	0.12	0.70	0.18	1.00	1.81	0.19	2.00	0.97	0.03
Final Sat.:	1121	779	3344	224	1341	335	1900	3430	370	3686	1834	66
Capacity Analysis Module:												
Vol/Sat:	0.04	0.04	0.20	0.02	0.02	0.02	0.00	0.12	0.12	0.12	0.13	0.13
Crit Moves:			****		****			****		****		
Green Time:	48.0	48.0	48.0	4.7	4.7	4.7	8.9	27.9	75.9	28.4	47.4	52.1
Volume/Cap:	0.09	0.09	0.50	0.50	0.50	0.50	0.06	0.50	0.18	0.50	0.34	0.31
Delay/Veh:	22.9	22.9	27.8	62.2	62.2	62.2	52.3	40.9	9.5	40.7	26.1	22.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	22.9	22.9	27.8	62.2	62.2	62.2	52.3	40.9	9.5	40.7	26.1	22.8
LOS by Move:	C	C	C	E	E	E	D	D	A	D	C	C
HCM2k95thQ:	3	3	19	4	4	4	1	14	7	14	12	12

Note: Queue reported is the number of cars per lane.

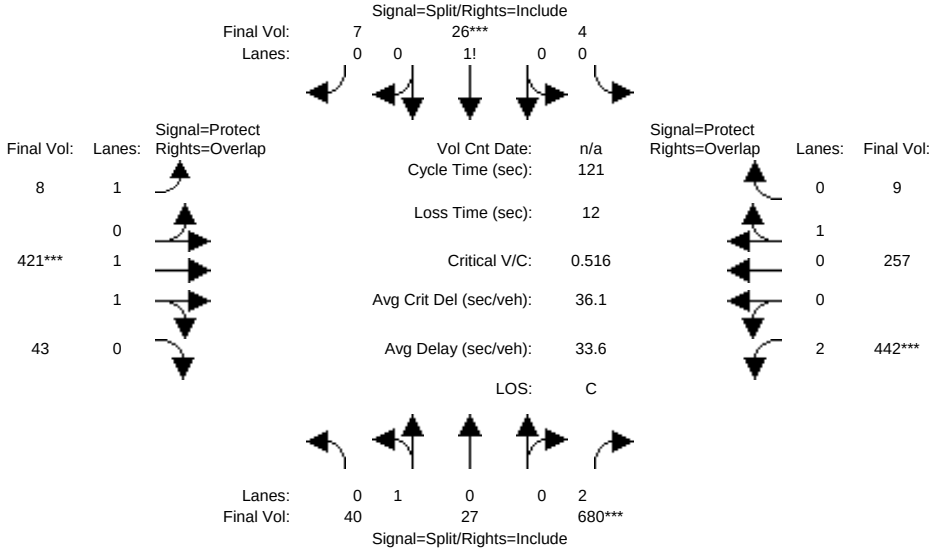
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Project PM

Intersection #1: Diablo Rd and El Cerro Blvd



Street Name:	Diablo Road						El Cerro Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	36	25	619	4	24	6	7	383	39	402	234	8
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	36	25	619	4	24	6	7	383	39	402	234	8
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	36	25	619	4	24	6	7	383	39	402	234	8
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	40	27	680	4	26	7	8	421	43	442	257	9
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	40	27	680	4	26	7	8	421	43	442	257	9
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	40	27	680	4	26	7	8	421	43	442	257	9
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Lanes:	0.59	0.41	2.00	0.12	0.70	0.18	1.00	1.82	0.18	2.00	0.97	0.03
Final Sat.:	1121	779	3344	224	1341	335	1900	3449	351	3686	1837	63
Capacity Analysis Module:												
Vol/Sat:	0.04	0.04	0.20	0.02	0.02	0.02	0.00	0.12	0.12	0.12	0.14	0.14
Crit Moves:			****		****			****		****		
Green Time:	47.7	47.7	47.7	4.6	4.6	4.6	8.5	28.6	76.3	28.1	48.2	52.8
Volume/Cap:	0.09	0.09	0.52	0.52	0.52	0.52	0.06	0.52	0.19	0.52	0.35	0.32
Delay/Veh:	23.1	23.1	28.2	63.4	63.4	63.4	52.7	40.7	9.4	41.1	25.8	22.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	23.1	23.1	28.2	63.4	63.4	63.4	52.7	40.7	9.4	41.1	25.8	22.6
LOS by Move:	C	C	C	E	E	E	D	D	A	D	C	C
HCM2k95thQ:	3	3	20	4	4	4	1	15	7	15	13	12

Note: Queue reported is the number of cars per lane.

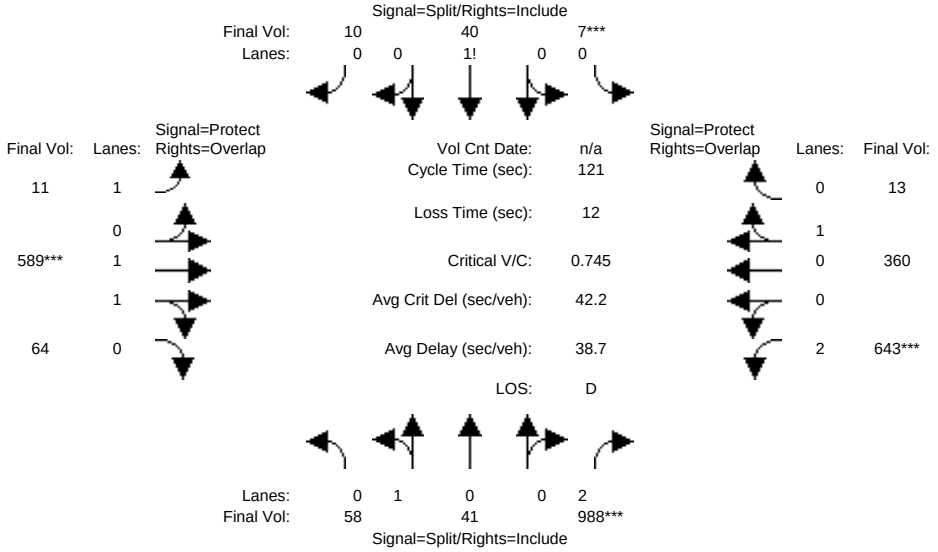
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum PM No Project

Intersection #1: Diablo Rd and El Cerro Blvd



Street Name:	Diablo Road						El Cerro Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	53	37	899	6	36	9	10	536	58	585	328	12
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	53	37	899	6	36	9	10	536	58	585	328	12
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	53	37	899	6	36	9	10	536	58	585	328	12
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	58	41	988	7	40	10	11	589	64	643	360	13
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	58	41	988	7	40	10	11	589	64	643	360	13
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	58	41	988	7	40	10	11	589	64	643	360	13
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Lanes:	0.59	0.41	2.00	0.12	0.70	0.18	1.00	1.80	0.20	2.00	0.96	0.04
Final Sat.:	1119	781	3344	224	1341	335	1900	3429	371	3686	1833	67
Capacity Analysis Module:												
Vol/Sat:	0.05	0.05	0.30	0.03	0.03	0.03	0.01	0.17	0.17	0.17	0.20	0.20
Crit Moves:			****	****				****		****		
Green Time:	48.0	48.0	48.0	4.8	4.8	4.8	6.3	27.9	75.9	28.3	49.9	54.7
Volume/Cap:	0.13	0.13	0.74	0.74	0.74	0.74	0.11	0.74	0.27	0.74	0.48	0.43
Delay/Veh:	23.3	23.3	33.6	90.3	90.3	90.3	55.2	46.8	10.2	46.5	26.4	22.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	23.3	23.3	33.6	90.3	90.3	90.3	55.2	46.8	10.2	46.5	26.4	22.9
LOS by Move:	C	C	C	F	F	F	E	D	B	D	C	C
HCM2k95thQ:	5	5	32	7	7	7	1	23	10	23	19	17

Note: Queue reported is the number of cars per lane.

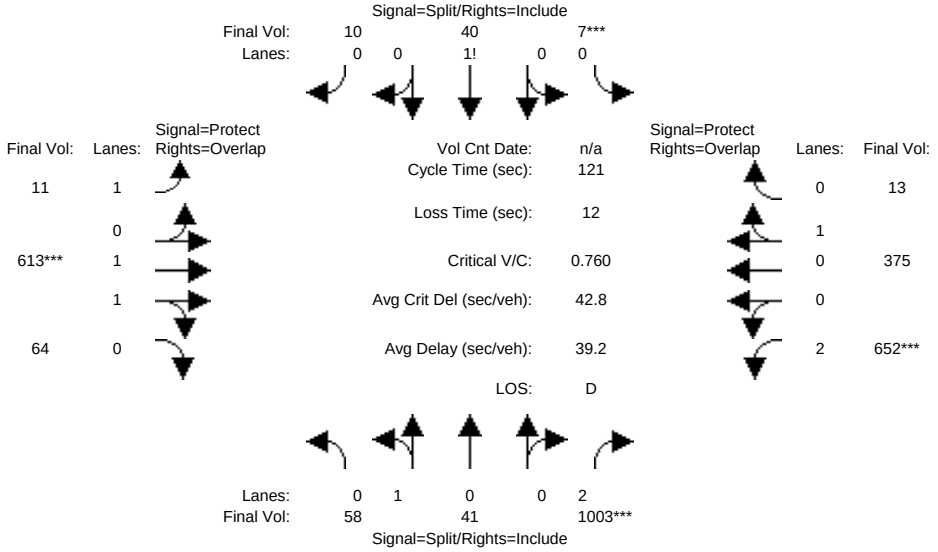
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc1 PM w/Proj

Intersection #1: Diablo Rd and El Cerro Blvd



Street Name:	Diablo Road						El Cerro Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	53	37	913	6	36	9	10	558	58	593	341	12
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	53	37	913	6	36	9	10	558	58	593	341	12
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	53	37	913	6	36	9	10	558	58	593	341	12
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	58	41	1003	7	40	10	11	613	64	652	375	13
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	58	41	1003	7	40	10	11	613	64	652	375	13
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	58	41	1003	7	40	10	11	613	64	652	375	13
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Lanes:	0.59	0.41	2.00	0.12	0.70	0.18	1.00	1.81	0.19	2.00	0.97	0.03
Final Sat.:	1119	781	3344	224	1341	335	1900	3442	358	3686	1835	65
Capacity Analysis Module:												
Vol/Sat:	0.05	0.05	0.30	0.03	0.03	0.03	0.01	0.18	0.18	0.18	0.20	0.20
Crit Moves:			****	****				****		****		
Green Time:	47.8	47.8	47.8	4.7	4.7	4.7	6.1	28.4	76.1	28.2	50.4	55.1
Volume/Cap:	0.13	0.13	0.76	0.76	0.76	0.76	0.11	0.76	0.28	0.76	0.49	0.45
Delay/Veh:	23.5	23.5	34.3	93.7	93.7	93.7	55.4	47.0	10.2	47.3	26.4	22.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	23.5	23.5	34.3	93.7	93.7	93.7	55.4	47.0	10.2	47.3	26.4	22.9
LOS by Move:	C	C	C	F	F	F	E	D	B	D	C	C
HCM2k95thQ:	5	5	33	7	7	7	1	24	11	24	19	18

Note: Queue reported is the number of cars per lane.

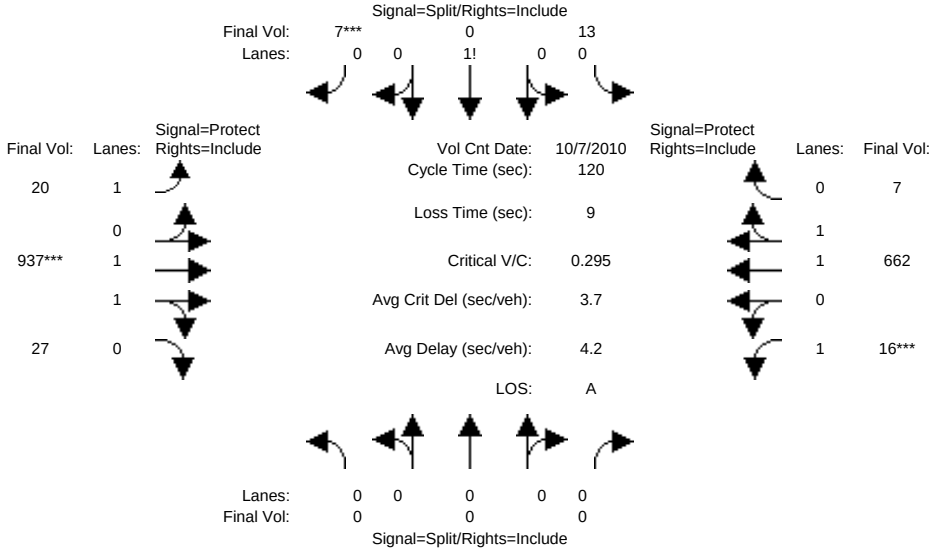
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #2: Matadera Wy and Diablo Rd



Street Name:	Matadera Way						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 7 Oct 2010 <<												
Base Vol:	0	0	0	12	0	6	18	862	25	15	609	6
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	12	0	6	18	862	25	15	609	6
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	12	0	6	18	862	25	15	609	6
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	0	0	0	13	0	7	20	937	27	16	662	7
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	13	0	7	20	937	27	16	662	7
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	13	0	7	20	937	27	16	662	7
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.67	0.00	0.33	1.00	1.94	0.06	1.00	1.98	0.02
Final Sat.:	0	0	0	1267	0	633	1900	3693	107	1900	3763	37
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.25	0.25	0.01	0.18	0.18
Crit Moves:						****		****		****		
Green Time:	0.0	0.0	0.0	4.2	0.0	4.2	13.3	103	103.3	3.5	93.5	93.5
Volume/Cap:	0.00	0.00	0.00	0.29	0.00	0.29	0.09	0.29	0.29	0.29	0.23	0.23
Delay/Veh:	0.0	0.0	0.0	58.9	0.0	58.9	48.1	1.6	1.6	60.0	3.6	3.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	58.9	0.0	58.9	48.1	1.6	1.6	60.0	3.6	3.6
LOS by Move:	A	A	A	E	A	E	D	A	A	E	A	A
HCM2k95thQ:	0	0	0	2	0	2	1	7	7	2	7	7

Note: Queue reported is the number of cars per lane.

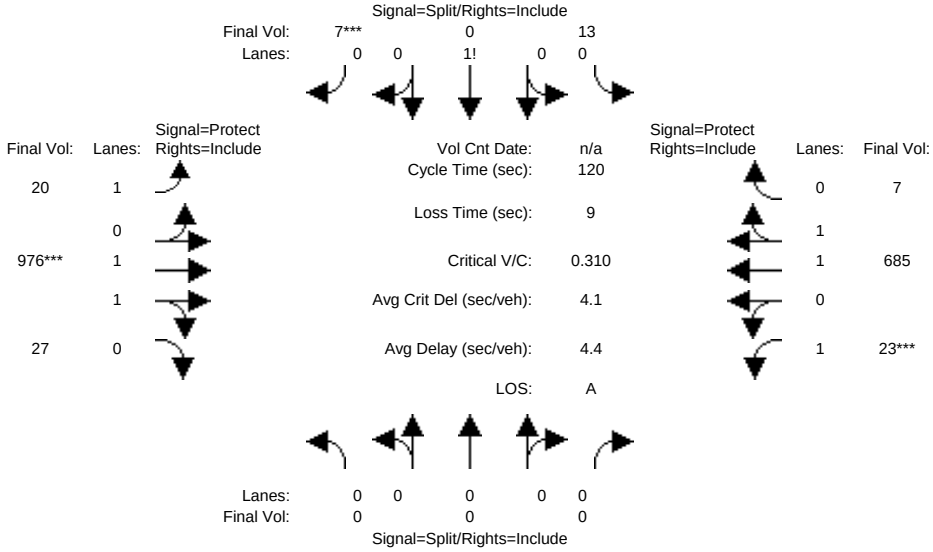
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Project PM

Intersection #2: Matadera Wy and Diablo Rd



Street Name:	Matadera Way						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	12	0	6	18	898	25	21	630	6
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	12	0	6	18	898	25	21	630	6
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	12	0	6	18	898	25	21	630	6
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	0	0	0	13	0	7	20	976	27	23	685	7
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	13	0	7	20	976	27	23	685	7
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	13	0	7	20	976	27	23	685	7
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.67	0.00	0.33	1.00	1.95	0.05	1.00	1.98	0.02
Final Sat.:	0	0	0	1267	0	633	1900	3697	103	1900	3764	36
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.26	0.26	0.01	0.18	0.18
Crit Moves:						****		****		****		
Green Time:	0.0	0.0	0.0	4.0	0.0	4.0	12.9	102	102.4	4.7	94.1	94.1
Volume/Cap:	0.00	0.00	0.00	0.31	0.00	0.31	0.10	0.31	0.31	0.31	0.23	0.23
Delay/Veh:	0.0	0.0	0.0	59.4	0.0	59.4	48.5	1.8	1.8	58.5	3.5	3.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	59.4	0.0	59.4	48.5	1.8	1.8	58.5	3.5	3.5
LOS by Move:	A	A	A	E	A	E	D	A	A	E	A	A
HCM2k95thQ:	0	0	0	2	0	2	1	8	8	2	7	7

Note: Queue reported is the number of cars per lane.

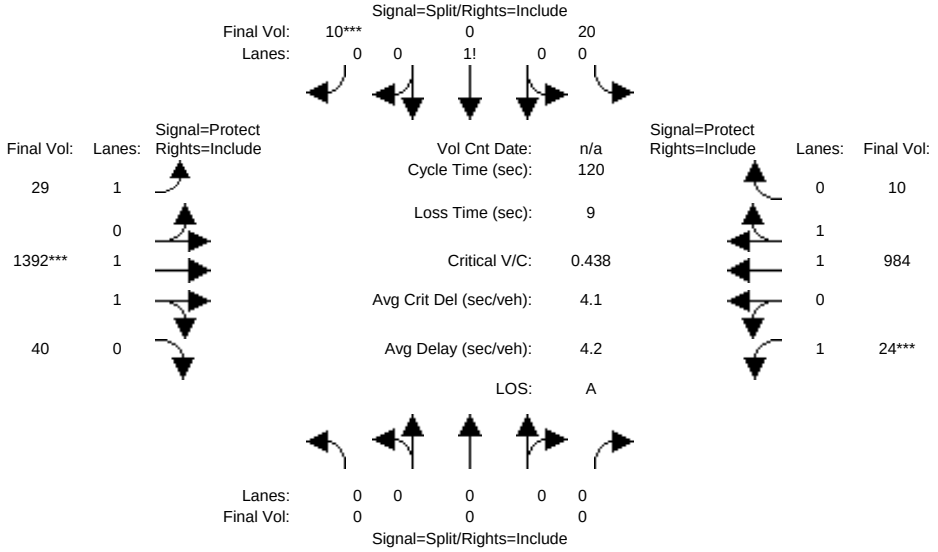
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum PM No Project

Intersection #2: Matadera Wy and Diablo Rd



Street Name:	Matadera Way						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	18	0	9	27	1281	37	22	905	9
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	18	0	9	27	1281	37	22	905	9
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	18	0	9	27	1281	37	22	905	9
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	0	0	0	20	0	10	29	1392	40	24	984	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	20	0	10	29	1392	40	24	984	10
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	20	0	10	29	1392	40	24	984	10
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.67	0.00	0.33	1.00	1.94	0.06	1.00	1.98	0.02
Final Sat.:	0	0	0	1267	0	633	1900	3693	107	1900	3763	37
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.02	0.00	0.02	0.02	0.38	0.38	0.01	0.26	0.26
Crit Moves:						****		****		****		
Green Time:	0.0	0.0	0.0	4.2	0.0	4.2	9.3	103	103.3	3.4	97.4	97.4
Volume/Cap:	0.00	0.00	0.00	0.44	0.00	0.44	0.20	0.44	0.44	0.44	0.32	0.32
Delay/Veh:	0.0	0.0	0.0	61.2	0.0	61.2	52.5	2.0	2.0	62.8	2.9	2.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	61.2	0.0	61.2	52.5	2.0	2.0	62.8	2.9	2.9
LOS by Move:	A	A	A	E	A	E	D	A	A	E	A	A
HCM2k95thQ:	0	0	0	3	0	3	2	12	12	3	9	9

Note: Queue reported is the number of cars per lane.

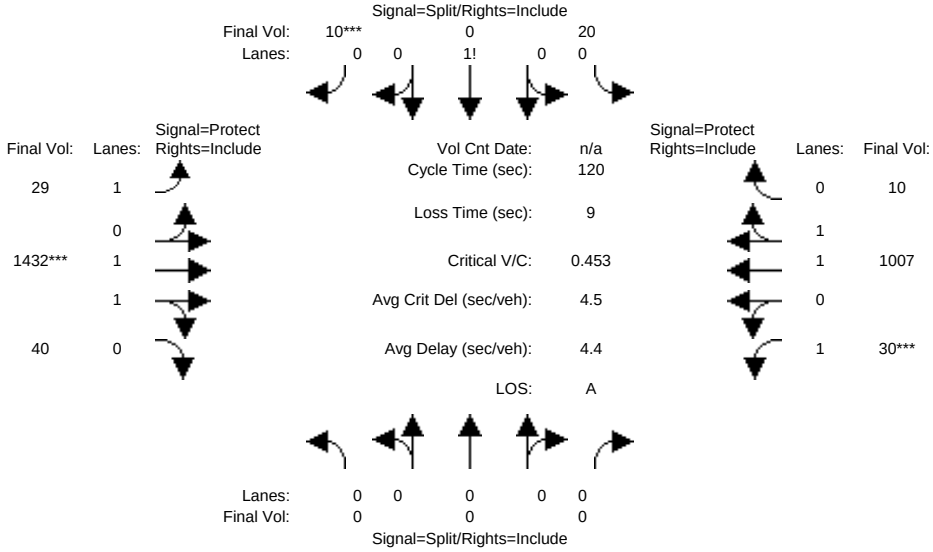
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc1 PM w/Proj

Intersection #2: Matadera Wy and Diablo Rd



Street Name:	Matadera Way						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	18	0	9	27	1317	37	28	926	9
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	18	0	9	27	1317	37	28	926	9
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	18	0	9	27	1317	37	28	926	9
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	0	0	0	20	0	10	29	1432	40	30	1007	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	20	0	10	29	1432	40	30	1007	10
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	20	0	10	29	1432	40	30	1007	10
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.67	0.00	0.33	1.00	1.95	0.05	1.00	1.98	0.02
Final Sat.:	0	0	0	1267	0	633	1900	3696	104	1900	3763	37
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.02	0.00	0.02	0.02	0.39	0.39	0.02	0.27	0.27
Crit Moves:						****		****		****		
Green Time:	0.0	0.0	0.0	4.1	0.0	4.1	9.1	103	102.7	4.2	97.8	97.8
Volume/Cap:	0.00	0.00	0.00	0.45	0.00	0.45	0.20	0.45	0.45	0.45	0.33	0.33
Delay/Veh:	0.0	0.0	0.0	61.8	0.0	61.8	52.7	2.1	2.1	61.5	2.9	2.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	61.8	0.0	61.8	52.7	2.1	2.1	61.5	2.9	2.9
LOS by Move:	A	A	A	E	A	E	D	A	A	E	A	A
HCM2k95thQ:	0	0	0	3	0	3	2	13	13	3	9	9

Note: Queue reported is the number of cars per lane.

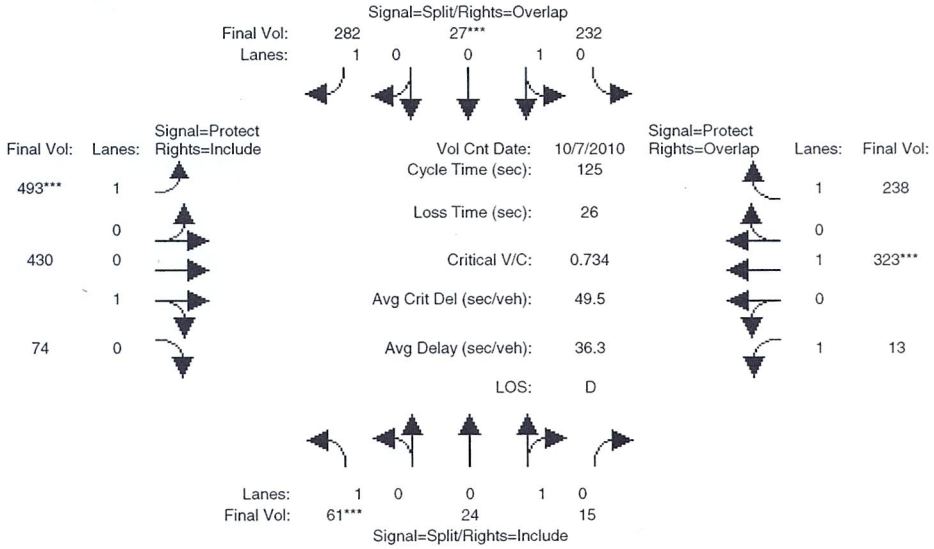
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #3: Green Valley Rd and Diablo Rd



Street Name:	Green Valley Road						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 7 Oct 2010 <<												
Base Vol:	56	22	14	213	25	259	454	396	68	12	297	219
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	56	22	14	213	25	259	454	396	68	12	297	219
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	56	22	14	213	25	259	454	396	68	12	297	219
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	61	24	15	232	27	282	493	430	74	13	323	238
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	61	24	15	232	27	282	493	430	74	13	323	238
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	61	24	15	232	27	282	493	430	74	13	323	238
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.61	0.39	0.89	0.11	1.00	1.00	0.85	0.15	1.00	1.00	1.00
Final Sat.:	1900	1161	739	1700	200	1900	1900	1622	278	1900	2100	1900
Capacity Analysis Module:												
Vol/Sat:	0.03	0.02	0.02	0.14	0.14	0.15	0.26	0.27	0.27	0.01	0.15	0.13
Crit Moves:	****				****		****				****	
Green Time:	5.5	5.5	5.5	23.2	23.2	67.4	44.2	64.5	64.5	5.8	26.2	49.3
Volume/Cap:	0.73	0.47	0.47	0.73	0.73	0.27	0.73	0.51	0.51	0.15	0.73	0.32
Delay/Veh:	87.6	62.6	62.6	55.8	55.8	15.7	39.5	20.4	20.4	58.0	52.5	26.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	87.6	62.6	62.6	55.8	55.8	15.7	39.5	20.4	20.4	58.0	52.5	26.4
LOS by Move:	F	E	E	E	E	B	D	C	C	E	D	C
HCM2k95thQ:	8	4	4	20	20	11	30	23	23	1	23	12

Note: Queue reported is the number of cars per lane.

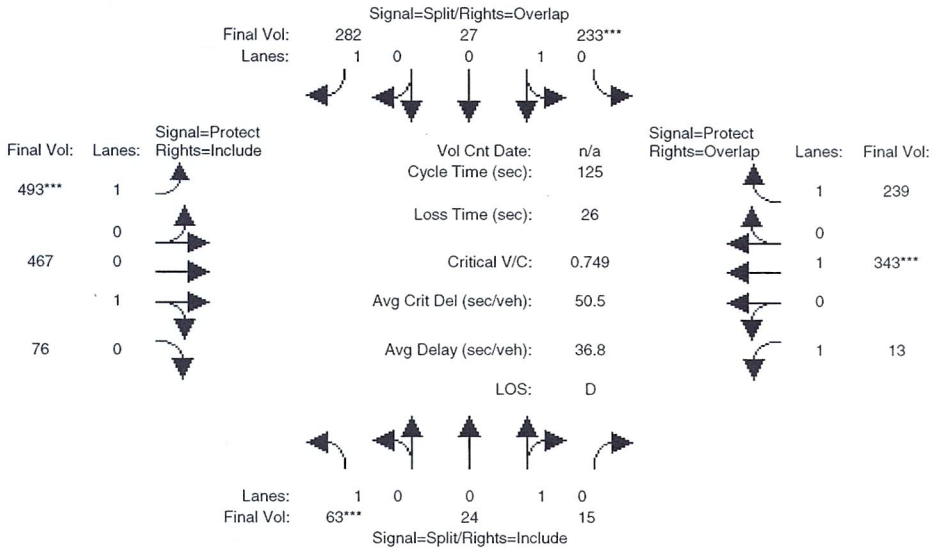
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Project PM

Intersection #3: Green Valley Rd and Diablo Rd



Street Name:	Green Valley Road						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	58	22	14	214	25	259	454	430	70	12	316	220
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	58	22	14	214	25	259	454	430	70	12	316	220
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	58	22	14	214	25	259	454	430	70	12	316	220
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	63	24	15	233	27	282	493	467	76	13	343	239
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	63	24	15	233	27	282	493	467	76	13	343	239
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	63	24	15	233	27	282	493	467	76	13	343	239
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.61	0.39	0.90	0.10	1.00	1.00	0.86	0.14	1.00	1.00	1.00
Final Sat.:	1900	1161	739	1701	199	1900	1900	1634	266	1900	2100	1900
Capacity Analysis Module:												
Vol/Sat:	0.03	0.02	0.02	0.14	0.14	0.15	0.26	0.29	0.29	0.01	0.16	0.13
Crit Moves:	****			****			****				****	
Green Time:	5.5	5.5	5.5	22.8	22.8	66.2	43.3	65.2	65.2	5.5	27.3	50.1
Volume/Cap:	0.75	0.46	0.46	0.75	0.75	0.28	0.75	0.55	0.55	0.16	0.75	0.31
Delay/Veh:	89.6	62.3	62.3	57.1	57.1	16.4	40.8	20.7	20.7	58.4	52.4	25.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	89.6	62.3	62.3	57.1	57.1	16.4	40.8	20.7	20.7	58.4	52.4	25.9
LOS by Move:	F	E	E	E	E	B	D	C	C	E	D	C
HCM2k95thQ:	8	4	4	20	20	11	31	25	25	1	24	12

Note: Queue reported is the number of cars per lane.

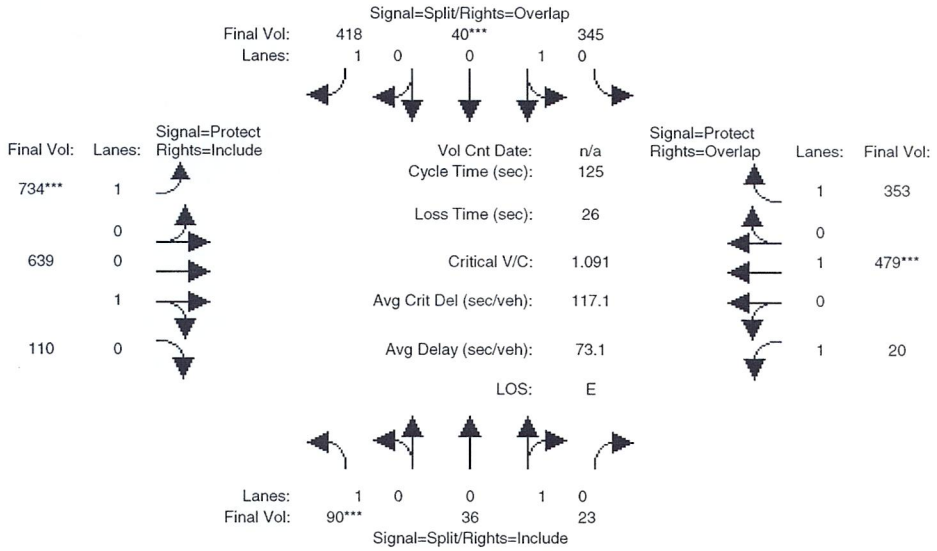
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum PM No Project

Intersection #3: Green Valley Rd and Diablo Rd



Street Name:	Green Valley Road						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	83	33	21	317	37	385	675	588	101	18	441	325
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	83	33	21	317	37	385	675	588	101	18	441	325
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	83	33	21	317	37	385	675	588	101	18	441	325
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	90	36	23	345	40	418	734	639	110	20	479	353
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	90	36	23	345	40	418	734	639	110	20	479	353
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	90	36	23	345	40	418	734	639	110	20	479	353
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.61	0.39	0.90	0.10	1.00	1.00	0.85	0.15	1.00	1.00	1.00
Final Sat.:	1900	1161	739	1701	199	1900	1900	1621	279	1900	2100	1900
Capacity Analysis Module:												
Vol/Sat:	0.05	0.03	0.03	0.20	0.20	0.22	0.39	0.39	0.39	0.01	0.23	0.19
Crit Moves:	****				****		****				****	
Green Time:	5.4	5.4	5.4	23.2	23.2	67.4	44.2	66.3	66.3	4.0	26.1	49.3
Volume/Cap:	1.09	0.71	0.71	1.09	1.09	0.41	1.09	0.74	0.74	0.32	1.09	0.47
Delay/Veh:	185.8	83.8	83.8	125.6	126	17.3	102.7	25.7	25.7	62.1	119	28.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	185.8	83.8	83.8	125.6	126	17.3	102.7	25.7	25.7	62.1	119	28.6
LOS by Move:	F	F	F	F	F	B	F	C	C	E	F	C
HCM2k95thQ:	13	7	7	38	38	17	62	38	38	2	45	18

Note: Queue reported is the number of cars per lane.

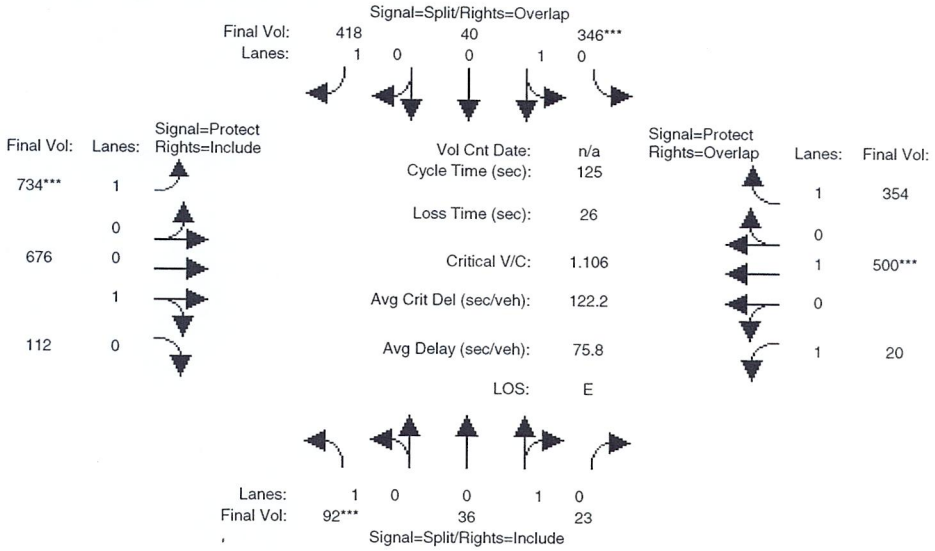
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc1 PM w/Proj

Intersection #3: Green Valley Rd and Diablo Rd



Street Name:	Green Valley Road						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	85	33	21	318	37	385	675	622	103	18	460	326
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	85	33	21	318	37	385	675	622	103	18	460	326
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	85	33	21	318	37	385	675	622	103	18	460	326
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	92	36	23	346	40	418	734	676	112	20	500	354
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	92	36	23	346	40	418	734	676	112	20	500	354
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	92	36	23	346	40	418	734	676	112	20	500	354
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.61	0.39	0.90	0.10	1.00	1.00	0.86	0.14	1.00	1.00	1.00
Final Sat.:	1900	1161	739	1702	198	1900	1900	1630	270	1900	2100	1900
Capacity Analysis Module:												
Vol/Sat:	0.05	0.03	0.03	0.20	0.20	0.22	0.39	0.41	0.41	0.01	0.24	0.19
Crit Moves:	****			****			****				****	
Green Time:	5.5	5.5	5.5	23.0	23.0	66.6	43.6	66.7	66.7	3.9	26.9	49.9
Volume/Cap:	1.11	0.70	0.70	1.11	1.11	0.41	1.11	0.78	0.78	0.33	1.11	0.47
Delay/Veh:	189.9	82.5	82.5	130.9	131	17.8	108.3	27.1	27.1	62.7	123	28.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	189.9	82.5	82.5	130.9	131	17.8	108.3	27.1	27.1	62.7	123	28.2
LOS by Move:	F	F	F	F	F	B	F	C	C	E	F	C
HCM2k95thQ:	14	7	7	38	38	17	63	41	41	2	47	18

Note: Queue reported is the number of cars per lane.

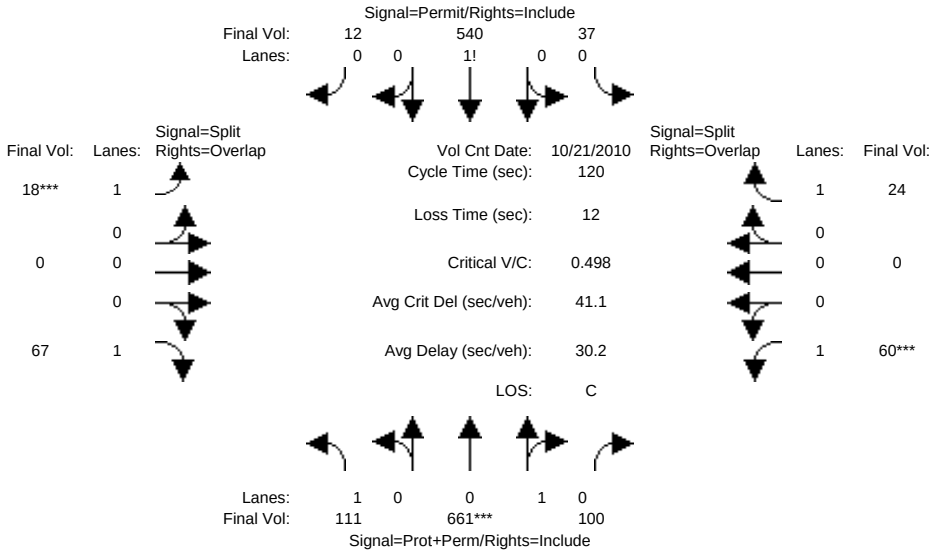
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #4: Green Valley Rd and Blemer Rd/Cameo Dr



Street Name:	Green Valley Road						Blemer Road/Cameo Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	3	3	3	3	3	3	2	3	3	2	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 21 Oct 2010 <<												
Base Vol:	102	608	92	34	497	11	17	0	62	55	0	22
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	102	608	92	34	497	11	17	0	62	55	0	22
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	102	608	92	34	497	11	17	0	62	55	0	22
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	111	661	100	37	540	12	18	0	67	60	0	24
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	111	661	100	37	540	12	18	0	67	60	0	24
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	111	661	100	37	540	12	18	0	67	60	0	24
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.87	0.13	0.06	0.92	0.02	1.00	0.00	1.00	1.00	0.00	1.00
Final Sat.:	1900	1650	250	119	1742	39	1900	0	1900	1900	0	1900
Capacity Analysis Module:												
Vol/Sat:	0.00	0.40	0.40	0.31	0.31	0.31	0.01	0.00	0.04	0.03	0.00	0.01
Crit Moves:		****					****			****		
Green Time:	16.1	57.2	57.2	44.3	85.4	85.4	2.0	0.0	18.1	4.5	0.0	48.8
Volume/Cap:	0.44	0.84	0.84	0.84	0.44	0.44	0.58	0.00	0.24	0.84	0.00	0.03
Delay/Veh:	49.0	34.5	34.5	43.5	7.4	7.4	83.5	0.0	45.3	113.1	0.0	21.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	49.0	34.5	34.5	43.5	7.4	7.4	83.5	0.0	45.3	113.1	0.0	21.4
LOS by Move:	D	C	C	D	A	A	F	A	D	F	A	C
HCM2k95thQ:	8	43	43	37	17	17	3	0	5	8	0	1

Note: Queue reported is the number of cars per lane.

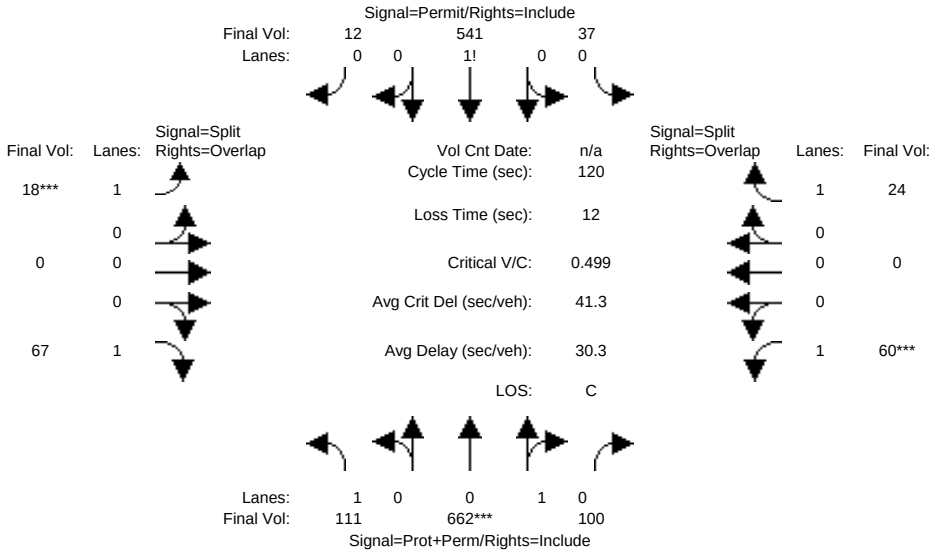
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Project PM

Intersection #4: Green Valley Rd and Blemer Rd/Cameo Dr



Street Name:	Green Valley Road						Blemer Road/Cameo Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	3	3	3	3	3	3	2	3	3	2	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	102	609	92	34	498	11	17	0	62	55	0	22
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	102	609	92	34	498	11	17	0	62	55	0	22
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	102	609	92	34	498	11	17	0	62	55	0	22
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	111	662	100	37	541	12	18	0	67	60	0	24
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	111	662	100	37	541	12	18	0	67	60	0	24
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	111	662	100	37	541	12	18	0	67	60	0	24
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.87	0.13	0.06	0.92	0.02	1.00	0.00	1.00	1.00	0.00	1.00
Final Sat.:	1900	1651	249	119	1743	38	1900	0	1900	1900	0	1900
Capacity Analysis Module:												
Vol/Sat:	0.00	0.40	0.40	0.31	0.31	0.31	0.01	0.00	0.04	0.03	0.00	0.01
Crit Moves:		****					****			****		
Green Time:	16.1	57.2	57.2	44.3	85.5	85.5	2.0	0.0	18.1	4.5	0.0	48.8
Volume/Cap:	0.44	0.84	0.84	0.84	0.44	0.44	0.58	0.00	0.24	0.84	0.00	0.03
Delay/Veh:	49.0	34.6	34.6	43.6	7.4	7.4	83.5	0.0	45.3	113.5	0.0	21.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	49.0	34.6	34.6	43.6	7.4	7.4	83.5	0.0	45.3	113.5	0.0	21.4
LOS by Move:	D	C	C	D	A	A	F	A	D	F	A	C
HCM2k95thQ:	8	43	43	37	17	17	3	0	5	8	0	1

Note: Queue reported is the number of cars per lane.

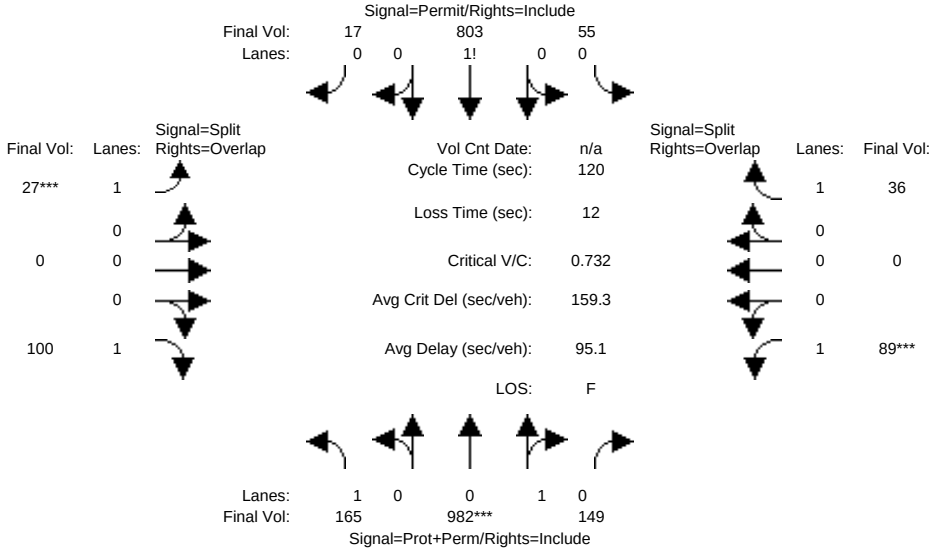
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum PM No Project

Intersection #4: Green Valley Rd and Blemer Rd/Cameo Dr



Street Name:	Green Valley Road						Blemer Road/Cameo Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	3	3	3	3	3	3	2	3	3	2	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	152	903	137	51	739	16	25	0	92	82	0	33
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	152	903	137	51	739	16	25	0	92	82	0	33
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	152	903	137	51	739	16	25	0	92	82	0	33
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	165	982	149	55	803	17	27	0	100	89	0	36
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	165	982	149	55	803	17	27	0	100	89	0	36
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	165	982	149	55	803	17	27	0	100	89	0	36
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.87	0.13	0.06	0.92	0.02	1.00	0.00	1.00	1.00	0.00	1.00
Final Sat.:	1900	1650	250	120	1742	38	1900	0	1900	1900	0	1900
Capacity Analysis Module:												
Vol/Sat:	0.00	0.59	0.59	0.46	0.46	0.46	0.01	0.00	0.05	0.05	0.00	0.02
Crit Moves:		****					****			****		
Green Time:	16.1	57.2	57.2	44.3	85.4	85.4	2.0	0.0	18.1	4.5	0.0	48.8
Volume/Cap:	0.65	1.25	1.25	1.25	0.65	0.65	0.86	0.00	0.35	1.25	0.00	0.05
Delay/Veh:	55.0	153	152.5	161.4	10.4	10.4	161.0	0.0	46.4	245.2	0.0	21.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	55.0	153	152.5	161.4	10.4	10.4	161.0	0.0	46.4	245.2	0.0	21.5
LOS by Move:	D	F	F	F	B	B	F	A	D	F	A	C
HCM2k95thQ:	13	106	106	84	30	30	5	0	7	14	0	2

Note: Queue reported is the number of cars per lane.

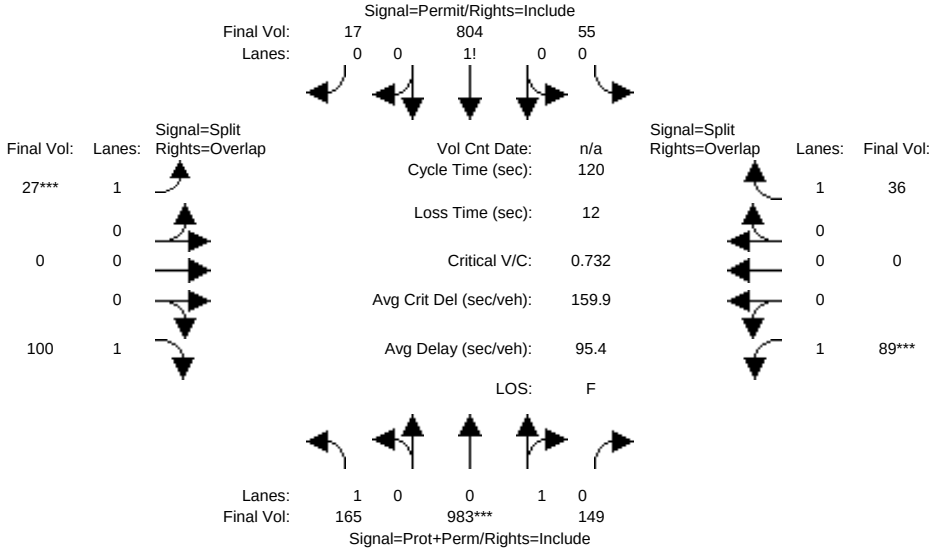
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc1 PM w/Proj

Intersection #4: Green Valley Rd and Blemer Rd/Cameo Dr



Street Name:	Green Valley Road						Blemer Road/Cameo Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	3	3	3	3	3	3	2	3	3	2	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	152	904	137	51	740	16	25	0	92	82	0	33
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	152	904	137	51	740	16	25	0	92	82	0	33
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	152	904	137	51	740	16	25	0	92	82	0	33
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	165	983	149	55	804	17	27	0	100	89	0	36
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	165	983	149	55	804	17	27	0	100	89	0	36
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	165	983	149	55	804	17	27	0	100	89	0	36
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.87	0.13	0.06	0.92	0.02	1.00	0.00	1.00	1.00	0.00	1.00
Final Sat.:	1900	1650	250	120	1742	38	1900	0	1900	1900	0	1900
Capacity Analysis Module:												
Vol/Sat:	0.00	0.60	0.60	0.46	0.46	0.46	0.01	0.00	0.05	0.05	0.00	0.02
Crit Moves:		****					****			****		
Green Time:	16.1	57.2	57.2	44.3	85.4	85.4	2.0	0.0	18.1	4.5	0.0	48.8
Volume/Cap:	0.65	1.25	1.25	1.25	0.65	0.65	0.86	0.00	0.35	1.25	0.00	0.05
Delay/Veh:	55.0	153	153.1	161.9	10.4	10.4	161.0	0.0	46.4	245.7	0.0	21.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	55.0	153	153.1	161.9	10.4	10.4	161.0	0.0	46.4	245.7	0.0	21.5
LOS by Move:	E	F	F	F	B	B	F	A	D	F	A	C
HCM2k95thQ:	13	106	106	85	30	30	5	0	7	14	0	2

Note: Queue reported is the number of cars per lane.

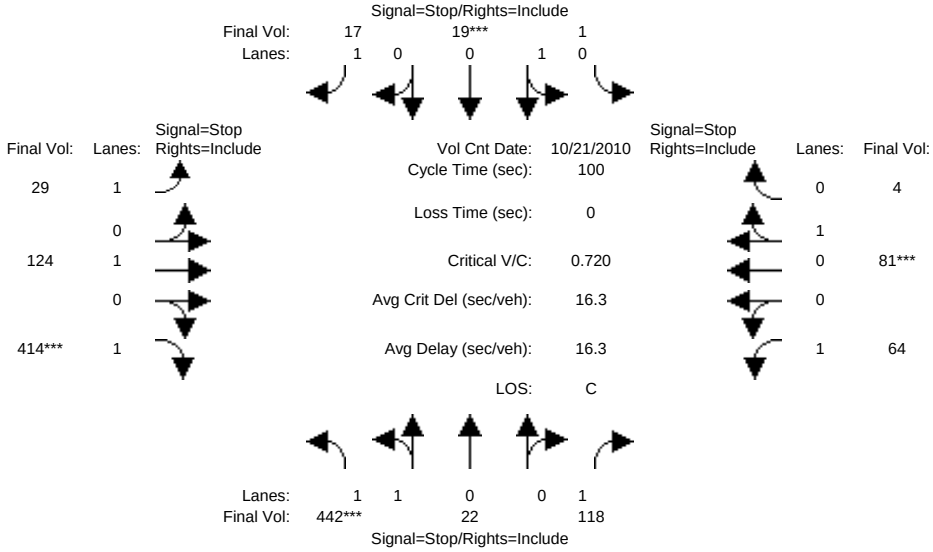
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing PM

Intersection #5: Green Valley Rd and Stone Valley Rd




```
Street Name:        Green Valley Road                 Stone Valley Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 21 Oct 2010 <<
Base Vol:     367   18    98     1   16    14    24  103   344    53   67     3
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  367   18    98     1   16    14    24  103   344    53   67     3
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  367   18    98     1   16    14    24  103   344    53   67     3
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.83 0.83  0.83  0.83 0.83  0.83  0.83 0.83  0.83  0.83 0.83  0.83
PHF Volume:   442   22   118     1   19    17    29  124   414    64   81     4
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  442   22   118     1   19    17    29  124   414    64   81     4
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  442   22   118     1   19    17    29  124   414    64   81     4
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.91 0.09  1.00  0.06 0.94  1.00  1.00 1.00  1.00  1.00 0.96  0.04
Final Sat.:   919   45   567    26  415   484   475  511   576   448  460    21
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.48 0.48  0.21  0.05 0.05  0.03  0.06 0.24  0.72  0.14 0.18  0.18
Crit Moves:  ****                 ****                  ****       ****
Delay/Veh:   16.2 16.1  10.3  10.5 10.5   9.7  10.5 11.6  22.3  11.5 11.1  11.1
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  16.2 16.1  10.3  10.5 10.5   9.7  10.5 11.6  22.3  11.5 11.1  11.1
LOS by Move:    C    C     B     B    B     A     B    B     C     B    B     B
ApproachDel:      15.0             10.1             19.3             11.3
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:       15.0             10.1             19.3             11.3
LOS by Appr:         C                B                C                B
AllWayAvgQ:   0.8  0.8   0.2   0.0  0.0   0.0   0.1  0.3   2.1   0.1  0.2   0.2
Note: Queue reported is the number of cars per lane.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #5 Green Valley Rd and Stone Valley Rd

****

Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Lanes:	1	1	0	0 1	0	1	0	0 1	1	0	1	0 1	1	0	0	1 0
Initial Vol:	367	18		98		1	16	14	24	103		344	53	67		3

Major Street Volume: 594
Minor Approach Volume: 483
Minor Approach Volume Threshold: 598

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

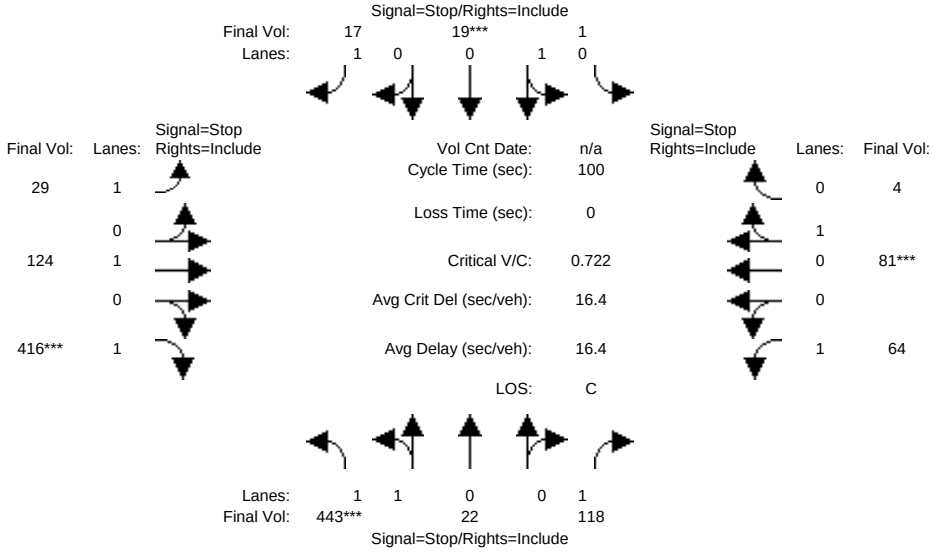
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Project PM

Intersection #5: Green Valley Rd and Stone Valley Rd



Street Name:	Green Valley Road						Stone Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Volume Module:												
Base Vol:	368	18	98	1	16	14	24	103	345	53	67	3
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	368	18	98	1	16	14	24	103	345	53	67	3
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	368	18	98	1	16	14	24	103	345	53	67	3
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
PHF Volume:	443	22	118	1	19	17	29	124	416	64	81	4
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	443	22	118	1	19	17	29	124	416	64	81	4
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	443	22	118	1	19	17	29	124	416	64	81	4
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.91	0.09	1.00	0.06	0.94	1.00	1.00	1.00	1.00	1.00	0.96	0.04
Final Sat.:	919	45	567	26	414	483	475	510	575	447	460	21
Capacity Analysis Module:												
Vol/Sat:	0.48	0.48	0.21	0.05	0.05	0.03	0.06	0.24	0.72	0.14	0.18	0.18
Crit Moves:	****				****				****		****	
Delay/Veh:	16.2	16.2	10.3	10.5	10.5	9.7	10.5	11.6	22.4	11.5	11.1	11.1
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	16.2	16.2	10.3	10.5	10.5	9.7	10.5	11.6	22.4	11.5	11.1	11.1
LOS by Move:	C	C	B	B	B	A	B	B	C	B	B	B
ApproachDel:	15.0			10.1			19.5			11.3		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	15.0			10.1			19.5			11.3		
LOS by Appr:	C			B			C			B		
AllWayAvgQ:	0.8	0.8	0.2	0.0	0.0	0.0	0.1	0.3	2.2	0.1	0.2	0.2

Note: Queue reported is the number of cars per lane.

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #5 Green Valley Rd and Stone Valley Rd

****

Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Lanes:	1	1	0	0 1	0	1	0	0 1	1	0	1	0 1	1	0	0	1 0
Initial Vol:	368	18		98		1	16	14	24	103		345	53	67		3

Major Street Volume: 595
Minor Approach Volume: 484
Minor Approach Volume Threshold: 597

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

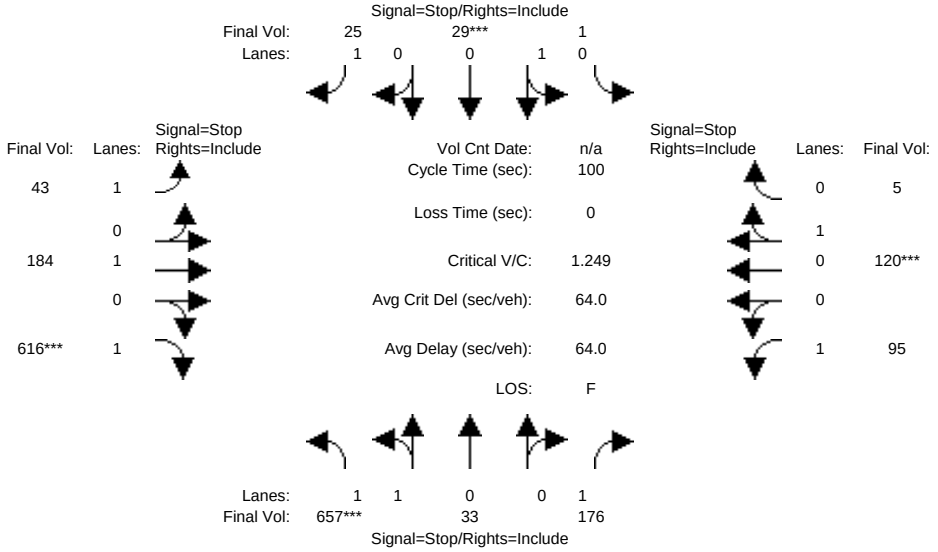
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Cum PM No Project

Intersection #5: Green Valley Rd and Stone Valley Rd




```
Street Name:        Green Valley Road                  Stone Valley Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     545   27   146     1   24    21    36  153   511    79  100     4
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  545   27   146     1   24    21    36  153   511    79  100     4
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  545   27   146     1   24    21    36  153   511    79  100     4
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.83 0.83  0.83  0.83 0.83  0.83  0.83 0.83  0.83  0.83 0.83  0.83
PHF Volume:   657   33   176     1   29    25    43  184   616    95  120     5
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  657   33   176     1   29    25    43  184   616    95  120     5
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  657   33   176     1   29    25    43  184   616    95  120     5
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.91 0.09  1.00  0.04 0.96  1.00  1.00 1.00  1.00  1.00 0.96  0.04
Final Sat.:   832   41   506    16  373   421   413  441   493   398  408    16
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.79 0.79  0.35  0.08 0.08  0.06  0.11 0.42  1.25  0.24 0.30  0.30
Crit Moves:  ****                   ****                   ****       ****
Delay/Veh:   35.2 34.8  13.4  12.2 12.2  11.3  12.2 16.2 151.3  14.1 14.2  14.2
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  35.2 34.8  13.4  12.2 12.2  11.3  12.2 16.2 151.3  14.1 14.2  14.2
LOS by Move:    E    D     B     B    B     B     B    C     F     B    B     B
ApproachDel:      30.7             11.8            114.6             14.2
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:       30.7             11.8            114.6             14.2
LOS by Appr:         D                B                F                B
AllWayAvgQ:   2.9  2.9   0.5   0.1  0.1   0.1   0.1  0.7  19.3   0.3  0.4   0.4
Note: Queue reported is the number of cars per lane.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #5 Green Valley Rd and Stone Valley Rd

****

Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Lanes:	1	1	0	0 1	0	1	0	0 1	1	0	1	0 1	1	0	0	1 0
Initial Vol:	545	27		146	1	24		21	36	153		511	79	100		4

Major Street Volume: 883
Minor Approach Volume: 718
Minor Approach Volume Threshold: 428

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

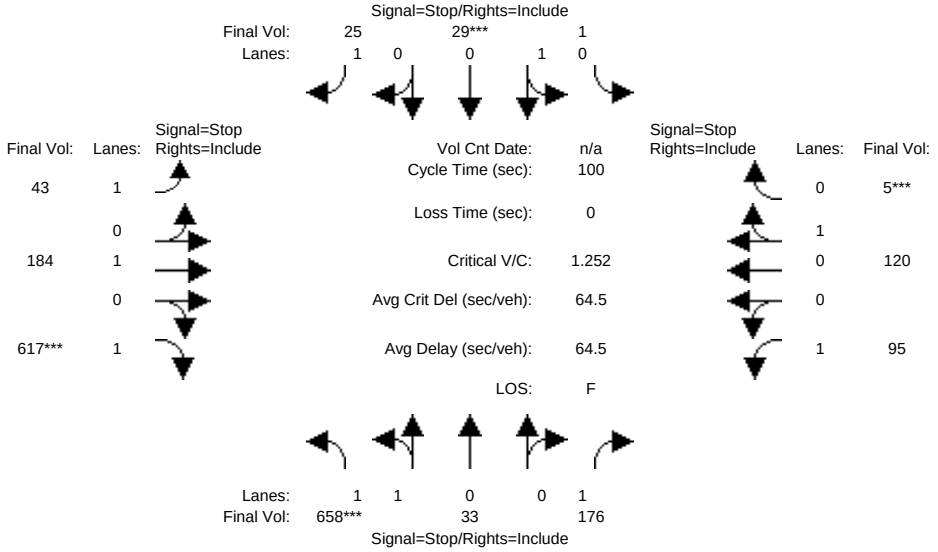
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Cum Sc1 PM w/Proj

Intersection #5: Green Valley Rd and Stone Valley Rd




```
Street Name:        Green Valley Road                 Stone Valley Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     546   27   146     1   24    21    36  153   512    79  100     4
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  546   27   146     1   24    21    36  153   512    79  100     4
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  546   27   146     1   24    21    36  153   512    79  100     4
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.83 0.83  0.83  0.83 0.83  0.83  0.83 0.83  0.83  0.83 0.83  0.83
PHF Volume:   658   33   176     1   29    25    43  184   617    95  120     5
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  658   33   176     1   29    25    43  184   617    95  120     5
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  658   33   176     1   29    25    43  184   617    95  120     5
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.91 0.09  1.00  0.04 0.96  1.00  1.00 1.00  1.00  1.00 0.96  0.04
Final Sat.:   832   41   506    16  373   421   413  441   493   398  408    16
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.79 0.79  0.35  0.08 0.08  0.06  0.11 0.42  1.25  0.24 0.30  0.30
Crit Moves:  ****                   ****                   ****              ****
Delay/Veh:   35.3 35.0  13.4  12.2 12.2  11.3  12.2 16.2 152.5  14.1 14.3  14.3
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  35.3 35.0  13.4  12.2 12.2  11.3  12.2 16.2 152.5  14.1 14.3  14.3
LOS by Move:    E    D     B     B    B     B     B    C     F     B    B     B
ApproachDel:      30.9             11.8            115.5             14.2
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:       30.9             11.8            115.5             14.2
LOS by Appr:         D                B                F                B
AllWayAvgQ:   2.9  2.9   0.5   0.1  0.1   0.1   0.1  0.7  19.5   0.3  0.4   0.4
Note: Queue reported is the number of cars per lane.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #5 Green Valley Rd and Stone Valley Rd

****

Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Lanes:	1	1	0	0 1	0	1	0	0 1	1	0	1	0 1	1	0	0	1 0
Initial Vol:	546	27		146	1	24		21	36	153		512	79	100		4

Major Street Volume: 884
Minor Approach Volume: 719
Minor Approach Volume Threshold: 427

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

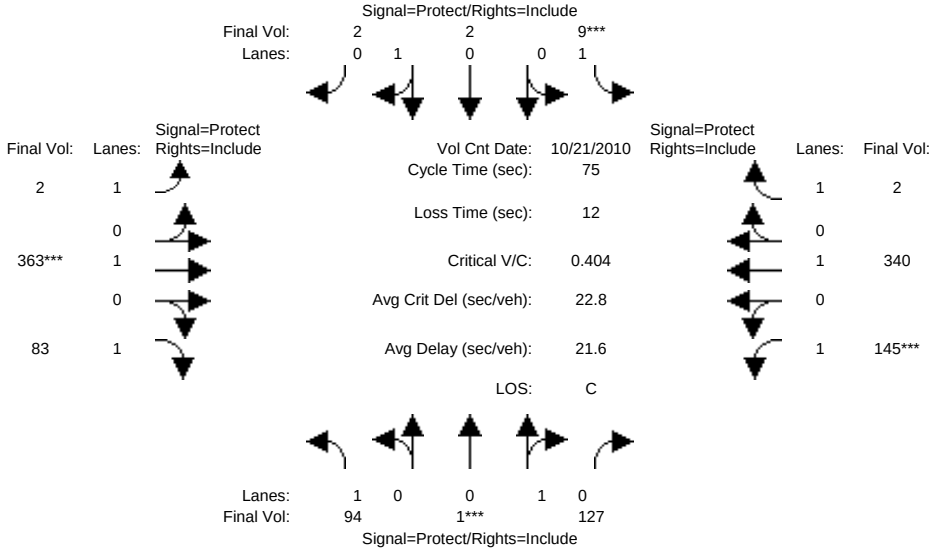
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #6: Monte Vista H.S. Main and Stone Valley Rd



Street Name:	Monte Vista H.S. Main Parking Lot						Stone Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 21 Oct 2010 <<												
Base Vol:	83	1	112	8	2	2	2	319	73	128	299	2
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	83	1	112	8	2	2	2	319	73	128	299	2
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	83	1	112	8	2	2	2	319	73	128	299	2
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
PHF Volume:	94	1	127	9	2	2	2	363	83	145	340	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	94	1	127	9	2	2	2	363	83	145	340	2
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	94	1	127	9	2	2	2	363	83	145	340	2
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.01	0.99	1.00	0.50	0.50	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1900	17	1883	1900	950	950	1900	1900	1900	1900	1900	1900
Capacity Analysis Module:												
Vol/Sat:	0.05	0.07	0.07	0.00	0.00	0.00	0.00	0.19	0.04	0.08	0.18	0.00
Crit Moves:		****		****				****		****		
Green Time:	10.3	10.7	10.7	10.0	10.3	10.3	14.5	30.2	30.2	12.1	27.8	27.8
Volume/Cap:	0.36	0.47	0.47	0.04	0.02	0.02	0.01	0.47	0.11	0.47	0.48	0.00
Delay/Veh:	30.2	30.9	30.9	28.4	28.0	28.0	24.4	17.0	14.1	29.7	18.6	14.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	30.2	30.9	30.9	28.4	28.0	28.0	24.4	17.0	14.1	29.7	18.6	14.9
LOS by Move:	C	C	C	C	C	C	C	B	B	C	B	B
HCM2k95thQ:	5	7	7	0	0	0	0	12	2	7	12	0

Note: Queue reported is the number of cars per lane.

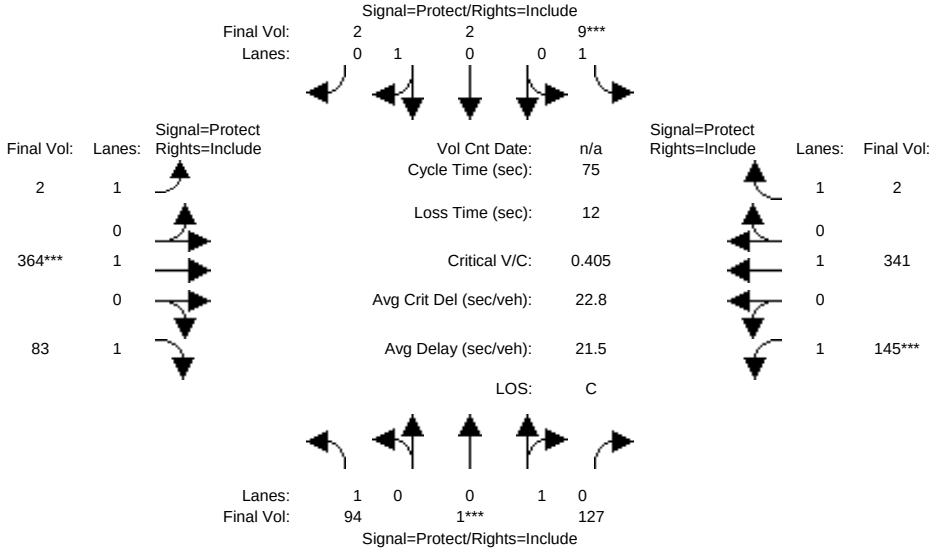
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Project PM

Intersection #6: Monte Vista H.S. Main and Stone Valley Rd



Street Name:	Monte Vista H.S. Main Parking Lot						Stone Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	83	1	112	8	2	2	2	320	73	128	300	2
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	83	1	112	8	2	2	2	320	73	128	300	2
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	83	1	112	8	2	2	2	320	73	128	300	2
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
PHF Volume:	94	1	127	9	2	2	2	364	83	145	341	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	94	1	127	9	2	2	2	364	83	145	341	2
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	94	1	127	9	2	2	2	364	83	145	341	2
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.01	0.99	1.00	0.50	0.50	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1900	17	1883	1900	950	950	1900	1900	1900	1900	1900	1900
Capacity Analysis Module:												
Vol/Sat:	0.05	0.07	0.07	0.00	0.00	0.00	0.00	0.19	0.04	0.08	0.18	0.00
Crit Moves:		****		****				****		****		
Green Time:	10.3	10.7	10.7	10.0	10.3	10.3	14.5	30.2	30.2	12.1	27.8	27.8
Volume/Cap:	0.36	0.47	0.47	0.04	0.02	0.02	0.01	0.47	0.11	0.47	0.48	0.00
Delay/Veh:	30.2	30.9	30.9	28.4	28.0	28.0	24.5	17.0	14.0	29.7	18.6	14.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	30.2	30.9	30.9	28.4	28.0	28.0	24.5	17.0	14.0	29.7	18.6	14.8
LOS by Move:	C	C	C	C	C	C	C	B	B	C	B	B
HCM2k95thQ:	5	7	7	0	0	0	0	12	2	7	12	0

Note: Queue reported is the number of cars per lane.

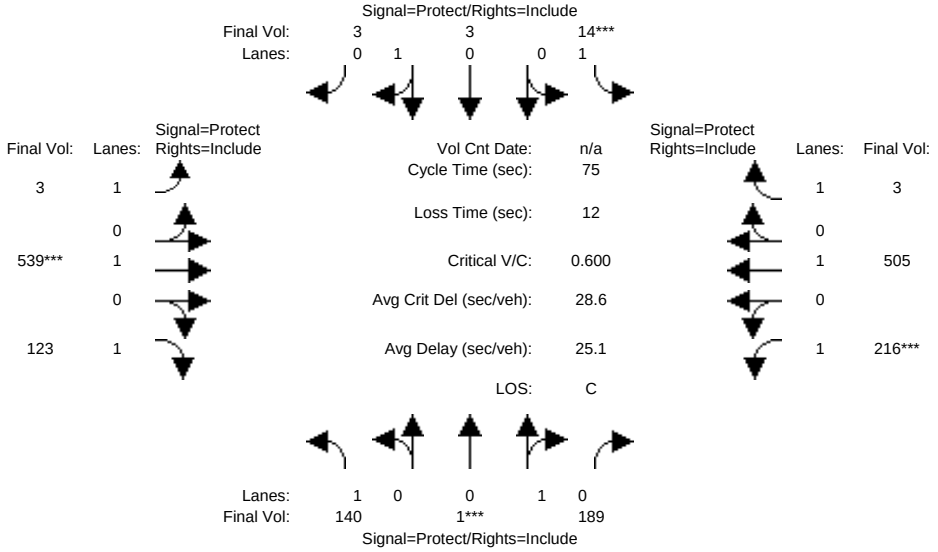
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum PM No Project

Intersection #6: Monte Vista H.S. Main and Stone Valley Rd



Street Name:	Monte Vista H.S. Main Parking Lot						Stone Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	123	1	166	12	3	3	3	474	108	190	444	3
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	123	1	166	12	3	3	3	474	108	190	444	3
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	123	1	166	12	3	3	3	474	108	190	444	3
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
PHF Volume:	140	1	189	14	3	3	3	539	123	216	505	3
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	140	1	189	14	3	3	3	539	123	216	505	3
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	140	1	189	14	3	3	3	539	123	216	505	3
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.01	0.99	1.00	0.50	0.50	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1900	11	1889	1900	950	950	1900	1900	1900	1900	1900	1900
Capacity Analysis Module:												
Vol/Sat:	0.07	0.10	0.10	0.01	0.00	0.00	0.00	0.28	0.06	0.11	0.27	0.00
Crit Moves:		****		****				****		****		
Green Time:	10.3	10.7	10.7	10.0	10.3	10.3	11.0	30.2	30.2	12.1	31.3	31.3
Volume/Cap:	0.53	0.70	0.70	0.05	0.03	0.03	0.01	0.70	0.16	0.70	0.64	0.00
Delay/Veh:	32.2	38.8	38.8	28.5	28.0	28.0	27.4	21.6	14.4	36.9	19.0	12.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	32.2	38.8	38.8	28.5	28.0	28.0	27.4	21.6	14.4	36.9	19.0	12.7
LOS by Move:	C	D	D	C	C	C	C	C	B	D	B	B
HCM2k95thQ:	8	11	11	1	0	0	0	21	4	12	18	0

Note: Queue reported is the number of cars per lane.

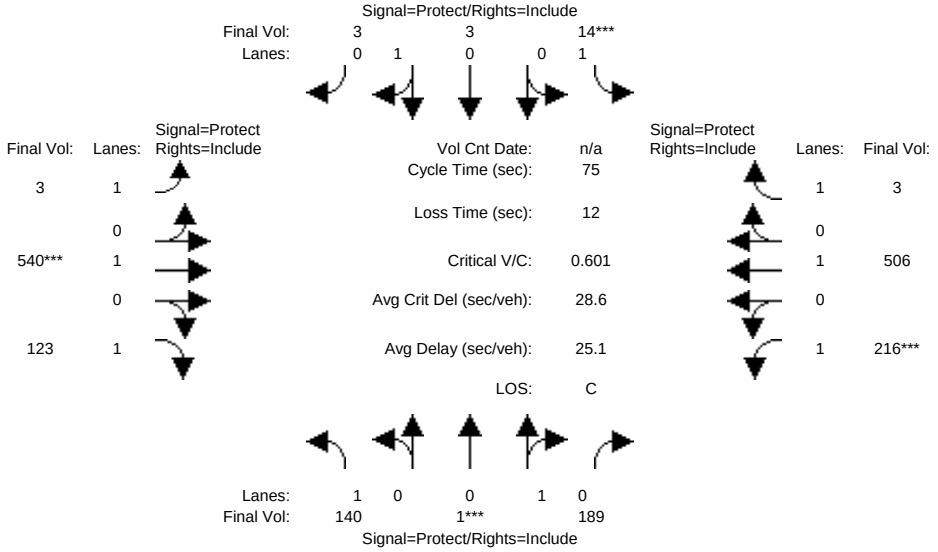
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc1 PM w/Proj

Intersection #6: Monte Vista H.S. Main and Stone Valley Rd



Street Name:	Monte Vista H.S. Main Parking Lot						Stone Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	123	1	166	12	3	3	3	475	108	190	445	3
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	123	1	166	12	3	3	3	475	108	190	445	3
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	123	1	166	12	3	3	3	475	108	190	445	3
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
PHF Volume:	140	1	189	14	3	3	3	540	123	216	506	3
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	140	1	189	14	3	3	3	540	123	216	506	3
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	140	1	189	14	3	3	3	540	123	216	506	3
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.01	0.99	1.00	0.50	0.50	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1900	11	1889	1900	950	950	1900	1900	1900	1900	1900	1900
Capacity Analysis Module:												
Vol/Sat:	0.07	0.10	0.10	0.01	0.00	0.00	0.00	0.28	0.06	0.11	0.27	0.00
Crit Moves:		****		****				****		****		
Green Time:	10.3	10.6	10.6	10.0	10.3	10.3	11.0	30.3	30.3	12.1	31.4	31.4
Volume/Cap:	0.53	0.70	0.70	0.05	0.03	0.03	0.01	0.70	0.16	0.70	0.64	0.00
Delay/Veh:	32.3	38.9	38.9	28.5	28.0	28.0	27.4	21.6	14.4	37.0	19.0	12.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	32.3	38.9	38.9	28.5	28.0	28.0	27.4	21.6	14.4	37.0	19.0	12.7
LOS by Move:	C	D	D	C	C	C	C	C	B	D	B	B
HCM2k95thQ:	8	11	11	1	0	0	0	21	4	12	18	0

Note: Queue reported is the number of cars per lane.

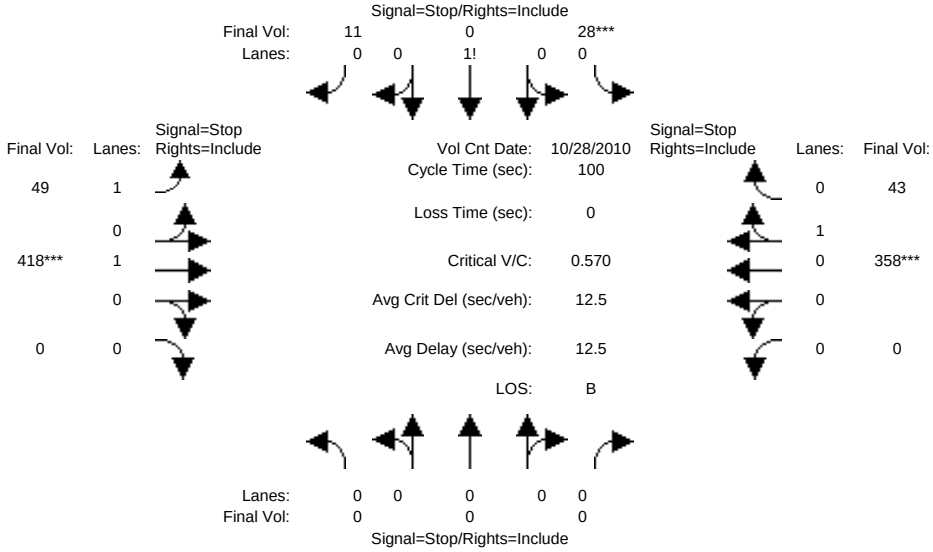
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing PM

Intersection #7: Mt Diablo Scenic Blvd and Diablo Rd




```
Street Name:      Mt Diablo Scenic Blvd                  Diablo Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 28 Oct 2010 <<
Base Vol:       0    0     0    25    0    10    44  376     0     0  322    39
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    25    0    10    44  376     0     0  322    39
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0    25    0    10    44  376     0     0  322    39
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.90 0.90  0.90  0.90 0.90  0.90  0.90 0.90  0.90  0.90 0.90  0.90
PHF Volume:     0    0     0    28    0    11    49  418     0     0  358    43
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0    0     0    28    0    11    49  418     0     0  358    43
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0    0     0    28    0    11    49  418     0     0  358    43
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 0.00  0.00  0.71 0.01  0.28  1.00 1.00  0.00  0.00 0.89  0.11
Final Sat.:     0    0     0   410    0   164   664  733     0     0  702    85
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx xxxx  xxxx  0.07 0.00  0.07  0.07 0.57  xxxx  xxxx 0.51  0.51
Crit Moves:                  ****                   ****             ****
Delay/Veh:    0.0  0.0   0.0   9.0  9.0   9.0   8.5 13.8   0.0   0.0 12.1  12.1
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0  0.0   0.0   9.0  9.0   9.0   8.5 13.8   0.0   0.0 12.1  12.1
LOS by Move:    *    *     *     A    A     A     A    B     *     *    B     B
ApproachDel:    xxxxxx              9.0             13.2             12.1
Delay Adj:       xxxxx             1.00             1.00             1.00
ApprAdjDel:     xxxxxx              9.0             13.2             12.1
LOS by Appr:         *               A                B                B
AllWayAvgQ:   0.0  0.0   0.0   0.1  0.1   0.1   0.1  1.3   0.0   1.0  1.0   1.0
Note: Queue reported is the number of cars per lane.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #7 Mt Diablo Scenic Blvd and Diablo Rd

****

```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    0  0  1! 0  0    1  0  1  0  0    0  0  0  1  0
Initial Vol:    0    0     0    25    0    10    44  376     0     0  322    39
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             781
Minor Approach Volume:           35
Minor Approach Volume Threshold: 370
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

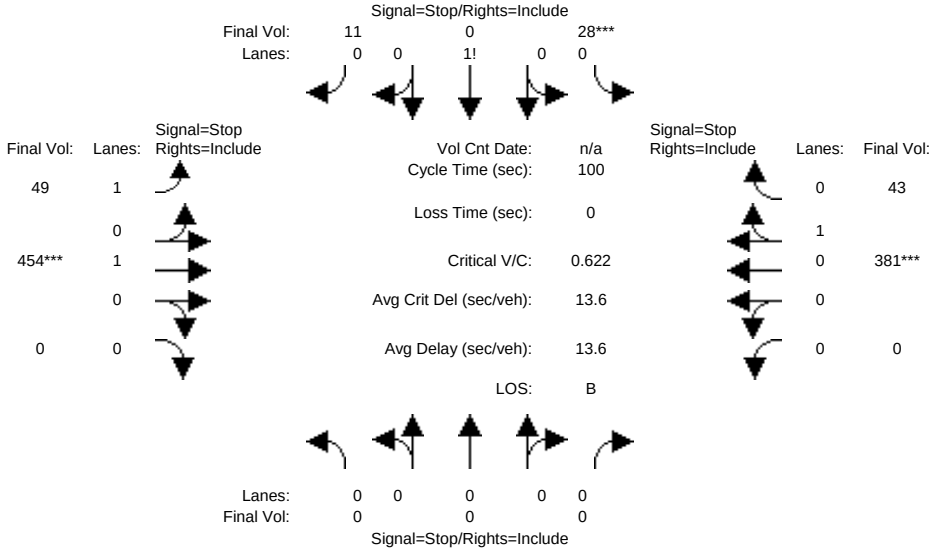

Copyright (c) 2008 Dowling Associates, Inc.
Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Project PM

Intersection #7: Mt Diablo Scenic Blvd and Diablo Rd




```
Street Name:      Mt Diablo Scenic Blvd                  Diablo Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    25    0    10    44  409     0     0  343    39
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    25    0    10    44  409     0     0  343    39
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0    25    0    10    44  409     0     0  343    39
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.90 0.90  0.90  0.90 0.90  0.90  0.90 0.90  0.90  0.90 0.90  0.90
PHF Volume:     0    0     0    28    0    11    49  454     0     0  381    43
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0    0     0    28    0    11    49  454     0     0  381    43
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0    0     0    28    0    11    49  454     0     0  381    43
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 0.00  0.00  0.71 0.01  0.28  1.00 1.00  0.00  0.00 0.90  0.10
Final Sat.:     0    0     0   401    0   160   663  730     0     0  700    80
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx xxxx  xxxx  0.07 0.00  0.07  0.07 0.62  xxxx  xxxx 0.54  0.54
Crit Moves:                   ****                   ****             ****
Delay/Veh:    0.0  0.0   0.0   9.1  9.1   9.1   8.5 15.2   0.0   0.0 12.8  12.8
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0  0.0   0.0   9.1  9.1   9.1   8.5 15.2   0.0   0.0 12.8  12.8
LOS by Move:    *    *     *     A    A     A     A    C     *     *    B     B
ApproachDel:    xxxxxx              9.1             14.6             12.8
Delay Adj:       xxxxx             1.00             1.00             1.00
ApprAdjDel:     xxxxxx              9.1             14.6             12.8
LOS by Appr:         *                A                B                B
AllWayAvgQ:   0.0  0.0   0.0   0.1  0.1   0.1   0.1  1.5   0.0   1.1  1.1   1.1
Note: Queue reported is the number of cars per lane.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #7 Mt Diablo Scenic Blvd and Diablo Rd

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound					South Bound					East Bound					West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Stop Sign					Stop Sign					Stop Sign					Stop Sign				
Lanes:	0	0	0	0	0	0	0	1!	0	0	1	0	1	0	0	0	0	0	1	0
Initial Vol:	0		0		0	25		0		10	44		409		0	0		343		39

Major Street Volume: 835
Minor Approach Volume: 35
Minor Approach Volume Threshold: 347

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

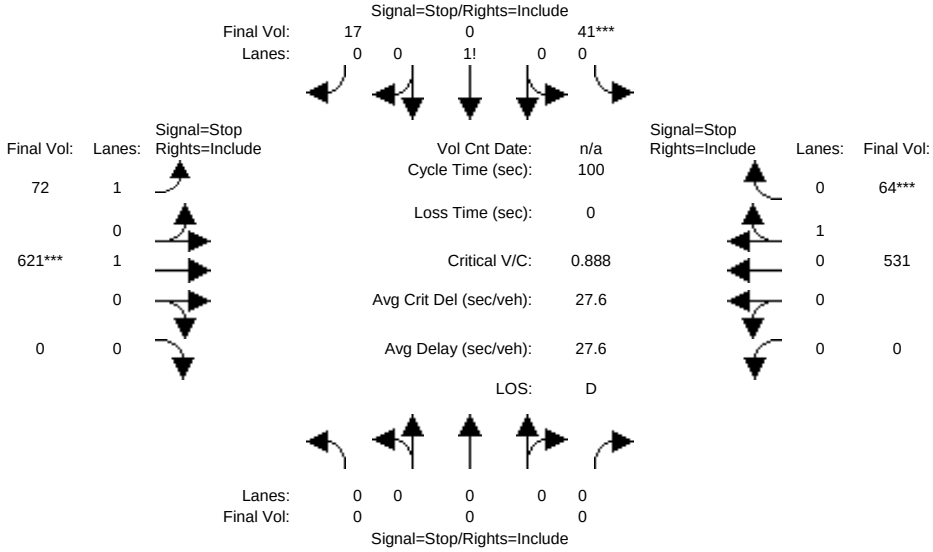
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Cum PM No Project

Intersection #7: Mt Diablo Scenic Blvd and Diablo Rd




```
Street Name:      Mt Diablo Scenic Blvd                  Diablo Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    37    0    15    65  559     0     0  478    58
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    37    0    15    65  559     0     0  478    58
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0    37    0    15    65  559     0     0  478    58
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.90 0.90  0.90  0.90 0.90  0.90  0.90 0.90  0.90  0.90 0.90  0.90
PHF Volume:     0    0     0    41    0    17    72  621     0     0  531    64
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0    0     0    41    0    17    72  621     0     0  531    64
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0    0     0    41    0    17    72  621     0     0  531    64
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 0.00  0.00  0.71 0.00  0.29  1.00 1.00  0.00  0.00 0.89  0.11
Final Sat.:     0    0     0   381    0   154   637  699     0     0  657    80
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx xxxx  xxxx  0.11 xxxx  0.11  0.11 0.89  xxxx  xxxx 0.81  0.81
Crit Moves:                   ****                    ****                    ****
Delay/Veh:    0.0  0.0   0.0  10.1  0.0  10.1   9.1 34.3   0.0   0.0 24.7  24.7
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0  0.0   0.0  10.1  0.0  10.1   9.1 34.3   0.0   0.0 24.7  24.7
LOS by Move:    *    *     *     B    *     B     A    D     *     *    C     C
ApproachDel:    xxxxxx             10.1             31.6             24.7
Delay Adj:       xxxxx             1.00             1.00             1.00
ApprAdjDel:     xxxxxx             10.1             31.6             24.7
LOS by Appr:         *                B                D                C
AllWayAvgQ:   0.0  0.0   0.0   0.1  0.1   0.1   0.1  5.1   0.0   3.4  3.4   3.4
Note: Queue reported is the number of cars per lane.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #7 Mt Diablo Scenic Blvd and Diablo Rd

****

Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    0  0  1! 0  0    1  0  1  0  0    0  0  0  1  0
Initial Vol:    0    0     0    37    0    15    65  559     0     0  478    58
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1160
Minor Approach Volume:           52
Minor Approach Volume Threshold: 234
-------------------------------------------------------------------------------
```

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

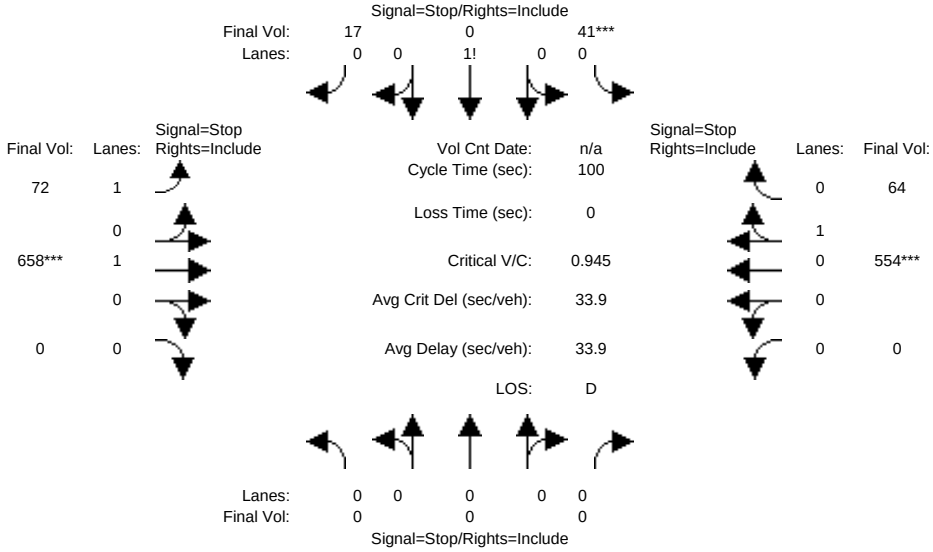
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Cum Sc1 PM w/Proj

Intersection #7: Mt Diablo Scenic Blvd and Diablo Rd




```
Street Name:      Mt Diablo Scenic Blvd                  Diablo Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    37    0    15    65  592     0     0  499    58
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    37    0    15    65  592     0     0  499    58
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0    37    0    15    65  592     0     0  499    58
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.90 0.90  0.90  0.90 0.90  0.90  0.90 0.90  0.90  0.90 0.90  0.90
PHF Volume:     0    0     0    41    0    17    72  658     0     0  554    64
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0    0     0    41    0    17    72  658     0     0  554    64
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0    0     0    41    0    17    72  658     0     0  554    64
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 0.00  0.00  0.71 0.00  0.29  1.00 1.00  0.00  0.00 0.90  0.10
Final Sat.:     0    0     0   381    0   154   635  696     0     0  654    76
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx xxxx  xxxx  0.11 xxxx  0.11  0.11 0.95  xxxx  xxxx 0.85  0.85
Crit Moves:                   ****                   ****             ****
Delay/Veh:    0.0  0.0   0.0  10.3  0.0  10.3   9.1 43.7   0.0   0.0 28.5  28.5
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0  0.0   0.0  10.3  0.0  10.3   9.1 43.7   0.0   0.0 28.5  28.5
LOS by Move:    *    *     *     B    *     B     A    E     *     *    D     D
ApproachDel:    xxxxxx             10.3             40.2             28.5
Delay Adj:       xxxxx             1.00             1.00             1.00
ApprAdjDel:     xxxxxx             10.3             40.2             28.5
LOS by Appr:         *                B                E                D
AllWayAvgQ:   0.0  0.0   0.0   0.1  0.1   0.1   0.1  6.9   0.0   4.2  4.2   4.2
Note: Queue reported is the number of cars per lane.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #7 Mt Diablo Scenic Blvd and Diablo Rd

****

```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    0  0  1! 0  0    1  0  1  0  0    0  0  0  1  0
Initial Vol:    0    0     0    37    0    15    65  592     0     0  499    58
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1214
Minor Approach Volume:           52
Minor Approach Volume Threshold: 218
-------------------------------------------------------------------------------
```

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

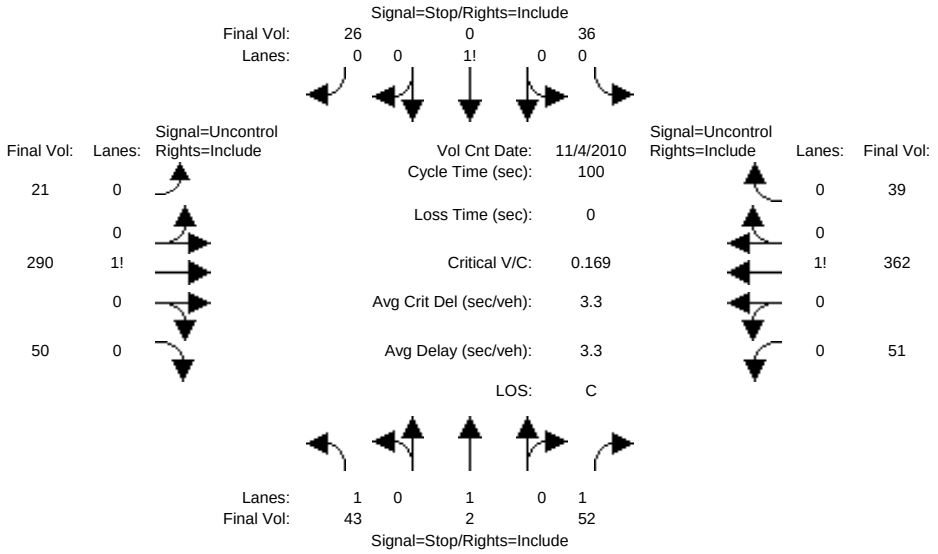
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #8: HIdden Oaks Dr/Magee Ranch Rd and Blackhawk Rd




```
Street Name:  Hidden Oaks Dr/Magee Ranch Rd            Blackhawk Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 4 Nov 2010 <<
Base Vol:      40    2    48    33    0    24    19  267    46    47  333    36
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   40    2    48    33    0    24    19  267    46    47  333    36
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   40    2    48    33    0    24    19  267    46    47  333    36
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.92 0.92  0.92  0.92 0.92  0.92  0.92 0.92  0.92  0.92 0.92  0.92
PHF Volume:    43    2    52    36    0    26    21  290    50    51  362    39
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   43    2    52    36    0    26    21  290    50    51  362    39
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  853  860   315   867  865   382   401 xxxx xxxxx   340 xxxx xxxxx
Potent Cap.:  281  296   730   275  294   670  1169 xxxx xxxxx  1230 xxxx xxxxx
Move Cap.:    258  278   730   242  276   670  1169 xxxx xxxxx  1230 xxxx xxxxx
Volume/Cap:  0.17 0.01  0.07  0.15 0.00  0.04  0.02 xxxx  xxxx  0.04 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.6  0.0   0.2  xxxx xxxx xxxxx   0.1 xxxx xxxxx   0.1 xxxx xxxxx
Control Del: 21.8 18.0  10.3 xxxxx xxxx xxxxx   8.1 xxxx xxxxx   8.1 xxxx xxxxx
LOS by Move:    C    C     B     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  331 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  0.7 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 18.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    C     *     *    *     *     *    *     *
ApproachDel:      15.6             18.3           xxxxxx           xxxxxx
ApproachLOS:         C                C                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #8 HIdden Oaks Dr/Magee Ranch Rd and Blackhawk Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```

 Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  1  0  1    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   40    2    48    33    0    24    19  267    46    47  333    36
ApproachDel:      15.6             18.3           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=3][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=90]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=895]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
--------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=57]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=895]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                Peak Hour Volume Signal Warrant Report [Urban]
********************************************************************************
Intersection #8 HIdden Oaks Dr/Magee Ranch Rd and Blackhawk Rd
********************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  1  0  1    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   40    2    48    33    0    24    19  267    46    47  333    36
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             748
Minor Approach Volume:           90
Minor Approach Volume Threshold: 384
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

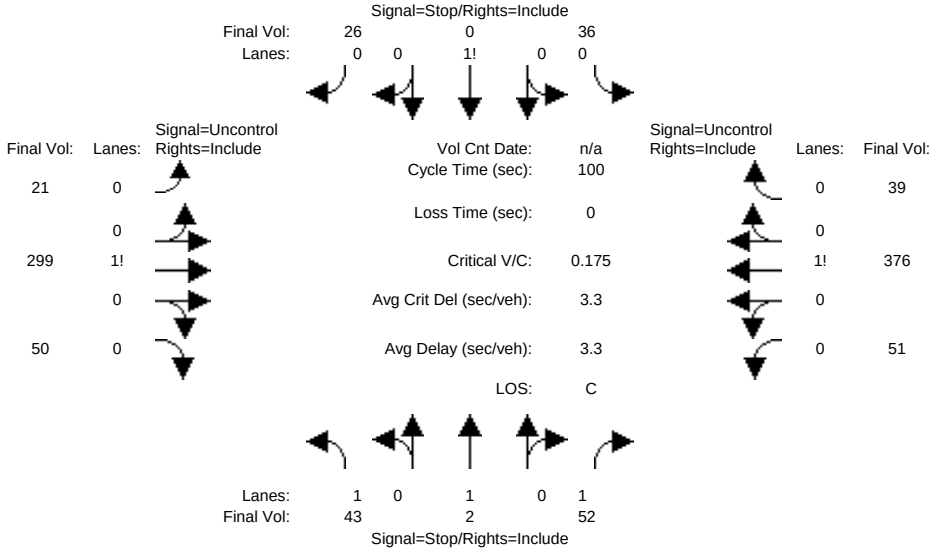

Copyright (c) 2008 Dowling Associates, Inc.
Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Project PM

Intersection #8: HIdden Oaks Dr/Magee Ranch Rd and Blackhawk Rd




```
Street Name:  Hidden Oaks Dr/Magee Ranch Rd            Blackhawk Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      40    2    48    33    0    24    19  275    46    47  346    36
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   40    2    48    33    0    24    19  275    46    47  346    36
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   40    2    48    33    0    24    19  275    46    47  346    36
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.92 0.92  0.92  0.92 0.92  0.92  0.92 0.92  0.92  0.92 0.92  0.92
PHF Volume:    43    2    52    36    0    26    21  299    50    51  376    39
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   43    2    52    36    0    26    21  299    50    51  376    39
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  876  883   324   890  888   396   415 xxxx xxxxx   349 xxxx xxxxx
Potent Cap.:  271  287   722   266  285   658  1155 xxxx xxxxx  1221 xxxx xxxxx
Move Cap.:    249  270   722   234  268   658  1155 xxxx xxxxx  1221 xxxx xxxxx
Volume/Cap:  0.17 0.01  0.07  0.15 0.00  0.04  0.02 xxxx  xxxx  0.04 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.6  0.0   0.2  xxxx xxxx xxxxx   0.1 xxxx xxxxx   0.1 xxxx xxxxx
Control Del: 22.5 18.5  10.4 xxxxx xxxx xxxxx   8.2 xxxx xxxxx   8.1 xxxx xxxxx
LOS by Move:    C    C     B     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  321 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  0.7 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 18.9 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    C     *     *    *     *     *    *     *
ApproachDel:      16.0             18.9           xxxxxx           xxxxxx
ApproachLOS:         C                C                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #8 HIdden Oaks Dr/Magee Ranch Rd and Blackhawk Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```

 Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  1  0  1    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   40    2    48    33    0    24    19  275    46    47  346    36
ApproachDel:      16.0             18.9           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=3][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=90]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=916]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
--------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=57]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=916]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                Peak Hour Volume Signal Warrant Report [Urban]
********************************************************************************
Intersection #8 HIdden Oaks Dr/Magee Ranch Rd and Blackhawk Rd
********************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  1  0  1    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   40    2    48    33    0    24    19  275    46    47  346    36
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             769
Minor Approach Volume:           90
Minor Approach Volume Threshold: 375
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

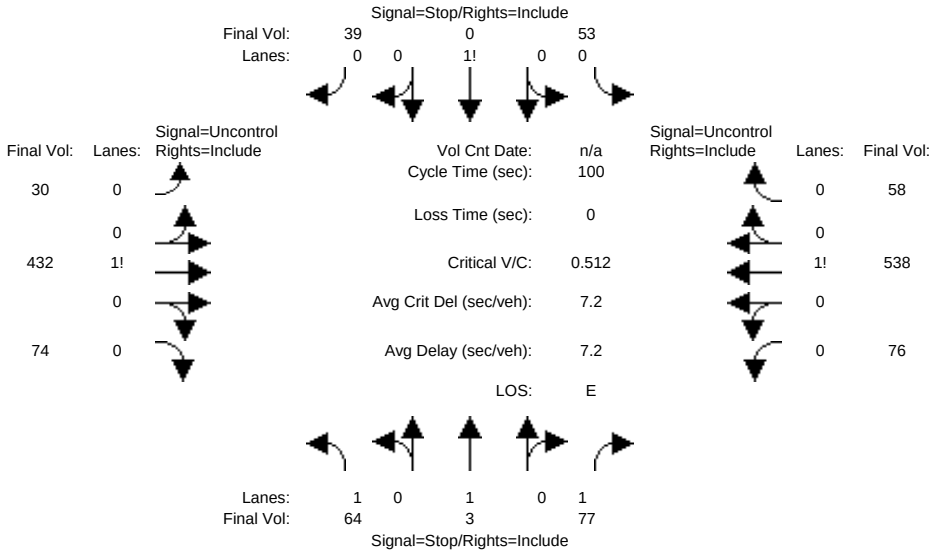

Copyright (c) 2008 Dowling Associates, Inc.
Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Cum PM No Project

Intersection #8: HIdden Oaks Dr/Magee Ranch Rd and Blackhawk Rd




```
Street Name:  Hidden Oaks Dr/Magee Ranch Rd            Blackhawk Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      59    3    71    49    0    36    28  397    68    70  495    53
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   59    3    71    49    0    36    28  397    68    70  495    53
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   59    3    71    49    0    36    28  397    68    70  495    53
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.92 0.92  0.92  0.92 0.92  0.92  0.92 0.92  0.92  0.92 0.92  0.92
PHF Volume:    64    3    77    53    0    39    30  432    74    76  538    58
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   64    3    77    53    0    39    30  432    74    76  538    58
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1268 1277   468  1289 1285   567   596 xxxx xxxxx   505 xxxx xxxxx
Potent Cap.:  147  168   599   142  166   527   991 xxxx xxxxx  1070 xxxx xxxxx
Move Cap.:    125  151   599   112  149   527   991 xxxx xxxxx  1070 xxxx xxxxx
Volume/Cap:  0.51 0.02  0.13  0.47 0.00  0.07  0.03 xxxx  xxxx  0.07 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    2.4  0.1   0.4  xxxx xxxx xxxxx   0.1 xxxx xxxxx   0.2 xxxx xxxxx
Control Del: 60.7 29.4  11.9 xxxxx xxxx xxxxx   8.7 xxxx xxxxx   8.6 xxxx xxxxx
LOS by Move:    F    D     B     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  168 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  2.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 49.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    E     *     *    *     *     *    *     *
ApproachDel:      33.9             49.8           xxxxxx           xxxxxx
ApproachLOS:         D                E                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #8 HIdden Oaks Dr/Magee Ranch Rd and Blackhawk Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```

 Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  1  0  1    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   59    3    71    49    0    36    28  397    68    70  495    53
ApproachDel:      33.9             49.8           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=3][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.3]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=133]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1329]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
--------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=85]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1329]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                Peak Hour Volume Signal Warrant Report [Urban]
********************************************************************************
Intersection #8 HIdden Oaks Dr/Magee Ranch Rd and Blackhawk Rd
********************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  1  0  1    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   59    3    71    49    0    36    28  397    68    70  495    53
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1111
Minor Approach Volume:           133
Minor Approach Volume Threshold: 259
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

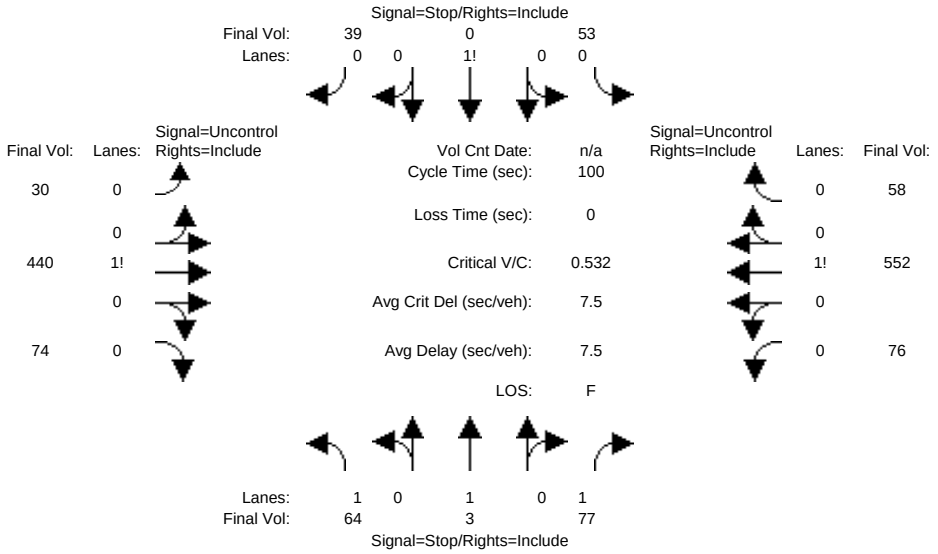

Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Cum Sc1 PM w/Proj

Intersection #8: HIdden Oaks Dr/Magee Ranch Rd and Blackhawk Rd




```
Street Name:  Hidden Oaks Dr/Magee Ranch Rd            Blackhawk Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      59    3    71    49    0    36    28  405    68    70  508    53
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   59    3    71    49    0    36    28  405    68    70  508    53
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   59    3    71    49    0    36    28  405    68    70  508    53
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.92 0.92  0.92  0.92 0.92  0.92  0.92 0.92  0.92  0.92 0.92  0.92
PHF Volume:    64    3    77    53    0    39    30  440    74    76  552    58
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   64    3    77    53    0    39    30  440    74    76  552    58
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1291 1300   477  1311 1308   581   610 xxxx xxxxx   514 xxxx xxxxx
Potent Cap.:  142  163   592   137  161   517   979 xxxx xxxxx  1062 xxxx xxxxx
Move Cap.:    120  146   592   108  144   517   979 xxxx xxxxx  1062 xxxx xxxxx
Volume/Cap:  0.53 0.02  0.13  0.49 0.00  0.08  0.03 xxxx  xxxx  0.07 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    2.5  0.1   0.4  xxxx xxxx xxxxx   0.1 xxxx xxxxx   0.2 xxxx xxxxx
Control Del: 64.7 30.3  12.0 xxxxx xxxx xxxxx   8.8 xxxx xxxxx   8.7 xxxx xxxxx
LOS by Move:    F    D     B     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  162 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  3.0 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 53.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    F     *     *    *     *     *    *     *
ApproachDel:      35.8             53.1           xxxxxx           xxxxxx
ApproachLOS:         E                F                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #8 HIdden Oaks Dr/Magee Ranch Rd and Blackhawk Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```

 Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  1  0  1    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   59    3    71    49    0    36    28  405    68    70  508    53
ApproachDel:      35.8             53.1           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=3][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.3]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=133]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1350]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
--------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=85]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1350]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                Peak Hour Volume Signal Warrant Report [Urban]
********************************************************************************
Intersection #8 HIdden Oaks Dr/Magee Ranch Rd and Blackhawk Rd
********************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  1  0  1    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   59    3    71    49    0    36    28  405    68    70  508    53
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1132
Minor Approach Volume:           133
Minor Approach Volume Threshold: 253
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

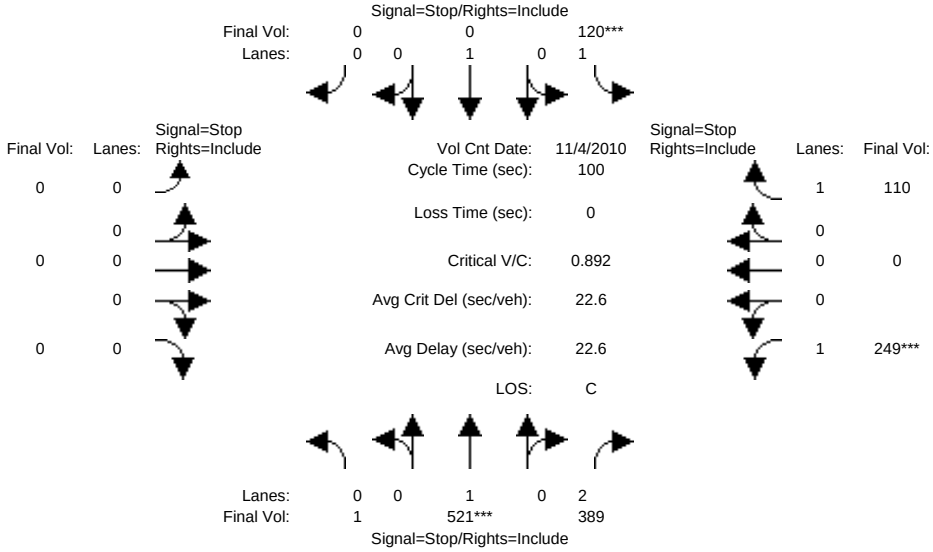

Copyright (c) 2008 Dowling Associates, Inc.
Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing PM

Intersection #9: Blackhawk Rd and Blackhawk Dr




```
Street Name:          Blackhawk Road                    Blackhawk Drive
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 4 Nov 2010 <<
Base Vol:       1  417   311    96  313     0     0    0     0   199    0    88
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    1  417   311    96  313     0     0    0     0   199    0    88
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    1  417   311    96  313     0     0    0     0   199    0    88
User Adj:    1.00 1.00  1.00  1.00 0.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.80 0.80  0.80  0.80 0.80  0.80  0.80 0.80  0.80  0.80 0.80  0.80
PHF Volume:     1  521   389   120    0     0     0    0     0   249    0   110
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    1  521   389   120    0     0     0    0     0   249    0   110
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    1  521   389   120    0     0     0    0     0   249    0   110
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.01 0.99  2.00  1.00 1.00  0.00  0.00 0.00  0.00  1.00 0.00  1.00
Final Sat.:     1  584  1302   476  506     0     0    0     0   482    0   572
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.89 0.89  0.30  0.25 0.00  xxxx  xxxx xxxx  xxxx  0.52 xxxx  0.19
Crit Moves:       ****        ****                              ****
Delay/Veh:   39.2 39.2  10.4  12.3  0.0   0.0   0.0  0.0   0.0  17.0  0.0  10.2
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  39.2 39.2  10.4  12.3  0.0   0.0   0.0  0.0   0.0  17.0  0.0  10.2
LOS by Move:    E    E     B     B    *     *     *    *     *     C    *     B
ApproachDel:      26.9             12.3           xxxxxx             14.9
Delay Adj:        1.00             1.00            xxxxx             1.00
ApprAdjDel:       26.9             12.3           xxxxxx             14.9
LOS by Appr:         D                B                *                B
AllWayAvgQ:   5.0  5.0   0.4   0.3  0.0   0.0   0.0  0.0   0.0   0.9  0.0   0.2
Note: Queue reported is the number of cars per lane.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #9 Blackhawk Rd and Blackhawk Dr

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	-	R	L	- T	-	R	L	- T	-	R	L	- T	-	R
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Lanes:	0	1	0	0 2	1	0	1	0 0	0	0	0	0 0	1	0	0	0 1
Initial Vol:	1	417		311	96	313		0	0		0	0	199		0	88

Major Street Volume: 1138
Minor Approach Volume: 287
Minor Approach Volume Threshold: 318

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

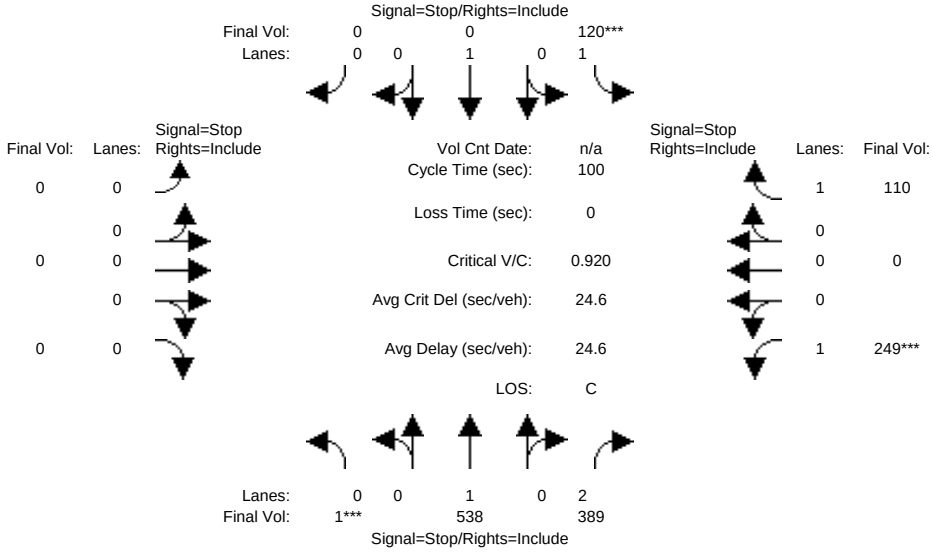
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Project PM

Intersection #9: Blackhawk Rd and Blackhawk Dr




```
Street Name:          Blackhawk Road                    Blackhawk Drive
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       1  430   311    96  321     0     0    0     0   199    0    88
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    1  430   311    96  321     0     0    0     0   199    0    88
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    1  430   311    96  321     0     0    0     0   199    0    88
User Adj:    1.00 1.00  1.00  1.00 0.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.80 0.80  0.80  0.80 0.80  0.80  0.80 0.80  0.80  0.80 0.80  0.80
PHF Volume:     1  538   389   120    0     0     0    0     0   249    0   110
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    1  538   389   120    0     0     0    0     0   249    0   110
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    1  538   389   120    0     0     0    0     0   249    0   110
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.01 0.99  2.00  1.00 1.00  0.00  0.00 0.00  0.00  1.00 0.00  1.00
Final Sat.:     1  584  1302   475  506     0     0    0     0   482    0   572
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.92 0.92  0.30  0.25 0.00  xxxx  xxxx xxxx  xxxx  0.52 xxxx  0.19
Crit Moves:  ****              ****                              ****
Delay/Veh:   43.9 43.9  10.4  12.3  0.0   0.0   0.0  0.0   0.0  17.2  0.0  10.2
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  43.9 43.9  10.4  12.3  0.0   0.0   0.0  0.0   0.0  17.2  0.0  10.2
LOS by Move:    E    E     B     B    *     *     *    *     *     C    *     B
ApproachDel:      29.8             12.3           xxxxxx             15.0
Delay Adj:        1.00             1.00            xxxxx             1.00
ApprAdjDel:       29.8             12.3           xxxxxx             15.0
LOS by Appr:         D                B                *                C
AllWayAvgQ:   5.7  5.7   0.4   0.3  0.0   0.0   0.0  0.0   0.0   1.0  0.0   0.2
Note: Queue reported is the number of cars per lane.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #9 Blackhawk Rd and Blackhawk Dr

****

Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  1  0  0  2    1  0  1  0  0    0  0  0  0  0    1  0  0  0  1
Initial Vol:    1  430   311    96  321     0     0    0     0   199    0    88
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1159
Minor Approach Volume:           287
Minor Approach Volume Threshold: 311
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

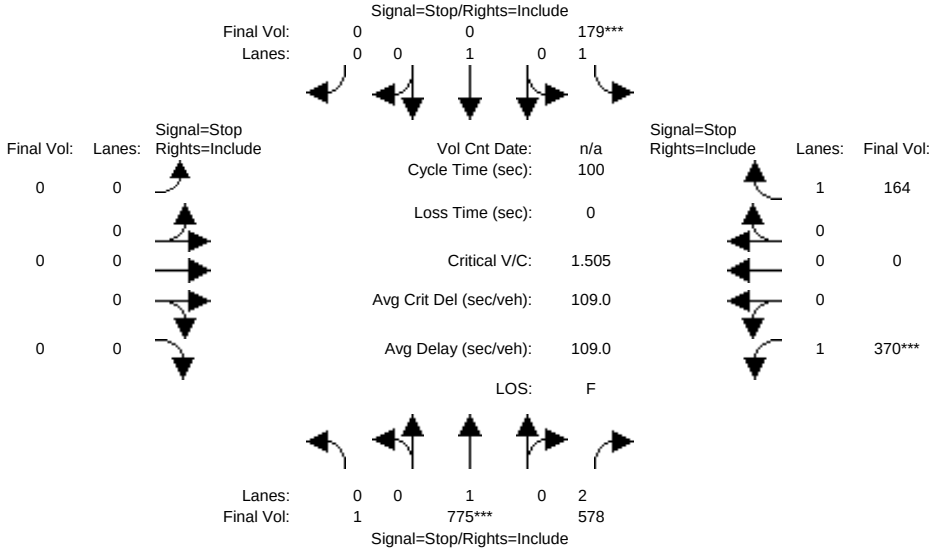

Copyright (c) 2008 Dowling Associates, Inc.

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Cum PM No Project

Intersection #9: Blackhawk Rd and Blackhawk Dr




```
Street Name:          Blackhawk Road                    Blackhawk Drive
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       1  620   462   143  465     0     0    0     0   296    0   131
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    1  620   462   143  465     0     0    0     0   296    0   131
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    1  620   462   143  465     0     0    0     0   296    0   131
User Adj:    1.00 1.00  1.00  1.00 0.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.80 0.80  0.80  0.80 0.80  0.80  0.80 0.80  0.80  0.80 0.80  0.80
PHF Volume:     1  775   578   179    0     0     0    0     0   370    0   164
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    1  775   578   179    0     0     0    0     0   370    0   164
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    1  775   578   179    0     0     0    0     0   370    0   164
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.01 0.99  2.00  1.00 1.00  0.00  0.00 0.00  0.00  1.00 0.00  1.00
Final Sat.:     1  515  1131   425  446     0     0    0     0   462    0   541
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     1.50 1.50  0.51  0.42 0.00  xxxx  xxxx xxxx  xxxx  0.80 xxxx  0.30
Crit Moves:        ****        ****                              ****
Delay/Veh:  256.0  256  15.2  16.6  0.0   0.0   0.0  0.0   0.0  34.4  0.0  12.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh: 256.0  256  15.2  16.6  0.0   0.0   0.0  0.0   0.0  34.4  0.0  12.0
LOS by Move:    F    F     C     C    *     *     *    *     *     D    *     B
ApproachDel:     153.3             16.6           xxxxxx             27.5
Delay Adj:        1.00             1.00            xxxxx             1.00
ApprAdjDel:      153.3             16.6           xxxxxx             27.5
LOS by Appr:         F                C                *                D
AllWayAvgQ:  35.3 35.3   1.0   0.7  0.0   0.0   0.0  0.0   0.0   3.1  0.0   0.4
Note: Queue reported is the number of cars per lane.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #9 Blackhawk Rd and Blackhawk Dr

****

Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Stop Sign					Stop Sign					Stop Sign					Stop Sign				
Lanes:	0	1	0	0	2	1	0	1	0	0	0	0	0	0	0	1	0	0	0	1
Initial Vol:	1	620		462		143	465		0		0		0		0	296		0		131

Major Street Volume: 1691
Minor Approach Volume: 427
Minor Approach Volume Threshold: 148 [less than minimum of 150]

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

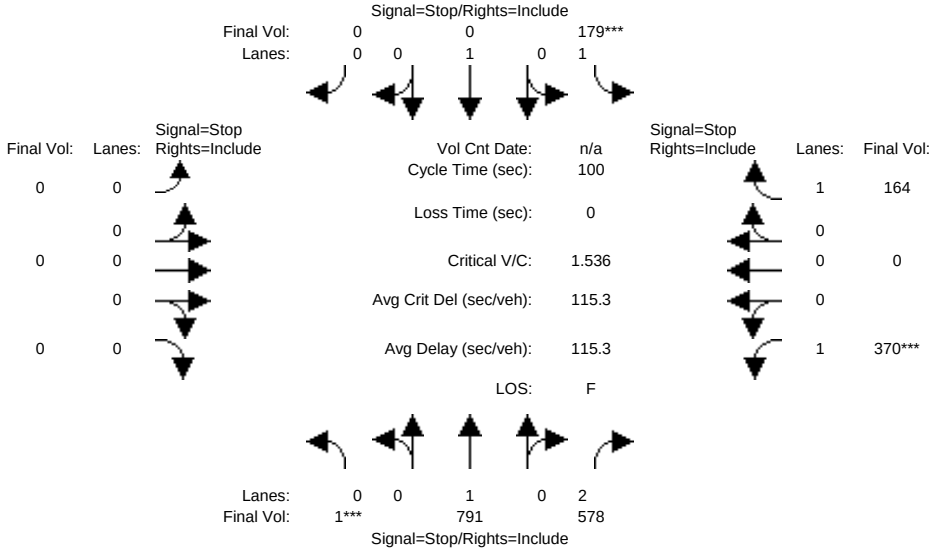
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Cum Sc1 PM w/Proj

Intersection #9: Blackhawk Rd and Blackhawk Dr




```
Street Name:          Blackhawk Road                    Blackhawk Drive
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       1  633   462   143  473     0     0    0     0   296    0   131
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    1  633   462   143  473     0     0    0     0   296    0   131
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    1  633   462   143  473     0     0    0     0   296    0   131
User Adj:    1.00 1.00  1.00  1.00 0.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.80 0.80  0.80  0.80 0.80  0.80  0.80 0.80  0.80  0.80 0.80  0.80
PHF Volume:     1  791   578   179    0     0     0    0     0   370    0   164
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    1  791   578   179    0     0     0    0     0   370    0   164
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    1  791   578   179    0     0     0    0     0   370    0   164
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.01 0.99  2.00  1.00 1.00  0.00  0.00 0.00  0.00  1.00 0.00  1.00
Final Sat.:     1  515  1131   425  446     0     0    0     0   462    0   541
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     1.54 1.54  0.51  0.42 0.00  xxxx  xxxx xxxx  xxxx  0.80 xxxx  0.30
Crit Moves:  ****              ****                              ****
Delay/Veh:  269.6  270  15.2  16.6  0.0   0.0   0.0  0.0   0.0  34.4  0.0  12.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh: 269.6  270  15.2  16.6  0.0   0.0   0.0  0.0   0.0  34.4  0.0  12.0
LOS by Move:    F    F     C     C    *     *     *    *     *     D    *     B
ApproachDel:     162.4             16.6           xxxxxx             27.5
Delay Adj:        1.00             1.00            xxxxx             1.00
ApprAdjDel:      162.4             16.6           xxxxxx             27.5
LOS by Appr:         F                C                *                D
AllWayAvgQ:  37.2 37.2   1.0   0.7  0.0   0.0   0.0  0.0   0.0   3.1  0.0   0.4
Note: Queue reported is the number of cars per lane.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #9 Blackhawk Rd and Blackhawk Dr

****

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Stop Sign					Stop Sign					Stop Sign					Stop Sign				
Lanes:	0	1	0	0	2	1	0	1	0	0	0	0	0	0	0	1	0	0	0	1
Initial Vol:	1	633		462		143	473			0	0		0		0	296		0		131

Major Street Volume: 1712
Minor Approach Volume: 427
Minor Approach Volume Threshold: 143 [less than minimum of 150]

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

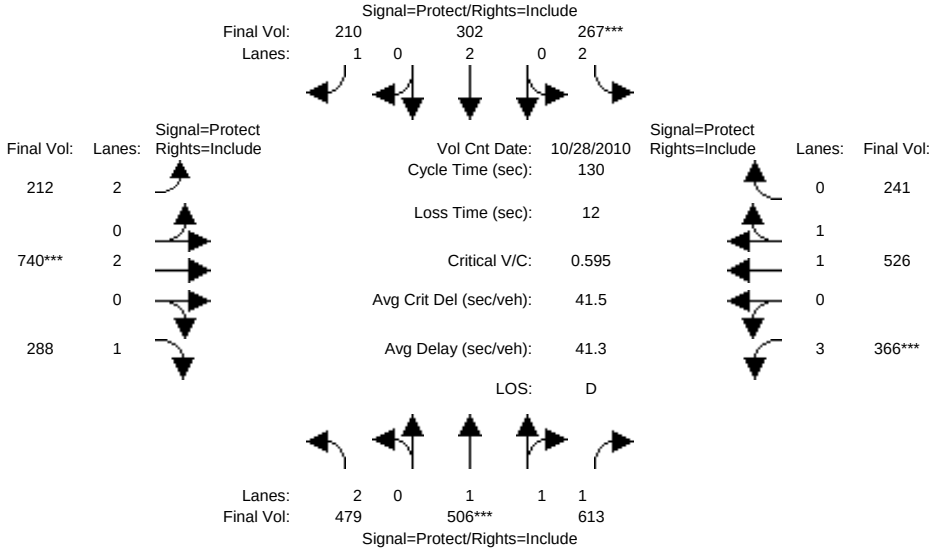
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #10: Blackhawk Rd/Crow Canyon Rd and Camino Tassajara



Street Name:	Blackhawk Rd/Crow Canyon Rd						Camino Tassajara					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 28 Oct 2010 <<												
Base Vol:	450	476	576	251	284	197	199	696	271	344	494	227
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	450	476	576	251	284	197	199	696	271	344	494	227
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	450	476	576	251	284	197	199	696	271	344	494	227
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	479	506	613	267	302	210	212	740	288	366	526	241
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	479	506	613	267	302	210	212	740	288	366	526	241
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	479	506	613	267	302	210	212	740	288	366	526	241
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.97	1.00	1.00	0.97	0.95	1.00	0.97	0.95	1.00	0.97	1.00	1.00
Lanes:	2.00	1.36	1.64	2.00	2.00	1.00	2.00	2.00	1.00	3.00	1.37	0.63
Final Sat.:	3686	2579	3121	3686	3610	1900	3686	3610	1900	5529	2604	1196
Capacity Analysis Module:												
Vol/Sat:	0.13	0.20	0.20	0.07	0.08	0.11	0.06	0.21	0.15	0.07	0.20	0.20
Crit Moves:		****		****				****		****		
Green Time:	31.8	42.9	42.9	15.8	27.0	27.0	13.1	44.8	44.8	14.5	46.1	46.1
Volume/Cap:	0.53	0.59	0.59	0.59	0.40	0.53	0.57	0.59	0.44	0.59	0.57	0.57
Delay/Veh:	43.3	36.8	36.8	56.2	44.9	47.3	57.8	35.9	33.4	56.6	34.5	34.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	43.3	36.8	36.8	56.2	44.9	47.3	57.8	35.9	33.4	56.6	34.5	34.5
LOS by Move:	D	D	D	E	D	D	E	D	C	E	C	C
HCM2k95thQ:	16	23	23	12	11	15	10	23	16	11	22	22

Note: Queue reported is the number of cars per lane.

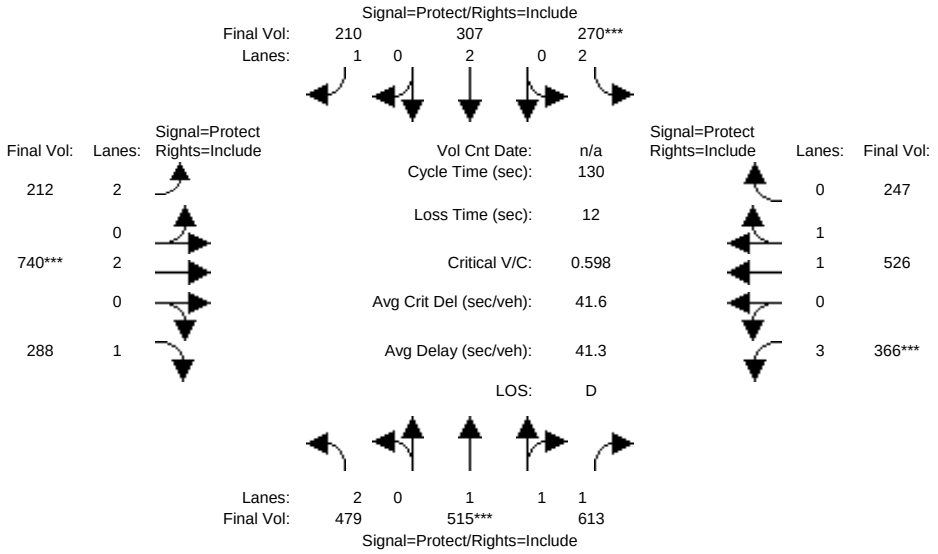
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Project PM

Intersection #10: Blackhawk Rd/Crow Canyon Rd and Camino Tassajara



Street Name:	Blackhawk Rd/Crow Canyon Rd						Camino Tassajara					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	450	484	576	254	289	197	199	696	271	344	494	232
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	450	484	576	254	289	197	199	696	271	344	494	232
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	450	484	576	254	289	197	199	696	271	344	494	232
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	479	515	613	270	307	210	212	740	288	366	526	247
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	479	515	613	270	307	210	212	740	288	366	526	247
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	479	515	613	270	307	210	212	740	288	366	526	247
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.97	1.00	1.00	0.97	0.95	1.00	0.97	0.95	1.00	0.97	1.00	1.00
Lanes:	2.00	1.37	1.63	2.00	2.00	1.00	2.00	2.00	1.00	3.00	1.36	0.64
Final Sat.:	3686	2603	3097	3686	3610	1900	3686	3610	1900	5529	2586	1214
Capacity Analysis Module:												
Vol/Sat:	0.13	0.20	0.20	0.07	0.09	0.11	0.06	0.21	0.15	0.07	0.20	0.20
Crit Moves:		****		****				****		****		
Green Time:	31.9	43.0	43.0	15.9	27.1	27.1	13.0	44.6	44.6	14.4	46.0	46.0
Volume/Cap:	0.53	0.60	0.60	0.60	0.41	0.53	0.57	0.60	0.44	0.60	0.57	0.57
Delay/Veh:	43.1	36.8	36.8	56.2	44.9	47.1	58.1	36.1	33.5	56.7	34.7	34.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	43.1	36.8	36.8	56.2	44.9	47.1	58.1	36.1	33.5	56.7	34.7	34.7
LOS by Move:	D	D	D	E	D	D	E	D	C	E	C	C
HCM2k95thQ:	16	23	23	12	11	15	10	23	17	11	23	23

Note: Queue reported is the number of cars per lane.

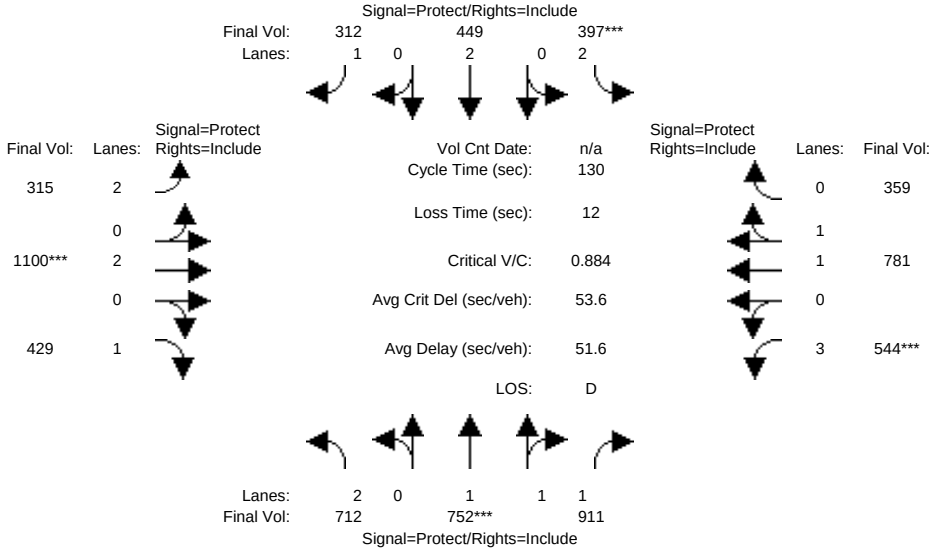
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum PM No Project

Intersection #10: Blackhawk Rd/Crow Canyon Rd and Camino Tassajara



Street Name:	Blackhawk Rd/Crow Canyon Rd						Camino Tassajara					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	669	707	856	373	422	293	296	1034	403	511	734	337
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	669	707	856	373	422	293	296	1034	403	511	734	337
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	669	707	856	373	422	293	296	1034	403	511	734	337
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	712	752	911	397	449	312	315	1100	429	544	781	359
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	712	752	911	397	449	312	315	1100	429	544	781	359
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	712	752	911	397	449	312	315	1100	429	544	781	359
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.97	1.00	1.00	0.97	0.95	1.00	0.97	0.95	1.00	0.97	1.00	1.00
Lanes:	2.00	1.36	1.64	2.00	2.00	1.00	2.00	2.00	1.00	3.00	1.37	0.63
Final Sat.:	3686	2578	3122	3686	3610	1900	3686	3610	1900	5529	2604	1196
Capacity Analysis Module:												
Vol/Sat:	0.19	0.29	0.29	0.11	0.12	0.16	0.09	0.30	0.23	0.10	0.30	0.30
Crit Moves:		****		****				****		****		
Green Time:	31.8	42.9	42.9	15.8	27.0	27.0	13.1	44.8	44.8	14.5	46.1	46.1
Volume/Cap:	0.79	0.88	0.88	0.88	0.60	0.79	0.85	0.88	0.65	0.88	0.85	0.85
Delay/Veh:	50.8	46.6	46.6	74.6	48.0	59.2	73.5	48.0	38.4	71.2	43.7	43.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	50.8	46.6	46.6	74.6	48.0	59.2	73.5	48.0	38.4	71.2	43.7	43.7
LOS by Move:	D	D	D	E	D	E	E	D	D	E	D	D
HCM2k95thQ:	27	40	40	20	17	24	16	41	26	19	38	38

Note: Queue reported is the number of cars per lane.

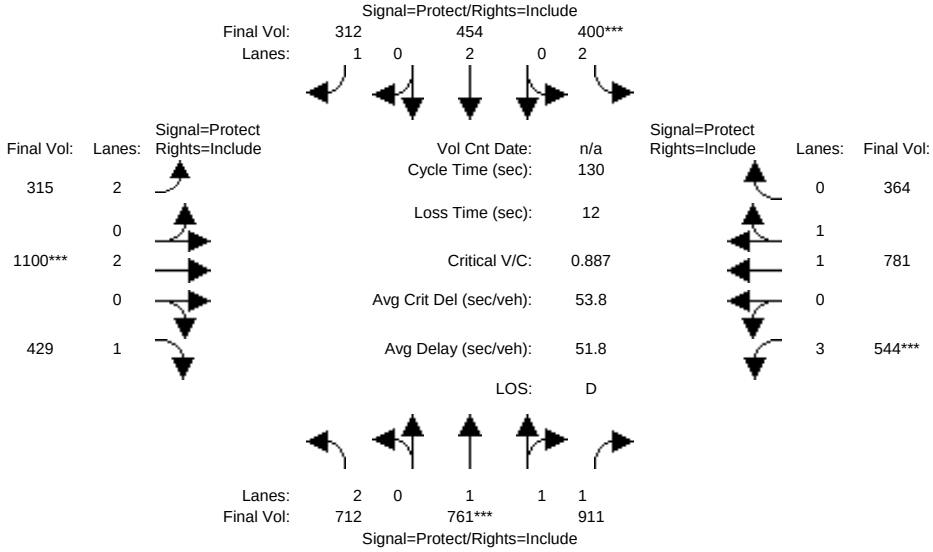
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc1 PM w/Proj

Intersection #10: Blackhawk Rd/Crow Canyon Rd and Camino Tassajara



Street Name:	Blackhawk Rd/Crow Canyon Rd						Camino Tassajara					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	669	715	856	376	427	293	296	1034	403	511	734	342
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	669	715	856	376	427	293	296	1034	403	511	734	342
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	669	715	856	376	427	293	296	1034	403	511	734	342
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	712	761	911	400	454	312	315	1100	429	544	781	364
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	712	761	911	400	454	312	315	1100	429	544	781	364
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	712	761	911	400	454	312	315	1100	429	544	781	364
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.97	1.00	1.00	0.97	0.95	1.00	0.97	0.95	1.00	0.97	1.00	1.00
Lanes:	2.00	1.37	1.63	2.00	2.00	1.00	2.00	2.00	1.00	3.00	1.36	0.64
Final Sat.:	3686	2594	3106	3686	3610	1900	3686	3610	1900	5529	2592	1208
Capacity Analysis Module:												
Vol/Sat:	0.19	0.29	0.29	0.11	0.13	0.16	0.09	0.30	0.23	0.10	0.30	0.30
Crit Moves:		****		****				****		****		
Green Time:	31.8	43.0	43.0	15.9	27.1	27.1	13.1	44.7	44.7	14.4	46.0	46.0
Volume/Cap:	0.79	0.89	0.89	0.89	0.60	0.79	0.85	0.89	0.66	0.89	0.85	0.85
Delay/Veh:	50.6	46.7	46.7	74.8	48.0	58.9	74.4	48.3	38.6	71.6	44.2	44.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	50.6	46.7	46.7	74.8	48.0	58.9	74.4	48.3	38.6	71.6	44.2	44.2
LOS by Move:	D	D	D	E	D	E	E	D	D	E	D	D
HCM2k95thQ:	27	40	40	20	17	24	16	41	26	19	39	39

Note: Queue reported is the number of cars per lane.

Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

2000 HCM AM LOS Calcs

Cumulative Sc 2-5

(>>>>>>>>>This Page Intentionally Left Blank<<<<<<<<)

Note:

In the course of the Magee Ranch TIA analysis, the Cumulative Sensitivity Analysis scenarios were revised/updated in cooperation with the Town of Danville to best reflect the alternative scenarios appropriate for study. For this reason, after the cumulative level of service (LOS) calculations were completed, some of the scenario names/numbers were changed. The changes are as follows:

- Cum Sc4 AM w/Proj, Cum Sc4 school PM w/Proj, and Cum Sc4 PM w/Proj LOS calculation sheets in this appendix refer to Cumulative Scenario 3 results shown in the report.
- Cum Sc5 AM w/Proj, Cum Sc5 school PM w/Proj, and Cum Sc5 PM w/Proj LOS calculation sheets in this appendix refer to Cumulative Scenario 4 results shown in the report.

All of the other LOS calculations in this appendix correspond to the same name/number as shown in the report.

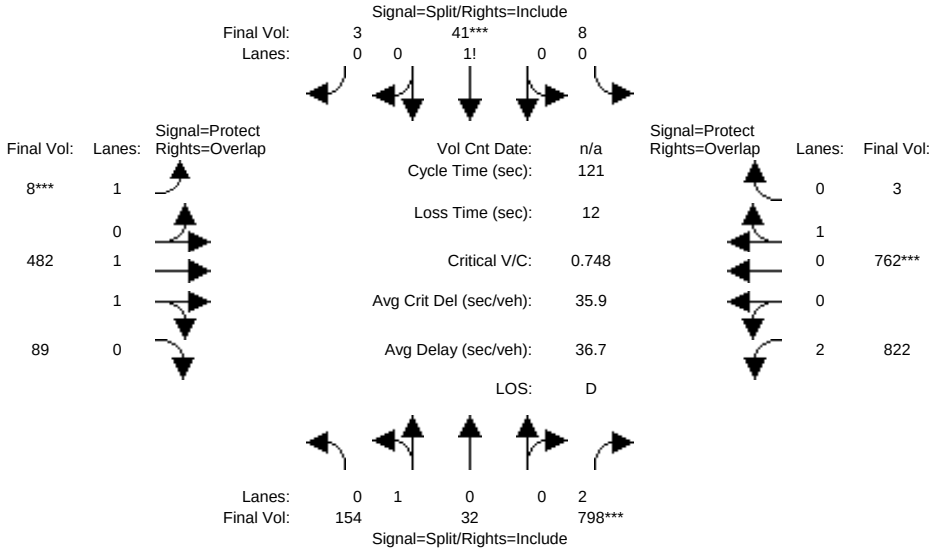
(>>>>>>>>>This Page Intentionally Left Blank<<<<<<<<)

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc2 AM w/Proj

Intersection #1: Diablo Rd and El Cerro Blvd



Street Name:	Diablo Road						El Cerro Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	134	28	694	7	36	3	7	419	77	715	663	3
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	134	28	694	7	36	3	7	419	77	715	663	3
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	134	28	694	7	36	3	7	419	77	715	663	3
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
PHF Volume:	154	32	798	8	41	3	8	482	89	822	762	3
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	154	32	798	8	41	3	8	482	89	822	762	3
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	154	32	798	8	41	3	8	482	89	822	762	3
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Lanes:	0.83	0.17	2.00	0.15	0.78	0.07	1.00	1.69	0.31	2.00	0.99	0.01
Final Sat.:	1572	328	3344	289	1487	124	1900	3210	590	3686	1891	9
Capacity Analysis Module:												
Vol/Sat:	0.10	0.10	0.24	0.03	0.03	0.03	0.00	0.15	0.15	0.22	0.40	0.40
Crit Moves:			****		****		****				****	
Green Time:	37.8	37.8	37.8	4.4	4.4	4.4	3.0	26.9	64.7	39.9	63.8	68.2
Volume/Cap:	0.31	0.31	0.76	0.76	0.76	0.76	0.17	0.68	0.28	0.68	0.76	0.71
Delay/Veh:	32.0	32.0	41.0	96.6	96.6	96.6	59.5	45.3	15.5	36.5	26.2	21.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	32.0	32.0	41.0	96.6	96.6	96.6	59.5	45.3	15.5	36.5	26.2	21.6
LOS by Move:	C	C	D	F	F	F	E	D	B	D	C	C
HCM2k95thQ:	10	10	29	7	7	7	1	20	11	25	39	36

Note: Queue reported is the number of cars per lane.

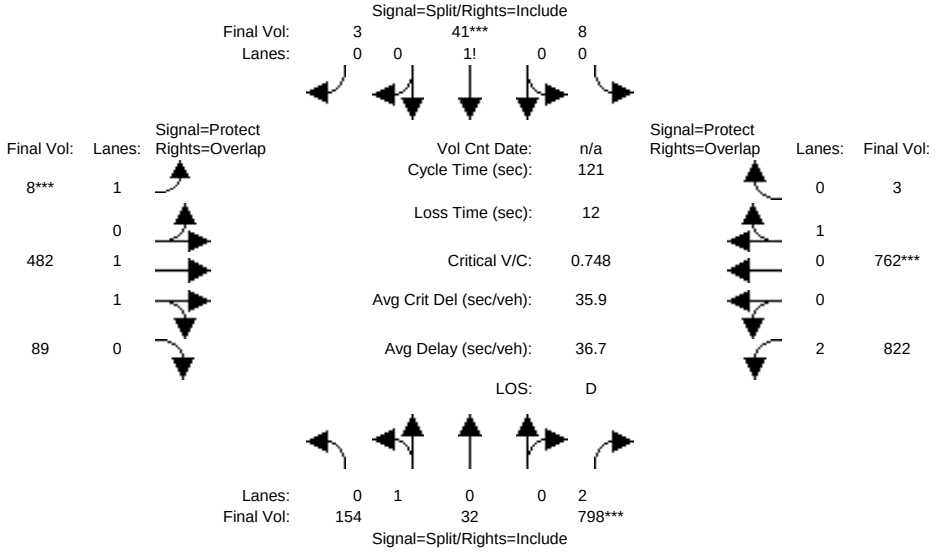
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc4 AM w/Proj

Intersection #1: Diablo Rd and El Cerro Blvd



Street Name:	Diablo Road						El Cerro Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	134	28	694	7	36	3	7	419	77	715	663	3
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	134	28	694	7	36	3	7	419	77	715	663	3
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	134	28	694	7	36	3	7	419	77	715	663	3
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
PHF Volume:	154	32	798	8	41	3	8	482	89	822	762	3
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	154	32	798	8	41	3	8	482	89	822	762	3
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	154	32	798	8	41	3	8	482	89	822	762	3
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Lanes:	0.83	0.17	2.00	0.15	0.78	0.07	1.00	1.69	0.31	2.00	0.99	0.01
Final Sat.:	1572	328	3344	289	1487	124	1900	3210	590	3686	1891	9
Capacity Analysis Module:												
Vol/Sat:	0.10	0.10	0.24	0.03	0.03	0.03	0.00	0.15	0.15	0.22	0.40	0.40
Crit Moves:			****		****		****				****	
Green Time:	37.8	37.8	37.8	4.4	4.4	4.4	3.0	26.9	64.7	39.9	63.8	68.2
Volume/Cap:	0.31	0.31	0.76	0.76	0.76	0.76	0.17	0.68	0.28	0.68	0.76	0.71
Delay/Veh:	32.0	32.0	41.0	96.6	96.6	96.6	59.5	45.3	15.5	36.5	26.2	21.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	32.0	32.0	41.0	96.6	96.6	96.6	59.5	45.3	15.5	36.5	26.2	21.6
LOS by Move:	C	C	D	F	F	F	E	D	B	D	C	C
HCM2k95thQ:	10	10	29	7	7	7	1	20	11	25	39	36

Note: Queue reported is the number of cars per lane.

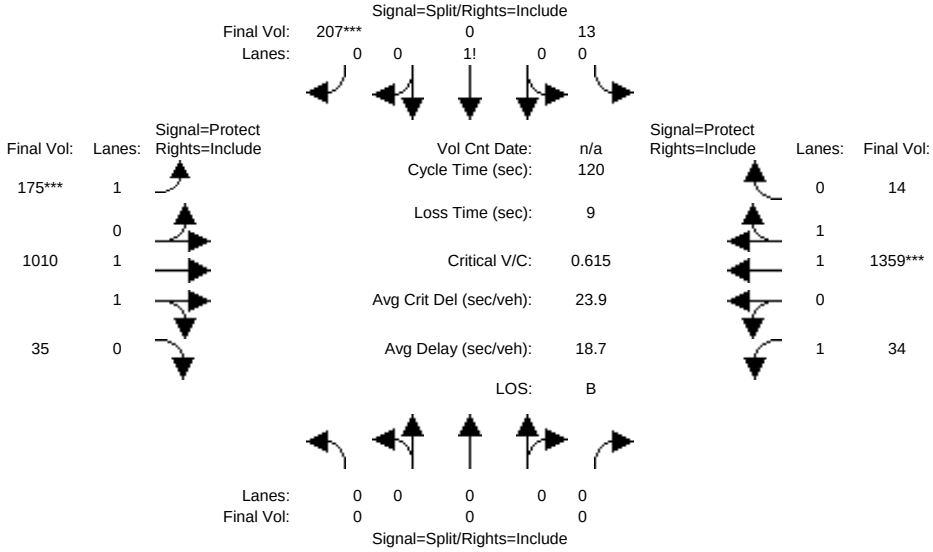
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc2 AM w/Proj

Intersection #2: Matadera Wy and Diablo Rd



Street Name:	Matadera Way						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	11	0	182	154	889	31	30	1196	12
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	11	0	182	154	889	31	30	1196	12
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	11	0	182	154	889	31	30	1196	12
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
PHF Volume:	0	0	0	13	0	207	175	1010	35	34	1359	14
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	13	0	207	175	1010	35	34	1359	14
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	13	0	207	175	1010	35	34	1359	14
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.06	0.00	0.94	1.00	1.93	0.07	1.00	1.98	0.02
Final Sat.:	0	0	0	108	0	1792	1900	3672	128	1900	3762	38
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.12	0.00	0.12	0.09	0.28	0.28	0.02	0.36	0.36
Crit Moves:						****	****				****	
Green Time:	0.0	0.0	0.0	22.5	0.0	22.5	18.0	81.1	81.1	7.4	70.5	70.5
Volume/Cap:	0.00	0.00	0.00	0.61	0.00	0.61	0.61	0.41	0.41	0.29	0.61	0.61
Delay/Veh:	0.0	0.0	0.0	47.9	0.0	47.9	51.8	8.8	8.8	55.2	16.5	16.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	47.9	0.0	47.9	51.8	8.8	8.8	55.2	16.5	16.5
LOS by Move:	A	A	A	D	A	D	D	A	A	E	B	B
HCM2k95thQ:	0	0	0	15	0	15	13	16	16	3	28	28

Note: Queue reported is the number of cars per lane.

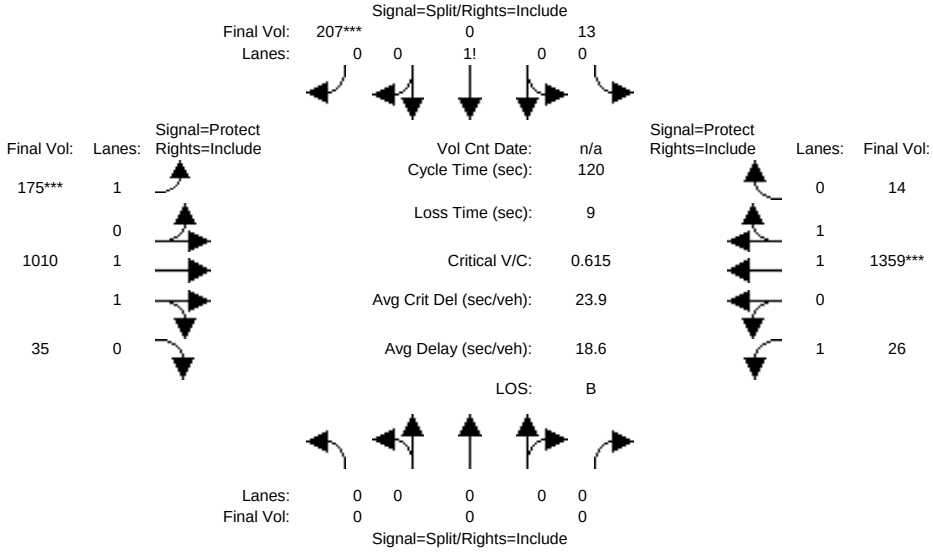
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc4 AM w/Proj

Intersection #2: Matadera Wy and Diablo Rd



Street Name:	Matadera Way						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	11	0	182	154	889	31	23	1196	12
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	11	0	182	154	889	31	23	1196	12
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	11	0	182	154	889	31	23	1196	12
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
PHF Volume:	0	0	0	13	0	207	175	1010	35	26	1359	14
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	13	0	207	175	1010	35	26	1359	14
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	13	0	207	175	1010	35	26	1359	14
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.06	0.00	0.94	1.00	1.93	0.07	1.00	1.98	0.02
Final Sat.:	0	0	0	108	0	1792	1900	3672	128	1900	3762	38
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.12	0.00	0.12	0.09	0.28	0.28	0.01	0.36	0.36
Crit Moves:						****	****				****	
Green Time:	0.0	0.0	0.0	22.5	0.0	22.5	18.0	81.1	81.1	7.4	70.5	70.5
Volume/Cap:	0.00	0.00	0.00	0.61	0.00	0.61	0.61	0.41	0.41	0.22	0.61	0.61
Delay/Veh:	0.0	0.0	0.0	47.9	0.0	47.9	51.8	8.8	8.8	54.6	16.5	16.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	47.9	0.0	47.9	51.8	8.8	8.8	54.6	16.5	16.5
LOS by Move:	A	A	A	D	A	D	D	A	A	D	B	B
HCM2k95thQ:	0	0	0	15	0	15	13	16	16	2	28	28

Note: Queue reported is the number of cars per lane.

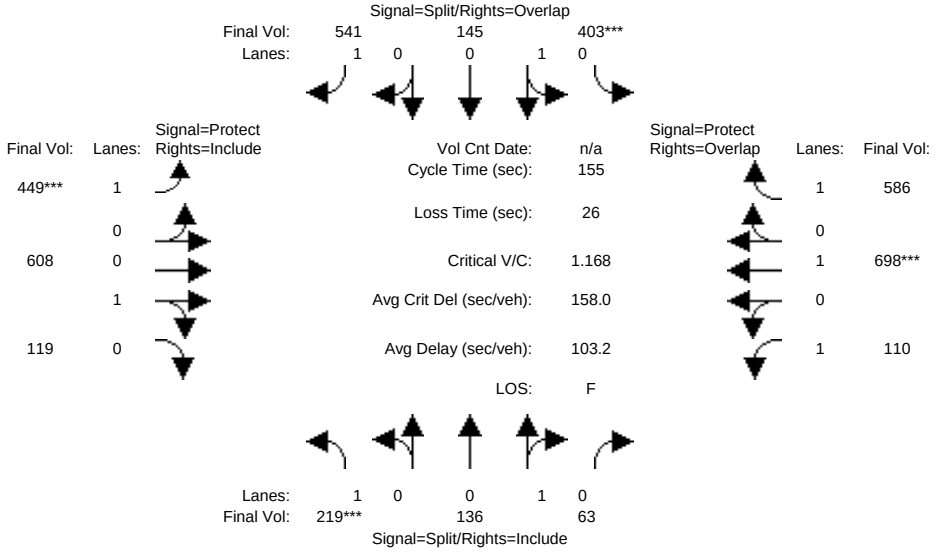
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc2 AM w/Proj

Intersection #3: Green Valley Rd and Diablo Rd



Street Name:	Green Valley Road						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	188	117	54	347	125	465	386	523	102	95	600	504
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	188	117	54	347	125	465	386	523	102	95	600	504
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	188	117	54	347	125	465	386	523	102	95	600	504
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
PHF Volume:	219	136	63	403	145	541	449	608	119	110	698	586
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	219	136	63	403	145	541	449	608	119	110	698	586
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	219	136	63	403	145	541	449	608	119	110	698	586
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.68	0.32	0.74	0.26	1.00	1.00	0.84	0.16	1.00	1.00	1.00
Final Sat.:	1900	1300	600	1397	503	1900	1900	1590	310	1900	2100	1900
Capacity Analysis Module:												
Vol/Sat:	0.12	0.10	0.10	0.29	0.29	0.28	0.24	0.38	0.38	0.06	0.33	0.31
Crit Moves:	****			****			****				****	
Green Time:	15.3	15.3	15.3	38.3	38.3	69.7	31.3	65.5	65.5	10.0	44.1	82.4
Volume/Cap:	1.17	1.06	1.06	1.17	1.17	0.63	1.17	0.91	0.91	0.91	1.17	0.58
Delay/Veh:	188.3	153	153.3	155.0	155	34.4	162.1	55.7	55.7	125.4	148	25.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	188.3	153	153.3	155.0	155	34.4	162.1	55.7	55.7	125.4	148	25.4
LOS by Move:	F	F	F	F	F	C	F	E	E	F	F	C
HCM2k95thQ:	29	25	25	60	60	33	51	56	56	15	73	32

Note: Queue reported is the number of cars per lane.

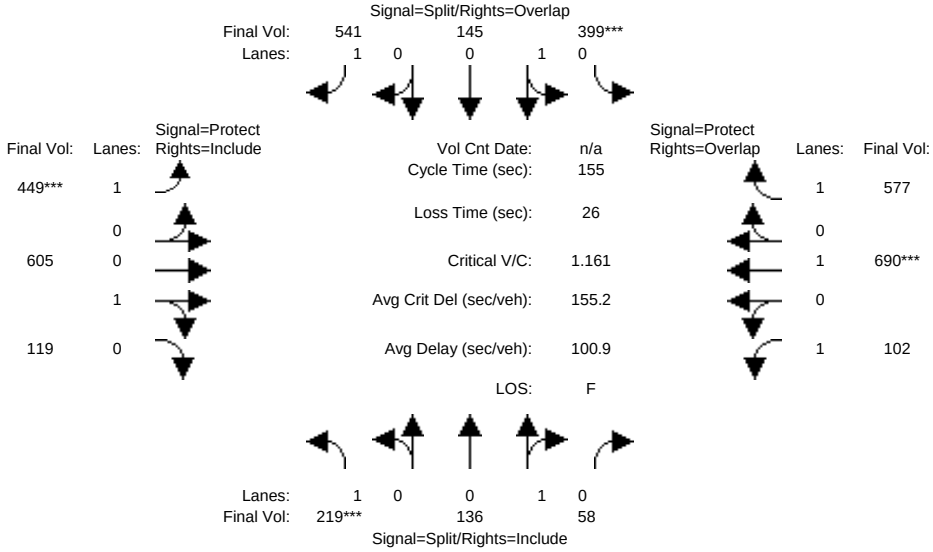
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc4 AM w/Proj

Intersection #3: Green Valley Rd and Diablo Rd



Street Name:	Green Valley Road						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	188	117	50	343	125	465	386	520	102	88	593	496
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	188	117	50	343	125	465	386	520	102	88	593	496
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	188	117	50	343	125	465	386	520	102	88	593	496
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
PHF Volume:	219	136	58	399	145	541	449	605	119	102	690	577
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	219	136	58	399	145	541	449	605	119	102	690	577
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	219	136	58	399	145	541	449	605	119	102	690	577
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.70	0.30	0.73	0.27	1.00	1.00	0.84	0.16	1.00	1.00	1.00
Final Sat.:	1900	1331	569	1393	507	1900	1900	1588	312	1900	2100	1900
Capacity Analysis Module:												
Vol/Sat:	0.12	0.10	0.10	0.29	0.29	0.28	0.24	0.38	0.38	0.05	0.33	0.30
Crit Moves:	****			****			****				****	
Green Time:	15.4	15.4	15.4	38.2	38.2	69.8	31.5	66.0	66.0	9.3	43.8	82.1
Volume/Cap:	1.16	1.03	1.03	1.16	1.16	0.63	1.16	0.89	0.89	0.89	1.16	0.57
Delay/Veh:	185.4	144	143.8	152.1	152	34.3	159.1	53.5	53.5	124.6	146	25.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	185.4	144	143.8	152.1	152	34.3	159.1	53.5	53.5	124.6	146	25.4
LOS by Move:	F	F	F	F	F	C	F	D	D	F	F	C
HCM2k95thQ:	29	24	24	59	59	33	51	55	55	14	72	31

Note: Queue reported is the number of cars per lane.

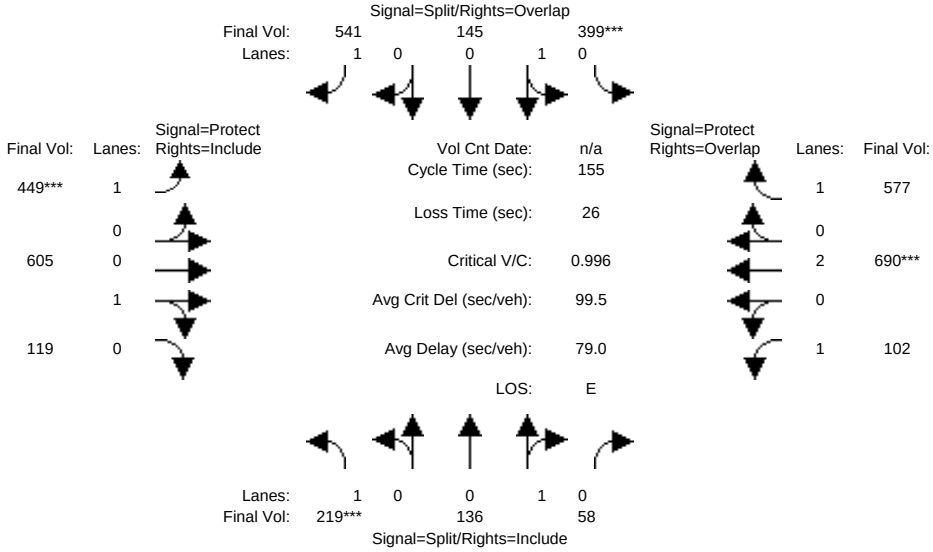
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc5 AM w/Proj

Intersection #3: Green Valley Rd and Diablo Rd



Street Name:	Green Valley Road						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	188	117	50	343	125	465	386	520	102	88	593	496
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	188	117	50	343	125	465	386	520	102	88	593	496
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	188	117	50	343	125	465	386	520	102	88	593	496
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
PHF Volume:	219	136	58	399	145	541	449	605	119	102	690	577
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	219	136	58	399	145	541	449	605	119	102	690	577
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	219	136	58	399	145	541	449	605	119	102	690	577
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00
Lanes:	1.00	0.70	0.30	0.73	0.27	1.00	1.00	0.84	0.16	1.00	2.00	1.00
Final Sat.:	1900	1331	569	1393	507	1900	1900	1588	312	1900	3610	1900
Capacity Analysis Module:												
Vol/Sat:	0.12	0.10	0.10	0.29	0.29	0.28	0.24	0.38	0.38	0.05	0.19	0.30
Crit Moves:	****			****			****				****	
Green Time:	17.9	17.9	17.9	44.6	44.6	81.4	36.8	58.3	58.3	8.2	29.7	74.3
Volume/Cap:	1.00	0.88	0.88	1.00	1.00	0.54	1.00	1.01	1.01	1.01	1.00	0.63
Delay/Veh:	128.0	99.3	99.3	92.4	92.4	25.1	100.2	85.2	85.2	166.4	95.6	31.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	128.0	99.3	99.3	92.4	92.4	25.1	100.2	85.2	85.2	166.4	95.6	31.6
LOS by Move:	F	F	F	F	F	C	F	F	F	F	F	C
HCM2k95thQ:	26	21	21	51	51	29	44	64	64	15	37	34

Note: Queue reported is the number of cars per lane.

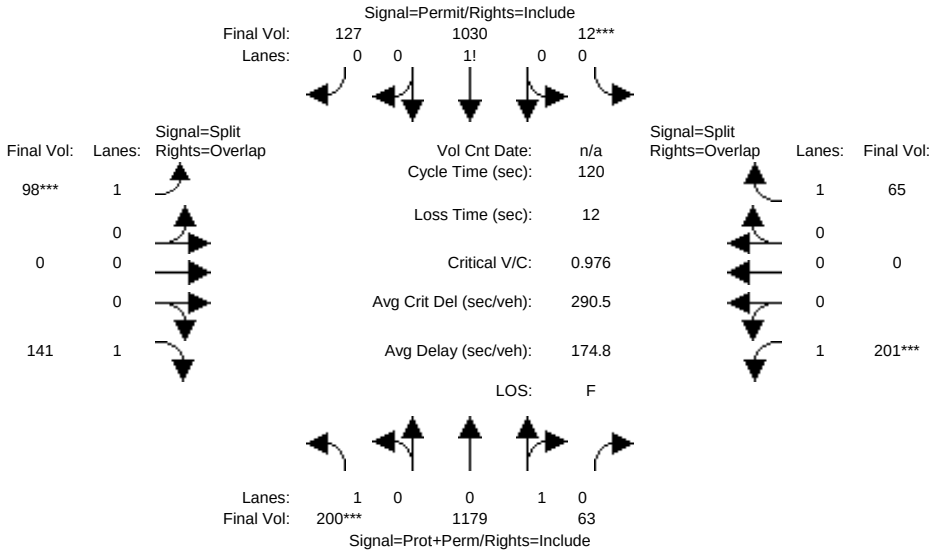
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc2 AM w/Proj

Intersection #4: Green Valley Rd and Blemer Rd/Cameo Dr



Street Name:	Green Valley Road						Blemer Road/Cameo Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	3	3	3	3	3	3	2	3	3	2	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	164	967	52	10	845	104	80	0	116	165	0	53
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	164	967	52	10	845	104	80	0	116	165	0	53
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	164	967	52	10	845	104	80	0	116	165	0	53
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
PHF Volume:	200	1179	63	12	1030	127	98	0	141	201	0	65
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	200	1179	63	12	1030	127	98	0	141	201	0	65
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	200	1179	63	12	1030	127	98	0	141	201	0	65
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.95	0.05	0.01	0.88	0.11	1.00	0.00	1.00	1.00	0.00	1.00
Final Sat.:	1900	1803	97	20	1674	206	1900	0	1900	1900	0	1900
Capacity Analysis Module:												
Vol/Sat:	0.00	0.65	0.65	0.62	0.62	0.62	0.05	0.00	0.07	0.11	0.00	0.03
Crit Moves:	****			****			****			****		
Green Time:	14.0	49.5	49.5	46.6	82.1	82.1	3.9	0.0	17.9	8.0	0.0	54.6
Volume/Cap:	0.90	1.59	1.59	1.59	0.90	0.90	1.59	0.00	0.50	1.59	0.00	0.07
Delay/Veh:	86.9	305	304.7	306.6	24.4	24.4	385.2	0.0	48.3	353.4	0.0	18.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	86.9	305	304.7	306.6	24.4	24.4	385.2	0.0	48.3	353.4	0.0	18.5
LOS by Move:	F	F	F	F	C	C	F	A	D	F	A	B
HCM2k95thQ:	19	152	152	144	60	60	18	0	10	31	0	3

Note: Queue reported is the number of cars per lane.

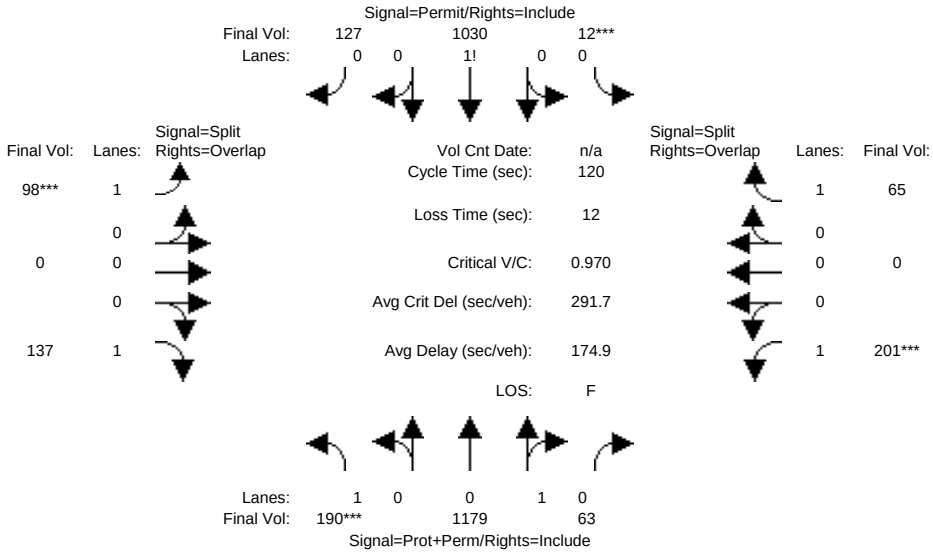
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc4 AM w/Proj

Intersection #4: Green Valley Rd and Blemer Rd/Cameo Dr



Street Name:	Green Valley Road						Blemer Road/Cameo Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	3	3	3	3	3	3	2	3	3	2	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	156	967	52	10	845	104	80	0	112	165	0	53
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	156	967	52	10	845	104	80	0	112	165	0	53
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	156	967	52	10	845	104	80	0	112	165	0	53
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
PHF Volume:	190	1179	63	12	1030	127	98	0	137	201	0	65
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	190	1179	63	12	1030	127	98	0	137	201	0	65
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	190	1179	63	12	1030	127	98	0	137	201	0	65
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.95	0.05	0.01	0.88	0.11	1.00	0.00	1.00	1.00	0.00	1.00
Final Sat.:	1900	1803	97	20	1674	206	1900	0	1900	1900	0	1900
Capacity Analysis Module:												
Vol/Sat:	0.00	0.65	0.65	0.62	0.62	0.62	0.05	0.00	0.07	0.11	0.00	0.03
Crit Moves:	****			****			****			****		
Green Time:	13.4	49.5	49.5	46.6	82.7	82.7	3.9	0.0	17.3	8.0	0.0	54.6
Volume/Cap:	0.89	1.59	1.59	1.59	0.89	0.89	1.59	0.00	0.50	1.59	0.00	0.07
Delay/Veh:	86.9	305	304.7	306.6	23.3	23.3	385.2	0.0	48.7	353.4	0.0	18.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	86.9	305	304.7	306.6	23.3	23.3	385.2	0.0	48.7	353.4	0.0	18.5
LOS by Move:	F	F	F	F	C	C	F	A	D	F	A	B
HCM2k95thQ:	18	152	152	144	59	59	18	0	10	31	0	3

Note: Queue reported is the number of cars per lane.

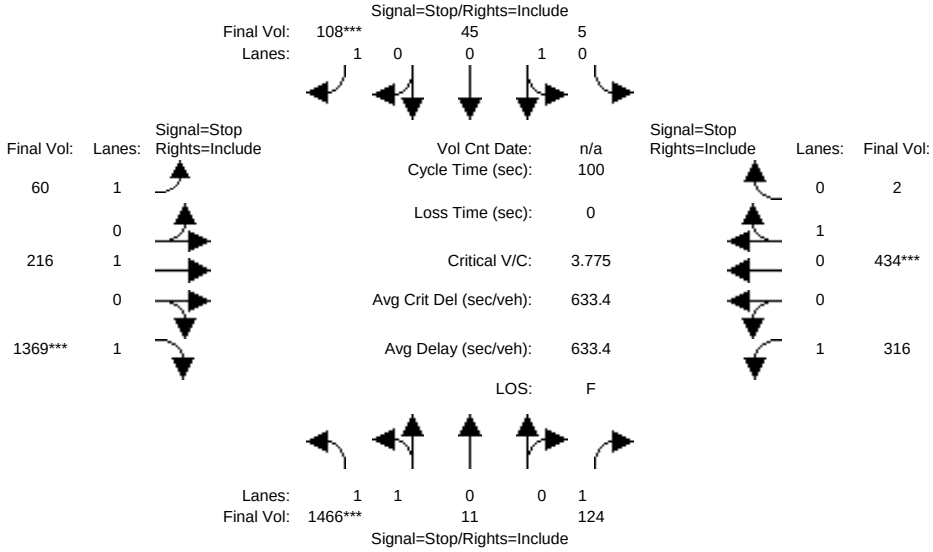
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Cum Sc2 AM w/Proj

Intersection #5: Green Valley Rd and Stone Valley Rd




```
Street Name:        Green Valley Road                  Stone Valley Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     909    7    77     3   28    67    37  134   849   196  269     1
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  909    7    77     3   28    67    37  134   849   196  269     1
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  909    7    77     3   28    67    37  134   849   196  269     1
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.62 0.62  0.62  0.62 0.62  0.62  0.62 0.62  0.62  0.62 0.62  0.62
PHF Volume:  1466   11   124     5   45   108    60  216  1369   316  434     2
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol: 1466   11   124     5   45   108    60  216  1369   316  434     2
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume: 1466   11   124     5   45   108    60  216  1369   316  434     2
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.98 0.02  1.00  0.10 0.90  1.00  1.00 1.00  1.00  1.00 0.99  0.01
Final Sat.:   681    5   379    32  300   358   318  336   363   372  391     1
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     2.15 2.15  0.33  0.15 0.15  0.30  0.19 0.64  3.77  0.85 1.11  1.11
Crit Moves:  ****                         ****              ****       ****
Delay/Veh:  550.2  550  16.3  15.2 15.2  16.8  16.3 30.3  1275  48.0  108 108.1
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh: 550.2  550  16.3  15.2 15.2  16.8  16.3 30.3  1275  48.0  108 108.1
LOS by Move:    F    F     C     C    C     C     C    D     F     E    F     F
ApproachDel:     508.8             16.3           1065.4             82.8
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:      508.8             16.3           1065.4             82.8
LOS by Appr:         F                C                F                F
AllWayAvgQ:  51.2 51.2   0.5   0.2  0.2   0.4   0.2  1.6 127.2   3.7 10.5  10.5
Note: Queue reported is the number of cars per lane.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #5 Green Valley Rd and Stone Valley Rd

****

Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Lanes:	1	1	0	0 1	0	1	0	0 1	1	0	1	0 1	1	0	0	1 0
Initial Vol:	909		7	77	3		28	67	37		134	849	196		269	1

Major Street Volume: 1486
Minor Approach Volume: 993
Minor Approach Volume Threshold: 204

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

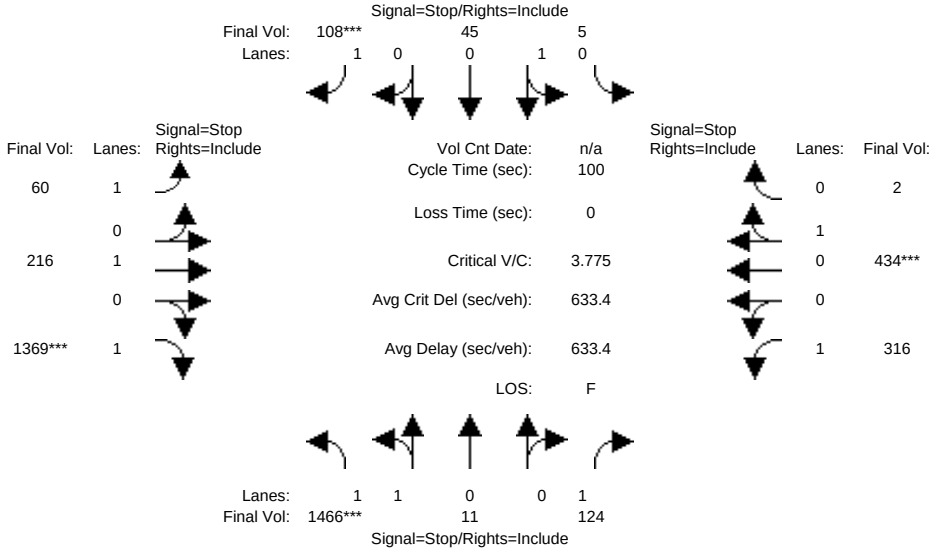
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Cum Sc4 AM w/Proj

Intersection #5: Green Valley Rd and Stone Valley Rd




```
Street Name:        Green Valley Road                  Stone Valley Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     909    7    77     3   28    67    37  134   849   196  269     1
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  909    7    77     3   28    67    37  134   849   196  269     1
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  909    7    77     3   28    67    37  134   849   196  269     1
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.62 0.62  0.62  0.62 0.62  0.62  0.62 0.62  0.62  0.62 0.62  0.62
PHF Volume:  1466   11   124     5   45   108    60  216  1369   316  434     2
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol: 1466   11   124     5   45   108    60  216  1369   316  434     2
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume: 1466   11   124     5   45   108    60  216  1369   316  434     2
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.98 0.02  1.00  0.10 0.90  1.00  1.00 1.00  1.00  1.00 0.99  0.01
Final Sat.:   681    5   379    32  300   358   318  336   363   372  391     1
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     2.15 2.15  0.33  0.15 0.15  0.30  0.19 0.64  3.77  0.85 1.11  1.11
Crit Moves:  ****                         ****              ****       ****
Delay/Veh:  550.2  550  16.3  15.2 15.2  16.8  16.3 30.3  1275  48.0  108 108.1
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh: 550.2  550  16.3  15.2 15.2  16.8  16.3 30.3  1275  48.0  108 108.1
LOS by Move:    F    F     C     C    C     C     C    D     F     E    F     F
ApproachDel:     508.8             16.3           1065.4             82.8
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:      508.8             16.3           1065.4             82.8
LOS by Appr:         F                C                F                F
AllWayAvgQ:  51.2 51.2   0.5   0.2  0.2   0.4   0.2  1.6 127.2   3.7 10.5  10.5
Note: Queue reported is the number of cars per lane.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #5 Green Valley Rd and Stone Valley Rd

****

Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Lanes:	1	1	0	0 1	0	1	0	0 1	1	0	1	0 1	1	0	0	1 0
Initial Vol:	909	7	77		3	28	67		37	134	849		196	269	1	

Major Street Volume: 1486
Minor Approach Volume: 993
Minor Approach Volume Threshold: 204

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

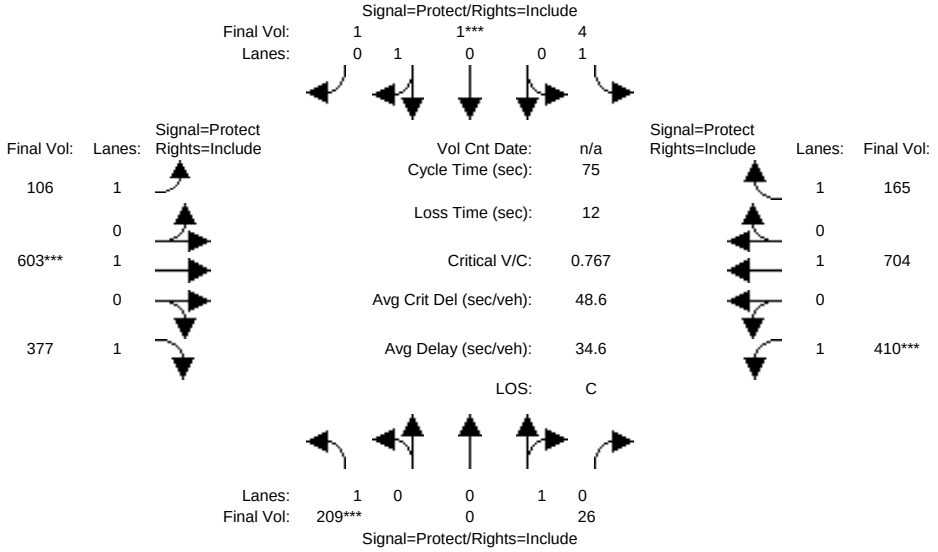
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc2 AM w/Proj

Intersection #6: Monte Vista H.S. Main and Stone Valley Rd



Street Name:	Monte Vista H.S. Main Parking Lot						Stone Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	144	0	18	3	1	1	73	416	260	283	486	114
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	144	0	18	3	1	1	73	416	260	283	486	114
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	144	0	18	3	1	1	73	416	260	283	486	114
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69
PHF Volume:	209	0	26	4	1	1	106	603	377	410	704	165
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	209	0	26	4	1	1	106	603	377	410	704	165
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	209	0	26	4	1	1	106	603	377	410	704	165
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.00	1.00	1.00	0.50	0.50	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1900	0	1900	1900	950	950	1900	1900	1900	1900	1900	1900
Capacity Analysis Module:												
Vol/Sat:	0.11	0.00	0.01	0.00	0.00	0.00	0.06	0.32	0.20	0.22	0.37	0.09
Crit Moves:	****				****			****		****		
Green Time:	10.0	0.0	10.0	10.0	10.0	10.0	8.6	25.6	25.6	17.4	34.4	34.4
Volume/Cap:	0.82	0.00	0.10	0.02	0.01	0.01	0.48	0.93	0.58	0.93	0.81	0.19
Delay/Veh:	50.8	0.0	28.7	28.3	28.2	28.2	32.8	43.9	21.6	54.5	23.2	12.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	50.8	0.0	28.7	28.3	28.2	28.2	32.8	43.9	21.6	54.5	23.2	12.2
LOS by Move:	D	A	C	C	C	C	C	D	C	D	C	B
HCM2k95thQ:	14	0	1	0	0	0	6	32	15	25	28	5

Note: Queue reported is the number of cars per lane.

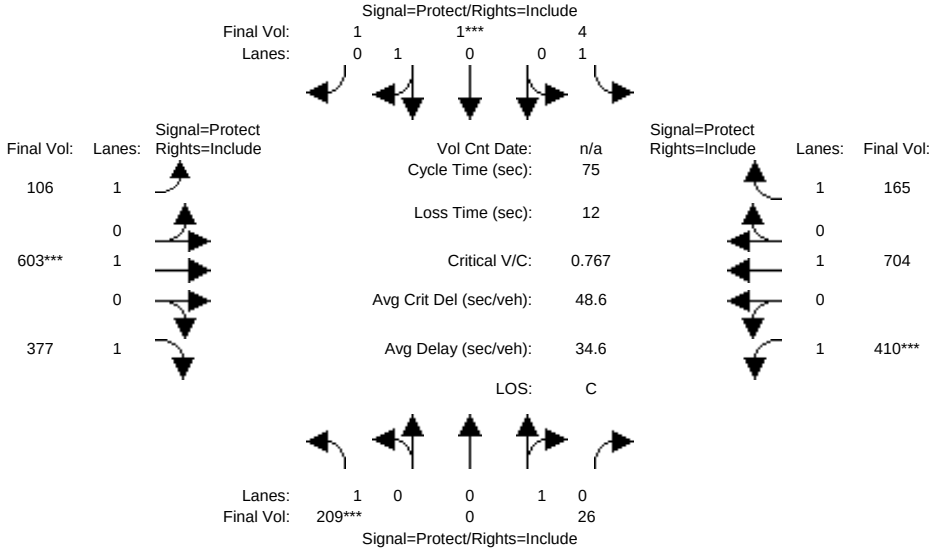
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc4 AM w/Proj

Intersection #6: Monte Vista H.S. Main and Stone Valley Rd



Street Name:	Monte Vista H.S. Main Parking Lot						Stone Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	144	0	18	3	1	1	73	416	260	283	486	114
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	144	0	18	3	1	1	73	416	260	283	486	114
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	144	0	18	3	1	1	73	416	260	283	486	114
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69
PHF Volume:	209	0	26	4	1	1	106	603	377	410	704	165
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	209	0	26	4	1	1	106	603	377	410	704	165
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	209	0	26	4	1	1	106	603	377	410	704	165
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.00	1.00	1.00	0.50	0.50	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1900	0	1900	1900	950	950	1900	1900	1900	1900	1900	1900
Capacity Analysis Module:												
Vol/Sat:	0.11	0.00	0.01	0.00	0.00	0.00	0.06	0.32	0.20	0.22	0.37	0.09
Crit Moves:	****				****			****		****		
Green Time:	10.0	0.0	10.0	10.0	10.0	10.0	8.6	25.6	25.6	17.4	34.4	34.4
Volume/Cap:	0.82	0.00	0.10	0.02	0.01	0.01	0.48	0.93	0.58	0.93	0.81	0.19
Delay/Veh:	50.8	0.0	28.7	28.3	28.2	28.2	32.8	43.9	21.6	54.5	23.2	12.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	50.8	0.0	28.7	28.3	28.2	28.2	32.8	43.9	21.6	54.5	23.2	12.2
LOS by Move:	D	A	C	C	C	C	C	D	C	D	C	B
HCM2k95thQ:	14	0	1	0	0	0	6	32	15	25	28	5

Note: Queue reported is the number of cars per lane.

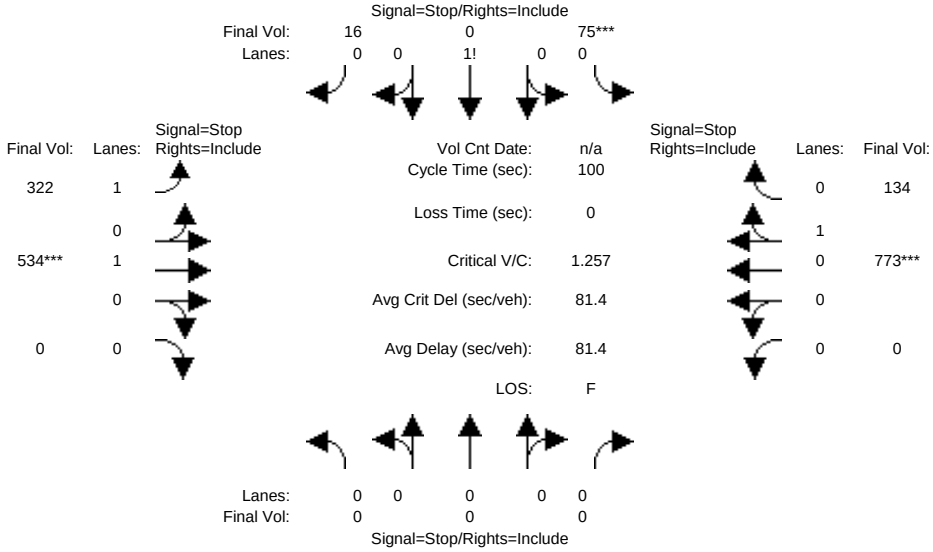
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Cum Sc2 AM w/Proj

Intersection #7: Mt Diablo Scenic Blvd and Diablo Rd




```
Street Name:      Mt Diablo Scenic Blvd                  Diablo Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    62    0    13   267  443     0     0  642   111
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    62    0    13   267  443     0     0  642   111
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0    62    0    13   267  443     0     0  642   111
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.83 0.83  0.83  0.83 0.83  0.83  0.83 0.83  0.83  0.83 0.83  0.83
PHF Volume:     0    0     0    75    0    16   322  534     0     0  773   134
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0    0     0    75    0    16   322  534     0     0  773   134
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0    0     0    75    0    16   322  534     0     0  773   134
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 0.00  0.00  0.83 0.00  0.17  1.00 1.00  0.00  0.00 0.85  0.15
Final Sat.:     0    0     0   437    0    92   608  665     0     0  615   106
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx xxxx  xxxx  0.17 xxxx  0.17  0.53 0.80  xxxx  xxxx 1.26  1.26
Crit Moves:                   ****                   ****             ****
Delay/Veh:    0.0  0.0   0.0  11.1  0.0  11.1  15.0 26.3   0.0   0.0  144 144.3
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0  0.0   0.0  11.1  0.0  11.1  15.0 26.3   0.0   0.0  144 144.3
LOS by Move:    *    *     *     B    *     B     C    D     *     *    F     F
ApproachDel:    xxxxxx             11.1             22.0            144.3
Delay Adj:       xxxxx             1.00             1.00             1.00
ApprAdjDel:     xxxxxx             11.1             22.0            144.3
LOS by Appr:         *                B                C                F
AllWayAvgQ:   0.0  0.0   0.0   0.2  0.2   0.2   1.1  3.4   0.0  27.3 27.3  27.3
Note: Queue reported is the number of cars per lane.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #7 Mt Diablo Scenic Blvd and Diablo Rd

****

```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    0  0  1! 0  0    1  0  1  0  0    0  0  0  1  0
Initial Vol:    0    0     0    62    0    13   267  443     0     0  642   111
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1463
Minor Approach Volume:           75
Minor Approach Volume Threshold: 154
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

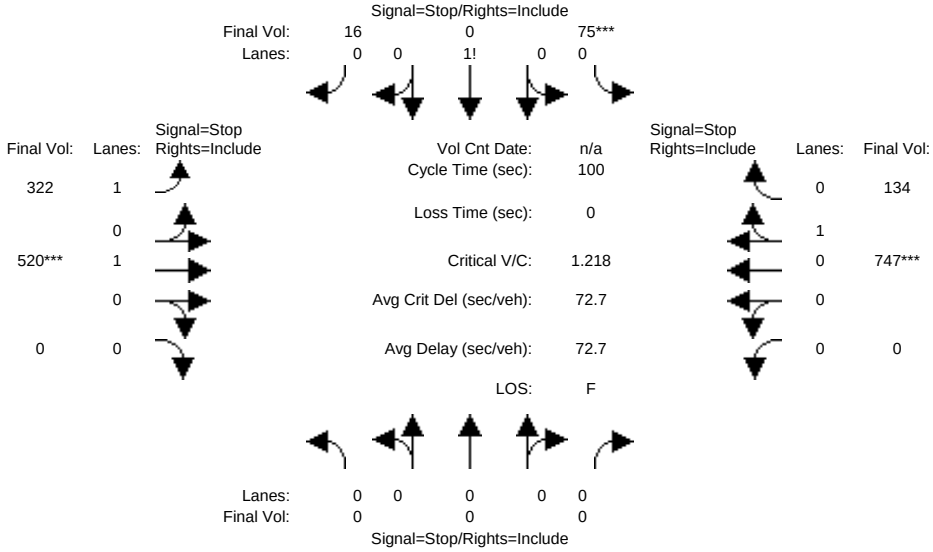

Copyright (c) 2008 Dowling Associates, Inc.

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Cum Sc4 AM w/Proj

Intersection #7: Mt Diablo Scenic Blvd and Diablo Rd




```
Street Name:      Mt Diablo Scenic Blvd                  Diablo Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    62    0    13   267  432     0     0  620   111
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    62    0    13   267  432     0     0  620   111
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0    62    0    13   267  432     0     0  620   111
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.83 0.83  0.83  0.83 0.83  0.83  0.83 0.83  0.83  0.83 0.83  0.83
PHF Volume:     0    0     0    75    0    16   322  520     0     0  747   134
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0    0     0    75    0    16   322  520     0     0  747   134
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0    0     0    75    0    16   322  520     0     0  747   134
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 0.00  0.00  0.83 0.00  0.17  1.00 1.00  0.00  0.00 0.85  0.15
Final Sat.:     0    0     0   437    0    92   608  665     0     0  614   110
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx xxxx  xxxx  0.17 xxxx  0.17  0.53 0.78  xxxx  xxxx 1.22  1.22
Crit Moves:                   ****                   ****             ****
Delay/Veh:    0.0  0.0   0.0  11.1  0.0  11.1  15.0 24.7   0.0   0.0  128 128.5
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0  0.0   0.0  11.1  0.0  11.1  15.0 24.7   0.0   0.0  128 128.5
LOS by Move:    *    *     *     B    *     B     C    C     *     *    F     F
ApproachDel:    xxxxxx             11.1             21.0            128.5
Delay Adj:       xxxxx             1.00             1.00             1.00
ApprAdjDel:     xxxxxx             11.1             21.0            128.5
LOS by Appr:         *                B                C                F
AllWayAvgQ:   0.0  0.0   0.0   0.2  0.2   0.2   1.1  3.1   0.0  24.2 24.2  24.2
Note: Queue reported is the number of cars per lane.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #7 Mt Diablo Scenic Blvd and Diablo Rd

****

```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    0  0  1! 0  0    1  0  1  0  0    0  0  0  1  0
Initial Vol:    0    0     0    62    0    13   267  432     0     0  620   111
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1430
Minor Approach Volume:           75
Minor Approach Volume Threshold: 162
-------------------------------------------------------------------------------
```

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

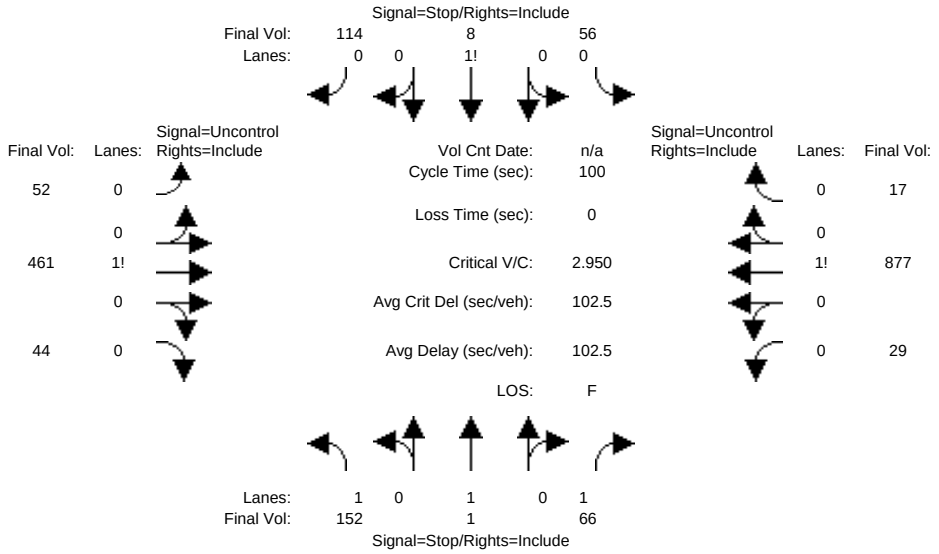
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Cum Sc2 AM w/Proj

Intersection #8: HIdden Oaks Dr/Magee Ranch Rd and Blackhawk Rd




```
Street Name:  Hidden Oaks Dr/Magee Ranch Rd            Blackhawk Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     117    1    51    43    6    88    40  355    34    22  675    13
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  117    1    51    43    6    88    40  355    34    22  675    13
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  117    1    51    43    6    88    40  355    34    22  675    13
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.77 0.77  0.77  0.77 0.77  0.77  0.77 0.77  0.77  0.77 0.77  0.77
PHF Volume:   152    1    66    56    8   114    52  461    44    29  877    17
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  152    1    66    56    8   114    52  461    44    29  877    17
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1590 1538   483  1563 1551   885   894 xxxx xxxxx   505 xxxx xxxxx
Potent Cap.:   88  117   588    92  115   347   768 xxxx xxxxx  1070 xxxx xxxxx
Move Cap.:     52  106   588    75  104   347   768 xxxx xxxxx  1070 xxxx xxxxx
Volume/Cap:  2.95 0.01  0.11  0.75 0.08  0.33  0.07 xxxx  xxxx  0.03 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   16.1  0.0   0.4  xxxx xxxx xxxxx   0.2 xxxx xxxxx   0.1 xxxx xxxxx
Control Del: 1048 39.4  11.9 xxxxx xxxx xxxxx  10.0 xxxx xxxxx   8.5 xxxx xxxxx
LOS by Move:    F    E     B     *    *     *     B    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  155 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  9.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx  177 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    F     *     *    *     *     *    *     *
ApproachDel:     729.3            177.4           xxxxxx           xxxxxx
ApproachLOS:         F                F                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #8 HIdden Oaks Dr/Magee Ranch Rd and Blackhawk Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```

 Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  1  0  1    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  117    1    51    43    6    88    40  355    34    22  675    13
ApproachDel:     729.3            177.4           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=3][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=34.2]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=169]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1445]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
--------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=6.8]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=137]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1445]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                Peak Hour Volume Signal Warrant Report [Urban]
********************************************************************************
Intersection #8 HIdden Oaks Dr/Magee Ranch Rd and Blackhawk Rd
********************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  1  0  1    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  117    1    51    43    6    88    40  355    34    22  675    13
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1139
Minor Approach Volume:           169
Minor Approach Volume Threshold: 251
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

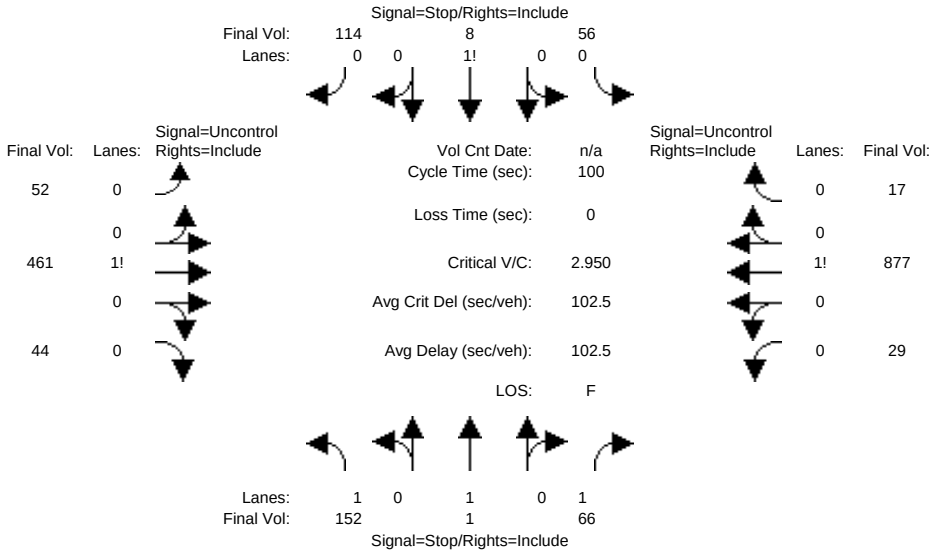

Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Cum Sc4 AM w/Proj

Intersection #8: HIdden Oaks Dr/Magee Ranch Rd and Blackhawk Rd




```
Street Name:  Hidden Oaks Dr/Magee Ranch Rd            Blackhawk Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     117    1    51    43    6    88    40  355    34    22  675    13
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  117    1    51    43    6    88    40  355    34    22  675    13
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  117    1    51    43    6    88    40  355    34    22  675    13
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.77 0.77  0.77  0.77 0.77  0.77  0.77 0.77  0.77  0.77 0.77  0.77
PHF Volume:   152    1    66    56    8   114    52  461    44    29  877    17
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:  152    1    66    56    8   114    52  461    44    29  877    17
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1590 1538   483  1563 1551   885   894 xxxx xxxxx   505 xxxx xxxxx
Potent Cap.:   88  117   588    92  115   347   768 xxxx xxxxx  1070 xxxx xxxxx
Move Cap.:     52  106   588    75  104   347   768 xxxx xxxxx  1070 xxxx xxxxx
Volume/Cap:  2.95 0.01  0.11  0.75 0.08  0.33  0.07 xxxx  xxxx  0.03 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   16.1  0.0   0.4  xxxx xxxx xxxxx   0.2 xxxx xxxxx   0.1 xxxx xxxxx
Control Del: 1048 39.4  11.9 xxxxx xxxx xxxxx  10.0 xxxx xxxxx   8.5 xxxx xxxxx
LOS by Move:    F    E     B     *    *     *     B    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  155 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  9.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx  177 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    F     *     *    *     *     *    *     *
ApproachDel:     729.3            177.4           xxxxxx           xxxxxx
ApproachLOS:         F                F                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #8 HIdden Oaks Dr/Magee Ranch Rd and Blackhawk Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant Met
```

 Copyright (c) 2008 Dowling Associates, Inc.

```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  1  0  1    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  117    1    51    43    6    88    40  355    34    22  675    13
ApproachDel:     729.3            177.4           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=3][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=34.2]
   SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=169]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1445]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
--------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=6.8]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=137]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1445]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                Peak Hour Volume Signal Warrant Report [Urban]
********************************************************************************
Intersection #8 HIdden Oaks Dr/Magee Ranch Rd and Blackhawk Rd
********************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  1  0  1    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:  117    1    51    43    6    88    40  355    34    22  675    13
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1139
Minor Approach Volume:           169
Minor Approach Volume Threshold: 251
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

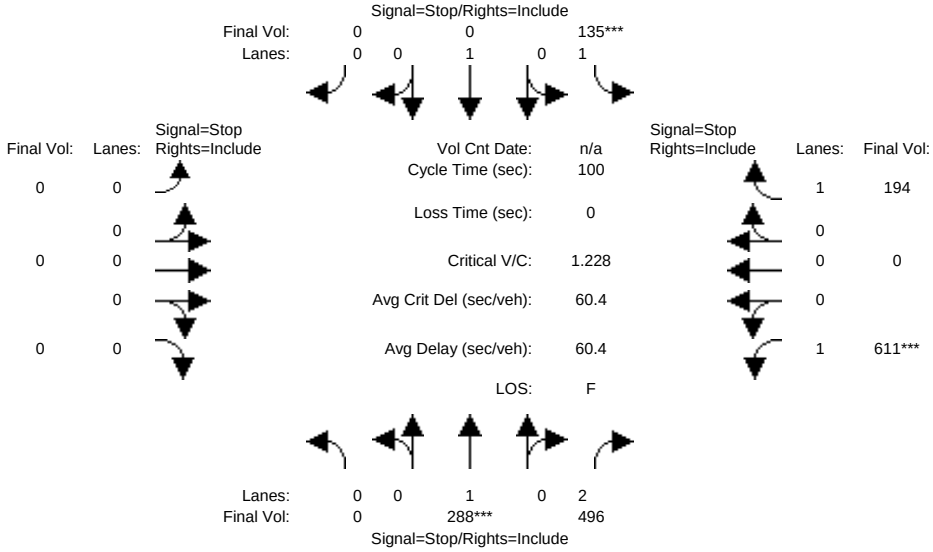

Copyright (c) 2008 Dowling Associates, Inc.
Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Cum Sc2 AM w/Proj

Intersection #9: Blackhawk Rd and Blackhawk Dr




```
Street Name:          Blackhawk Road                    Blackhawk Drive
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  236   407   111  508     0     0    0     0   501    0   159
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  236   407   111  508     0     0    0     0   501    0   159
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  236   407   111  508     0     0    0     0   501    0   159
User Adj:    1.00 1.00  1.00  1.00 0.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.82 0.82  0.82  0.82 0.82  0.82  0.82 0.82  0.82  0.82 0.82  0.82
PHF Volume:     0  288   496   135    0     0     0    0     0   611    0   194
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0  288   496   135    0     0     0    0     0   611    0   194
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0  288   496   135    0     0     0    0     0   611    0   194
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 1.00  2.00  1.00 1.00  0.00  0.00 0.00  0.00  1.00 0.00  1.00
Final Sat.:     0  499  1104   429  453     0     0    0     0   497    0   585
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx 0.58  0.45  0.32 0.00  xxxx  xxxx xxxx  xxxx  1.23 xxxx  0.33
Crit Moves:       ****        ****                              ****
Delay/Veh:    0.0 19.2  14.3  14.6  0.0   0.0   0.0  0.0   0.0 142.8  0.0  11.7
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0 19.2  14.3  14.6  0.0   0.0   0.0  0.0   0.0 142.8  0.0  11.7
LOS by Move:    *    C     B     B    *     *     *    *     *     F    *     B
ApproachDel:      16.1             14.6           xxxxxx            111.2
Delay Adj:        1.00             1.00            xxxxx             1.00
ApprAdjDel:       16.1             14.6           xxxxxx            111.2
LOS by Appr:         C                B                *                 F
AllWayAvgQ:   0.0  1.3   0.8   0.4  0.0   0.0   0.0  0.0   0.0  18.4  0.0   0.5
Note: Queue reported is the number of cars per lane.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #9 Blackhawk Rd and Blackhawk Dr

****

Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Lanes:	0 0 1 0 2			1 0 1 0 0			0 0 0 0 0			1 0 0 0 1		
Initial Vol:	0 236 407			111 508 0			0 0 0			501 0 159		

Major Street Volume: 1262
Minor Approach Volume: 660
Minor Approach Volume Threshold: 274

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

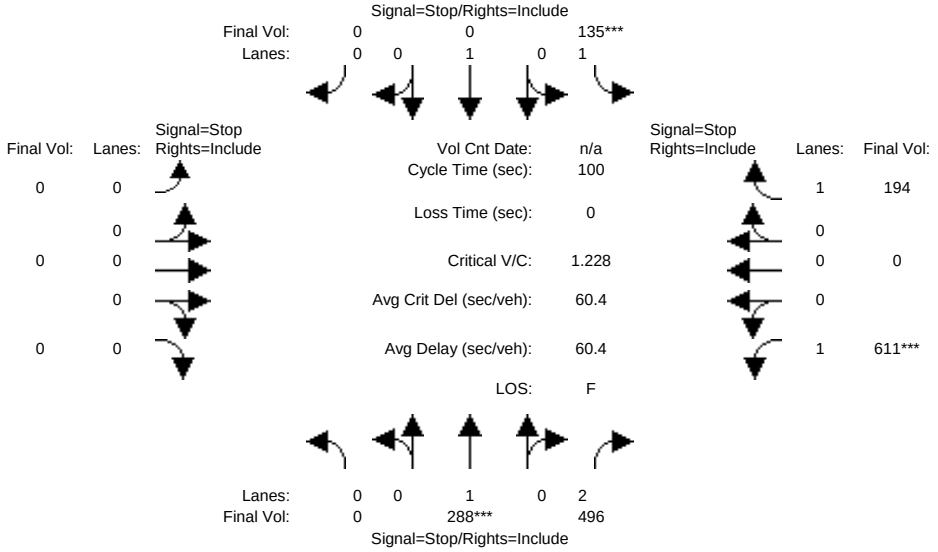
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Cum Sc4 AM w/Proj

Intersection #9: Blackhawk Rd and Blackhawk Dr




```
Street Name:          Blackhawk Road                    Blackhawk Drive
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  236   407   111  508     0     0    0     0   501    0   159
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  236   407   111  508     0     0    0     0   501    0   159
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  236   407   111  508     0     0    0     0   501    0   159
User Adj:    1.00 1.00  1.00  1.00 0.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.82 0.82  0.82  0.82 0.82  0.82  0.82 0.82  0.82  0.82 0.82  0.82
PHF Volume:     0  288   496   135    0     0     0    0     0   611    0   194
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0  288   496   135    0     0     0    0     0   611    0   194
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0  288   496   135    0     0     0    0     0   611    0   194
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 1.00  2.00  1.00 1.00  0.00  0.00 0.00  0.00  1.00 0.00  1.00
Final Sat.:     0  499  1104   429  453     0     0    0     0   497    0   585
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx 0.58  0.45  0.32 0.00  xxxx  xxxx xxxx  xxxx  1.23 xxxx  0.33
Crit Moves:       ****        ****                              ****
Delay/Veh:    0.0 19.2  14.3  14.6  0.0   0.0   0.0  0.0   0.0 142.8  0.0  11.7
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0 19.2  14.3  14.6  0.0   0.0   0.0  0.0   0.0 142.8  0.0  11.7
LOS by Move:    *    C     B     B    *     *     *    *     *     F    *     B
ApproachDel:      16.1             14.6           xxxxxx            111.2
Delay Adj:        1.00             1.00            xxxxx             1.00
ApprAdjDel:       16.1             14.6           xxxxxx            111.2
LOS by Appr:         C                B                *                 F
AllWayAvgQ:   0.0  1.3   0.8   0.4  0.0   0.0   0.0  0.0   0.0  18.4  0.0   0.5
Note: Queue reported is the number of cars per lane.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #9 Blackhawk Rd and Blackhawk Dr

****

 Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T	-	R	L - T	-	R	L - T	-	R	L - T	-	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Lanes:	0 0 1	0	2	1 0 1	0	0	0 0 0	0	0	1 0 0	0	1
Initial Vol:	0 236	407		111 508		0	0 0		0	501 0		159

Major Street Volume: 1262
Minor Approach Volume: 660
Minor Approach Volume Threshold: 274

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

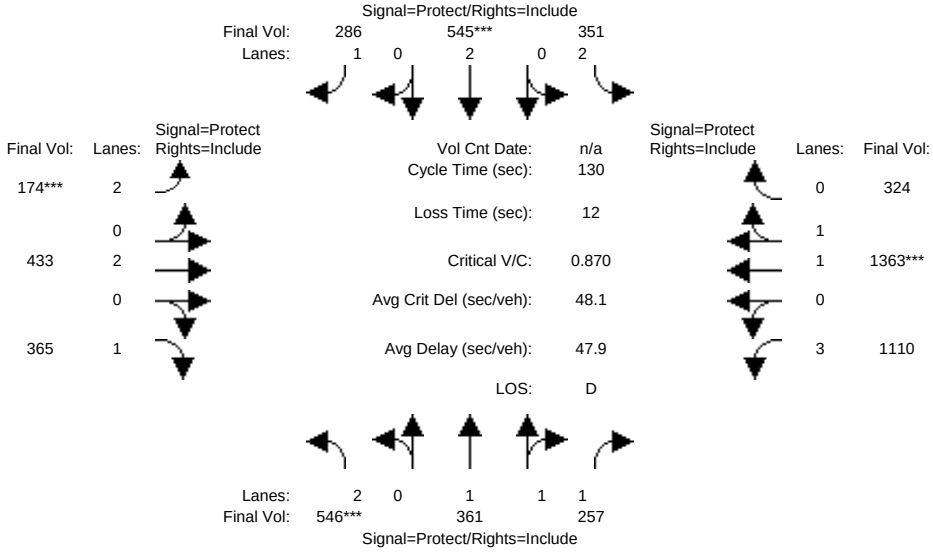
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc2 AM w/Proj

Intersection #10: Blackhawk Rd/Crow Canyon Rd and Camino Tassajara



Street Name:	Blackhawk Rd/Crow Canyon Rd						Camino Tassajara					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	502	332	236	323	501	263	160	398	336	1021	1254	298
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	502	332	236	323	501	263	160	398	336	1021	1254	298
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	502	332	236	323	501	263	160	398	336	1021	1254	298
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	546	361	257	351	545	286	174	433	365	1110	1363	324
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	546	361	257	351	545	286	174	433	365	1110	1363	324
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	546	361	257	351	545	286	174	433	365	1110	1363	324
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.97	1.00	1.00	0.97	0.95	1.00	0.97	0.95	1.00	0.97	1.00	1.00
Lanes:	2.00	1.75	1.25	2.00	2.00	1.00	2.00	2.00	1.00	3.00	1.62	0.38
Final Sat.:	3686	3332	2368	3686	3610	1900	3686	3610	1900	5529	3070	730
Capacity Analysis Module:												
Vol/Sat:	0.15	0.11	0.11	0.10	0.15	0.15	0.05	0.12	0.19	0.20	0.44	0.44
Crit Moves:	****				****		****				****	
Green Time:	22.1	23.8	23.8	20.9	22.5	22.5	7.0	35.9	35.9	37.5	66.3	66.3
Volume/Cap:	0.87	0.59	0.59	0.59	0.87	0.87	0.87	0.43	0.70	0.70	0.87	0.87
Delay/Veh:	65.1	49.6	49.6	52.2	64.9	73.3	92.2	39.0	46.3	42.6	32.6	32.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	65.1	49.6	49.6	52.2	64.9	73.3	92.2	39.0	46.3	42.6	32.6	32.6
LOS by Move:	E	D	D	D	E	E	F	D	D	D	C	C
HCM2k95thQ:	24	15	15	14	25	25	11	14	25	25	51	51

Note: Queue reported is the number of cars per lane.

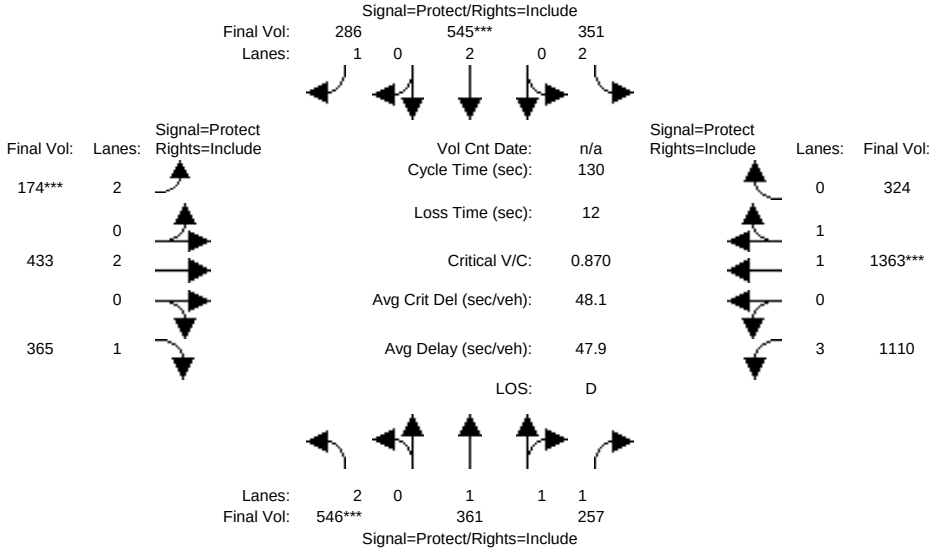
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc4 AM w/Proj

Intersection #10: Blackhawk Rd/Crow Canyon Rd and Camino Tassajara



Street Name:	Blackhawk Rd/Crow Canyon Rd						Camino Tassajara					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	502	332	236	323	501	263	160	398	336	1021	1254	298
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	502	332	236	323	501	263	160	398	336	1021	1254	298
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	502	332	236	323	501	263	160	398	336	1021	1254	298
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	546	361	257	351	545	286	174	433	365	1110	1363	324
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	546	361	257	351	545	286	174	433	365	1110	1363	324
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	546	361	257	351	545	286	174	433	365	1110	1363	324
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.97	1.00	1.00	0.97	0.95	1.00	0.97	0.95	1.00	0.97	1.00	1.00
Lanes:	2.00	1.75	1.25	2.00	2.00	1.00	2.00	2.00	1.00	3.00	1.62	0.38
Final Sat.:	3686	3332	2368	3686	3610	1900	3686	3610	1900	5529	3070	730
Capacity Analysis Module:												
Vol/Sat:	0.15	0.11	0.11	0.10	0.15	0.15	0.05	0.12	0.19	0.20	0.44	0.44
Crit Moves:	****				****		****				****	
Green Time:	22.1	23.8	23.8	20.9	22.5	22.5	7.0	35.9	35.9	37.5	66.3	66.3
Volume/Cap:	0.87	0.59	0.59	0.59	0.87	0.87	0.87	0.43	0.70	0.70	0.87	0.87
Delay/Veh:	65.1	49.6	49.6	52.2	64.9	73.3	92.2	39.0	46.3	42.6	32.6	32.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	65.1	49.6	49.6	52.2	64.9	73.3	92.2	39.0	46.3	42.6	32.6	32.6
LOS by Move:	E	D	D	D	E	E	F	D	D	D	C	C
HCM2k95thQ:	24	15	15	14	25	25	11	14	25	25	51	51

Note: Queue reported is the number of cars per lane.

Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

(>>>>>>>>>This Page Intentionally Left Blank<<<<<<<<)

2000 HCM School PM LOS Calcs

Cumulative Sc 2-5

(>>>>>>>>>This Page Intentionally Left Blank<<<<<<<<)

Note:

In the course of the Magee Ranch TIA analysis, the Cumulative Sensitivity Analysis scenarios were revised/updated in cooperation with the Town of Danville to best reflect the alternative scenarios appropriate for study. For this reason, after the cumulative level of service (LOS) calculations were completed, some of the scenario names/numbers were changed. The changes are as follows:

- Cum Sc4 AM w/Proj, Cum Sc4 school PM w/Proj, and Cum Sc4 PM w/Proj LOS calculation sheets in this appendix refer to Cumulative Scenario 3 results shown in the report.
- Cum Sc5 AM w/Proj, Cum Sc5 school PM w/Proj, and Cum Sc5 PM w/Proj LOS calculation sheets in this appendix refer to Cumulative Scenario 4 results shown in the report.

All of the other LOS calculations in this appendix correspond to the same name/number as shown in the report.

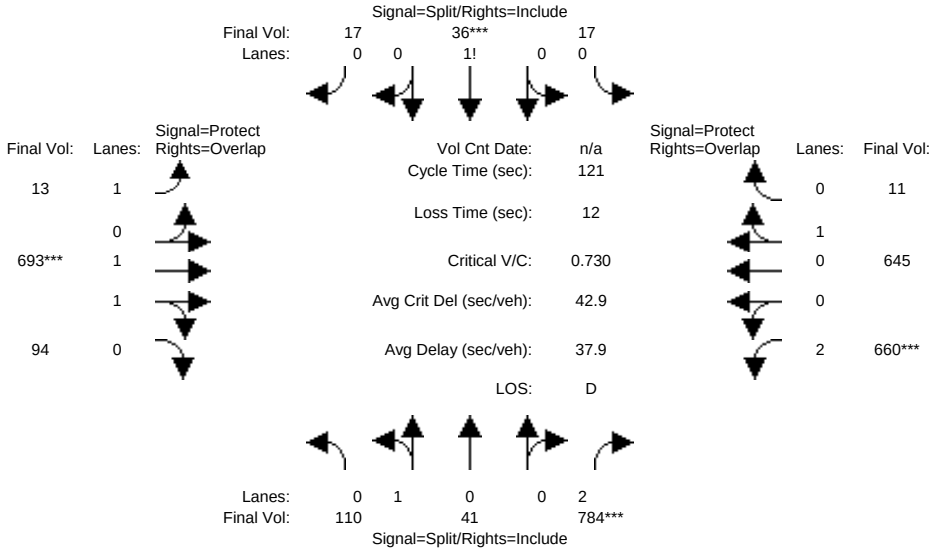
(>>>>>>>>>This Page Intentionally Left Blank<<<<<<<<)

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc2 School PM w/Proj

Intersection #1: Diablo Rd and El Cerro Blvd



Street Name:	Diablo Road						El Cerro Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	103	39	737	16	34	16	12	651	88	620	606	10
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	103	39	737	16	34	16	12	651	88	620	606	10
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	103	39	737	16	34	16	12	651	88	620	606	10
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	110	41	784	17	36	17	13	693	94	660	645	11
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	110	41	784	17	36	17	13	693	94	660	645	11
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	110	41	784	17	36	17	13	693	94	660	645	11
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Lanes:	0.73	0.27	2.00	0.24	0.52	0.24	1.00	1.76	0.24	2.00	0.98	0.02
Final Sat.:	1378	522	3344	461	979	461	1900	3347	453	3686	1869	31
Capacity Analysis Module:												
Vol/Sat:	0.08	0.08	0.23	0.04	0.04	0.04	0.01	0.21	0.21	0.18	0.34	0.34
Crit Moves:			****		****			****		****		
Green Time:	38.9	38.9	38.9	6.1	6.1	6.1	4.3	34.3	73.2	29.7	59.7	65.8
Volume/Cap:	0.25	0.25	0.73	0.73	0.73	0.73	0.19	0.73	0.34	0.73	0.70	0.63
Delay/Veh:	30.5	30.5	39.0	81.1	81.1	81.1	58.0	41.7	12.0	45.0	26.1	20.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	30.5	30.5	39.0	81.1	81.1	81.1	58.0	41.7	12.0	45.0	26.1	20.5
LOS by Move:	C	C	D	F	F	F	E	D	B	D	C	C
HCM2k95thQ:	8	8	27	8	8	8	1	25	14	23	33	29

Note: Queue reported is the number of cars per lane.

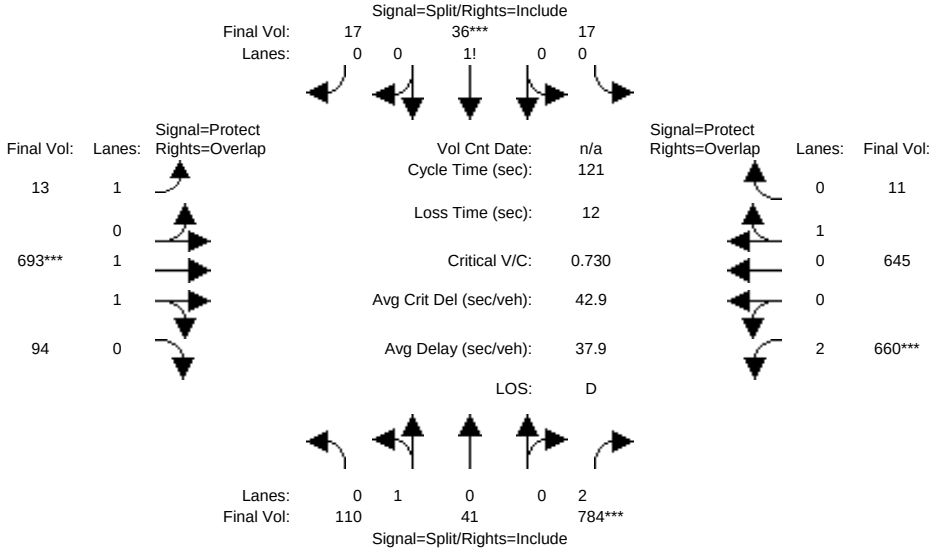
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc4 School PM w/Proj

Intersection #1: Diablo Rd and El Cerro Blvd



Street Name:	Diablo Road						El Cerro Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	103	39	737	16	34	16	12	651	88	620	606	10
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	103	39	737	16	34	16	12	651	88	620	606	10
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	103	39	737	16	34	16	12	651	88	620	606	10
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	110	41	784	17	36	17	13	693	94	660	645	11
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	110	41	784	17	36	17	13	693	94	660	645	11
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	110	41	784	17	36	17	13	693	94	660	645	11
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Lanes:	0.73	0.27	2.00	0.24	0.52	0.24	1.00	1.76	0.24	2.00	0.98	0.02
Final Sat.:	1378	522	3344	461	979	461	1900	3347	453	3686	1869	31
Capacity Analysis Module:												
Vol/Sat:	0.08	0.08	0.23	0.04	0.04	0.04	0.01	0.21	0.21	0.18	0.34	0.34
Crit Moves:			****		****			****		****		
Green Time:	38.9	38.9	38.9	6.1	6.1	6.1	4.3	34.3	73.2	29.7	59.7	65.8
Volume/Cap:	0.25	0.25	0.73	0.73	0.73	0.73	0.19	0.73	0.34	0.73	0.70	0.63
Delay/Veh:	30.5	30.5	39.0	81.1	81.1	81.1	58.0	41.7	12.0	45.0	26.1	20.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	30.5	30.5	39.0	81.1	81.1	81.1	58.0	41.7	12.0	45.0	26.1	20.5
LOS by Move:	C	C	D	F	F	F	E	D	B	D	C	C
HCM2k95thQ:	8	8	27	8	8	8	1	25	14	23	33	29

Note: Queue reported is the number of cars per lane.

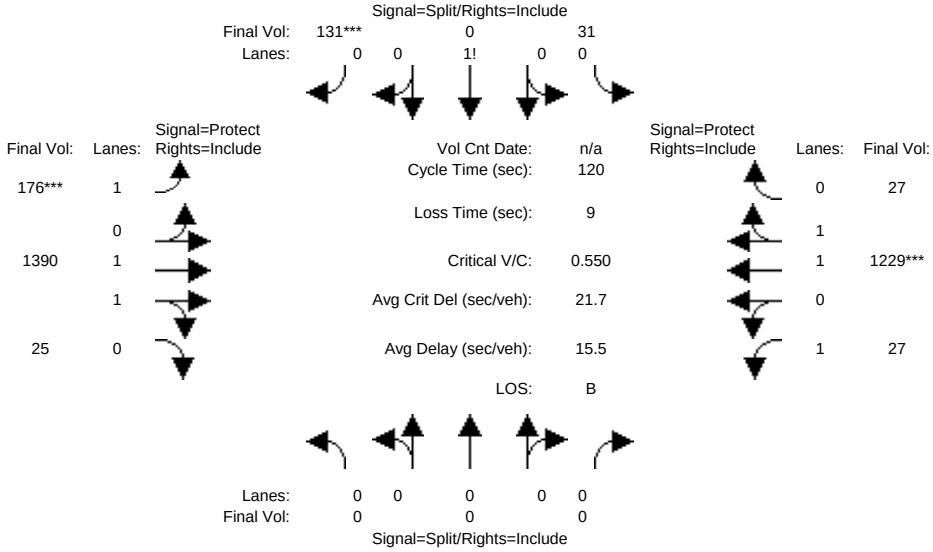
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc2 School PM w/Proj

Intersection #2: Matadera Wy and Diablo Rd



Street Name:	Matadera Way						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	26	0	109	146	1154	21	22	1020	22
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	26	0	109	146	1154	21	22	1020	22
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	26	0	109	146	1154	21	22	1020	22
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
PHF Volume:	0	0	0	31	0	131	176	1390	25	27	1229	27
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	31	0	131	176	1390	25	27	1229	27
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	31	0	131	176	1390	25	27	1229	27
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.19	0.00	0.81	1.00	1.96	0.04	1.00	1.96	0.04
Final Sat.:	0	0	0	366	0	1534	1900	3732	68	1900	3720	80
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.09	0.00	0.09	0.09	0.37	0.37	0.01	0.33	0.33
Crit Moves:						****	****				****	
Green Time:	0.0	0.0	0.0	18.7	0.0	18.7	20.2	86.5	86.5	5.8	72.1	72.1
Volume/Cap:	0.00	0.00	0.00	0.55	0.00	0.55	0.55	0.52	0.52	0.29	0.55	0.55
Delay/Veh:	0.0	0.0	0.0	49.0	0.0	49.0	47.8	7.6	7.6	56.8	14.6	14.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	49.0	0.0	49.0	47.8	7.6	7.6	56.8	14.6	14.6
LOS by Move:	A	A	A	D	A	D	D	A	A	E	B	B
HCM2k95thQ:	0	0	0	12	0	12	13	21	21	3	24	24

Note: Queue reported is the number of cars per lane.

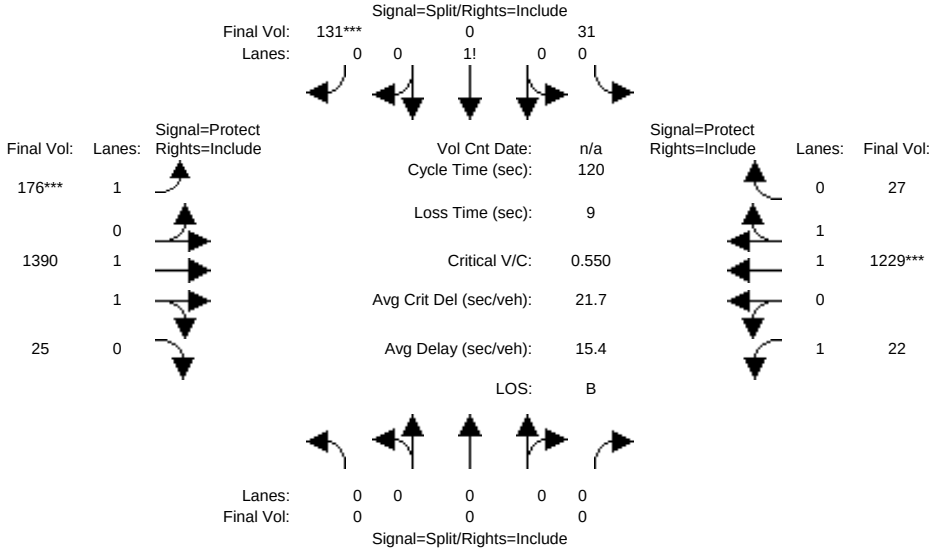
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc4 School PM w/Proj

Intersection #2: Matadera Wy and Diablo Rd



Street Name:	Matadera Way						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	26	0	109	146	1154	21	18	1020	22
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	26	0	109	146	1154	21	18	1020	22
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	26	0	109	146	1154	21	18	1020	22
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
PHF Volume:	0	0	0	31	0	131	176	1390	25	22	1229	27
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	31	0	131	176	1390	25	22	1229	27
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	31	0	131	176	1390	25	22	1229	27
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.19	0.00	0.81	1.00	1.96	0.04	1.00	1.96	0.04
Final Sat.:	0	0	0	366	0	1534	1900	3732	68	1900	3720	80
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.09	0.00	0.09	0.09	0.37	0.37	0.01	0.33	0.33
Crit Moves:						****	****				****	
Green Time:	0.0	0.0	0.0	18.7	0.0	18.7	20.2	86.5	86.5	5.8	72.1	72.1
Volume/Cap:	0.00	0.00	0.00	0.55	0.00	0.55	0.55	0.52	0.52	0.24	0.55	0.55
Delay/Veh:	0.0	0.0	0.0	49.0	0.0	49.0	47.8	7.6	7.6	56.3	14.6	14.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	49.0	0.0	49.0	47.8	7.6	7.6	56.3	14.6	14.6
LOS by Move:	A	A	A	D	A	D	D	A	A	E	B	B
HCM2k95thQ:	0	0	0	12	0	12	13	21	21	2	24	24

Note: Queue reported is the number of cars per lane.

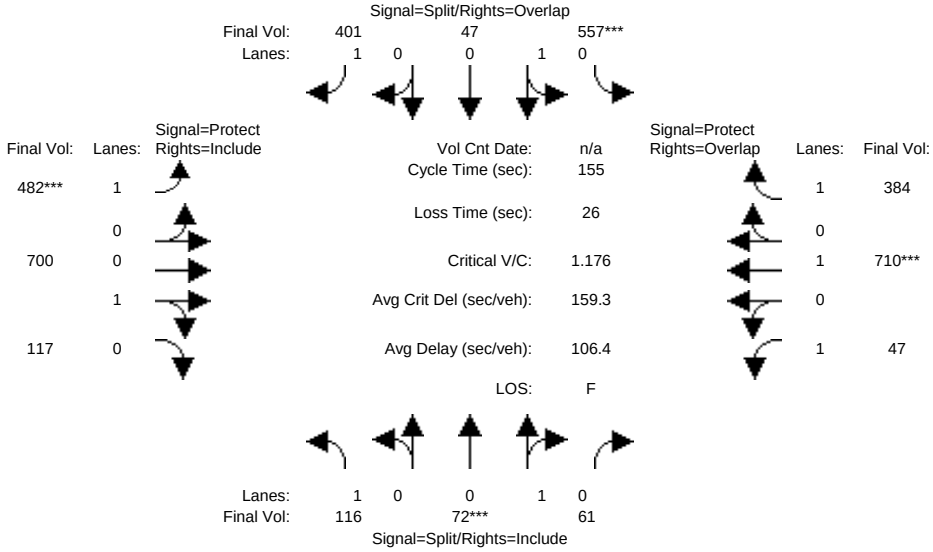
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc2 School PM w/Proj

Intersection #3: Green Valley Rd and Diablo Rd



Street Name:	Green Valley Road						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	107	66	56	512	43	369	443	644	108	43	653	353
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	107	66	56	512	43	369	443	644	108	43	653	353
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	107	66	56	512	43	369	443	644	108	43	653	353
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	116	72	61	557	47	401	482	700	117	47	710	384
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	116	72	61	557	47	401	482	700	117	47	710	384
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	116	72	61	557	47	401	482	700	117	47	710	384
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.54	0.46	0.92	0.08	1.00	1.00	0.86	0.14	1.00	1.00	1.00
Final Sat.:	1900	1028	872	1753	147	1900	1900	1627	273	1900	2100	1900
Capacity Analysis Module:												
Vol/Sat:	0.06	0.07	0.07	0.32	0.32	0.21	0.25	0.43	0.43	0.02	0.34	0.20
Crit Moves:		****		****			****				****	
Green Time:	9.2	9.2	9.2	41.8	41.8	75.3	33.4	73.7	73.7	4.2	44.5	86.4
Volume/Cap:	1.03	1.18	1.18	1.18	1.18	0.43	1.18	0.90	0.90	0.90	1.18	0.36
Delay/Veh:	166.3	213	212.6	154.7	155	26.3	162.8	49.8	49.8	165.3	151	19.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	166.3	213	212.6	154.7	155	26.3	162.8	49.8	49.8	165.3	151	19.2
LOS by Move:	F	F	F	F	F	C	F	D	D	F	F	B
HCM2k95thQ:	17	20	20	65	65	22	54	60	60	8	75	18

Note: Queue reported is the number of cars per lane.

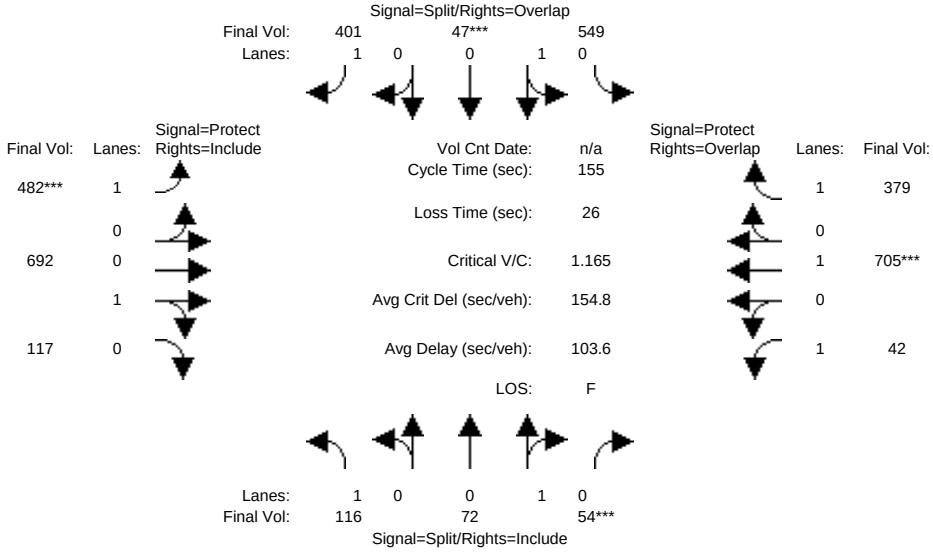
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc4 School PM w/Proj

Intersection #3: Green Valley Rd and Diablo Rd



Street Name:	Green Valley Road						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	107	66	50	505	43	369	443	637	108	39	649	349
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	107	66	50	505	43	369	443	637	108	39	649	349
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	107	66	50	505	43	369	443	637	108	39	649	349
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	116	72	54	549	47	401	482	692	117	42	705	379
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	116	72	54	549	47	401	482	692	117	42	705	379
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	116	72	54	549	47	401	482	692	117	42	705	379
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.57	0.43	0.92	0.08	1.00	1.00	0.86	0.14	1.00	1.00	1.00
Final Sat.:	1900	1081	819	1751	149	1900	1900	1625	275	1900	2100	1900
Capacity Analysis Module:												
Vol/Sat:	0.06	0.07	0.07	0.31	0.31	0.21	0.25	0.43	0.43	0.02	0.34	0.20
Crit Moves:			****		****		****				****	
Green Time:	8.8	8.8	8.8	41.7	41.7	75.5	33.7	74.5	74.5	3.9	44.7	86.4
Volume/Cap:	1.07	1.16	1.16	1.16	1.16	0.43	1.16	0.89	0.89	0.89	1.16	0.36
Delay/Veh:	181.0	211	210.5	150.4	150	26.2	158.1	46.8	46.8	163.5	146	19.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	181.0	211	210.5	150.4	150	26.2	158.1	46.8	46.8	163.5	146	19.2
LOS by Move:	F	F	F	F	F	C	F	D	D	F	F	B
HCM2k95thQ:	17	20	20	64	64	22	54	58	58	8	74	18

Note: Queue reported is the number of cars per lane.

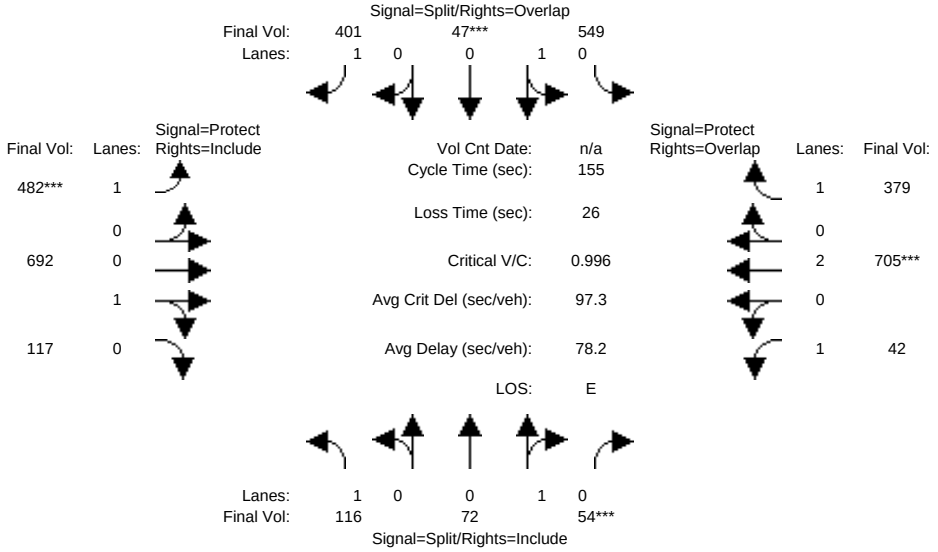
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc5 School PM w/Proj

Intersection #3: Green Valley Rd and Diablo Rd



Street Name:	Green Valley Road						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	107	66	50	505	43	369	443	637	108	39	649	349
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	107	66	50	505	43	369	443	637	108	39	649	349
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	107	66	50	505	43	369	443	637	108	39	649	349
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	116	72	54	549	47	401	482	692	117	42	705	379
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	116	72	54	549	47	401	482	692	117	42	705	379
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	116	72	54	549	47	401	482	692	117	42	705	379
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00
Lanes:	1.00	0.57	0.43	0.92	0.08	1.00	1.00	0.86	0.14	1.00	2.00	1.00
Final Sat.:	1900	1081	819	1751	149	1900	1900	1625	275	1900	3610	1900
Capacity Analysis Module:												
Vol/Sat:	0.06	0.07	0.07	0.31	0.31	0.21	0.25	0.43	0.43	0.02	0.20	0.20
Crit Moves:			****		****		****				****	
Green Time:	10.3	10.3	10.3	48.8	48.8	88.3	39.5	66.4	66.4	3.5	30.4	79.2
Volume/Cap:	0.92	1.00	1.00	1.00	1.00	0.37	1.00	0.99	0.99	0.99	1.00	0.39
Delay/Veh:	127.4	151	150.9	88.6	88.6	18.4	97.4	74.4	74.4	211.6	94.9	23.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	127.4	151	150.9	88.6	88.6	18.4	97.4	74.4	74.4	211.6	94.9	23.4
LOS by Move:	F	F	F	F	F	B	F	E	E	F	F	C
HCM2k95thQ:	15	17	17	54	54	18	46	69	69	8	38	19

Note: Queue reported is the number of cars per lane.

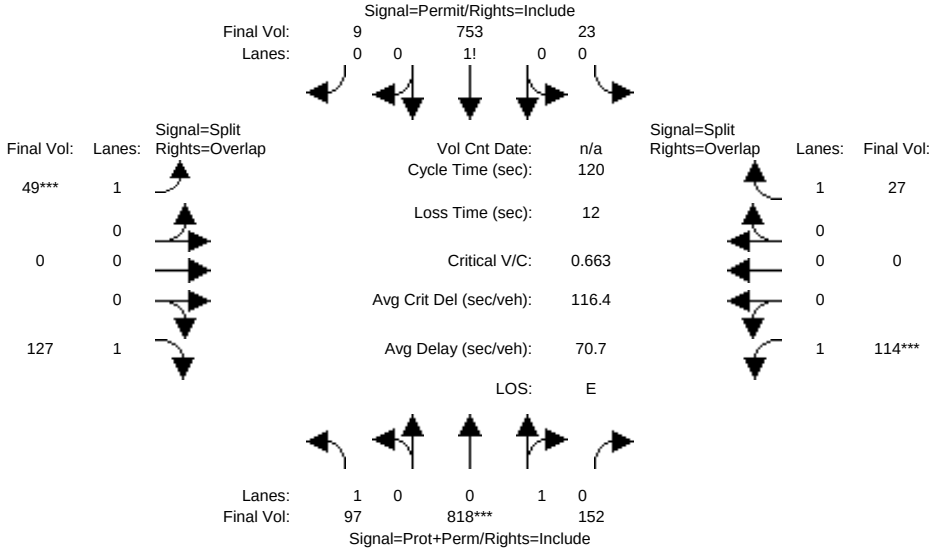
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc2 School PM w/Proj

Intersection #4: Green Valley Rd and Blemer Rd/Cameo Dr



Street Name:	Green Valley Road						Blemer Road/Cameo Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	3	3	3	3	3	3	2	3	3	2	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	87	736	137	21	678	8	44	0	114	103	0	24
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	87	736	137	21	678	8	44	0	114	103	0	24
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	87	736	137	21	678	8	44	0	114	103	0	24
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	97	818	152	23	753	9	49	0	127	114	0	27
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	97	818	152	23	753	9	49	0	127	114	0	27
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	97	818	152	23	753	9	49	0	127	114	0	27
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.84	0.16	0.03	0.96	0.01	1.00	0.00	1.00	1.00	0.00	1.00
Final Sat.:	1900	1602	298	56	1822	21	1900	0	1900	1900	0	1900
Capacity Analysis Module:												
Vol/Sat:	0.00	0.51	0.51	0.41	0.41	0.41	0.03	0.00	0.07	0.06	0.00	0.01
Crit Moves:		****					****			****		
Green Time:	10.8	54.6	54.6	44.2	88.0	88.0	2.8	0.0	13.6	6.4	0.0	50.7
Volume/Cap:	0.56	1.12	1.12	1.12	0.56	0.56	1.12	0.00	0.59	1.12	0.00	0.03
Delay/Veh:	56.6	103	102.7	110.7	7.8	7.8	233.1	0.0	54.8	182.6	0.0	20.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	56.6	103	102.7	110.7	7.8	7.8	233.1	0.0	54.8	182.6	0.0	20.3
LOS by Move:	E	F	F	F	A	A	F	A	D	F	A	C
HCM2k95thQ:	8	79	79	67	24	24	9	0	10	16	0	1

Note: Queue reported is the number of cars per lane.

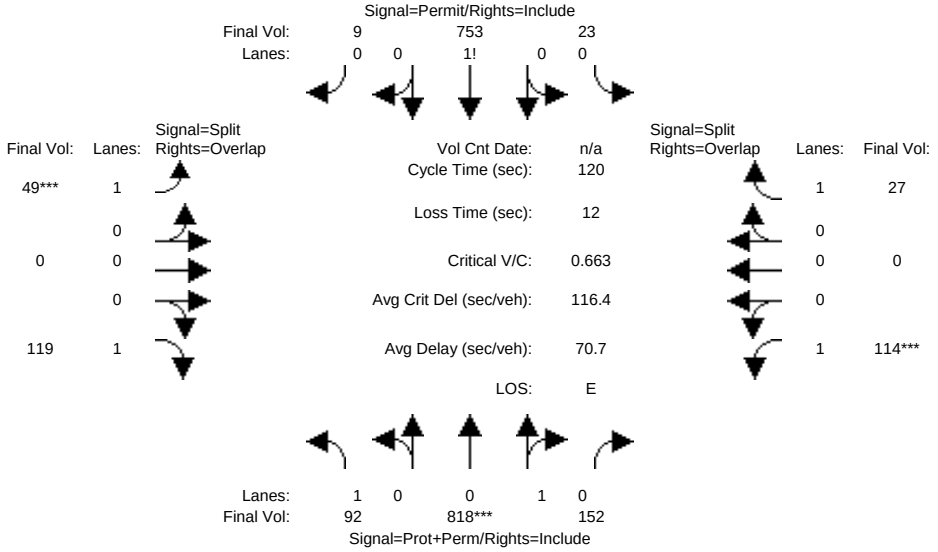
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc4 School PM w/Proj

Intersection #4: Green Valley Rd and Blemer Rd/Cameo Dr



Street Name:	Green Valley Road						Blemer Road/Cameo Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	3	3	3	3	3	3	2	3	3	2	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	83	736	137	21	678	8	44	0	107	103	0	24
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	83	736	137	21	678	8	44	0	107	103	0	24
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	83	736	137	21	678	8	44	0	107	103	0	24
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	92	818	152	23	753	9	49	0	119	114	0	27
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	92	818	152	23	753	9	49	0	119	114	0	27
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	92	818	152	23	753	9	49	0	119	114	0	27
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.84	0.16	0.03	0.96	0.01	1.00	0.00	1.00	1.00	0.00	1.00
Final Sat.:	1900	1602	298	56	1822	21	1900	0	1900	1900	0	1900
Capacity Analysis Module:												
Vol/Sat:	0.00	0.51	0.51	0.41	0.41	0.41	0.03	0.00	0.06	0.06	0.00	0.01
Crit Moves:		****					****			****		
Green Time:	10.4	54.6	54.6	44.2	88.4	88.4	2.8	0.0	13.1	6.4	0.0	50.7
Volume/Cap:	0.56	1.12	1.12	1.12	0.56	0.56	1.12	0.00	0.57	1.12	0.00	0.03
Delay/Veh:	57.0	103	102.7	110.7	7.6	7.6	233.1	0.0	54.6	182.6	0.0	20.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	57.0	103	102.7	110.7	7.6	7.6	233.1	0.0	54.6	182.6	0.0	20.3
LOS by Move:	E	F	F	F	A	A	F	A	D	F	A	C
HCM2k95thQ:	8	79	79	67	23	23	9	0	10	16	0	1

Note: Queue reported is the number of cars per lane.

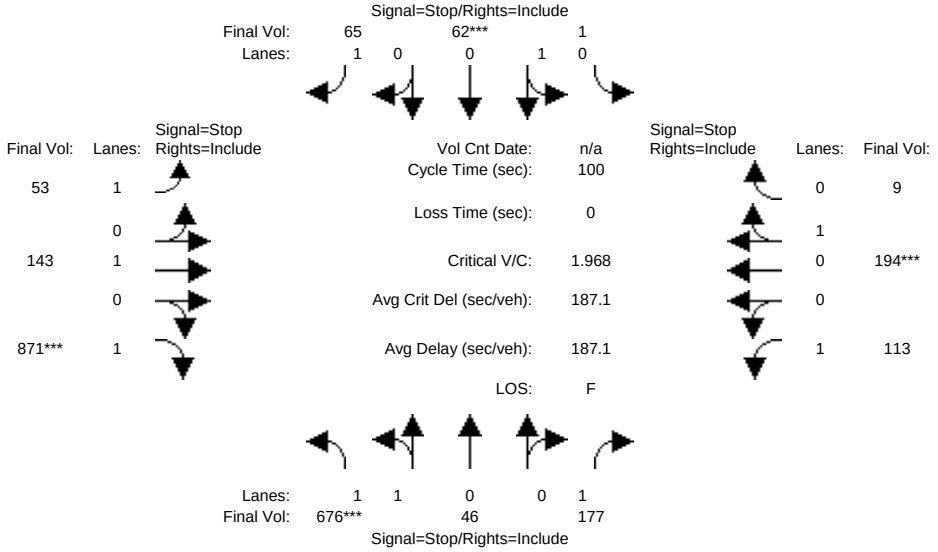
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Cum Sc2 School PM w/Proj

Intersection #5: Green Valley Rd and Stone Valley Rd



Street Name:	Green Valley Road						Stone Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Volume Module:												
Base Vol:	534	36	140	1	49	51	42	113	688	89	153	7
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	534	36	140	1	49	51	42	113	688	89	153	7
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	534	36	140	1	49	51	42	113	688	89	153	7
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
PHF Volume:	676	46	177	1	62	65	53	143	871	113	194	9
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	676	46	177	1	62	65	53	143	871	113	194	9
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	676	46	177	1	62	65	53	143	871	113	194	9
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.87	0.13	1.00	0.02	0.98	1.00	1.00	1.00	1.00	1.00	0.96	0.04
Final Sat.:	766	52	466	7	367	404	374	397	442	383	390	18
Capacity Analysis Module:												
Vol/Sat:	0.88	0.88	0.38	0.17	0.17	0.16	0.14	0.36	1.97	0.29	0.50	0.50
Crit Moves:	****				****				****		****	
Delay/Veh:	49.5	48.8	14.8	13.7	13.7	12.7	13.5	16.2	461.6	15.5	19.2	19.2
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	49.5	48.8	14.8	13.7	13.7	12.7	13.5	16.2	461.6	15.5	19.2	19.2
LOS by Move:	E	E	B	B	B	B	B	C	F	C	C	C
ApproachDel:		42.6			13.2			379.6			17.9	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		42.6			13.2			379.6			17.9	
LOS by Appr:		E			B			F			C	
AllWayAvgQ:	4.3	4.3	0.6	0.2	0.2	0.2	0.2	0.5	55.4	0.4	0.9	0.9

Note: Queue reported is the number of cars per lane.

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #5 Green Valley Rd and Stone Valley Rd

****

Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Lanes:	1	1	0	0 1	0	1	0	0 1	1	0	1	0 1	1	0	0	1 0
Initial Vol:	534	36		140	1	49		51	42	113		688	89	153		7

Major Street Volume: 1092
Minor Approach Volume: 710
Minor Approach Volume Threshold: 336

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

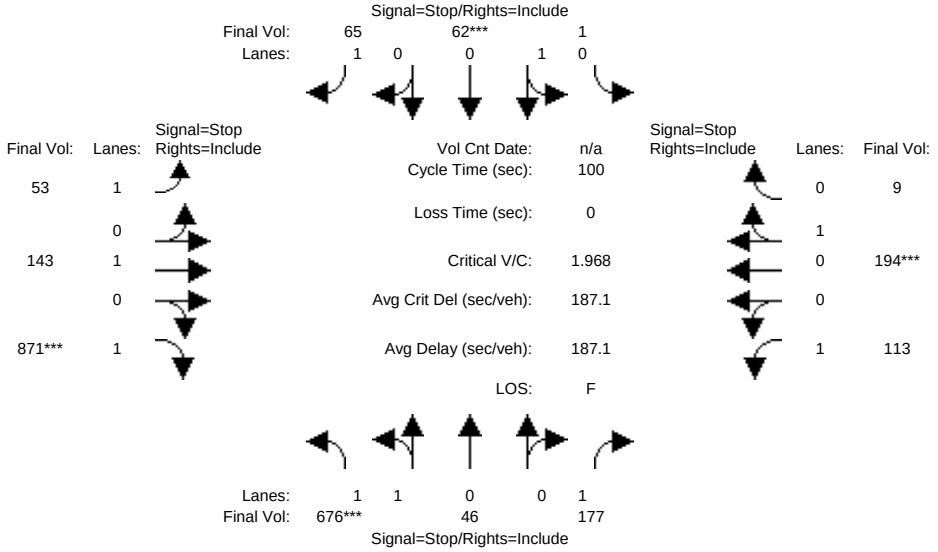
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Cum Sc4 School PM w/Proj

Intersection #5: Green Valley Rd and Stone Valley Rd



Street Name:	Green Valley Road						Stone Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Volume Module:												
Base Vol:	534	36	140	1	49	51	42	113	688	89	153	7
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	534	36	140	1	49	51	42	113	688	89	153	7
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	534	36	140	1	49	51	42	113	688	89	153	7
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
PHF Volume:	676	46	177	1	62	65	53	143	871	113	194	9
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	676	46	177	1	62	65	53	143	871	113	194	9
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	676	46	177	1	62	65	53	143	871	113	194	9
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.87	0.13	1.00	0.02	0.98	1.00	1.00	1.00	1.00	1.00	0.96	0.04
Final Sat.:	766	52	466	7	367	404	374	397	442	383	390	18
Capacity Analysis Module:												
Vol/Sat:	0.88	0.88	0.38	0.17	0.17	0.16	0.14	0.36	1.97	0.29	0.50	0.50
Crit Moves:	****				****				****		****	
Delay/Veh:	49.5	48.8	14.8	13.7	13.7	12.7	13.5	16.2	461.6	15.5	19.2	19.2
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	49.5	48.8	14.8	13.7	13.7	12.7	13.5	16.2	461.6	15.5	19.2	19.2
LOS by Move:	E	E	B	B	B	B	B	C	F	C	C	C
ApproachDel:		42.6			13.2			379.6			17.9	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		42.6			13.2			379.6			17.9	
LOS by Appr:		E			B			F			C	
AllWayAvgQ:	4.3	4.3	0.6	0.2	0.2	0.2	0.2	0.5	55.4	0.4	0.9	0.9

Note: Queue reported is the number of cars per lane.

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #5 Green Valley Rd and Stone Valley Rd

****

Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Lanes:	1	1	0	0 1	0	1	0	0 1	1	0	1	0 1	1	0	0	1 0
Initial Vol:	534	36		140	1	49		51	42	113		688	89	153		7

Major Street Volume: 1092
Minor Approach Volume: 710
Minor Approach Volume Threshold: 336

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

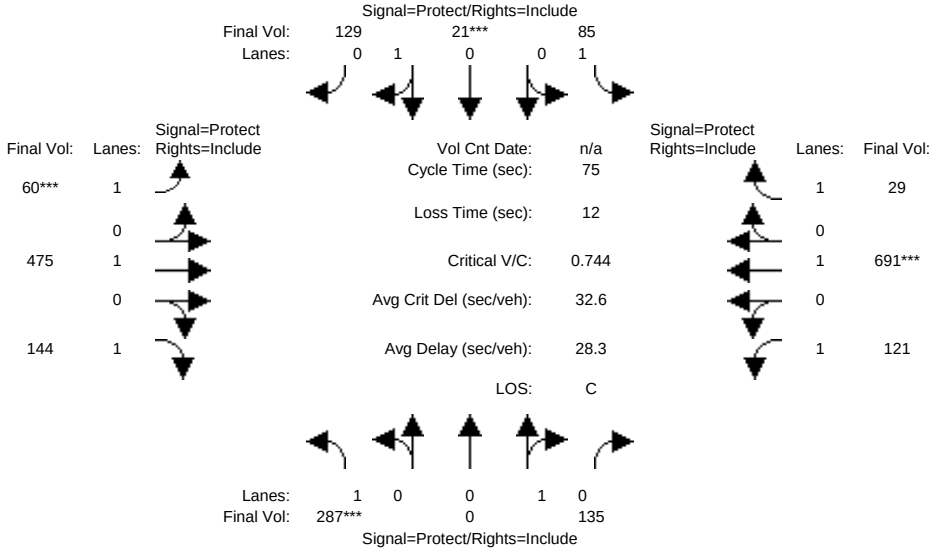
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc2 School PM w/Proj

Intersection #6: Monte Vista H.S. Main and Stone Valley Rd



Street Name:	Monte Vista H.S. Main Parking Lot						Stone Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	215	0	101	64	16	97	45	356	108	91	518	22
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	215	0	101	64	16	97	45	356	108	91	518	22
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	215	0	101	64	16	97	45	356	108	91	518	22
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
PHF Volume:	287	0	135	85	21	129	60	475	144	121	691	29
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	287	0	135	85	21	129	60	475	144	121	691	29
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	287	0	135	85	21	129	60	475	144	121	691	29
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.00	1.00	1.00	0.14	0.86	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1900	0	1900	1900	269	1631	1900	1900	1900	1900	1900	1900
Capacity Analysis Module:												
Vol/Sat:	0.15	0.00	0.07	0.04	0.08	0.08	0.03	0.25	0.08	0.06	0.36	0.02
Crit Moves:	****				****		****				****	
Green Time:	13.5	0.0	11.7	11.7	10.0	10.0	7.0	28.8	28.8	10.7	32.5	32.5
Volume/Cap:	0.84	0.00	0.45	0.29	0.59	0.59	0.34	0.65	0.20	0.45	0.84	0.04
Delay/Veh:	46.2	0.0	29.8	28.5	34.4	34.4	33.0	21.1	15.6	30.6	26.5	12.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	46.2	0.0	29.8	28.5	34.4	34.4	33.0	21.1	15.6	30.6	26.5	12.2
LOS by Move:	D	A	C	C	C	C	C	C	B	C	C	B
HCM2k95thQ:	17	0	7	4	8	8	3	18	5	6	29	1

Note: Queue reported is the number of cars per lane.

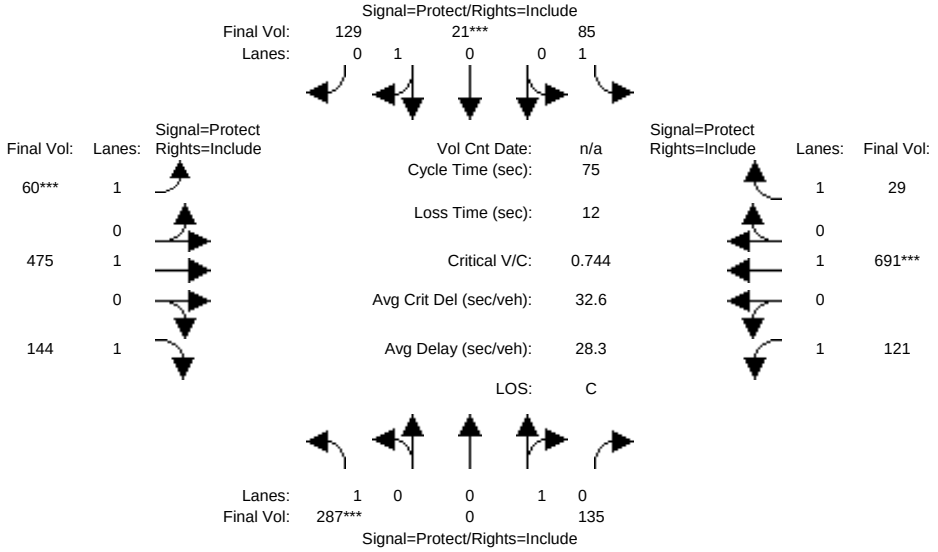
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc4 School PM w/Proj

Intersection #6: Monte Vista H.S. Main and Stone Valley Rd



Street Name:	Monte Vista H.S. Main Parking Lot						Stone Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	215	0	101	64	16	97	45	356	108	91	518	22
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	215	0	101	64	16	97	45	356	108	91	518	22
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	215	0	101	64	16	97	45	356	108	91	518	22
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
PHF Volume:	287	0	135	85	21	129	60	475	144	121	691	29
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	287	0	135	85	21	129	60	475	144	121	691	29
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	287	0	135	85	21	129	60	475	144	121	691	29
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.00	1.00	1.00	0.14	0.86	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1900	0	1900	1900	269	1631	1900	1900	1900	1900	1900	1900
Capacity Analysis Module:												
Vol/Sat:	0.15	0.00	0.07	0.04	0.08	0.08	0.03	0.25	0.08	0.06	0.36	0.02
Crit Moves:	****				****		****				****	
Green Time:	13.5	0.0	11.7	11.7	10.0	10.0	7.0	28.8	28.8	10.7	32.5	32.5
Volume/Cap:	0.84	0.00	0.45	0.29	0.59	0.59	0.34	0.65	0.20	0.45	0.84	0.04
Delay/Veh:	46.2	0.0	29.8	28.5	34.4	34.4	33.0	21.1	15.6	30.6	26.5	12.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	46.2	0.0	29.8	28.5	34.4	34.4	33.0	21.1	15.6	30.6	26.5	12.2
LOS by Move:	D	A	C	C	C	C	C	C	B	C	C	B
HCM2k95thQ:	17	0	7	4	8	8	3	18	5	6	29	1

Note: Queue reported is the number of cars per lane.

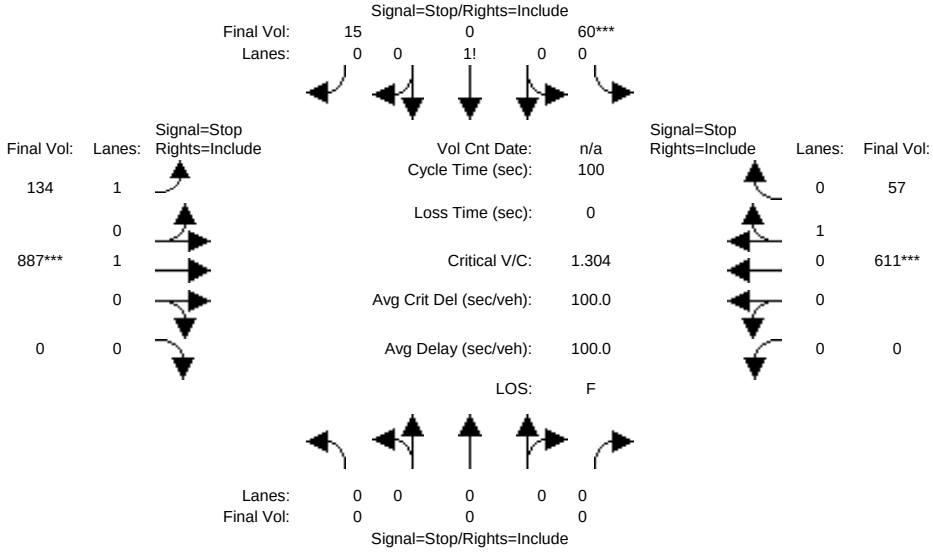
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Cum Sc2 School PM w/Proj

Intersection #7: Mt Diablo Scenic Blvd and Diablo Rd




```
Street Name:      Mt Diablo Scenic Blvd                  Diablo Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    53    0    13   119  789     0     0  544    51
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    53    0    13   119  789     0     0  544    51
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0    53    0    13   119  789     0     0  544    51
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.89 0.89  0.89  0.89 0.89  0.89  0.89 0.89  0.89  0.89 0.89  0.89
PHF Volume:     0    0     0    60    0    15   134  887     0     0  611    57
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0    0     0    60    0    15   134  887     0     0  611    57
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0    0     0    60    0    15   134  887     0     0  611    57
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 0.00  0.00  0.80 0.00  0.20  1.00 1.00  0.00  0.00 0.91  0.09
Final Sat.:     0    0     0   425    0   104   621  680     0     0  653    61
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx xxxx  xxxx  0.14 xxxx  0.14  0.22 1.30  xxxx  xxxx 0.94  0.94
Crit Moves:                   ****                   ****             ****
Delay/Veh:    0.0  0.0   0.0  10.8  0.0  10.8  10.1  165   0.0   0.0 41.9  41.9
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0  0.0   0.0  10.8  0.0  10.8  10.1  165   0.0   0.0 41.9  41.9
LOS by Move:    *    *     *     B    *     B     B    F     *     *    E     E
ApproachDel:    xxxxxx             10.8            144.5             41.9
Delay Adj:       xxxxx             1.00             1.00             1.00
ApprAdjDel:     xxxxxx             10.8            144.5             41.9
LOS by Appr:         *                B                F                E
AllWayAvgQ:   0.0  0.0   0.0   0.2  0.2   0.2   0.3 29.6   0.0   6.7  6.7   6.7
Note: Queue reported is the number of cars per lane.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #7 Mt Diablo Scenic Blvd and Diablo Rd

****

```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    0  0  1! 0  0    1  0  1  0  0    0  0  0  1  0
Initial Vol:    0    0     0    53    0    13   119  789     0     0  544    51
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1503
Minor Approach Volume:           66
Minor Approach Volume Threshold: 144
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

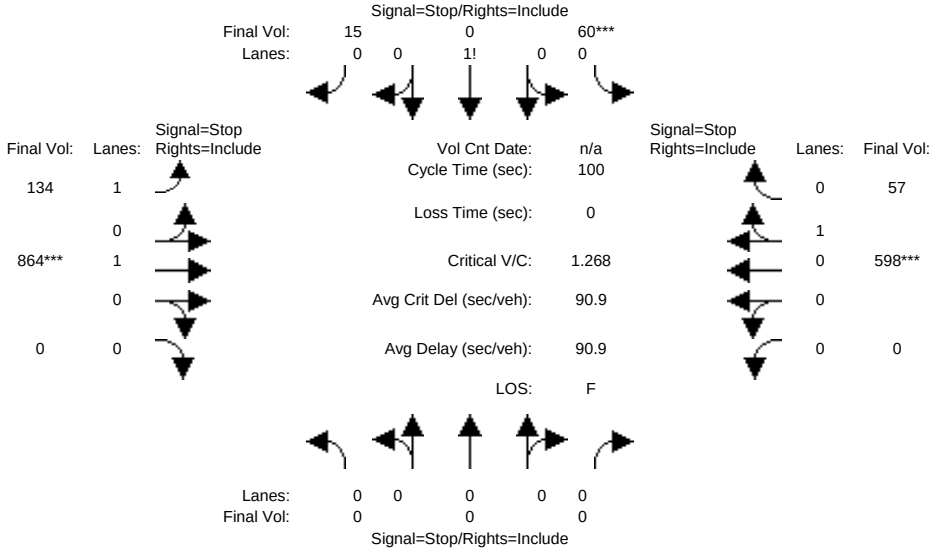

Copyright (c) 2008 Dowling Associates, Inc.
Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Cum Sc4 School PM w/Proj

Intersection #7: Mt Diablo Scenic Blvd and Diablo Rd




```
Street Name:      Mt Diablo Scenic Blvd                  Diablo Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    53    0    13   119  769     0     0  532    51
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    53    0    13   119  769     0     0  532    51
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0    53    0    13   119  769     0     0  532    51
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.89 0.89  0.89  0.89 0.89  0.89  0.89 0.89  0.89  0.89 0.89  0.89
PHF Volume:     0    0     0    60    0    15   134  864     0     0  598    57
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0    0     0    60    0    15   134  864     0     0  598    57
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0    0     0    60    0    15   134  864     0     0  598    57
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 0.00  0.00  0.80 0.00  0.20  1.00 1.00  0.00  0.00 0.91  0.09
Final Sat.:     0    0     0   425    0   104   622  681     0     0  652    63
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx xxxx  xxxx  0.14 xxxx  0.14  0.21 1.27  xxxx  xxxx 0.92  0.92
Crit Moves:                   ****                   ****             ****
Delay/Veh:    0.0  0.0   0.0  10.8  0.0  10.8  10.1  150   0.0   0.0 38.6  38.6
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0  0.0   0.0  10.8  0.0  10.8  10.1  150   0.0   0.0 38.6  38.6
LOS by Move:    *    *     *     B    *     B     B    F     *     *    E     E
ApproachDel:    xxxxxx             10.8            131.2             38.6
Delay Adj:       xxxxx             1.00             1.00             1.00
ApprAdjDel:     xxxxxx             10.8            131.2             38.6
LOS by Appr:         *                B                F                E
AllWayAvgQ:   0.0  0.0   0.0   0.2  0.2   0.2   0.3 26.9   0.0   6.1  6.1   6.1
Note: Queue reported is the number of cars per lane.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #7 Mt Diablo Scenic Blvd and Diablo Rd

****

```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    0  0  1! 0  0    1  0  1  0  0    0  0  0  1  0
Initial Vol:    0    0     0    53    0    13   119  769     0     0  532    51
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1471
Minor Approach Volume:           66
Minor Approach Volume Threshold: 152
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

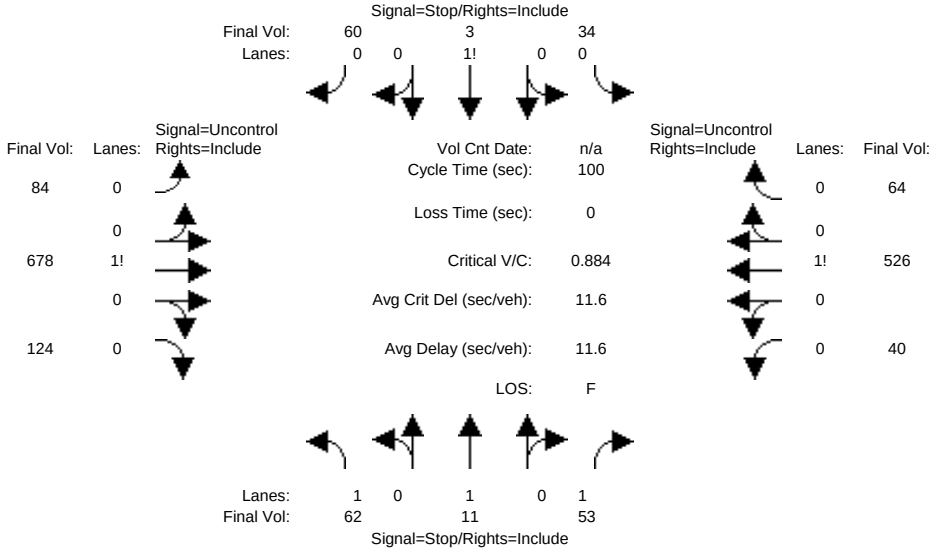

Copyright (c) 2008 Dowling Associates, Inc.
Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Cum Sc2 School PM w/Proj

Intersection #8: HIdden Oaks Dr/Magee Ranch Rd and Blackhawk Rd




```
Street Name:  Hidden Oaks Dr/Magee Ranch Rd            Blackhawk Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      56   10    48    31    3    55    76  617   113    36  479    58
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   56   10    48    31    3    55    76  617   113    36  479    58
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   56   10    48    31    3    55    76  617   113    36  479    58
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.91 0.91  0.91  0.91 0.91  0.91  0.91 0.91  0.91  0.91 0.91  0.91
PHF Volume:    62   11    53    34    3    60    84  678   124    40  526    64
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   62   11    53    34    3    60    84  678   124    40  526    64
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1576 1576   740  1576 1607   558   590 xxxx xxxxx   802 xxxx xxxxx
Potent Cap.:   90  111   420    90  106   533   995 xxxx xxxxx   830 xxxx xxxxx
Move Cap.:     70   96   420    64   92   533   995 xxxx xxxxx   830 xxxx xxxxx
Volume/Cap:  0.88 0.11  0.13  0.53 0.04  0.11  0.08 xxxx  xxxx  0.05 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    4.3  0.4   0.4  xxxx xxxx xxxxx   0.3 xxxx xxxxx   0.1 xxxx xxxxx
Control Del:176.5 47.3  14.8 xxxxx xxxx xxxxx   8.9 xxxx xxxxx   9.6 xxxx xxxxx
LOS by Move:    F    E     B     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  144 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  3.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 70.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    F     *     *    *     *     *    *     *
ApproachDel:      97.1             70.8           xxxxxx           xxxxxx
ApproachLOS:         F                F                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #8 HIdden Oaks Dr/Magee Ranch Rd and Blackhawk Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```

 Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  1  0  1    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   56   10    48    31    3    55    76  617   113    36  479    58
ApproachDel:      97.1             70.8           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=3][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=3.1]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=114]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1582]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
--------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.8]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=89]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1582]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                Peak Hour Volume Signal Warrant Report [Urban]
********************************************************************************
Intersection #8 HIdden Oaks Dr/Magee Ranch Rd and Blackhawk Rd
********************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  1  0  1    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   56   10    48    31    3    55    76  617   113    36  479    58
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1379
Minor Approach Volume:           114
Minor Approach Volume Threshold: 191
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

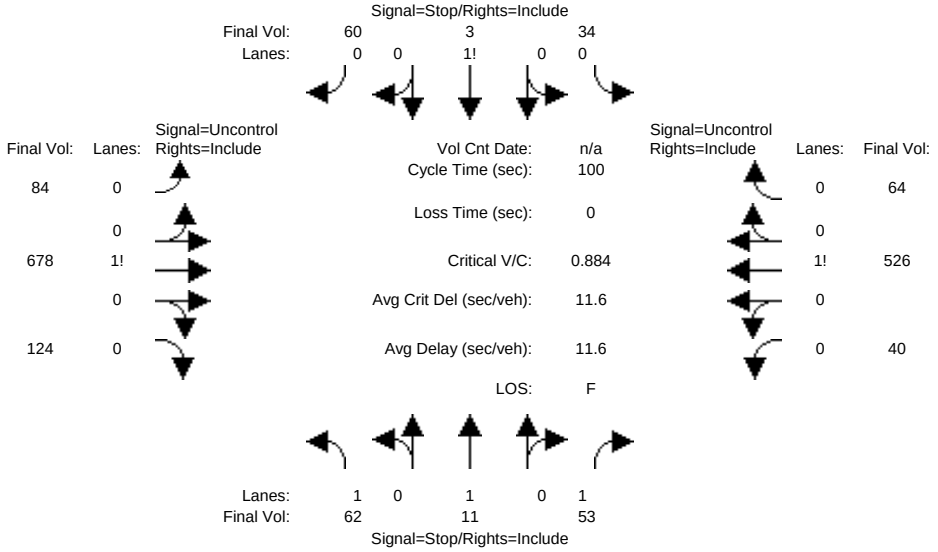

Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Cum Sc4 School PM w/Proj

Intersection #8: HIdden Oaks Dr/Magee Ranch Rd and Blackhawk Rd




```
Street Name:  Hidden Oaks Dr/Magee Ranch Rd            Blackhawk Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      56   10    48    31    3    55    76  617   113    36  479    58
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   56   10    48    31    3    55    76  617   113    36  479    58
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   56   10    48    31    3    55    76  617   113    36  479    58
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.91 0.91  0.91  0.91 0.91  0.91  0.91 0.91  0.91  0.91 0.91  0.91
PHF Volume:    62   11    53    34    3    60    84  678   124    40  526    64
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   62   11    53    34    3    60    84  678   124    40  526    64
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1576 1576   740  1576 1607   558   590 xxxx xxxxx   802 xxxx xxxxx
Potent Cap.:   90  111   420    90  106   533   995 xxxx xxxxx   830 xxxx xxxxx
Move Cap.:     70   96   420    64   92   533   995 xxxx xxxxx   830 xxxx xxxxx
Volume/Cap:  0.88 0.11  0.13  0.53 0.04  0.11  0.08 xxxx  xxxx  0.05 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    4.3  0.4   0.4  xxxx xxxx xxxxx   0.3 xxxx xxxxx   0.1 xxxx xxxxx
Control Del:176.5 47.3  14.8 xxxxx xxxx xxxxx   8.9 xxxx xxxxx   9.6 xxxx xxxxx
LOS by Move:    F    E     B     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  144 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  3.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 70.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    F     *     *    *     *     *    *     *
ApproachDel:      97.1             70.8           xxxxxx           xxxxxx
ApproachLOS:         F                F                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #8 HIdden Oaks Dr/Magee Ranch Rd and Blackhawk Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```

 Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  1  0  1    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   56   10    48    31    3    55    76  617   113    36  479    58
ApproachDel:      97.1             70.8           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=3][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=3.1]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=114]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1582]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
--------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.8]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=89]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1582]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                Peak Hour Volume Signal Warrant Report [Urban]
********************************************************************************
Intersection #8 HIdden Oaks Dr/Magee Ranch Rd and Blackhawk Rd
********************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  1  0  1    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   56   10    48    31    3    55    76  617   113    36  479    58
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1379
Minor Approach Volume:           114
Minor Approach Volume Threshold: 191
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

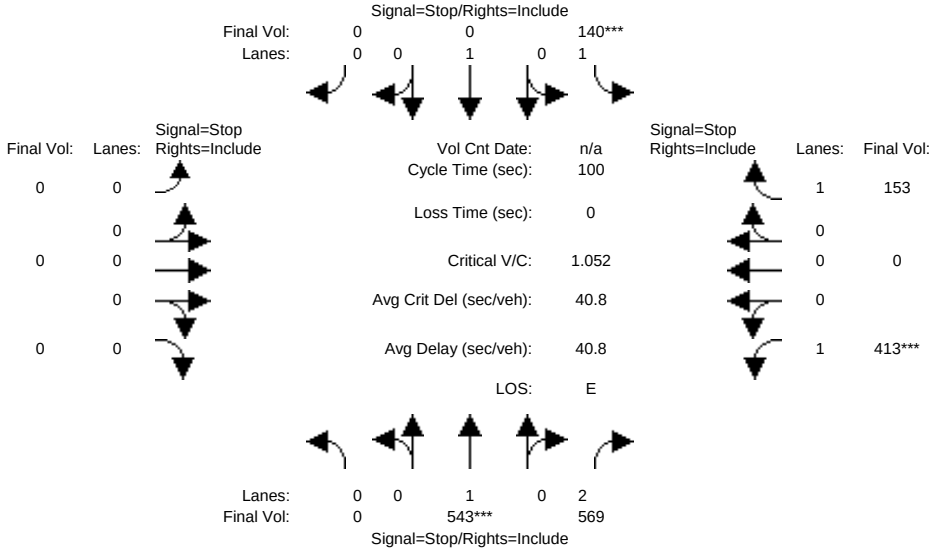

Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Cum Sc2 School PM w/Proj

Intersection #9: Blackhawk Rd and Blackhawk Dr




```
Street Name:          Blackhawk Road                    Blackhawk Drive
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  467   489   120  523     0     0    0     0   355    0   132
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  467   489   120  523     0     0    0     0   355    0   132
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  467   489   120  523     0     0    0     0   355    0   132
User Adj:    1.00 1.00  1.00  1.00 0.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.86 0.86  0.86  0.86 0.86  0.86  0.86 0.86  0.86  0.86 0.86  0.86
PHF Volume:     0  543   569   140    0     0     0    0     0   413    0   153
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0  543   569   140    0     0     0    0     0   413    0   153
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0  543   569   140    0     0     0    0     0   413    0   153
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 1.00  2.00  1.00 1.00  0.00  0.00 0.00  0.00  1.00 0.00  1.00
Final Sat.:     0  516  1134   417  439     0     0    0     0   468    0   550
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx 1.05  0.50  0.33 0.00  xxxx  xxxx xxxx  xxxx  0.88 xxxx  0.28
Crit Moves:       ****        ****                              ****
Delay/Veh:    0.0 80.1  15.0  15.0  0.0   0.0   0.0  0.0   0.0  44.4  0.0  11.6
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0 80.1  15.0  15.0  0.0   0.0   0.0  0.0   0.0  44.4  0.0  11.6
LOS by Move:    *    F     B     C    *     *     *    *     *     E    *     B
ApproachDel:      46.8             15.0           xxxxxx             35.6
Delay Adj:        1.00             1.00            xxxxx             1.00
ApprAdjDel:       46.8             15.0           xxxxxx             35.6
LOS by Appr:         E                C                *                E
AllWayAvgQ:   0.0 10.1   0.9   0.5  0.0   0.0   0.0  0.0   0.0   4.4  0.0   0.4
Note: Queue reported is the number of cars per lane.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #9 Blackhawk Rd and Blackhawk Dr

****

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Lanes:	0 0 1 0 2			1 0 1 0 0			0 0 0 0 0			1 0 0 0 1		
Initial Vol:	0 467 489			120 523 0			0 0 0			355 0 132		

Major Street Volume: 1599
Minor Approach Volume: 487
Minor Approach Volume Threshold: 172

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

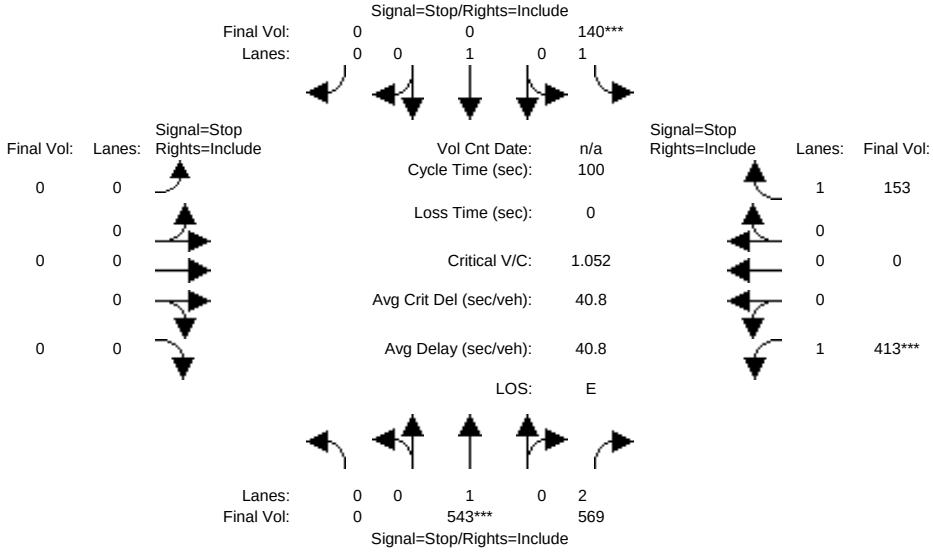
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Cum Sc4 School PM w/Proj

Intersection #9: Blackhawk Rd and Blackhawk Dr




```
Street Name:          Blackhawk Road                    Blackhawk Drive
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  467   489   120  523     0     0    0     0   355    0   132
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  467   489   120  523     0     0    0     0   355    0   132
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  467   489   120  523     0     0    0     0   355    0   132
User Adj:    1.00 1.00  1.00  1.00 0.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.86 0.86  0.86  0.86 0.86  0.86  0.86 0.86  0.86  0.86 0.86  0.86
PHF Volume:     0  543   569   140    0     0     0    0     0   413    0   153
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0  543   569   140    0     0     0    0     0   413    0   153
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0  543   569   140    0     0     0    0     0   413    0   153
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 1.00  2.00  1.00 1.00  0.00  0.00 0.00  0.00  1.00 0.00  1.00
Final Sat.:     0  516  1134   417  439     0     0    0     0   468    0   550
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx 1.05  0.50  0.33 0.00  xxxx  xxxx xxxx  xxxx  0.88 xxxx  0.28
Crit Moves:       ****        ****                              ****
Delay/Veh:    0.0 80.1  15.0  15.0  0.0   0.0   0.0  0.0   0.0  44.4  0.0  11.6
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0 80.1  15.0  15.0  0.0   0.0   0.0  0.0   0.0  44.4  0.0  11.6
LOS by Move:    *    F     B     C    *     *     *    *     *     E    *     B
ApproachDel:      46.8             15.0           xxxxxx             35.6
Delay Adj:        1.00             1.00            xxxxx             1.00
ApprAdjDel:       46.8             15.0           xxxxxx             35.6
LOS by Appr:         E                C                *                E
AllWayAvgQ:   0.0 10.1   0.9   0.5  0.0   0.0   0.0  0.0   0.0   4.4  0.0   0.4
Note: Queue reported is the number of cars per lane.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #9 Blackhawk Rd and Blackhawk Dr

****

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Lanes:	0 0 1	0	2	1 0 1	0	0	0 0 0	0	0	1 0 0	0	1
Initial Vol:	0 467	489		120 523		0	0 0		0	355 0		132

Major Street Volume: 1599
Minor Approach Volume: 487
Minor Approach Volume Threshold: 172

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

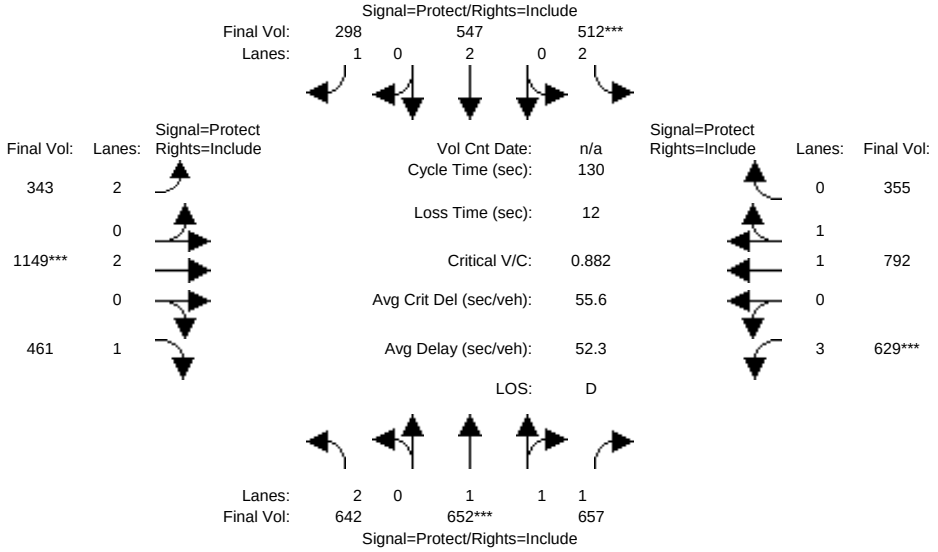
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc2 School PM w/Proj

Intersection #10: Blackhawk Rd/Crow Canyon Rd and Camino Tassajara



Street Name:	Blackhawk Rd/Crow Canyon Rd						Camino Tassajara					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	533	541	545	425	454	247	285	954	383	522	657	295
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	533	541	545	425	454	247	285	954	383	522	657	295
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	533	541	545	425	454	247	285	954	383	522	657	295
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
PHF Volume:	642	652	657	512	547	298	343	1149	461	629	792	355
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	642	652	657	512	547	298	343	1149	461	629	792	355
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	642	652	657	512	547	298	343	1149	461	629	792	355
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.97	1.00	1.00	0.97	0.95	1.00	0.97	0.95	1.00	0.97	1.00	1.00
Lanes:	2.00	1.49	1.51	2.00	2.00	1.00	2.00	2.00	1.00	3.00	1.38	0.62
Final Sat.:	3686	2840	2860	3686	3610	1900	3686	3610	1900	5529	2622	1178
Capacity Analysis Module:												
Vol/Sat:	0.17	0.23	0.23	0.14	0.15	0.16	0.09	0.32	0.24	0.11	0.30	0.30
Crit Moves:		****		****				****		****		
Green Time:	28.6	33.8	33.8	20.5	25.7	25.7	15.0	46.9	46.9	16.8	48.7	48.7
Volume/Cap:	0.79	0.88	0.88	0.88	0.77	0.79	0.81	0.88	0.67	0.88	0.81	0.81
Delay/Veh:	53.2	52.7	52.7	68.3	54.3	60.5	66.9	46.3	37.7	68.1	39.9	39.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	53.2	52.7	52.7	68.3	54.3	60.5	66.9	46.3	37.7	68.1	39.9	39.9
LOS by Move:	D	D	D	E	D	E	E	D	D	E	D	D
HCM2k95thQ:	25	34	34	24	22	24	17	42	28	21	37	37

Note: Queue reported is the number of cars per lane.

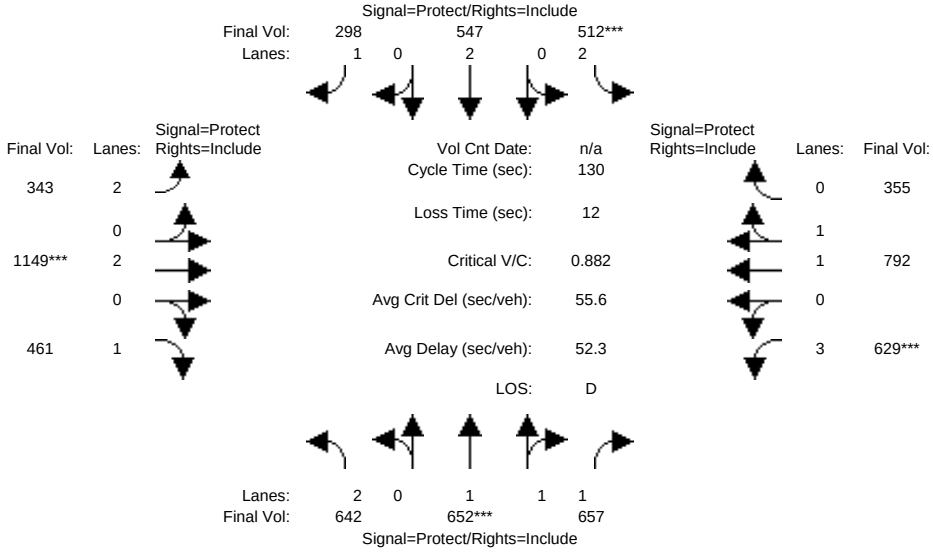
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc4 School PM w/Proj

Intersection #10: Blackhawk Rd/Crow Canyon Rd and Camino Tassajara



Street Name:	Blackhawk Rd/Crow Canyon Rd						Camino Tassajara					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	533	541	545	425	454	247	285	954	383	522	657	295
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	533	541	545	425	454	247	285	954	383	522	657	295
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	533	541	545	425	454	247	285	954	383	522	657	295
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
PHF Volume:	642	652	657	512	547	298	343	1149	461	629	792	355
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	642	652	657	512	547	298	343	1149	461	629	792	355
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	642	652	657	512	547	298	343	1149	461	629	792	355
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.97	1.00	1.00	0.97	0.95	1.00	0.97	0.95	1.00	0.97	1.00	1.00
Lanes:	2.00	1.49	1.51	2.00	2.00	1.00	2.00	2.00	1.00	3.00	1.38	0.62
Final Sat.:	3686	2840	2860	3686	3610	1900	3686	3610	1900	5529	2622	1178
Capacity Analysis Module:												
Vol/Sat:	0.17	0.23	0.23	0.14	0.15	0.16	0.09	0.32	0.24	0.11	0.30	0.30
Crit Moves:		****		****				****		****		
Green Time:	28.6	33.8	33.8	20.5	25.7	25.7	15.0	46.9	46.9	16.8	48.7	48.7
Volume/Cap:	0.79	0.88	0.88	0.88	0.77	0.79	0.81	0.88	0.67	0.88	0.81	0.81
Delay/Veh:	53.2	52.7	52.7	68.3	54.3	60.5	66.9	46.3	37.7	68.1	39.9	39.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	53.2	52.7	52.7	68.3	54.3	60.5	66.9	46.3	37.7	68.1	39.9	39.9
LOS by Move:	D	D	D	E	D	E	E	D	D	E	D	D
HCM2k95thQ:	25	34	34	24	22	24	17	42	28	21	37	37

Note: Queue reported is the number of cars per lane.

Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

(>>>>>>>>>This Page Intentionally Left Blank<<<<<<<<)

2000 HCM PM LOS Calcs

Cumulative Sc 2-5

(>>>>>>>>>This Page Intentionally Left Blank<<<<<<<<)

Note:

In the course of the Magee Ranch TIA analysis, the Cumulative Sensitivity Analysis scenarios were revised/updated in cooperation with the Town of Danville to best reflect the alternative scenarios appropriate for study. For this reason, after the cumulative level of service (LOS) calculations were completed, some of the scenario names/numbers were changed. The changes are as follows:

- Cum Sc4 AM w/Proj, Cum Sc4 school PM w/Proj, and Cum Sc4 PM w/Proj LOS calculation sheets in this appendix refer to Cumulative Scenario 3 results shown in the report.
- Cum Sc5 AM w/Proj, Cum Sc5 school PM w/Proj, and Cum Sc5 PM w/Proj LOS calculation sheets in this appendix refer to Cumulative Scenario 4 results shown in the report.

All of the other LOS calculations in this appendix correspond to the same name/number as shown in the report.

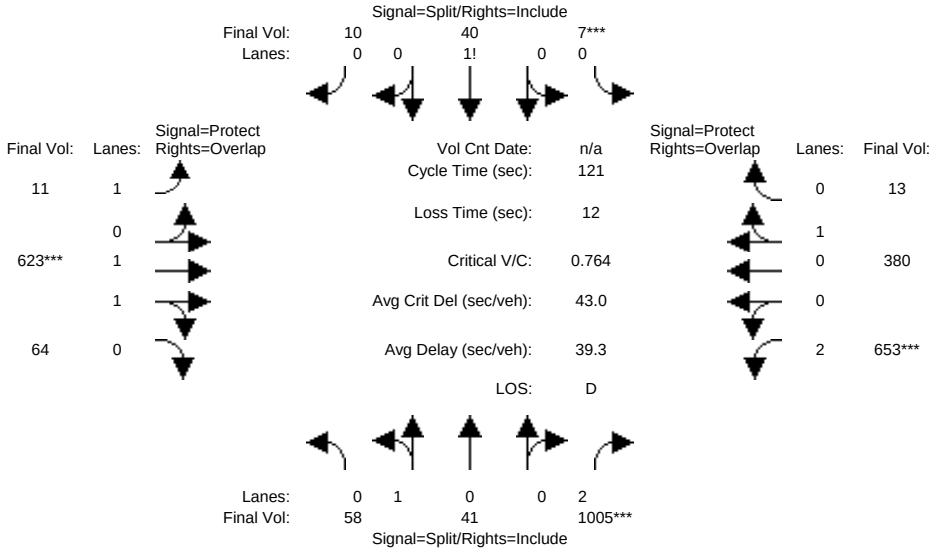
(>>>>>>>>>This Page Intentionally Left Blank<<<<<<<<)

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc2 PM w/Proj

Intersection #1: Diablo Rd and El Cerro Blvd



Street Name:	Diablo Road						El Cerro Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	53	37	915	6	36	9	10	567	58	594	346	12
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	53	37	915	6	36	9	10	567	58	594	346	12
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	53	37	915	6	36	9	10	567	58	594	346	12
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	58	41	1005	7	40	10	11	623	64	653	380	13
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	58	41	1005	7	40	10	11	623	64	653	380	13
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	58	41	1005	7	40	10	11	623	64	653	380	13
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Lanes:	0.59	0.41	2.00	0.12	0.70	0.18	1.00	1.81	0.19	2.00	0.97	0.03
Final Sat.:	1119	781	3344	224	1341	335	1900	3447	353	3686	1836	64
Capacity Analysis Module:												
Vol/Sat:	0.05	0.05	0.30	0.03	0.03	0.03	0.01	0.18	0.18	0.18	0.21	0.21
Crit Moves:			****	****				****		****		
Green Time:	47.6	47.6	47.6	4.7	4.7	4.7	6.1	28.6	76.3	28.1	50.6	55.3
Volume/Cap:	0.13	0.13	0.76	0.76	0.76	0.76	0.12	0.76	0.29	0.76	0.49	0.45
Delay/Veh:	23.5	23.5	34.5	94.6	94.6	94.6	55.4	47.0	10.2	47.5	26.3	22.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	23.5	23.5	34.5	94.6	94.6	94.6	55.4	47.0	10.2	47.5	26.3	22.9
LOS by Move:	C	C	C	F	F	F	E	D	B	D	C	C
HCM2k95thQ:	5	5	33	7	7	7	1	24	11	24	20	18

Note: Queue reported is the number of cars per lane.

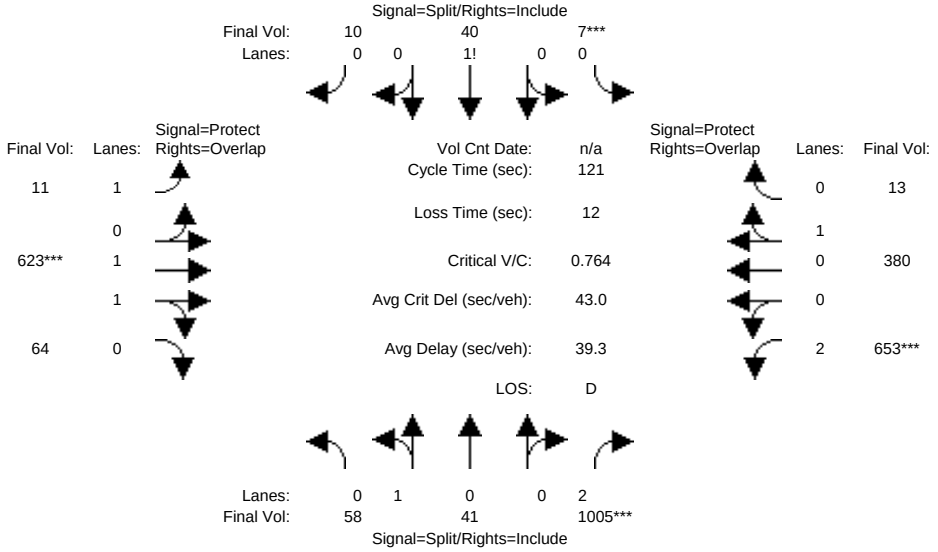
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc4 PM w/Proj

Intersection #1: Diablo Rd and El Cerro Blvd



Street Name:	Diablo Road						El Cerro Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	53	37	915	6	36	9	10	567	58	594	346	12
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	53	37	915	6	36	9	10	567	58	594	346	12
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	53	37	915	6	36	9	10	567	58	594	346	12
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	58	41	1005	7	40	10	11	623	64	653	380	13
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	58	41	1005	7	40	10	11	623	64	653	380	13
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	58	41	1005	7	40	10	11	623	64	653	380	13
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Lanes:	0.59	0.41	2.00	0.12	0.70	0.18	1.00	1.81	0.19	2.00	0.97	0.03
Final Sat.:	1119	781	3344	224	1341	335	1900	3447	353	3686	1836	64
Capacity Analysis Module:												
Vol/Sat:	0.05	0.05	0.30	0.03	0.03	0.03	0.01	0.18	0.18	0.18	0.21	0.21
Crit Moves:			****	****				****		****		
Green Time:	47.6	47.6	47.6	4.7	4.7	4.7	6.1	28.6	76.3	28.1	50.6	55.3
Volume/Cap:	0.13	0.13	0.76	0.76	0.76	0.76	0.12	0.76	0.29	0.76	0.49	0.45
Delay/Veh:	23.5	23.5	34.5	94.6	94.6	94.6	55.4	47.0	10.2	47.5	26.3	22.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	23.5	23.5	34.5	94.6	94.6	94.6	55.4	47.0	10.2	47.5	26.3	22.9
LOS by Move:	C	C	C	F	F	F	E	D	B	D	C	C
HCM2k95thQ:	5	5	33	7	7	7	1	24	11	24	20	18

Note: Queue reported is the number of cars per lane.

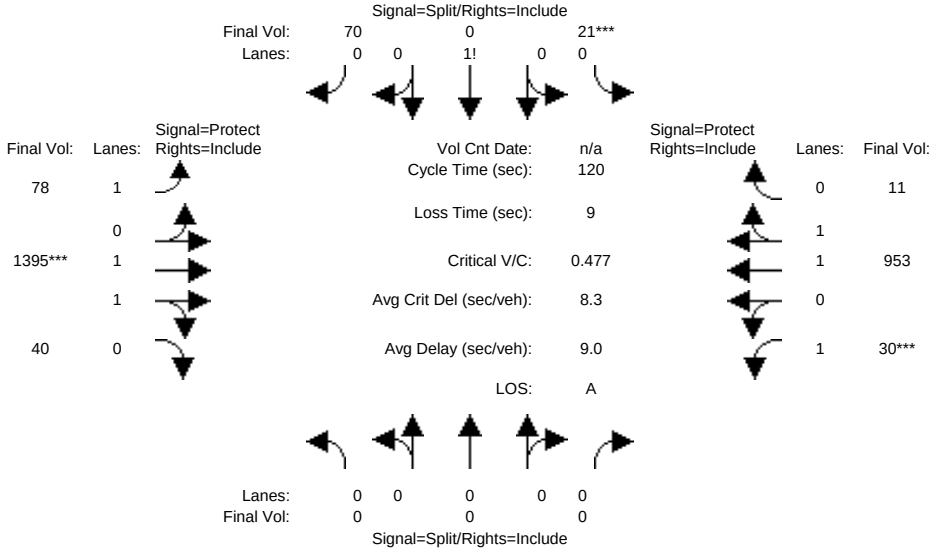
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc2 PM w/Proj

Intersection #2: Matadera Wy and Diablo Rd



Street Name:	Matadera Way						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	19	0	64	72	1283	37	28	877	10
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	19	0	64	72	1283	37	28	877	10
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	19	0	64	72	1283	37	28	877	10
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	0	0	0	21	0	70	78	1395	40	30	953	11
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	21	0	70	78	1395	40	30	953	11
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	21	0	70	78	1395	40	30	953	11
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.23	0.00	0.77	1.00	1.94	0.06	1.00	1.98	0.02
Final Sat.:	0	0	0	435	0	1465	1900	3693	107	1900	3757	43
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.05	0.00	0.05	0.04	0.38	0.38	0.02	0.25	0.25
Crit Moves:				****				****		****		
Green Time:	0.0	0.0	0.0	11.9	0.0	11.9	13.8	95.0	95.0	4.0	85.2	85.2
Volume/Cap:	0.00	0.00	0.00	0.48	0.00	0.48	0.36	0.48	0.48	0.48	0.36	0.36
Delay/Veh:	0.0	0.0	0.0	53.0	0.0	53.0	50.0	4.3	4.3	62.5	6.8	6.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	53.0	0.0	53.0	50.0	4.3	4.3	62.5	6.8	6.8
LOS by Move:	A	A	A	D	A	D	D	A	A	E	A	A
HCM2k95thQ:	0	0	0	7	0	7	6	17	17	4	13	13

Note: Queue reported is the number of cars per lane.

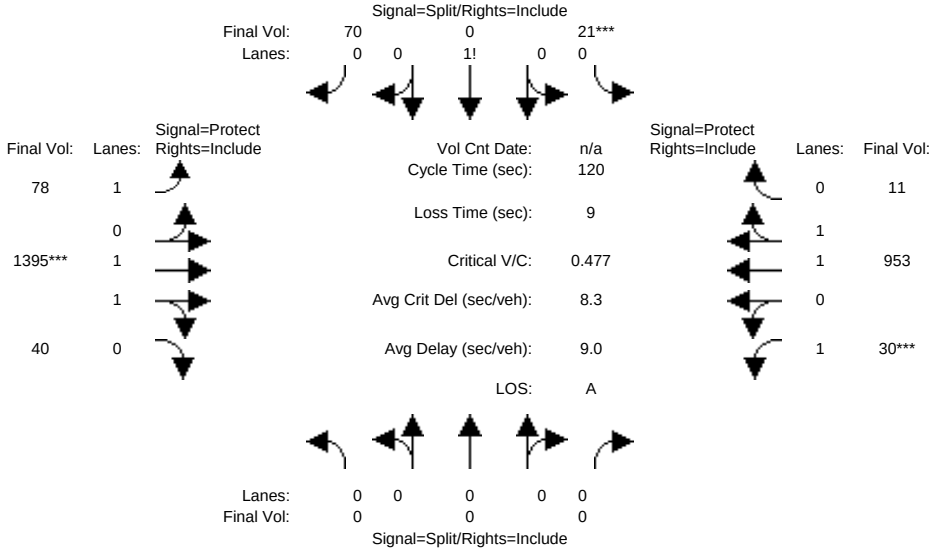
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc4 PM w/Proj

Intersection #2: Matadera Wy and Diablo Rd



Street Name:	Matadera Way						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	19	0	64	72	1283	37	28	877	10
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	19	0	64	72	1283	37	28	877	10
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	19	0	64	72	1283	37	28	877	10
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	0	0	0	21	0	70	78	1395	40	30	953	11
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	21	0	70	78	1395	40	30	953	11
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	21	0	70	78	1395	40	30	953	11
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.23	0.00	0.77	1.00	1.94	0.06	1.00	1.98	0.02
Final Sat.:	0	0	0	435	0	1465	1900	3693	107	1900	3757	43
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.05	0.00	0.05	0.04	0.38	0.38	0.02	0.25	0.25
Crit Moves:				****				****		****		
Green Time:	0.0	0.0	0.0	11.9	0.0	11.9	13.8	95.0	95.0	4.0	85.2	85.2
Volume/Cap:	0.00	0.00	0.00	0.48	0.00	0.48	0.36	0.48	0.48	0.48	0.36	0.36
Delay/Veh:	0.0	0.0	0.0	53.0	0.0	53.0	50.0	4.3	4.3	62.5	6.8	6.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	53.0	0.0	53.0	50.0	4.3	4.3	62.5	6.8	6.8
LOS by Move:	A	A	A	D	A	D	D	A	A	E	A	A
HCM2k95thQ:	0	0	0	7	0	7	6	17	17	4	13	13

Note: Queue reported is the number of cars per lane.

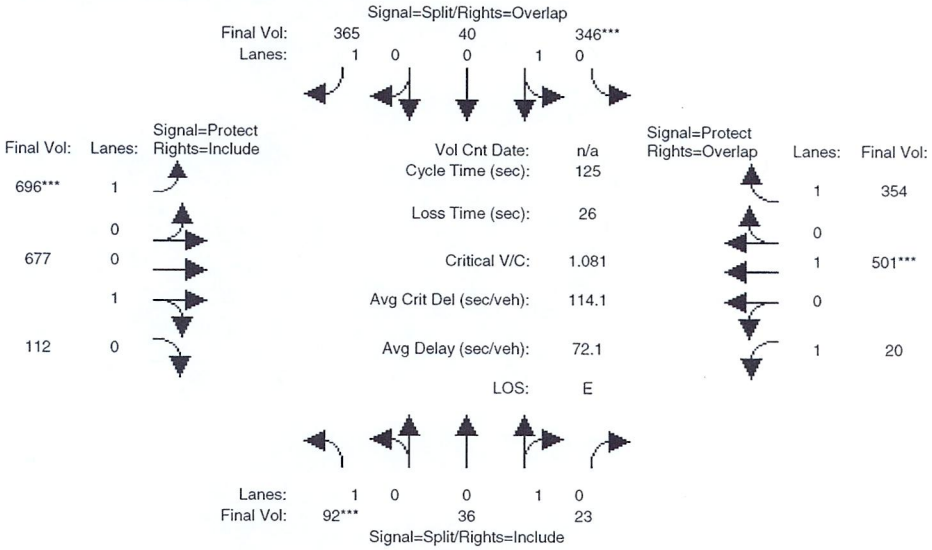
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc2 PM w/Proj

Intersection #3: Green Valley Rd and Diablo Rd



Street Name:	Green Valley Road						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	85	33	21	318	37	336	640	623	103	18	461	326
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	85	33	21	318	37	336	640	623	103	18	461	326
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	85	33	21	318	37	336	640	623	103	18	461	326
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	92	36	23	346	40	365	696	677	112	20	501	354
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	92	36	23	346	40	365	696	677	112	20	501	354
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	92	36	23	346	40	365	696	677	112	20	501	354
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.61	0.39	0.90	0.10	1.00	1.00	0.86	0.14	1.00	1.00	1.00
Final Sat.:	1900	1161	739	1702	198	1900	1900	1630	270	1900	2100	1900
Capacity Analysis Module:												
Vol/Sat:	0.05	0.03	0.03	0.20	0.20	0.19	0.37	0.42	0.42	0.01	0.24	0.19
Crit Moves:	****			****			****				****	
Green Time:	5.6	5.6	5.6	23.5	23.5	65.8	42.3	66.1	66.1	3.8	27.6	51.1
Volume/Cap:	1.08	0.69	0.69	1.08	1.08	0.37	1.08	0.79	0.79	0.34	1.08	0.46
Delay/Veh:	180.9	79.7	79.7	121.9	122	17.6	100.8	27.9	27.9	62.8	114	27.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	180.9	79.7	79.7	121.9	122	17.6	100.8	27.9	27.9	62.8	114	27.3
LOS by Move:	F	E	E	F	F	B	F	C	C	E	F	C
HCM2k95thQ:	13	7	7	37	37	15	59	42	42	2	46	18

Note: Queue reported is the number of cars per lane.

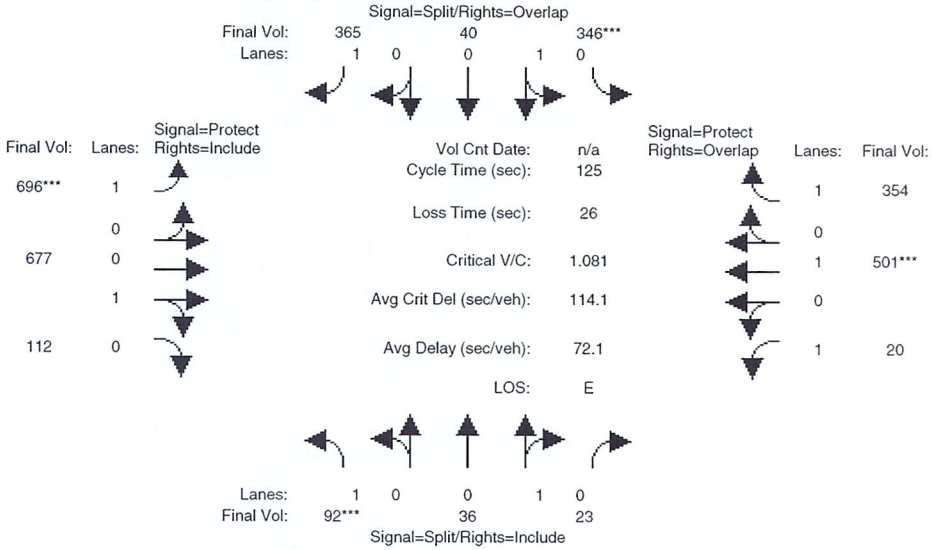
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc4 PM w/Proj

Intersection #3: Green Valley Rd and Diablo Rd



Street Name:	Green Valley Road						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	85	33	21	318	37	336	640	623	103	18	461	326
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	85	33	21	318	37	336	640	623	103	18	461	326
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	85	33	21	318	37	336	640	623	103	18	461	326
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	92	36	23	346	40	365	696	677	112	20	501	354
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	92	36	23	346	40	365	696	677	112	20	501	354
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	92	36	23	346	40	365	696	677	112	20	501	354
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.61	0.39	0.90	0.10	1.00	1.00	0.86	0.14	1.00	1.00	1.00
Final Sat.:	1900	1161	739	1702	198	1900	1900	1630	270	1900	2100	1900
Capacity Analysis Module:												
Vol/Sat:	0.05	0.03	0.03	0.20	0.20	0.19	0.37	0.42	0.42	0.01	0.24	0.19
Crit Moves:	****			****			****				****	
Green Time:	5.6	5.6	5.6	23.5	23.5	65.8	42.3	66.1	66.1	3.8	27.6	51.1
Volume/Cap:	1.08	0.69	0.69	1.08	1.08	0.37	1.08	0.79	0.79	0.34	1.08	0.46
Delay/Veh:	180.9	79.7	79.7	121.9	122	17.6	100.8	27.9	27.9	62.8	114	27.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	180.9	79.7	79.7	121.9	122	17.6	100.8	27.9	27.9	62.8	114	27.3
LOS by Move:	F	E	E	F	F	B	F	C	C	E	F	C
HCM2k95thQ:	13	7	7	37	37	15	59	42	42	2	46	18

Note: Queue reported is the number of cars per lane.

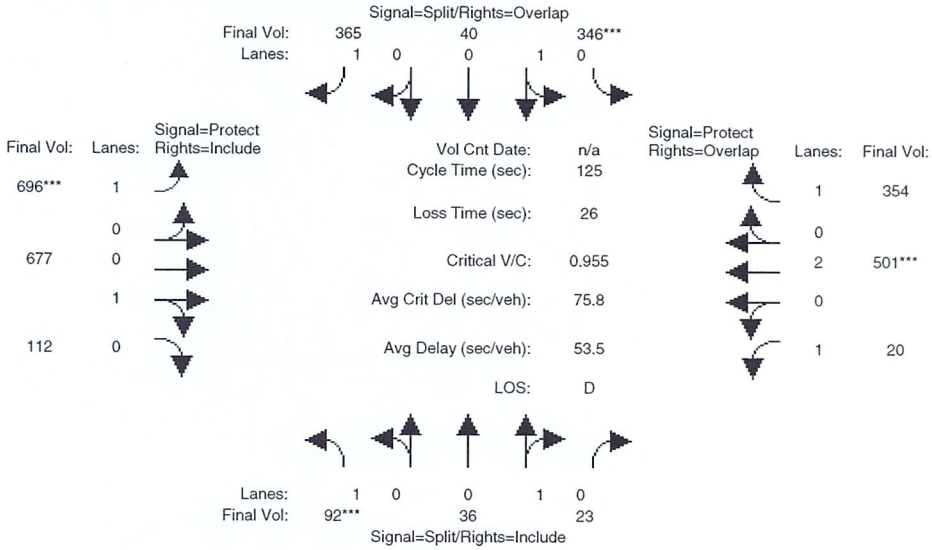
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc5 PM w/Proj

Intersection #3: Green Valley Rd and Diablo Rd



Street Name:	Green Valley Road						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	85	33	21	318	37	336	640	623	103	18	461	326
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	85	33	21	318	37	336	640	623	103	18	461	326
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	85	33	21	318	37	336	640	623	103	18	461	326
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	92	36	23	346	40	365	696	677	112	20	501	354
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	92	36	23	346	40	365	696	677	112	20	501	354
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	92	36	23	346	40	365	696	677	112	20	501	354
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00
Lanes:	1.00	0.61	0.39	0.90	0.10	1.00	1.00	0.86	0.14	1.00	2.00	1.00
Final Sat.:	1900	1161	739	1702	198	1900	1900	1630	270	1900	3610	1900
Capacity Analysis Module:												
Vol/Sat:	0.05	0.03	0.03	0.20	0.20	0.19	0.37	0.42	0.42	0.01	0.14	0.19
Crit Moves:	****			****			****				****	
Green Time:	6.4	6.4	6.4	26.6	26.6	74.5	47.9	62.5	62.5	3.6	18.2	44.7
Volume/Cap:	0.96	0.61	0.61	0.96	0.96	0.32	0.96	0.83	0.83	0.36	0.96	0.52
Delay/Veh:	135.9	68.7	68.7	81.9	81.9	12.8	60.4	33.1	33.1	63.5	81.3	32.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	135.9	68.7	68.7	81.9	81.9	12.8	60.4	33.1	33.1	63.5	81.3	32.4
LOS by Move:	F	E	E	F	F	B	E	C	C	E	F	C
HCM2k95thQ:	12	6	6	33	33	13	50	45	45	2	25	20

Note: Queue reported is the number of cars per lane.

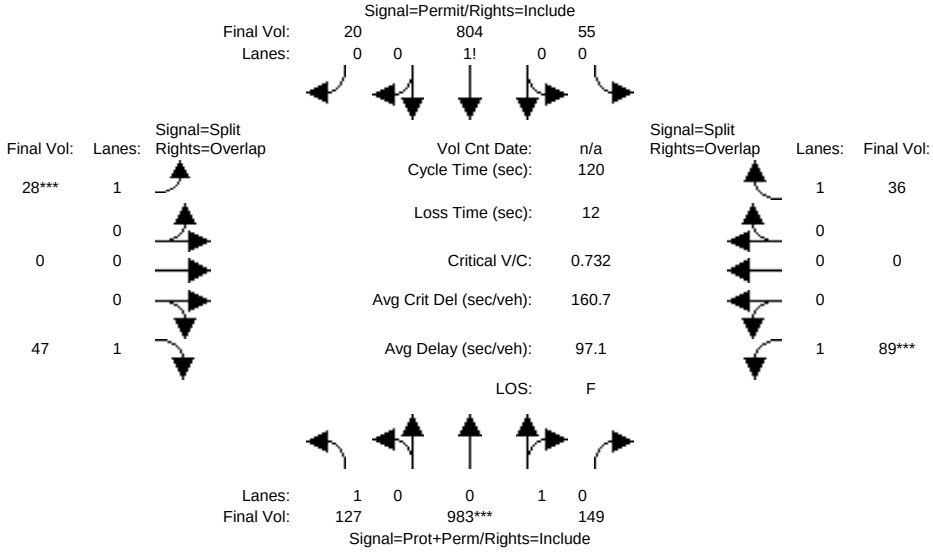
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc2 PM w/Proj

Intersection #4: Green Valley Rd and Blemer Rd/Cameo Dr



Street Name:	Green Valley Road						Blemer Road/Cameo Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	3	3	3	3	3	3	2	3	3	2	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	117	904	137	51	740	18	26	0	43	82	0	33
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	117	904	137	51	740	18	26	0	43	82	0	33
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	117	904	137	51	740	18	26	0	43	82	0	33
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	127	983	149	55	804	20	28	0	47	89	0	36
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	127	983	149	55	804	20	28	0	47	89	0	36
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	127	983	149	55	804	20	28	0	47	89	0	36
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.87	0.13	0.06	0.92	0.02	1.00	0.00	1.00	1.00	0.00	1.00
Final Sat.:	1900	1650	250	120	1738	42	1900	0	1900	1900	0	1900
Capacity Analysis Module:												
Vol/Sat:	0.00	0.60	0.60	0.46	0.46	0.46	0.01	0.00	0.02	0.05	0.00	0.02
Crit Moves:		****					****			****		
Green Time:	12.8	57.1	57.1	44.4	88.7	88.7	2.0	0.0	14.8	4.5	0.0	48.9
Volume/Cap:	0.63	1.25	1.25	1.25	0.63	0.63	0.89	0.00	0.20	1.25	0.00	0.05
Delay/Veh:	57.3	154	153.7	162.4	8.5	8.5	174.3	0.0	47.7	246.3	0.0	21.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	57.3	154	153.7	162.4	8.5	8.5	174.3	0.0	47.7	246.3	0.0	21.5
LOS by Move:	E	F	F	F	A	A	F	A	D	F	A	C
HCM2k95thQ:	11	107	107	85	28	28	5	0	3	14	0	2

Note: Queue reported is the number of cars per lane.

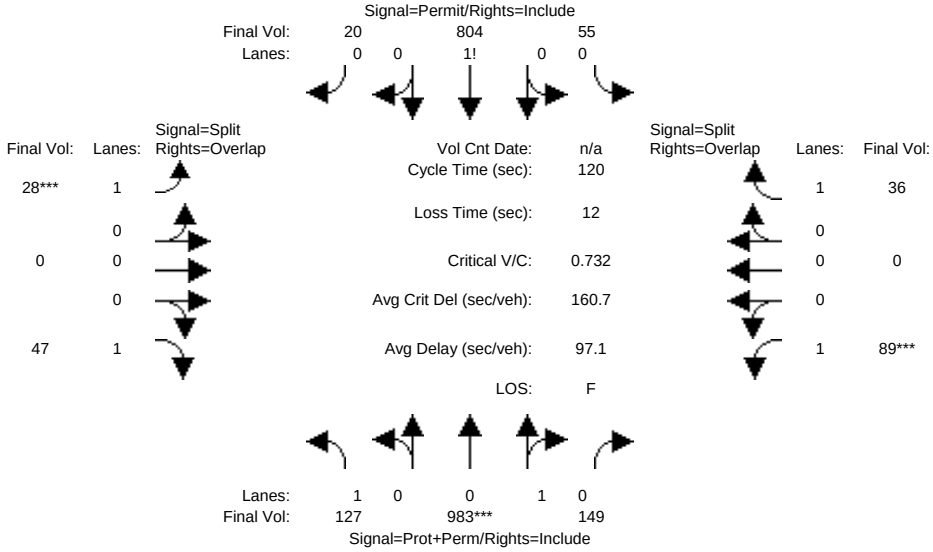
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc4 PM w/Proj

Intersection #4: Green Valley Rd and Blemer Rd/Cameo Dr



Street Name:	Green Valley Road						Blemer Road/Cameo Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	3	3	3	3	3	3	2	3	3	2	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	117	904	137	51	740	18	26	0	43	82	0	33
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	117	904	137	51	740	18	26	0	43	82	0	33
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	117	904	137	51	740	18	26	0	43	82	0	33
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	127	983	149	55	804	20	28	0	47	89	0	36
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	127	983	149	55	804	20	28	0	47	89	0	36
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	127	983	149	55	804	20	28	0	47	89	0	36
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.87	0.13	0.06	0.92	0.02	1.00	0.00	1.00	1.00	0.00	1.00
Final Sat.:	1900	1650	250	120	1738	42	1900	0	1900	1900	0	1900
Capacity Analysis Module:												
Vol/Sat:	0.00	0.60	0.60	0.46	0.46	0.46	0.01	0.00	0.02	0.05	0.00	0.02
Crit Moves:		****					****			****		
Green Time:	12.8	57.1	57.1	44.4	88.7	88.7	2.0	0.0	14.8	4.5	0.0	48.9
Volume/Cap:	0.63	1.25	1.25	1.25	0.63	0.63	0.89	0.00	0.20	1.25	0.00	0.05
Delay/Veh:	57.3	154	153.7	162.4	8.5	8.5	174.3	0.0	47.7	246.3	0.0	21.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	57.3	154	153.7	162.4	8.5	8.5	174.3	0.0	47.7	246.3	0.0	21.5
LOS by Move:	E	F	F	F	A	A	F	A	D	F	A	C
HCM2k95thQ:	11	107	107	85	28	28	5	0	3	14	0	2

Note: Queue reported is the number of cars per lane.

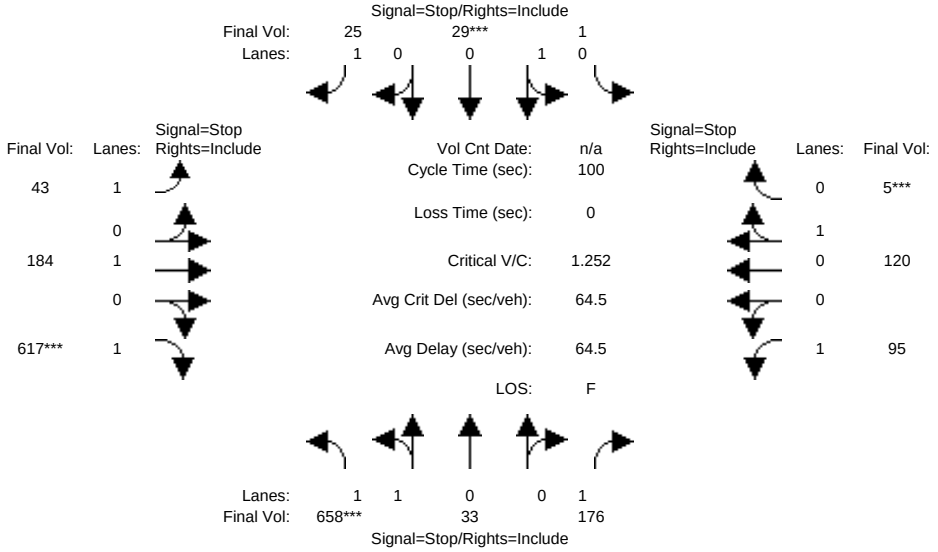
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Cum Sc2 PM w/Proj

Intersection #5: Green Valley Rd and Stone Valley Rd



Street Name:	Green Valley Road						Stone Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Volume Module:												
Base Vol:	546	27	146	1	24	21	36	153	512	79	100	4
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	546	27	146	1	24	21	36	153	512	79	100	4
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	546	27	146	1	24	21	36	153	512	79	100	4
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
PHF Volume:	658	33	176	1	29	25	43	184	617	95	120	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	658	33	176	1	29	25	43	184	617	95	120	5
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	658	33	176	1	29	25	43	184	617	95	120	5
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.91	0.09	1.00	0.04	0.96	1.00	1.00	1.00	1.00	1.00	0.96	0.04
Final Sat.:	832	41	506	16	373	421	413	441	493	398	408	16
Capacity Analysis Module:												
Vol/Sat:	0.79	0.79	0.35	0.08	0.08	0.06	0.11	0.42	1.25	0.24	0.30	0.30
Crit Moves:	****				****				****			****
Delay/Veh:	35.3	35.0	13.4	12.2	12.2	11.3	12.2	16.2	152.5	14.1	14.3	14.3
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	35.3	35.0	13.4	12.2	12.2	11.3	12.2	16.2	152.5	14.1	14.3	14.3
LOS by Move:	E	D	B	B	B	B	B	C	F	B	B	B
ApproachDel:		30.9			11.8			115.5			14.2	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		30.9			11.8			115.5			14.2	
LOS by Appr:		D			B			F			B	
AllWayAvgQ:	2.9	2.9	0.5	0.1	0.1	0.1	0.1	0.7	19.5	0.3	0.4	0.4

Note: Queue reported is the number of cars per lane.

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #5 Green Valley Rd and Stone Valley Rd

****

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Lanes:	1	1	0	0 1	0	1	0	0 1	1	0	1	0 1	1	0	0	1 0
Initial Vol:	546	27		146	1	24		21	36	153		512	79	100		4

Major Street Volume: 884
Minor Approach Volume: 719
Minor Approach Volume Threshold: 427

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

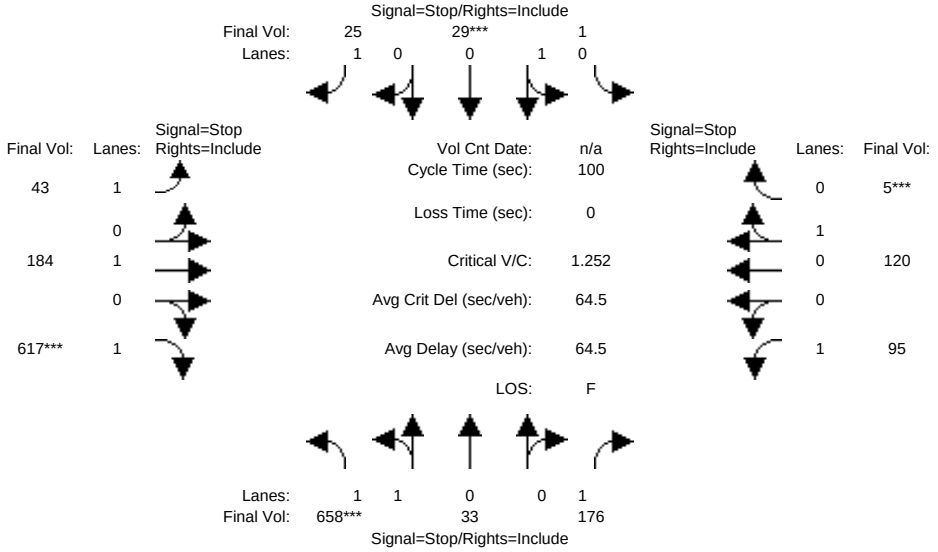
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Cum Sc4 PM w/Proj

Intersection #5: Green Valley Rd and Stone Valley Rd



Street Name:	Green Valley Road						Stone Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Volume Module:												
Base Vol:	546	27	146	1	24	21	36	153	512	79	100	4
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	546	27	146	1	24	21	36	153	512	79	100	4
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	546	27	146	1	24	21	36	153	512	79	100	4
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
PHF Volume:	658	33	176	1	29	25	43	184	617	95	120	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	658	33	176	1	29	25	43	184	617	95	120	5
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	658	33	176	1	29	25	43	184	617	95	120	5
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.91	0.09	1.00	0.04	0.96	1.00	1.00	1.00	1.00	1.00	0.96	0.04
Final Sat.:	832	41	506	16	373	421	413	441	493	398	408	16
Capacity Analysis Module:												
Vol/Sat:	0.79	0.79	0.35	0.08	0.08	0.06	0.11	0.42	1.25	0.24	0.30	0.30
Crit Moves:	****				****				****			****
Delay/Veh:	35.3	35.0	13.4	12.2	12.2	11.3	12.2	16.2	152.5	14.1	14.3	14.3
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	35.3	35.0	13.4	12.2	12.2	11.3	12.2	16.2	152.5	14.1	14.3	14.3
LOS by Move:	E	D	B	B	B	B	B	C	F	B	B	B
ApproachDel:		30.9			11.8			115.5			14.2	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		30.9			11.8			115.5			14.2	
LOS by Appr:		D			B			F			B	
AllWayAvgQ:	2.9	2.9	0.5	0.1	0.1	0.1	0.1	0.7	19.5	0.3	0.4	0.4

Note: Queue reported is the number of cars per lane.

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #5 Green Valley Rd and Stone Valley Rd

****

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Lanes:	1	1	0	0 1	0	1	0	0 1	1	0	1	0 1	1	0	0	1 0
Initial Vol:	546	27		146	1	24		21	36	153		512	79	100		4

Major Street Volume: 884
Minor Approach Volume: 719
Minor Approach Volume Threshold: 427

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

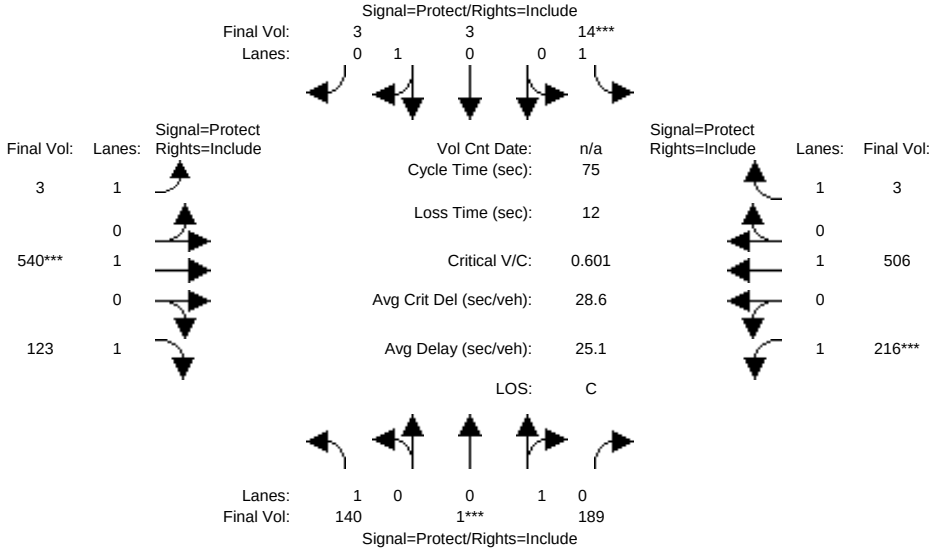
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc2 PM w/Proj

Intersection #6: Monte Vista H.S. Main and Stone Valley Rd



Street Name:	Monte Vista H.S. Main Parking Lot						Stone Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	123	1	166	12	3	3	3	475	108	190	445	3
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	123	1	166	12	3	3	3	475	108	190	445	3
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	123	1	166	12	3	3	3	475	108	190	445	3
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
PHF Volume:	140	1	189	14	3	3	3	540	123	216	506	3
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	140	1	189	14	3	3	3	540	123	216	506	3
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	140	1	189	14	3	3	3	540	123	216	506	3
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.01	0.99	1.00	0.50	0.50	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1900	11	1889	1900	950	950	1900	1900	1900	1900	1900	1900
Capacity Analysis Module:												
Vol/Sat:	0.07	0.10	0.10	0.01	0.00	0.00	0.00	0.28	0.06	0.11	0.27	0.00
Crit Moves:		****		****				****		****		
Green Time:	10.3	10.6	10.6	10.0	10.3	10.3	11.0	30.3	30.3	12.1	31.4	31.4
Volume/Cap:	0.53	0.70	0.70	0.05	0.03	0.03	0.01	0.70	0.16	0.70	0.64	0.00
Delay/Veh:	32.3	38.9	38.9	28.5	28.0	28.0	27.4	21.6	14.4	37.0	19.0	12.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	32.3	38.9	38.9	28.5	28.0	28.0	27.4	21.6	14.4	37.0	19.0	12.7
LOS by Move:	C	D	D	C	C	C	C	C	B	D	B	B
HCM2k95thQ:	8	11	11	1	0	0	0	21	4	12	18	0

Note: Queue reported is the number of cars per lane.

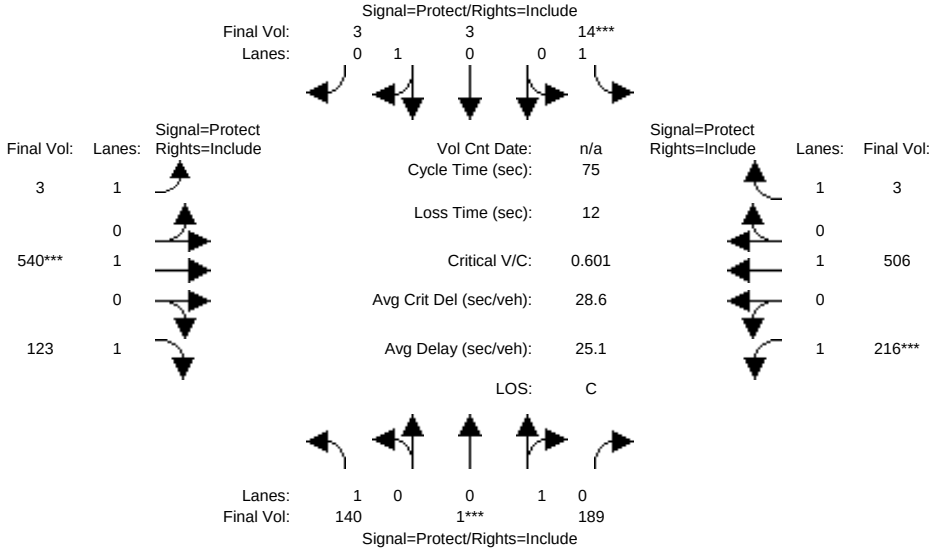
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc4 PM w/Proj

Intersection #6: Monte Vista H.S. Main and Stone Valley Rd



Street Name:	Monte Vista H.S. Main Parking Lot						Stone Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	123	1	166	12	3	3	3	475	108	190	445	3
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	123	1	166	12	3	3	3	475	108	190	445	3
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	123	1	166	12	3	3	3	475	108	190	445	3
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
PHF Volume:	140	1	189	14	3	3	3	540	123	216	506	3
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	140	1	189	14	3	3	3	540	123	216	506	3
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	140	1	189	14	3	3	3	540	123	216	506	3
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.01	0.99	1.00	0.50	0.50	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1900	11	1889	1900	950	950	1900	1900	1900	1900	1900	1900
Capacity Analysis Module:												
Vol/Sat:	0.07	0.10	0.10	0.01	0.00	0.00	0.00	0.28	0.06	0.11	0.27	0.00
Crit Moves:		****		****				****		****		
Green Time:	10.3	10.6	10.6	10.0	10.3	10.3	11.0	30.3	30.3	12.1	31.4	31.4
Volume/Cap:	0.53	0.70	0.70	0.05	0.03	0.03	0.01	0.70	0.16	0.70	0.64	0.00
Delay/Veh:	32.3	38.9	38.9	28.5	28.0	28.0	27.4	21.6	14.4	37.0	19.0	12.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	32.3	38.9	38.9	28.5	28.0	28.0	27.4	21.6	14.4	37.0	19.0	12.7
LOS by Move:	C	D	D	C	C	C	C	C	B	D	B	B
HCM2k95thQ:	8	11	11	1	0	0	0	21	4	12	18	0

Note: Queue reported is the number of cars per lane.

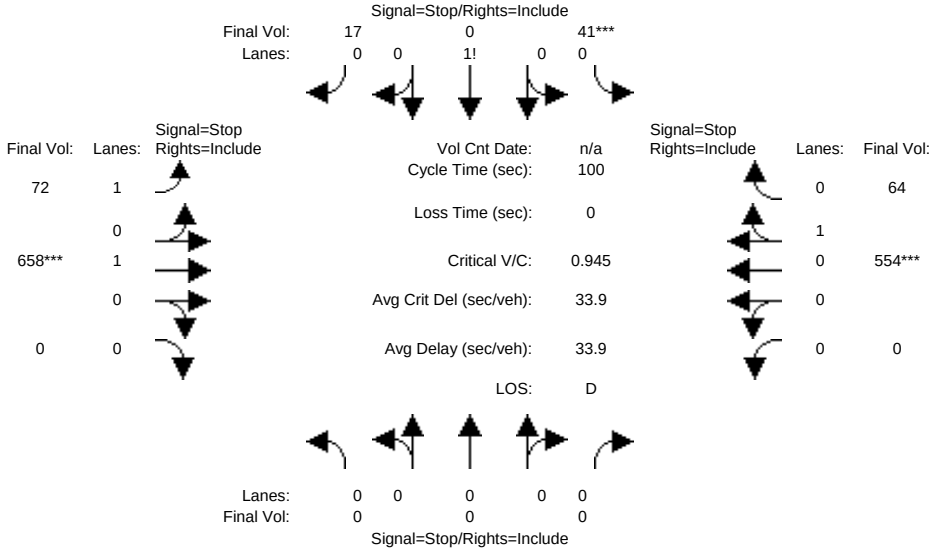
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Cum Sc2 PM w/Proj

Intersection #7: Mt Diablo Scenic Blvd and Diablo Rd




```
Street Name:      Mt Diablo Scenic Blvd                  Diablo Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    37    0    15    65  592     0     0  499    58
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    37    0    15    65  592     0     0  499    58
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0    37    0    15    65  592     0     0  499    58
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.90 0.90  0.90  0.90 0.90  0.90  0.90 0.90  0.90  0.90 0.90  0.90
PHF Volume:     0    0     0    41    0    17    72  658     0     0  554    64
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0    0     0    41    0    17    72  658     0     0  554    64
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0    0     0    41    0    17    72  658     0     0  554    64
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 0.00  0.00  0.71 0.00  0.29  1.00 1.00  0.00  0.00 0.90  0.10
Final Sat.:     0    0     0   381    0   154   635  696     0     0  654    76
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx xxxx  xxxx  0.11 xxxx  0.11  0.11 0.95  xxxx  xxxx 0.85  0.85
Crit Moves:                   ****                    ****             ****
Delay/Veh:    0.0  0.0   0.0  10.3  0.0  10.3   9.1 43.7   0.0   0.0 28.5  28.5
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0  0.0   0.0  10.3  0.0  10.3   9.1 43.7   0.0   0.0 28.5  28.5
LOS by Move:    *    *     *     B    *     B     A    E     *     *    D     D
ApproachDel:    xxxxxx             10.3             40.2             28.5
Delay Adj:       xxxxx             1.00             1.00             1.00
ApprAdjDel:     xxxxxx             10.3             40.2             28.5
LOS by Appr:         *                B                E                D
AllWayAvgQ:   0.0  0.0   0.0   0.1  0.1   0.1   0.1  6.9   0.0   4.2  4.2   4.2
Note: Queue reported is the number of cars per lane.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #7 Mt Diablo Scenic Blvd and Diablo Rd

****

```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    0  0  1! 0  0    1  0  1  0  0    0  0  0  1  0
Initial Vol:    0    0     0    37    0    15    65  592     0     0  499    58
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1214
Minor Approach Volume:           52
Minor Approach Volume Threshold: 218
-------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

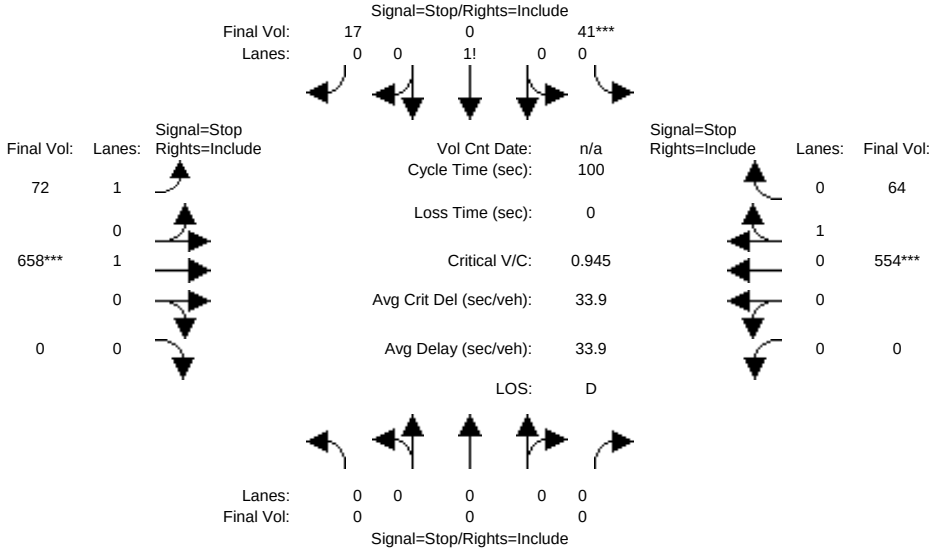

Copyright (c) 2008 Dowling Associates, Inc.
Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Cum Sc4 PM w/Proj

Intersection #7: Mt Diablo Scenic Blvd and Diablo Rd




```
Street Name:      Mt Diablo Scenic Blvd                  Diablo Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    37    0    15    65  592     0     0  499    58
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    37    0    15    65  592     0     0  499    58
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0    37    0    15    65  592     0     0  499    58
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.90 0.90  0.90  0.90 0.90  0.90  0.90 0.90  0.90  0.90 0.90  0.90
PHF Volume:     0    0     0    41    0    17    72  658     0     0  554    64
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0    0     0    41    0    17    72  658     0     0  554    64
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0    0     0    41    0    17    72  658     0     0  554    64
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 0.00  0.00  0.71 0.00  0.29  1.00 1.00  0.00  0.00 0.90  0.10
Final Sat.:     0    0     0   381    0   154   635  696     0     0  654    76
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx xxxx  xxxx  0.11 xxxx  0.11  0.11 0.95  xxxx  xxxx 0.85  0.85
Crit Moves:                   ****                   ****             ****
Delay/Veh:    0.0  0.0   0.0  10.3  0.0  10.3   9.1 43.7   0.0   0.0 28.5  28.5
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0  0.0   0.0  10.3  0.0  10.3   9.1 43.7   0.0   0.0 28.5  28.5
LOS by Move:    *    *     *     B    *     B     A    E     *     *    D     D
ApproachDel:    xxxxxx             10.3             40.2             28.5
Delay Adj:       xxxxx             1.00             1.00             1.00
ApprAdjDel:     xxxxxx             10.3             40.2             28.5
LOS by Appr:         *                B                E                D
AllWayAvgQ:   0.0  0.0   0.0   0.1  0.1   0.1   0.1  6.9   0.0   4.2  4.2   4.2
Note: Queue reported is the number of cars per lane.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #7 Mt Diablo Scenic Blvd and Diablo Rd

****

```
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Lanes:        0  0  0  0  0    0  0  1! 0  0    1  0  1  0  0    0  0  0  1  0
Initial Vol:    0    0     0    37    0    15    65  592     0     0  499    58
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1214
Minor Approach Volume:           52
Minor Approach Volume Threshold: 218
-------------------------------------------------------------------------------
```

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

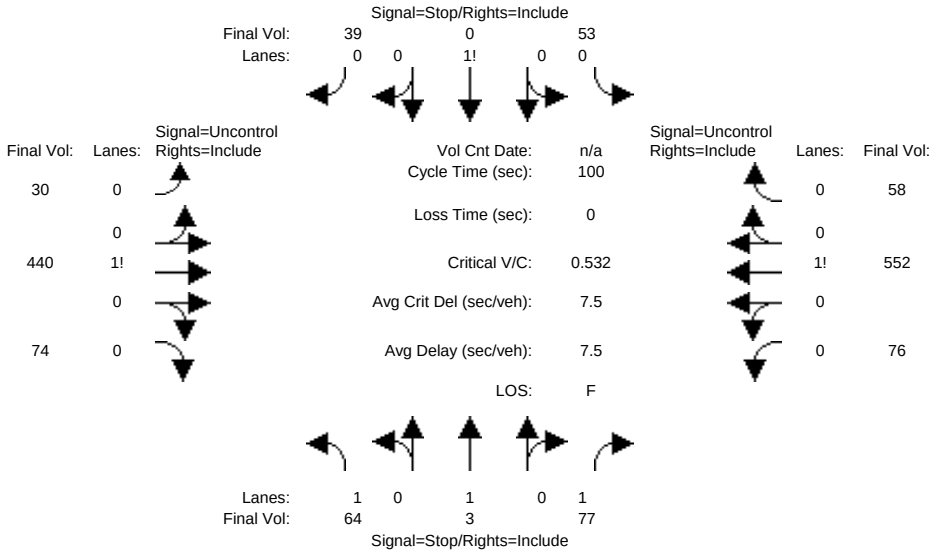
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Cum Sc2 PM w/Proj

Intersection #8: HIdden Oaks Dr/Magee Ranch Rd and Blackhawk Rd




```
Street Name:  Hidden Oaks Dr/Magee Ranch Rd            Blackhawk Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      59    3    71    49    0    36    28  405    68    70  508    53
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   59    3    71    49    0    36    28  405    68    70  508    53
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   59    3    71    49    0    36    28  405    68    70  508    53
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.92 0.92  0.92  0.92 0.92  0.92  0.92 0.92  0.92  0.92 0.92  0.92
PHF Volume:    64    3    77    53    0    39    30  440    74    76  552    58
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   64    3    77    53    0    39    30  440    74    76  552    58
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1291 1300   477  1311 1308   581   610 xxxx xxxxx   514 xxxx xxxxx
Potent Cap.:  142  163   592   137  161   517   979 xxxx xxxxx  1062 xxxx xxxxx
Move Cap.:    120  146   592   108  144   517   979 xxxx xxxxx  1062 xxxx xxxxx
Volume/Cap:  0.53 0.02  0.13  0.49 0.00  0.08  0.03 xxxx  xxxx  0.07 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    2.5  0.1   0.4  xxxx xxxx xxxxx   0.1 xxxx xxxxx   0.2 xxxx xxxxx
Control Del: 64.7 30.3  12.0 xxxxx xxxx xxxxx   8.8 xxxx xxxxx   8.7 xxxx xxxxx
LOS by Move:    F    D     B     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  162 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  3.0 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 53.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    F     *     *    *     *     *    *     *
ApproachDel:      35.8             53.1           xxxxxx           xxxxxx
ApproachLOS:         E                F                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #8 HIdden Oaks Dr/Magee Ranch Rd and Blackhawk Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```

 Copyright (c) 2008 Dowling Associates, Inc.

```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  1  0  1    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   59    3    71    49    0    36    28  405    68    70  508    53
ApproachDel:      35.8             53.1           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=3][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.3]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=133]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1350]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
--------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=85]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1350]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                Peak Hour Volume Signal Warrant Report [Urban]
********************************************************************************
Intersection #8 HIdden Oaks Dr/Magee Ranch Rd and Blackhawk Rd
********************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  1  0  1    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   59    3    71    49    0    36    28  405    68    70  508    53
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1132
Minor Approach Volume:           133
Minor Approach Volume Threshold: 253
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

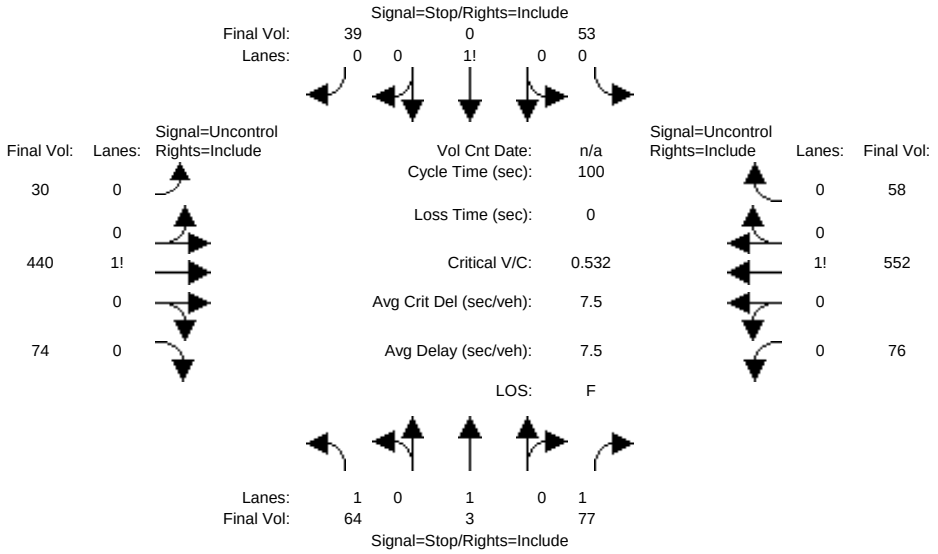

Copyright (c) 2008 Dowling Associates, Inc.
Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Cum Sc4 PM w/Proj

Intersection #8: HIdden Oaks Dr/Magee Ranch Rd and Blackhawk Rd




```
Street Name:  Hidden Oaks Dr/Magee Ranch Rd            Blackhawk Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      59    3    71    49    0    36    28  405    68    70  508    53
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   59    3    71    49    0    36    28  405    68    70  508    53
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   59    3    71    49    0    36    28  405    68    70  508    53
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.92 0.92  0.92  0.92 0.92  0.92  0.92 0.92  0.92  0.92 0.92  0.92
PHF Volume:    64    3    77    53    0    39    30  440    74    76  552    58
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   64    3    77    53    0    39    30  440    74    76  552    58
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5   6.2   7.1  6.5   6.2   4.1 xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3   3.5  4.0   3.3   2.2 xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1291 1300   477  1311 1308   581   610 xxxx xxxxx   514 xxxx xxxxx
Potent Cap.:  142  163   592   137  161   517   979 xxxx xxxxx  1062 xxxx xxxxx
Move Cap.:    120  146   592   108  144   517   979 xxxx xxxxx  1062 xxxx xxxxx
Volume/Cap:  0.53 0.02  0.13  0.49 0.00  0.08  0.03 xxxx  xxxx  0.07 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    2.5  0.1   0.4  xxxx xxxx xxxxx   0.1 xxxx xxxxx   0.2 xxxx xxxxx
Control Del: 64.7 30.3  12.0 xxxxx xxxx xxxxx   8.8 xxxx xxxxx   8.7 xxxx xxxxx
LOS by Move:    F    D     B     *    *     *     A    *     *     A    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  162 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  3.0 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 53.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    F     *     *    *     *     *    *     *
ApproachDel:      35.8             53.1           xxxxxx           xxxxxx
ApproachLOS:         E                F                *                *
Note: Queue reported is the number of cars per lane.
                    Peak Hour Delay Signal Warrant Report
*******************************************************************************
Intersection #8 HIdden Oaks Dr/Magee Ranch Rd and Blackhawk Rd
*******************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
```

 Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  1  0  1    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   59    3    71    49    0    36    28  405    68    70  508    53
ApproachDel:      35.8             53.1           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=3][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.3]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=133]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1350]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
--------------------------------------------------------------------------------
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=85]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1350]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                Peak Hour Volume Signal Warrant Report [Urban]
********************************************************************************
Intersection #8 HIdden Oaks Dr/Magee Ranch Rd and Blackhawk Rd
********************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        1  0  1  0  1    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   59    3    71    49    0    36    28  405    68    70  508    53
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1132
Minor Approach Volume:           133
Minor Approach Volume Threshold: 253
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

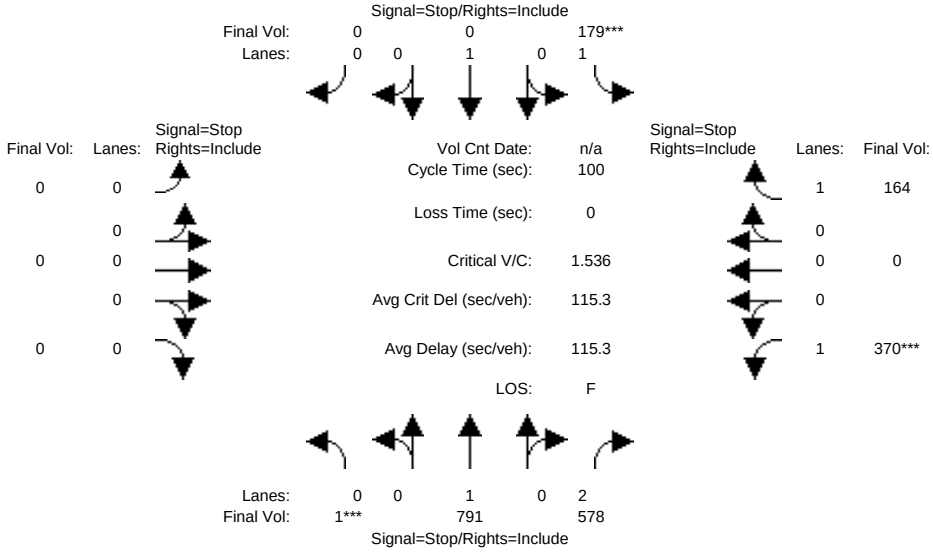

Copyright (c) 2008 Dowling Associates, Inc.
Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Cum Sc2 PM w/Proj

Intersection #9: Blackhawk Rd and Blackhawk Dr




```
Street Name:          Blackhawk Road                    Blackhawk Drive
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       1  633   462   143  473     0     0    0     0   296    0   131
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    1  633   462   143  473     0     0    0     0   296    0   131
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    1  633   462   143  473     0     0    0     0   296    0   131
User Adj:    1.00 1.00  1.00  1.00 0.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.80 0.80  0.80  0.80 0.80  0.80  0.80 0.80  0.80  0.80 0.80  0.80
PHF Volume:     1  791   578   179    0     0     0    0     0   370    0   164
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    1  791   578   179    0     0     0    0     0   370    0   164
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    1  791   578   179    0     0     0    0     0   370    0   164
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.01 0.99  2.00  1.00 1.00  0.00  0.00 0.00  0.00  1.00 0.00  1.00
Final Sat.:     1  515  1131   425  446     0     0    0     0   462    0   541
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     1.54 1.54  0.51  0.42 0.00  xxxx  xxxx xxxx  xxxx  0.80 xxxx  0.30
Crit Moves:  ****              ****                              ****
Delay/Veh:  269.6  270  15.2  16.6  0.0   0.0   0.0  0.0   0.0  34.4  0.0  12.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh: 269.6  270  15.2  16.6  0.0   0.0   0.0  0.0   0.0  34.4  0.0  12.0
LOS by Move:    F    F     C     C    *     *     *    *     *     D    *     B
ApproachDel:     162.4             16.6           xxxxxx             27.5
Delay Adj:        1.00             1.00            xxxxx             1.00
ApprAdjDel:      162.4             16.6           xxxxxx             27.5
LOS by Appr:         F                C                *                D
AllWayAvgQ:  37.2 37.2   1.0   0.7  0.0   0.0   0.0  0.0   0.0   3.1  0.0   0.4
Note: Queue reported is the number of cars per lane.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #9 Blackhawk Rd and Blackhawk Dr

****

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Stop Sign					Stop Sign					Stop Sign					Stop Sign				
Lanes:	0	1	0	0	2	1	0	1	0	0	0	0	0	0	0	1	0	0	0	1
Initial Vol:	1	633		462		143	473			0	0		0		0	296		0		131

Major Street Volume: 1712
Minor Approach Volume: 427
Minor Approach Volume Threshold: 143 [less than minimum of 150]

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

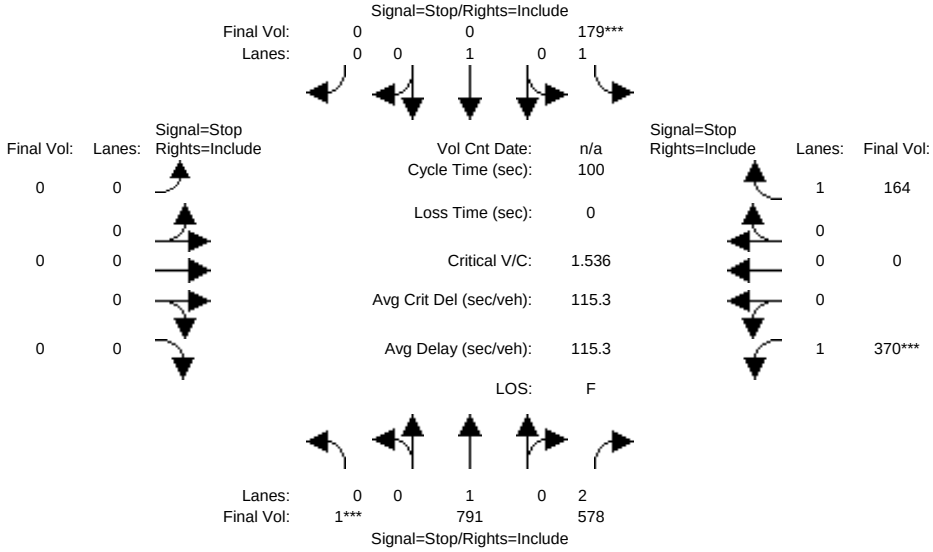
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Cum Sc4 PM w/Proj

Intersection #9: Blackhawk Rd and Blackhawk Dr




```
Street Name:          Blackhawk Road                    Blackhawk Drive
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       1  633   462   143  473     0     0    0     0   296    0   131
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    1  633   462   143  473     0     0    0     0   296    0   131
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    1  633   462   143  473     0     0    0     0   296    0   131
User Adj:    1.00 1.00  1.00  1.00 0.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.80 0.80  0.80  0.80 0.80  0.80  0.80 0.80  0.80  0.80 0.80  0.80
PHF Volume:     1  791   578   179    0     0     0    0     0   370    0   164
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    1  791   578   179    0     0     0    0     0   370    0   164
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    1  791   578   179    0     0     0    0     0   370    0   164
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.01 0.99  2.00  1.00 1.00  0.00  0.00 0.00  0.00  1.00 0.00  1.00
Final Sat.:     1  515  1131   425  446     0     0    0     0   462    0   541
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     1.54 1.54  0.51  0.42 0.00  xxxx  xxxx xxxx  xxxx  0.80 xxxx  0.30
Crit Moves:  ****              ****                              ****
Delay/Veh:  269.6  270  15.2  16.6  0.0   0.0   0.0  0.0   0.0  34.4  0.0  12.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh: 269.6  270  15.2  16.6  0.0   0.0   0.0  0.0   0.0  34.4  0.0  12.0
LOS by Move:    F    F     C     C    *     *     *    *     *     D    *     B
ApproachDel:     162.4             16.6           xxxxxx             27.5
Delay Adj:        1.00             1.00            xxxxx             1.00
ApprAdjDel:      162.4             16.6           xxxxxx             27.5
LOS by Appr:         F                C                *                D
AllWayAvgQ:  37.2 37.2   1.0   0.7  0.0   0.0   0.0  0.0   0.0   3.1  0.0   0.4
Note: Queue reported is the number of cars per lane.
```

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #9 Blackhawk Rd and Blackhawk Dr

****

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Stop Sign					Stop Sign					Stop Sign					Stop Sign				
Lanes:	0	1	0	0	2	1	0	1	0	0	0	0	0	0	0	1	0	0	0	1
Initial Vol:	1	633		462		143	473			0	0		0		0	296		0		131

Major Street Volume: 1712
Minor Approach Volume: 427
Minor Approach Volume Threshold: 143 [less than minimum of 150]

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

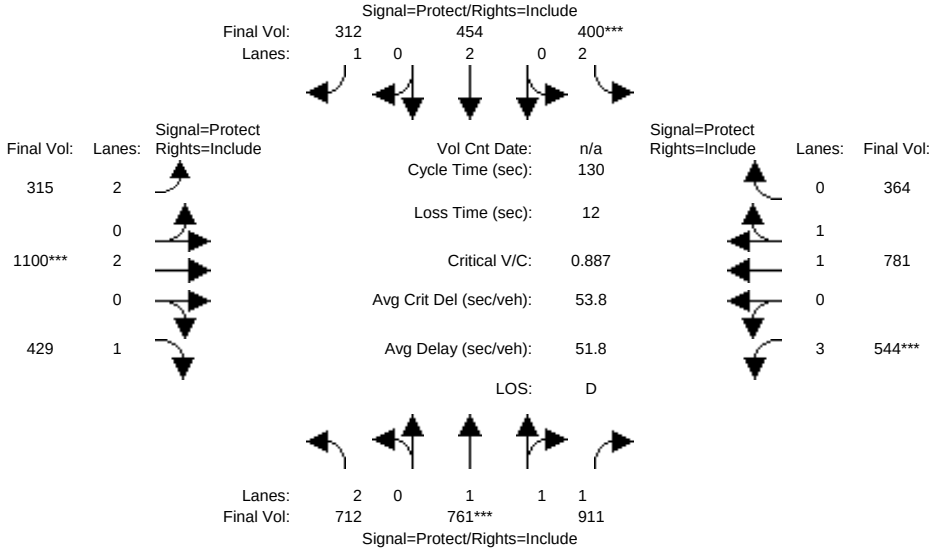
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc2 PM w/Proj

Intersection #10: Blackhawk Rd/Crow Canyon Rd and Camino Tassajara



Street Name:	Blackhawk Rd/Crow Canyon Rd						Camino Tassajara					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	669	715	856	376	427	293	296	1034	403	511	734	342
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	669	715	856	376	427	293	296	1034	403	511	734	342
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	669	715	856	376	427	293	296	1034	403	511	734	342
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	712	761	911	400	454	312	315	1100	429	544	781	364
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	712	761	911	400	454	312	315	1100	429	544	781	364
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	712	761	911	400	454	312	315	1100	429	544	781	364
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.97	1.00	1.00	0.97	0.95	1.00	0.97	0.95	1.00	0.97	1.00	1.00
Lanes:	2.00	1.37	1.63	2.00	2.00	1.00	2.00	2.00	1.00	3.00	1.36	0.64
Final Sat.:	3686	2594	3106	3686	3610	1900	3686	3610	1900	5529	2592	1208
Capacity Analysis Module:												
Vol/Sat:	0.19	0.29	0.29	0.11	0.13	0.16	0.09	0.30	0.23	0.10	0.30	0.30
Crit Moves:		****		****				****		****		
Green Time:	31.8	43.0	43.0	15.9	27.1	27.1	13.1	44.7	44.7	14.4	46.0	46.0
Volume/Cap:	0.79	0.89	0.89	0.89	0.60	0.79	0.85	0.89	0.66	0.89	0.85	0.85
Delay/Veh:	50.6	46.7	46.7	74.8	48.0	58.9	74.4	48.3	38.6	71.6	44.2	44.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	50.6	46.7	46.7	74.8	48.0	58.9	74.4	48.3	38.6	71.6	44.2	44.2
LOS by Move:	D	D	D	E	D	E	E	D	D	E	D	D
HCM2k95thQ:	27	40	40	20	17	24	16	41	26	19	39	39

Note: Queue reported is the number of cars per lane.

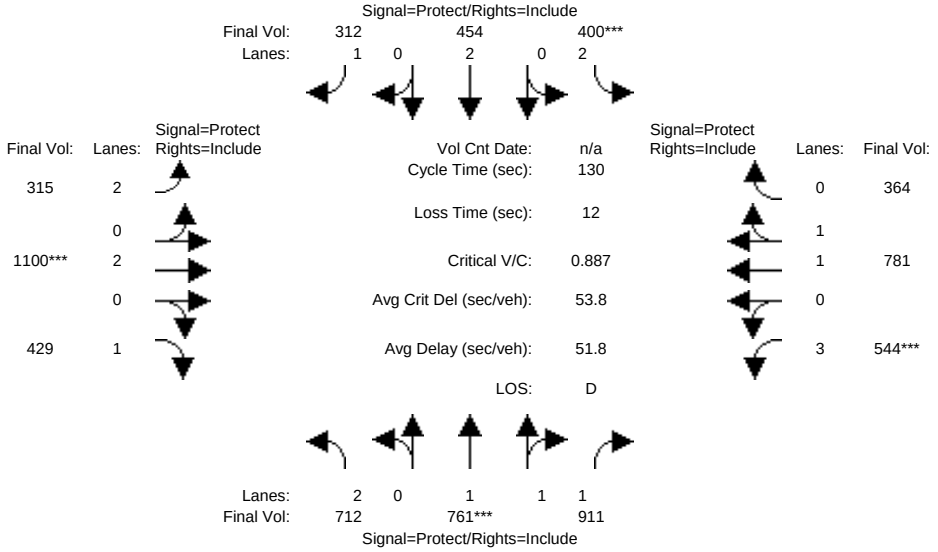
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc4 PM w/Proj

Intersection #10: Blackhawk Rd/Crow Canyon Rd and Camino Tassajara



Street Name:	Blackhawk Rd/Crow Canyon Rd						Camino Tassajara					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	669	715	856	376	427	293	296	1034	403	511	734	342
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	669	715	856	376	427	293	296	1034	403	511	734	342
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	669	715	856	376	427	293	296	1034	403	511	734	342
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	712	761	911	400	454	312	315	1100	429	544	781	364
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	712	761	911	400	454	312	315	1100	429	544	781	364
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	712	761	911	400	454	312	315	1100	429	544	781	364
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.97	1.00	1.00	0.97	0.95	1.00	0.97	0.95	1.00	0.97	1.00	1.00
Lanes:	2.00	1.37	1.63	2.00	2.00	1.00	2.00	2.00	1.00	3.00	1.36	0.64
Final Sat.:	3686	2594	3106	3686	3610	1900	3686	3610	1900	5529	2592	1208
Capacity Analysis Module:												
Vol/Sat:	0.19	0.29	0.29	0.11	0.13	0.16	0.09	0.30	0.23	0.10	0.30	0.30
Crit Moves:		****		****				****		****		
Green Time:	31.8	43.0	43.0	15.9	27.1	27.1	13.1	44.7	44.7	14.4	46.0	46.0
Volume/Cap:	0.79	0.89	0.89	0.89	0.60	0.79	0.85	0.89	0.66	0.89	0.85	0.85
Delay/Veh:	50.6	46.7	46.7	74.8	48.0	58.9	74.4	48.3	38.6	71.6	44.2	44.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	50.6	46.7	46.7	74.8	48.0	58.9	74.4	48.3	38.6	71.6	44.2	44.2
LOS by Move:	D	D	D	E	D	E	E	D	D	E	D	D
HCM2k95thQ:	27	40	40	20	17	24	16	41	26	19	39	39

Note: Queue reported is the number of cars per lane.

Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

(>>>>>>>>>This Page Intentionally Left Blank<<<<<<<<)

LOS Calcs w/Mitigation

(>>>>>>>>>This Page Intentionally Left Blank<<<<<<<<)

Note:

In the course of the Magee Ranch TIA analysis, the Cumulative Sensitivity Analysis scenarios were revised/updated in cooperation with the Town of Danville to best reflect the alternative scenarios appropriate for study. For this reason, after the cumulative level of service (LOS) calculations were completed, some of the scenario names/numbers were changed. The changes are as follows:

- Cum Sc4 AM w/Proj, Cum Sc4 school PM w/Proj, and Cum Sc4 PM w/Proj LOS calculation sheets in this appendix refer to Cumulative Scenario 3 results shown in the report.
- Cum Sc5 AM w/Proj, Cum Sc5 school PM w/Proj, and Cum Sc5 PM w/Proj LOS calculation sheets in this appendix refer to Cumulative Scenario 4 results shown in the report.

All of the other LOS calculations in this appendix correspond to the same name/number as shown in the report.

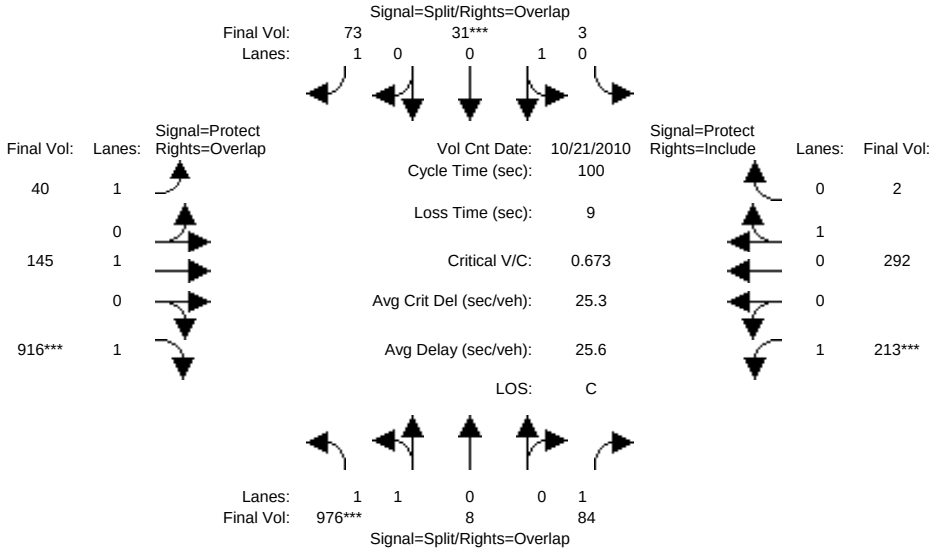
(>>>>>>>>>This Page Intentionally Left Blank<<<<<<<<)

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #5: Green Valley Rd and Stone Valley Rd



Street Name:	Green Valley Road						Stone Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 21 Oct 2010 <<												
Base Vol:	605	5	52	2	19	45	25	90	568	132	181	1
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	605	5	52	2	19	45	25	90	568	132	181	1
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	605	5	52	2	19	45	25	90	568	132	181	1
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62
PHF Volume:	976	8	84	3	31	73	40	145	916	213	292	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	976	8	84	3	31	73	40	145	916	213	292	2
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	976	8	84	3	31	73	40	145	916	213	292	2
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.98	0.02	1.00	0.10	0.90	1.00	1.00	1.00	1.00	1.00	0.99	0.01
Final Sat.:	3769	31	1900	181	1719	1900	1900	1900	1900	1900	1890	10
Capacity Analysis Module:												
Vol/Sat:	0.26	0.26	0.04	0.02	0.02	0.04	0.02	0.08	0.48	0.11	0.15	0.15
Crit Moves:	****				****				****	****		
Green Time:	35.3	35.3	50.6	10.0	10.0	24.3	14.3	30.4	65.7	15.3	31.5	31.5
Volume/Cap:	0.73	0.73	0.09	0.18	0.18	0.16	0.15	0.25	0.73	0.73	0.49	0.49
Delay/Veh:	30.4	30.4	12.8	41.7	41.7	30.0	37.8	26.4	13.6	49.7	28.4	28.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	30.4	30.4	12.8	41.7	41.7	30.0	37.8	26.4	13.6	49.7	28.4	28.4
LOS by Move:	C	C	B	D	D	C	D	C	B	D	C	C
HCM2k95thQ:	25	25	3	2	2	4	2	7	33	15	14	14

Note: Queue reported is the number of cars per lane.

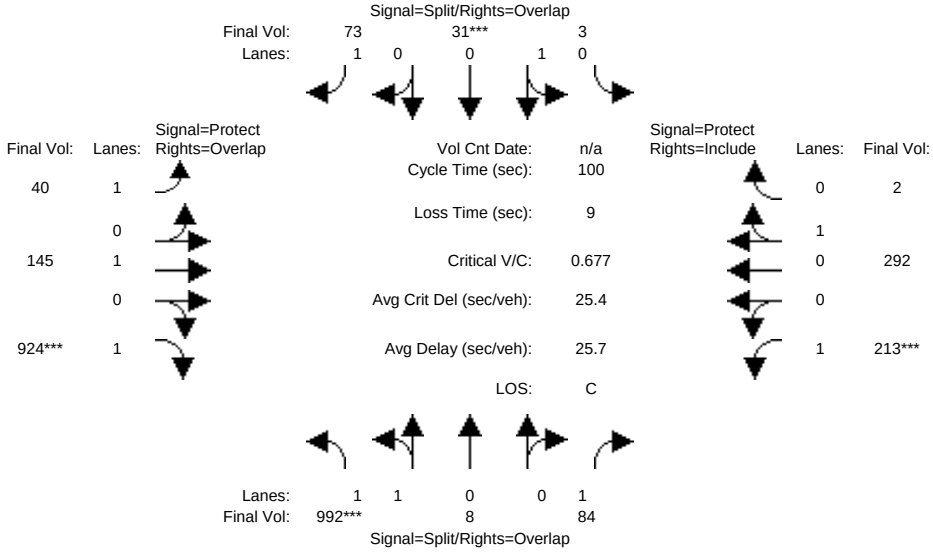
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Project AM

Intersection #5: Green Valley Rd and Stone Valley Rd



Street Name:	Green Valley Road						Stone Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	615	5	52	2	19	45	25	90	573	132	181	1
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	615	5	52	2	19	45	25	90	573	132	181	1
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	615	5	52	2	19	45	25	90	573	132	181	1
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62
PHF Volume:	992	8	84	3	31	73	40	145	924	213	292	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	992	8	84	3	31	73	40	145	924	213	292	2
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	992	8	84	3	31	73	40	145	924	213	292	2
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.98	0.02	1.00	0.10	0.90	1.00	1.00	1.00	1.00	1.00	0.99	0.01
Final Sat.:	3769	31	1900	181	1719	1900	1900	1900	1900	1900	1890	10
Capacity Analysis Module:												
Vol/Sat:	0.26	0.26	0.04	0.02	0.02	0.04	0.02	0.08	0.49	0.11	0.15	0.15
Crit Moves:	****				****				****	****		
Green Time:	35.6	35.6	50.8	10.0	10.0	24.2	14.2	30.2	65.8	15.2	31.2	31.2
Volume/Cap:	0.74	0.74	0.09	0.18	0.18	0.16	0.15	0.25	0.74	0.74	0.49	0.49
Delay/Veh:	30.3	30.3	12.7	41.7	41.7	30.1	37.9	26.6	13.7	50.2	28.6	28.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	30.3	30.3	12.7	41.7	41.7	30.1	37.9	26.6	13.7	50.2	28.6	28.6
LOS by Move:	C	C	B	D	D	C	D	C	B	D	C	C
HCM2k95thQ:	26	26	3	2	2	4	2	7	34	15	14	14

Note: Queue reported is the number of cars per lane.

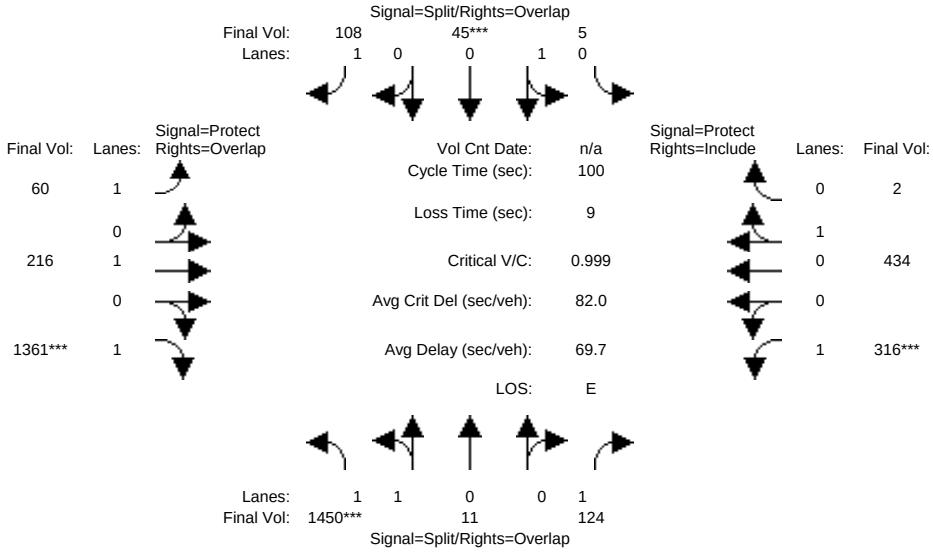
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum AM No Project

Intersection #5: Green Valley Rd and Stone Valley Rd



Street Name:	Green Valley Road						Stone Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	899	7	77	3	28	67	37	134	844	196	269	1
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	899	7	77	3	28	67	37	134	844	196	269	1
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	899	7	77	3	28	67	37	134	844	196	269	1
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62
PHF Volume:	1450	11	124	5	45	108	60	216	1361	316	434	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1450	11	124	5	45	108	60	216	1361	316	434	2
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	1450	11	124	5	45	108	60	216	1361	316	434	2
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.98	0.02	1.00	0.10	0.90	1.00	1.00	1.00	1.00	1.00	0.99	0.01
Final Sat.:	3771	29	1900	184	1716	1900	1900	1900	1900	1900	1893	7
Capacity Analysis Module:												
Vol/Sat:	0.38	0.38	0.07	0.03	0.03	0.06	0.03	0.11	0.72	0.17	0.23	0.23
Crit Moves:	****				****				****	****		
Green Time:	35.3	35.3	50.5	10.0	10.0	20.7	10.7	30.5	65.7	15.3	35.0	35.0
Volume/Cap:	1.09	1.09	0.13	0.26	0.26	0.27	0.29	0.37	1.09	1.09	0.65	0.65
Delay/Veh:	85.3	85.3	13.1	42.3	42.3	33.7	42.0	27.7	70.8	121.4	29.7	29.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	85.3	85.3	13.1	42.3	42.3	33.7	42.0	27.7	70.8	121.4	29.7	29.7
LOS by Move:	F	F	B	D	D	C	D	C	E	F	C	C
HCM2k95thQ:	55	55	4	3	3	6	4	10	91	29	22	22

Note: Queue reported is the number of cars per lane.

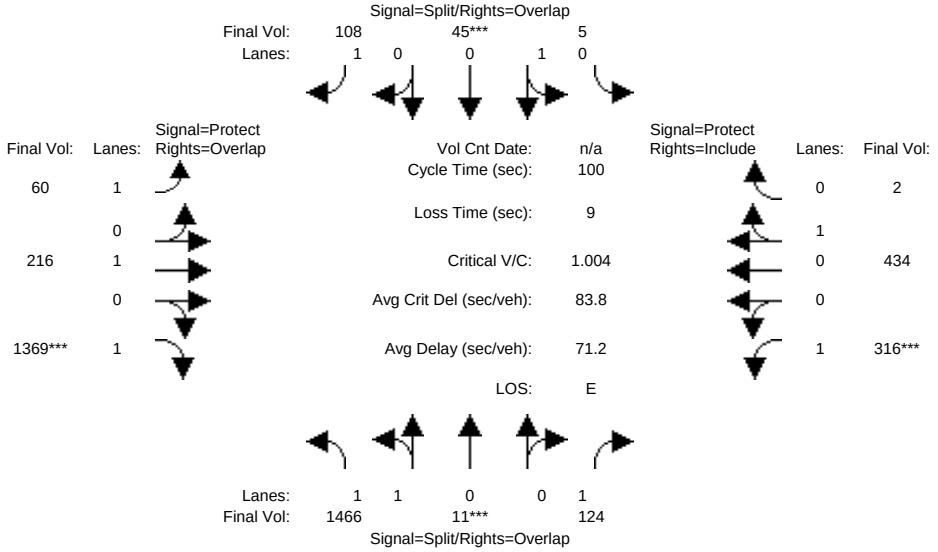
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc1 AM w/Proj

Intersection #5: Green Valley Rd and Stone Valley Rd



Street Name:	Green Valley Road						Stone Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	909	7	77	3	28	67	37	134	849	196	269	1
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	909	7	77	3	28	67	37	134	849	196	269	1
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	909	7	77	3	28	67	37	134	849	196	269	1
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62
PHF Volume:	1466	11	124	5	45	108	60	216	1369	316	434	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1466	11	124	5	45	108	60	216	1369	316	434	2
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	1466	11	124	5	45	108	60	216	1369	316	434	2
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.98	0.02	1.00	0.10	0.90	1.00	1.00	1.00	1.00	1.00	0.99	0.01
Final Sat.:	3771	29	1900	184	1716	1900	1900	1900	1900	1900	1893	7
Capacity Analysis Module:												
Vol/Sat:	0.39	0.39	0.07	0.03	0.03	0.06	0.03	0.11	0.72	0.17	0.23	0.23
Crit Moves:		****			****				****	****		
Green Time:	35.5	35.5	50.7	10.0	10.0	20.6	10.6	30.3	65.8	15.2	34.9	34.9
Volume/Cap:	1.10	1.10	0.13	0.26	0.26	0.28	0.30	0.38	1.10	1.10	0.66	0.66
Delay/Veh:	87.1	87.1	13.1	42.3	42.3	33.8	42.0	27.8	72.7	123.2	30.0	30.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	87.1	87.1	13.1	42.3	42.3	33.8	42.0	27.8	72.7	123.2	30.0	30.0
LOS by Move:	F	F	B	D	D	C	D	C	E	F	C	C
HCM2k95thQ:	55	55	4	3	3	6	4	10	92	29	22	22

Note: Queue reported is the number of cars per lane.

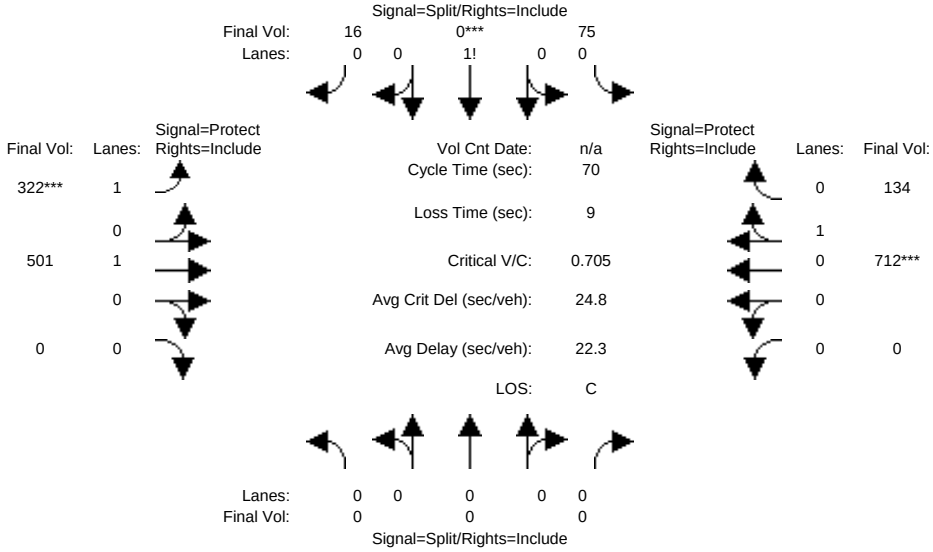
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum AM No Project

Intersection #7: Mt Diablo Scenic Blvd and Diablo Rd



Street Name:	Mt Diablo Scenic Blvd						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	62	0	13	267	416	0	0	591	111
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	62	0	13	267	416	0	0	591	111
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	62	0	13	267	416	0	0	591	111
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
PHF Volume:	0	0	0	75	0	16	322	501	0	0	712	134
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	75	0	16	322	501	0	0	712	134
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	75	0	16	322	501	0	0	712	134
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.83	0.00	0.17	1.00	1.00	0.00	0.00	0.84	0.16
Final Sat.:	0	0	0	1571	0	329	1900	1900	0	0	1600	300
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.05	0.00	0.05	0.17	0.26	0.00	0.00	0.45	0.45
Crit Moves:					****		****				****	
Green Time:	0.0	0.0	0.0	10.0	0.0	10.0	14.1	37.0	0.0	0.0	36.9	36.9
Volume/Cap:	0.00	0.00	0.00	0.33	0.00	0.33	0.84	0.50	0.00	0.00	0.84	0.84
Delay/Veh:	0.0	0.0	0.0	27.7	0.0	27.7	42.5	11.0	0.0	0.0	20.7	20.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	27.7	0.0	27.7	42.5	11.0	0.0	0.0	20.7	20.7
LOS by Move:	A	A	A	C	A	C	D	B	A	A	C	C
HCM2k95thQ:	0	0	0	4	0	4	18	14	0	0	32	32

Note: Queue reported is the number of cars per lane.

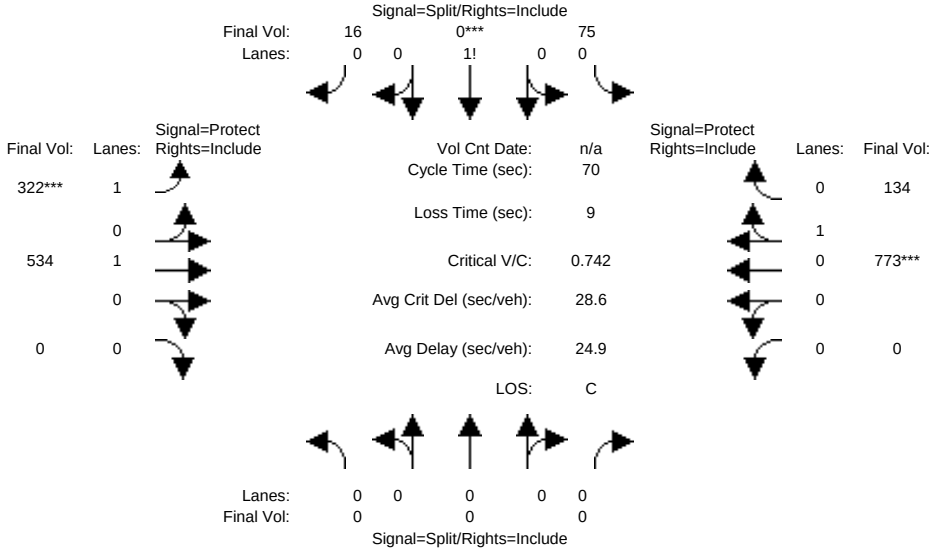
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc1 AM w/Proj

Intersection #7: Mt Diablo Scenic Blvd and Diablo Rd



Street Name:	Mt Diablo Scenic Blvd						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	62	0	13	267	443	0	0	642	111
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	62	0	13	267	443	0	0	642	111
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	62	0	13	267	443	0	0	642	111
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
PHF Volume:	0	0	0	75	0	16	322	534	0	0	773	134
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	75	0	16	322	534	0	0	773	134
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	75	0	16	322	534	0	0	773	134
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.83	0.00	0.17	1.00	1.00	0.00	0.00	0.85	0.15
Final Sat.:	0	0	0	1571	0	329	1900	1900	0	0	1620	280
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.05	0.00	0.05	0.17	0.28	0.00	0.00	0.48	0.48
Crit Moves:					****		****				****	
Green Time:	0.0	0.0	0.0	10.0	0.0	10.0	13.4	37.6	0.0	0.0	37.6	37.6
Volume/Cap:	0.00	0.00	0.00	0.33	0.00	0.33	0.89	0.52	0.00	0.00	0.89	0.89
Delay/Veh:	0.0	0.0	0.0	27.7	0.0	27.7	49.9	10.9	0.0	0.0	23.9	23.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	27.7	0.0	27.7	49.9	10.9	0.0	0.0	23.9	23.9
LOS by Move:	A	A	A	C	A	C	D	B	A	A	C	C
HCM2k95thQ:	0	0	0	4	0	4	19	15	0	0	36	36

Note: Queue reported is the number of cars per lane.

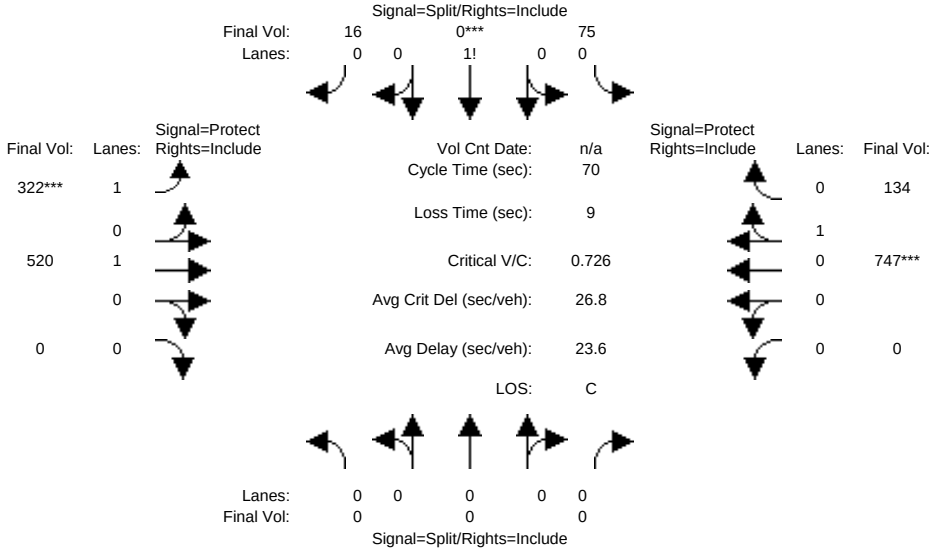
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc4 AM w/Proj

Intersection #7: Mt Diablo Scenic Blvd and Diablo Rd



Street Name:	Mt Diablo Scenic Blvd						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	62	0	13	267	432	0	0	620	111
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	62	0	13	267	432	0	0	620	111
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	62	0	13	267	432	0	0	620	111
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
PHF Volume:	0	0	0	75	0	16	322	520	0	0	747	134
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	75	0	16	322	520	0	0	747	134
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	75	0	16	322	520	0	0	747	134
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.83	0.00	0.17	1.00	1.00	0.00	0.00	0.85	0.15
Final Sat.:	0	0	0	1571	0	329	1900	1900	0	0	1611	289
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.05	0.00	0.05	0.17	0.27	0.00	0.00	0.46	0.46
Crit Moves:					****		****				****	
Green Time:	0.0	0.0	0.0	10.0	0.0	10.0	13.6	37.4	0.0	0.0	37.4	37.4
Volume/Cap:	0.00	0.00	0.00	0.33	0.00	0.33	0.87	0.51	0.00	0.00	0.87	0.87
Delay/Veh:	0.0	0.0	0.0	27.7	0.0	27.7	46.5	10.9	0.0	0.0	22.3	22.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	27.7	0.0	27.7	46.5	10.9	0.0	0.0	22.3	22.3
LOS by Move:	A	A	A	C	A	C	D	B	A	A	C	C
HCM2k95thQ:	0	0	0	4	0	4	19	14	0	0	34	34

Note: Queue reported is the number of cars per lane.

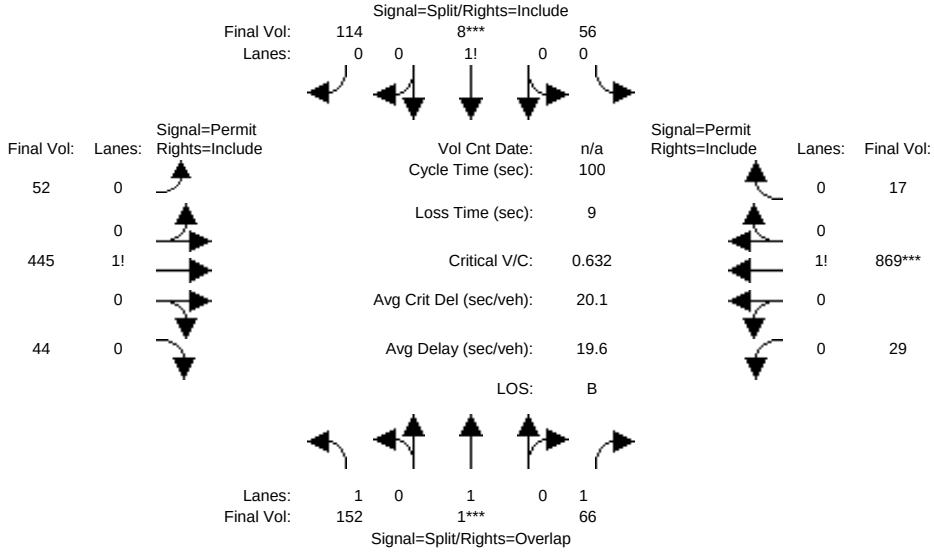
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum AM No Project

Intersection #8: HIdden Oaks Dr/Magee Ranch Rd and Blackhawk Rd



Street Name:	Hidden Oaks Dr/Magee Ranch Rd						Blackhawk Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	117	1	51	43	6	88	40	343	34	22	669	13
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	117	1	51	43	6	88	40	343	34	22	669	13
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	117	1	51	43	6	88	40	343	34	22	669	13
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
PHF Volume:	152	1	66	56	8	114	52	445	44	29	869	17
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	152	1	66	56	8	114	52	445	44	29	869	17
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	152	1	66	56	8	114	52	445	44	29	869	17
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	0.31	0.04	0.65	0.10	0.82	0.08	0.03	0.95	0.02
Final Sat.:	1900	1900	1900	596	83	1220	182	1563	155	59	1806	35
Capacity Analysis Module:												
Vol/Sat:	0.08	0.00	0.03	0.09	0.09	0.09	0.29	0.29	0.29	0.48	0.48	0.48
Crit Moves:		****			****						****	
Green Time:	12.6	12.6	12.6	12.8	12.8	12.8	65.6	65.6	65.6	65.6	65.6	65.6
Volume/Cap:	0.63	0.01	0.28	0.73	0.73	0.73	0.43	0.43	0.43	0.73	0.73	0.73
Delay/Veh:	46.9	38.2	40.2	53.0	53.0	53.0	8.5	8.5	8.5	13.7	13.7	13.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	46.9	38.2	40.2	53.0	53.0	53.0	8.5	8.5	8.5	13.7	13.7	13.7
LOS by Move:	D	D	D	D	D	D	A	A	A	B	B	B
HCM2k95thQ:	11	0	4	13	13	13	15	15	15	33	33	33

Note: Queue reported is the number of cars per lane.

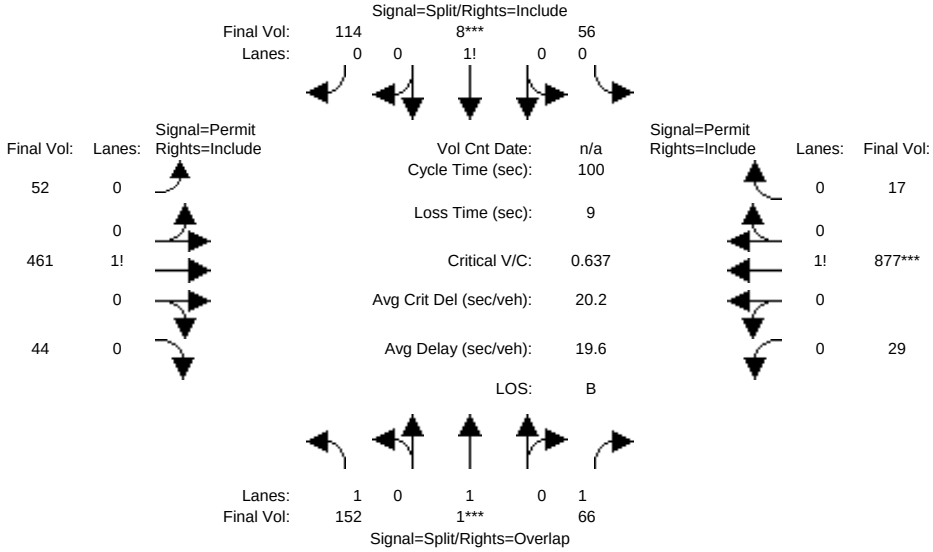
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc1 AM w/Proj

Intersection #8: HIdden Oaks Dr/Magee Ranch Rd and Blackhawk Rd



Street Name:	Hidden Oaks Dr/Magee Ranch Rd						Blackhawk Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	117	1	51	43	6	88	40	355	34	22	675	13
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	117	1	51	43	6	88	40	355	34	22	675	13
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	117	1	51	43	6	88	40	355	34	22	675	13
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
PHF Volume:	152	1	66	56	8	114	52	461	44	29	877	17
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	152	1	66	56	8	114	52	461	44	29	877	17
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	152	1	66	56	8	114	52	461	44	29	877	17
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	0.31	0.04	0.65	0.09	0.83	0.08	0.03	0.95	0.02
Final Sat.:	1900	1900	1900	596	83	1220	177	1572	151	59	1806	35
Capacity Analysis Module:												
Vol/Sat:	0.08	0.00	0.03	0.09	0.09	0.09	0.29	0.29	0.29	0.49	0.49	0.49
Crit Moves:		****			****						****	
Green Time:	12.6	12.6	12.6	12.7	12.7	12.7	65.8	65.8	65.8	65.8	65.8	65.8
Volume/Cap:	0.64	0.01	0.28	0.74	0.74	0.74	0.45	0.45	0.45	0.74	0.74	0.74
Delay/Veh:	47.2	38.3	40.3	53.4	53.4	53.4	8.6	8.6	8.6	13.8	13.8	13.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	47.2	38.3	40.3	53.4	53.4	53.4	8.6	8.6	8.6	13.8	13.8	13.8
LOS by Move:	D	D	D	D	D	D	A	A	A	B	B	B
HCM2k95thQ:	11	0	4	13	13	13	16	16	16	33	33	33

Note: Queue reported is the number of cars per lane.

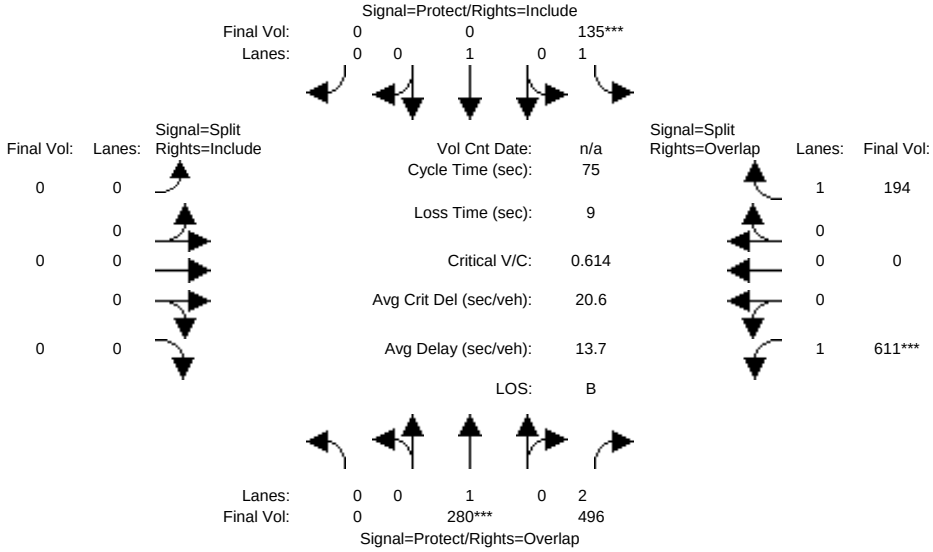
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum AM No Project

Intersection #9: Blackhawk Rd and Blackhawk Dr



Street Name:	Blackhawk Road						Blackhawk Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	230	407	111	496	0	0	0	0	501	0	159
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	230	407	111	496	0	0	0	0	501	0	159
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	230	407	111	496	0	0	0	0	501	0	159
User Adj:	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
PHF Volume:	0	280	496	135	0	0	0	0	0	611	0	194
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	280	496	135	0	0	0	0	0	611	0	194
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	280	496	135	0	0	0	0	0	611	0	194
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	1.00	2.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	1900	3344	1900	1900	0	0	0	0	1900	0	1900
Capacity Analysis Module:												
Vol/Sat:	0.00	0.15	0.15	0.07	0.00	0.00	0.00	0.00	0.00	0.32	0.00	0.10
Crit Moves:		****		****						****		
Green Time:	0.0	18.0	57.3	8.7	0.0	0.0	0.0	0.0	0.0	39.3	0.0	48.0
Volume/Cap:	0.00	0.61	0.19	0.61	0.00	0.00	0.00	0.00	0.00	0.61	0.00	0.16
Delay/Veh:	0.0	27.9	2.5	36.6	0.0	0.0	0.0	0.0	0.0	13.7	0.0	5.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	27.9	2.5	36.6	0.0	0.0	0.0	0.0	0.0	13.7	0.0	5.5
LOS by Move:	A	C	A	D	A	A	A	A	A	B	A	A
HCM2k95thQ:	0	13	4	8	0	0	0	0	0	19	0	4

Note: Queue reported is the number of cars per lane.

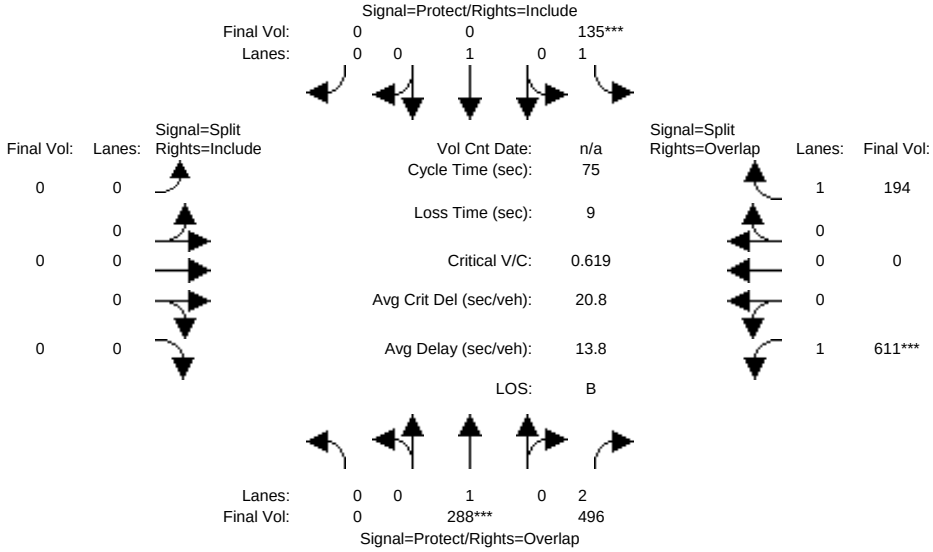
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc1 AM w/Proj

Intersection #9: Blackhawk Rd and Blackhawk Dr



Street Name:	Blackhawk Road						Blackhawk Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	236	407	111	508	0	0	0	0	501	0	159
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	236	407	111	508	0	0	0	0	501	0	159
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	236	407	111	508	0	0	0	0	501	0	159
User Adj:	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
PHF Volume:	0	288	496	135	0	0	0	0	0	611	0	194
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	288	496	135	0	0	0	0	0	611	0	194
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	288	496	135	0	0	0	0	0	611	0	194
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	1.00	2.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	1900	3344	1900	1900	0	0	0	0	1900	0	1900
Capacity Analysis Module:												
Vol/Sat:	0.00	0.15	0.15	0.07	0.00	0.00	0.00	0.00	0.00	0.32	0.00	0.10
Crit Moves:		****		****						****		
Green Time:	0.0	18.4	57.4	8.6	0.0	0.0	0.0	0.0	0.0	39.0	0.0	47.6
Volume/Cap:	0.00	0.62	0.19	0.62	0.00	0.00	0.00	0.00	0.00	0.62	0.00	0.16
Delay/Veh:	0.0	27.7	2.5	36.9	0.0	0.0	0.0	0.0	0.0	13.9	0.0	5.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	27.7	2.5	36.9	0.0	0.0	0.0	0.0	0.0	13.9	0.0	5.6
LOS by Move:	A	C	A	D	A	A	A	A	A	B	A	A
HCM2k95thQ:	0	13	4	8	0	0	0	0	0	19	0	4

Note: Queue reported is the number of cars per lane.

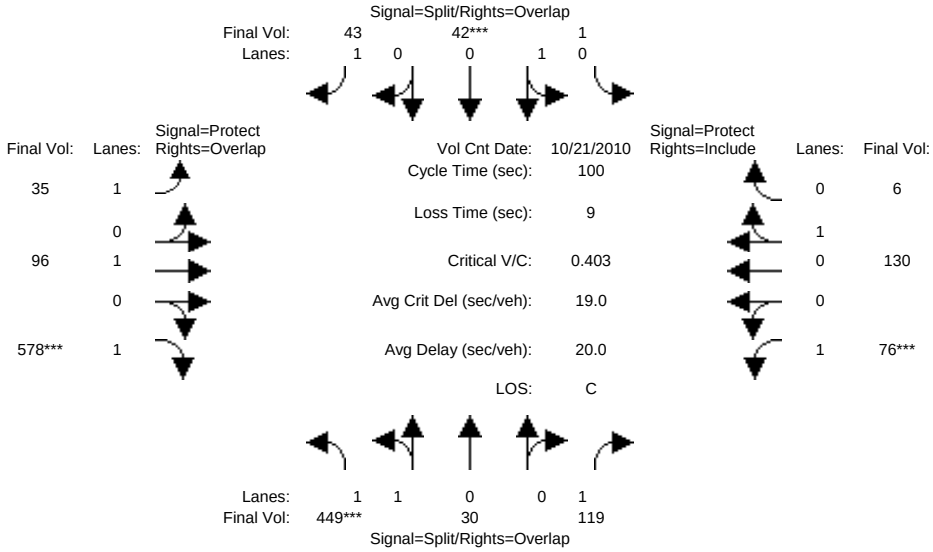
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing School PM

Intersection #5: Green Valley Rd and Stone Valley Rd



Street Name:	Green Valley Road						Stone Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 21 Oct 2010 <<												
Base Vol:	355	24	94	1	33	34	28	76	457	60	103	5
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	355	24	94	1	33	34	28	76	457	60	103	5
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	355	24	94	1	33	34	28	76	457	60	103	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
PHF Volume:	449	30	119	1	42	43	35	96	578	76	130	6
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	449	30	119	1	42	43	35	96	578	76	130	6
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	449	30	119	1	42	43	35	96	578	76	130	6
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.87	0.13	1.00	0.03	0.97	1.00	1.00	1.00	1.00	1.00	0.95	0.05
Final Sat.:	3559	241	1900	56	1844	1900	1900	1900	1900	1900	1812	88
Capacity Analysis Module:												
Vol/Sat:	0.13	0.13	0.06	0.02	0.02	0.02	0.02	0.05	0.30	0.04	0.07	0.07
Crit Moves:	****				****				****	****		
Green Time:	29.7	29.7	39.1	10.0	10.0	31.1	21.1	41.9	71.6	9.4	30.2	30.2
Volume/Cap:	0.43	0.43	0.16	0.23	0.23	0.07	0.09	0.12	0.43	0.43	0.24	0.24
Delay/Veh:	28.5	28.5	19.9	42.0	42.0	24.3	31.8	17.8	6.0	44.4	26.5	26.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	28.5	28.5	19.9	42.0	42.0	24.3	31.8	17.8	6.0	44.4	26.5	26.5
LOS by Move:	C	C	B	D	D	C	C	B	A	D	C	C
HCM2k95thQ:	12	12	5	3	3	2	2	4	14	5	6	6

Note: Queue reported is the number of cars per lane.

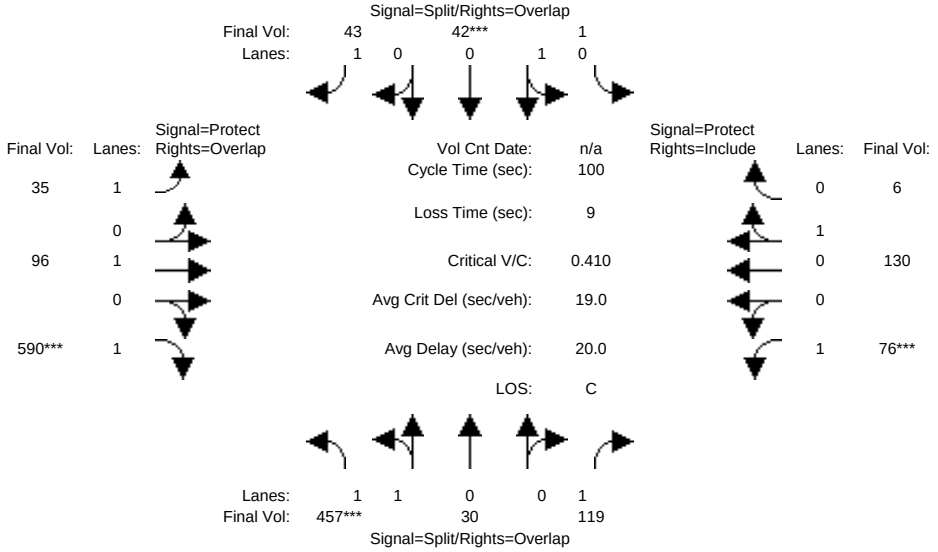
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Project School PM

Intersection #5: Green Valley Rd and Stone Valley Rd



Street Name:	Green Valley Road						Stone Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	361	24	94	1	33	34	28	76	466	60	103	5
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	361	24	94	1	33	34	28	76	466	60	103	5
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	361	24	94	1	33	34	28	76	466	60	103	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
PHF Volume:	457	30	119	1	42	43	35	96	590	76	130	6
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	457	30	119	1	42	43	35	96	590	76	130	6
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	457	30	119	1	42	43	35	96	590	76	130	6
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.88	0.12	1.00	0.03	0.97	1.00	1.00	1.00	1.00	1.00	0.95	0.05
Final Sat.:	3563	237	1900	56	1844	1900	1900	1900	1900	1900	1812	88
Capacity Analysis Module:												
Vol/Sat:	0.13	0.13	0.06	0.02	0.02	0.02	0.02	0.05	0.31	0.04	0.07	0.07
Crit Moves:	****				****				****	****		
Green Time:	29.6	29.6	38.9	10.0	10.0	31.1	21.1	42.1	71.8	9.2	30.2	30.2
Volume/Cap:	0.43	0.43	0.16	0.23	0.23	0.07	0.09	0.12	0.43	0.43	0.24	0.24
Delay/Veh:	28.7	28.7	20.0	42.0	42.0	24.3	31.8	17.7	6.0	44.6	26.5	26.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	28.7	28.7	20.0	42.0	42.0	24.3	31.8	17.7	6.0	44.6	26.5	26.5
LOS by Move:	C	C	C	D	D	C	C	B	A	D	C	C
HCM2k95thQ:	12	12	5	3	3	2	2	4	14	5	6	6

Note: Queue reported is the number of cars per lane.

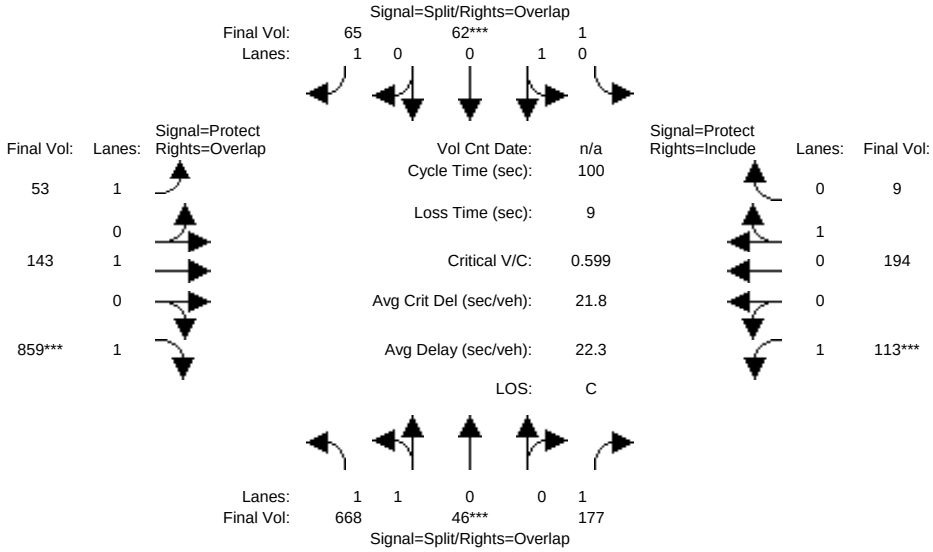
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum School PM No Project

Intersection #5: Green Valley Rd and Stone Valley Rd



Street Name:	Green Valley Road						Stone Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	528	36	140	1	49	51	42	113	679	89	153	7
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	528	36	140	1	49	51	42	113	679	89	153	7
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	528	36	140	1	49	51	42	113	679	89	153	7
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
PHF Volume:	668	46	177	1	62	65	53	143	859	113	194	9
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	668	46	177	1	62	65	53	143	859	113	194	9
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	668	46	177	1	62	65	53	143	859	113	194	9
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.87	0.13	1.00	0.02	0.98	1.00	1.00	1.00	1.00	1.00	0.96	0.04
Final Sat.:	3557	243	1900	38	1862	1900	1900	1900	1900	1900	1817	83
Capacity Analysis Module:												
Vol/Sat:	0.19	0.19	0.09	0.03	0.03	0.03	0.03	0.08	0.45	0.06	0.11	0.11
Crit Moves:		****			****				****	****		
Green Time:	29.7	29.7	39.1	10.0	10.0	30.3	20.3	41.9	71.6	9.4	30.9	30.9
Volume/Cap:	0.63	0.63	0.24	0.33	0.33	0.11	0.14	0.18	0.63	0.63	0.34	0.34
Delay/Veh:	31.6	31.6	20.6	42.9	42.9	25.2	32.8	18.4	8.3	50.8	27.0	27.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	31.6	31.6	20.6	42.9	42.9	25.2	32.8	18.4	8.3	50.8	27.0	27.0
LOS by Move:	C	C	C	D	D	C	C	B	A	D	C	C
HCM2k95thQ:	19	19	7	4	4	3	3	5	25	9	10	10

Note: Queue reported is the number of cars per lane.

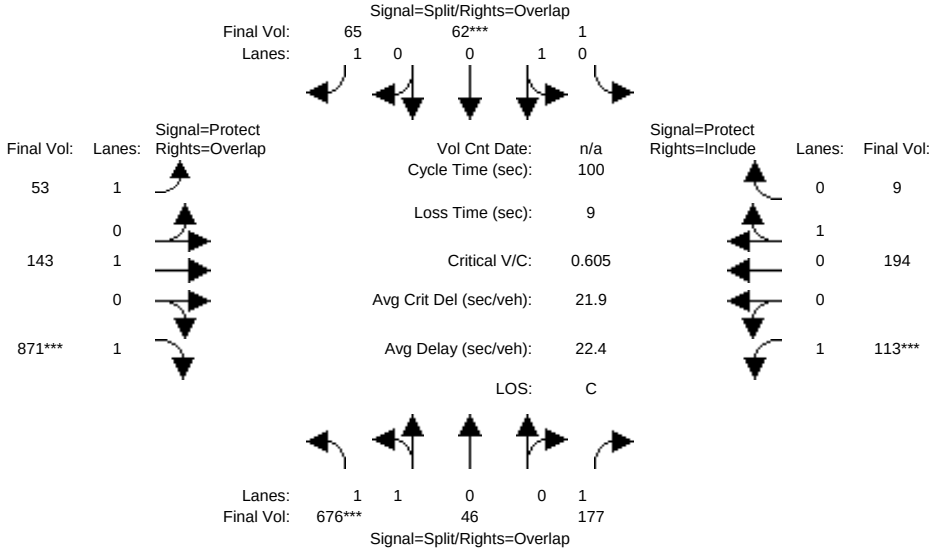
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc1 School PM w/Proj

Intersection #5: Green Valley Rd and Stone Valley Rd



Street Name:	Green Valley Road						Stone Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	534	36	140	1	49	51	42	113	688	89	153	7
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	534	36	140	1	49	51	42	113	688	89	153	7
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	534	36	140	1	49	51	42	113	688	89	153	7
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
PHF Volume:	676	46	177	1	62	65	53	143	871	113	194	9
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	676	46	177	1	62	65	53	143	871	113	194	9
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	676	46	177	1	62	65	53	143	871	113	194	9
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.87	0.13	1.00	0.02	0.98	1.00	1.00	1.00	1.00	1.00	0.96	0.04
Final Sat.:	3560	240	1900	38	1862	1900	1900	1900	1900	1900	1817	83
Capacity Analysis Module:												
Vol/Sat:	0.19	0.19	0.09	0.03	0.03	0.03	0.03	0.08	0.46	0.06	0.11	0.11
Crit Moves:	****				****				****	****		
Green Time:	29.7	29.7	39.0	10.0	10.0	30.3	20.3	42.0	71.7	9.3	31.0	31.0
Volume/Cap:	0.64	0.64	0.24	0.33	0.33	0.11	0.14	0.18	0.64	0.64	0.34	0.34
Delay/Veh:	31.7	31.7	20.7	42.9	42.9	25.2	32.8	18.3	8.4	51.4	27.0	27.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	31.7	31.7	20.7	42.9	42.9	25.2	32.8	18.3	8.4	51.4	27.0	27.0
LOS by Move:	C	C	C	D	D	C	C	B	A	D	C	C
HCM2k95thQ:	19	19	7	4	4	3	3	5	25	9	10	10

Note: Queue reported is the number of cars per lane.

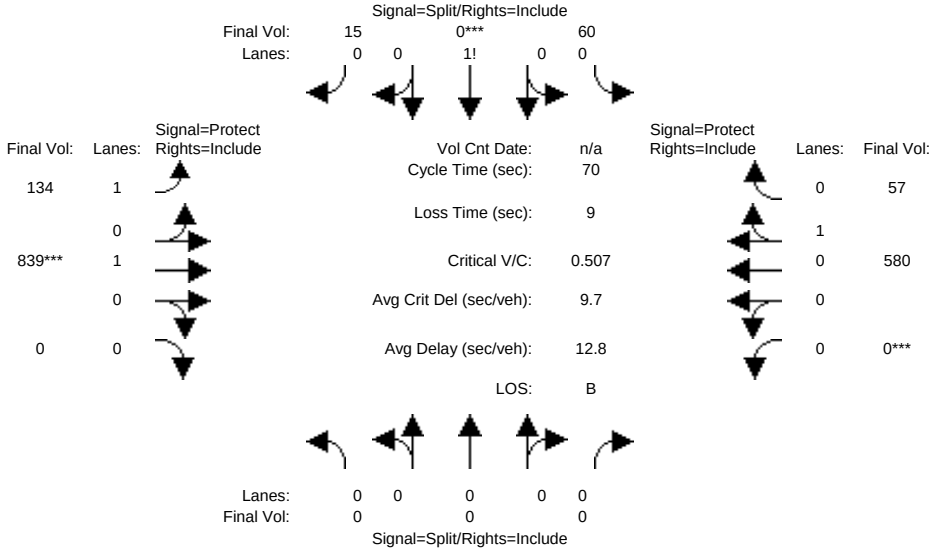
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum School PM No Project

Intersection #7: Mt Diablo Scenic Blvd and Diablo Rd



Street Name:	Mt Diablo Scenic Blvd						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	53	0	13	119	747	0	0	516	51
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	53	0	13	119	747	0	0	516	51
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	53	0	13	119	747	0	0	516	51
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
PHF Volume:	0	0	0	60	0	15	134	839	0	0	580	57
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	60	0	15	134	839	0	0	580	57
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	60	0	15	134	839	0	0	580	57
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.80	0.00	0.20	1.00	1.00	0.00	0.00	0.91	0.09
Final Sat.:	0	0	0	1526	0	374	1900	1900	0	0	1729	171
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.04	0.00	0.04	0.07	0.44	0.00	0.00	0.34	0.34
Crit Moves:					****			****		****		
Green Time:	0.0	0.0	0.0	10.0	0.0	10.0	11.7	44.0	0.0	0.0	39.3	39.3
Volume/Cap:	0.00	0.00	0.00	0.27	0.00	0.27	0.42	0.70	0.00	0.00	0.60	0.60
Delay/Veh:	0.0	0.0	0.0	27.3	0.0	27.3	27.0	10.6	0.0	0.0	11.1	11.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	27.3	0.0	27.3	27.0	10.6	0.0	0.0	11.1	11.1
LOS by Move:	A	A	A	C	A	C	C	B	A	A	B	B
HCM2k95thQ:	0	0	0	3	0	3	6	23	0	0	18	18

Note: Queue reported is the number of cars per lane.

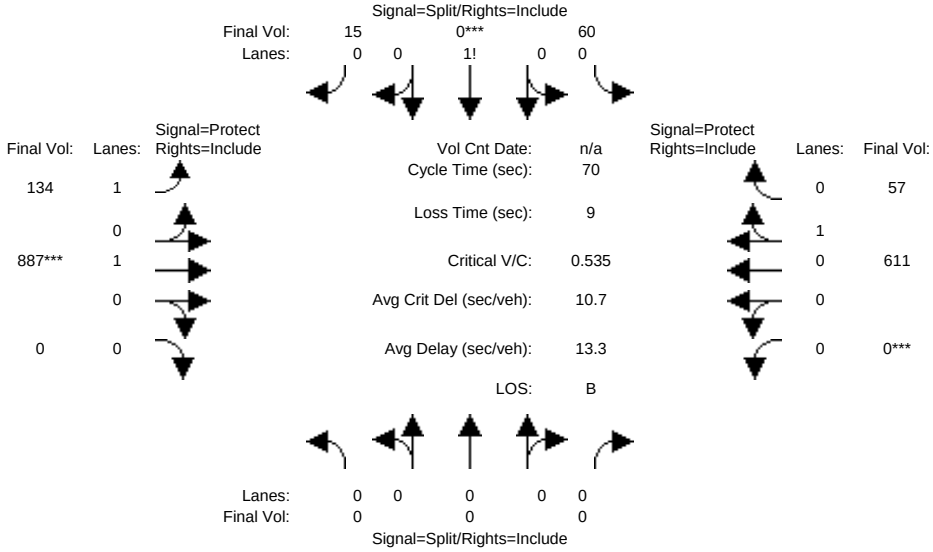
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc1 School PM w/Proj

Intersection #7: Mt Diablo Scenic Blvd and Diablo Rd



Street Name:	Mt Diablo Scenic Blvd						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	53	0	13	119	789	0	0	544	51
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	53	0	13	119	789	0	0	544	51
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	53	0	13	119	789	0	0	544	51
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
PHF Volume:	0	0	0	60	0	15	134	887	0	0	611	57
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	60	0	15	134	887	0	0	611	57
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	60	0	15	134	887	0	0	611	57
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.80	0.00	0.20	1.00	1.00	0.00	0.00	0.91	0.09
Final Sat.:	0	0	0	1526	0	374	1900	1900	0	0	1737	163
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.04	0.00	0.04	0.07	0.47	0.00	0.00	0.35	0.35
Crit Moves:					****			****		****		
Green Time:	0.0	0.0	0.0	10.0	0.0	10.0	11.3	44.0	0.0	0.0	39.7	39.7
Volume/Cap:	0.00	0.00	0.00	0.27	0.00	0.27	0.44	0.74	0.00	0.00	0.62	0.62
Delay/Veh:	0.0	0.0	0.0	27.3	0.0	27.3	27.5	11.6	0.0	0.0	11.2	11.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	27.3	0.0	27.3	27.5	11.6	0.0	0.0	11.2	11.2
LOS by Move:	A	A	A	C	A	C	C	B	A	A	B	B
HCM2k95thQ:	0	0	0	3	0	3	6	26	0	0	19	19

Note: Queue reported is the number of cars per lane.

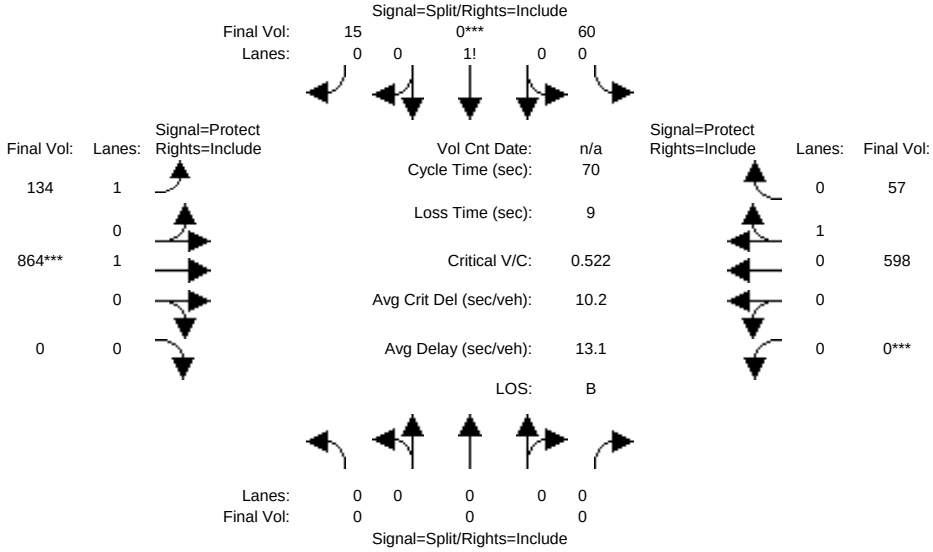
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc4 School PM w/Proj

Intersection #7: Mt Diablo Scenic Blvd and Diablo Rd



Street Name:	Mt Diablo Scenic Blvd						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	53	0	13	119	769	0	0	532	51
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	53	0	13	119	769	0	0	532	51
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	53	0	13	119	769	0	0	532	51
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
PHF Volume:	0	0	0	60	0	15	134	864	0	0	598	57
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	60	0	15	134	864	0	0	598	57
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	60	0	15	134	864	0	0	598	57
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.80	0.00	0.20	1.00	1.00	0.00	0.00	0.91	0.09
Final Sat.:	0	0	0	1526	0	374	1900	1900	0	0	1734	166
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.04	0.00	0.04	0.07	0.45	0.00	0.00	0.34	0.34
Crit Moves:					****			****		****		
Green Time:	0.0	0.0	0.0	10.0	0.0	10.0	11.5	44.0	0.0	0.0	39.5	39.5
Volume/Cap:	0.00	0.00	0.00	0.27	0.00	0.27	0.43	0.72	0.00	0.00	0.61	0.61
Delay/Veh:	0.0	0.0	0.0	27.3	0.0	27.3	27.3	11.1	0.0	0.0	11.2	11.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	27.3	0.0	27.3	27.3	11.1	0.0	0.0	11.2	11.2
LOS by Move:	A	A	A	C	A	C	C	B	A	A	B	B
HCM2k95thQ:	0	0	0	3	0	3	6	25	0	0	18	18

Note: Queue reported is the number of cars per lane.

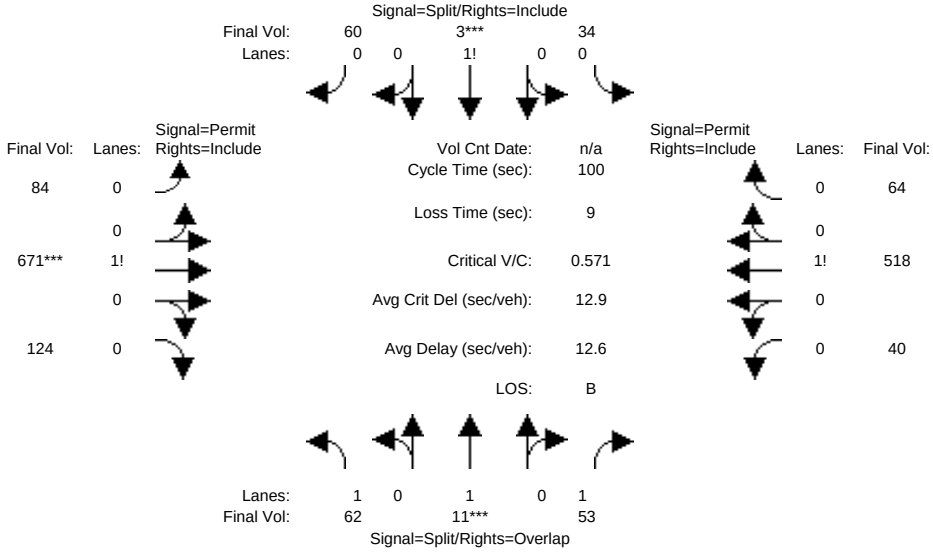
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum School PM No Project

Intersection #8: HIdden Oaks Dr/Magee Ranch Rd and Blackhawk Rd



Street Name:	Hidden Oaks Dr/Magee Ranch Rd						Blackhawk Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	56	10	48	31	3	55	76	611	113	36	471	58
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	56	10	48	31	3	55	76	611	113	36	471	58
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	56	10	48	31	3	55	76	611	113	36	471	58
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	62	11	53	34	3	60	84	671	124	40	518	64
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	62	11	53	34	3	60	84	671	124	40	518	64
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	62	11	53	34	3	60	84	671	124	40	518	64
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	0.35	0.03	0.62	0.09	0.77	0.14	0.06	0.84	0.10
Final Sat.:	1900	1900	1900	662	64	1174	180	1451	268	121	1584	195
Capacity Analysis Module:												
Vol/Sat:	0.03	0.01	0.03	0.05	0.05	0.05	0.46	0.46	0.46	0.33	0.33	0.33
Crit Moves:		****			****			****				
Green Time:	10.0	10.0	10.0	10.0	10.0	10.0	71.0	71.0	71.0	71.0	71.0	71.0
Volume/Cap:	0.32	0.06	0.28	0.51	0.51	0.51	0.65	0.65	0.65	0.46	0.46	0.46
Delay/Veh:	42.9	40.9	42.5	45.1	45.1	45.1	9.0	9.0	9.0	6.5	6.5	6.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	42.9	40.9	42.5	45.1	45.1	45.1	9.0	9.0	9.0	6.5	6.5	6.5
LOS by Move:	D	D	D	D	D	D	A	A	A	A	A	A
HCM2k95thQ:	4	1	4	7	7	7	26	26	26	16	16	16

Note: Queue reported is the number of cars per lane.

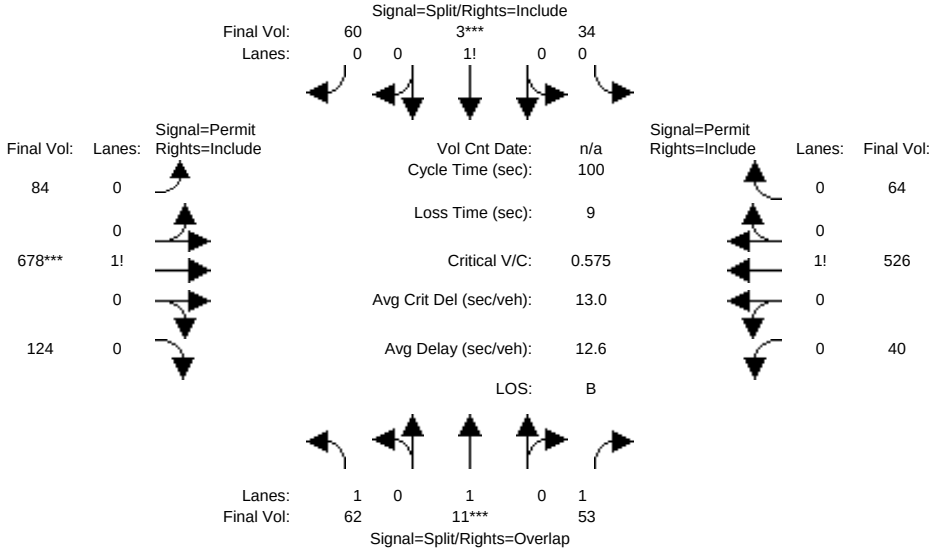
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc1 School PM w/Proj

Intersection #8: HIdden Oaks Dr/Magee Ranch Rd and Blackhawk Rd



Street Name:	Hidden Oaks Dr/Magee Ranch Rd						Blackhawk Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	56	10	48	31	3	55	76	617	113	36	479	58
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	56	10	48	31	3	55	76	617	113	36	479	58
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	56	10	48	31	3	55	76	617	113	36	479	58
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	62	11	53	34	3	60	84	678	124	40	526	64
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	62	11	53	34	3	60	84	678	124	40	526	64
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	62	11	53	34	3	60	84	678	124	40	526	64
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	0.35	0.03	0.62	0.09	0.77	0.14	0.06	0.84	0.10
Final Sat.:	1900	1900	1900	662	64	1174	179	1454	266	119	1588	192
Capacity Analysis Module:												
Vol/Sat:	0.03	0.01	0.03	0.05	0.05	0.05	0.47	0.47	0.47	0.33	0.33	0.33
Crit Moves:		****			****			****				
Green Time:	10.0	10.0	10.0	10.0	10.0	10.0	71.0	71.0	71.0	71.0	71.0	71.0
Volume/Cap:	0.32	0.06	0.28	0.51	0.51	0.51	0.66	0.66	0.66	0.47	0.47	0.47
Delay/Veh:	42.9	40.9	42.5	45.1	45.1	45.1	9.1	9.1	9.1	6.5	6.5	6.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	42.9	40.9	42.5	45.1	45.1	45.1	9.1	9.1	9.1	6.5	6.5	6.5
LOS by Move:	D	D	D	D	D	D	A	A	A	A	A	A
HCM2k95thQ:	4	1	4	7	7	7	27	27	27	16	16	16

Note: Queue reported is the number of cars per lane.

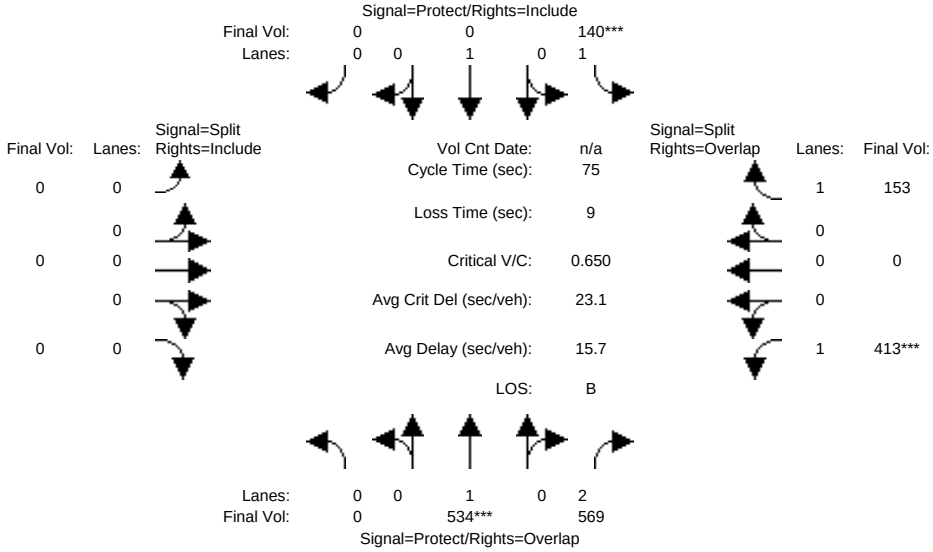
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum School PM No Project

Intersection #9: Blackhawk Rd and Blackhawk Dr



Street Name:	Blackhawk Road						Blackhawk Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	459	489	120	517	0	0	0	0	355	0	132
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	459	489	120	517	0	0	0	0	355	0	132
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	459	489	120	517	0	0	0	0	355	0	132
User Adj:	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
PHF Volume:	0	534	569	140	0	0	0	0	0	413	0	153
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	534	569	140	0	0	0	0	0	413	0	153
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	534	569	140	0	0	0	0	0	413	0	153
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	1.00	2.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	1900	3344	1900	1900	0	0	0	0	1900	0	1900
Capacity Analysis Module:												
Vol/Sat:	0.00	0.28	0.17	0.07	0.00	0.00	0.00	0.00	0.00	0.22	0.00	0.08
Crit Moves:		****		****						****		
Green Time:	0.0	32.4	57.5	8.5	0.0	0.0	0.0	0.0	0.0	25.1	0.0	33.6
Volume/Cap:	0.00	0.65	0.22	0.65	0.00	0.00	0.00	0.00	0.00	0.65	0.00	0.18
Delay/Veh:	0.0	18.6	2.5	38.7	0.0	0.0	0.0	0.0	0.0	23.6	0.0	12.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	18.6	2.5	38.7	0.0	0.0	0.0	0.0	0.0	23.6	0.0	12.6
LOS by Move:	A	B	A	D	A	A	A	A	A	C	A	B
HCM2k95thQ:	0	19	4	9	0	0	0	0	0	17	0	4

Note: Queue reported is the number of cars per lane.

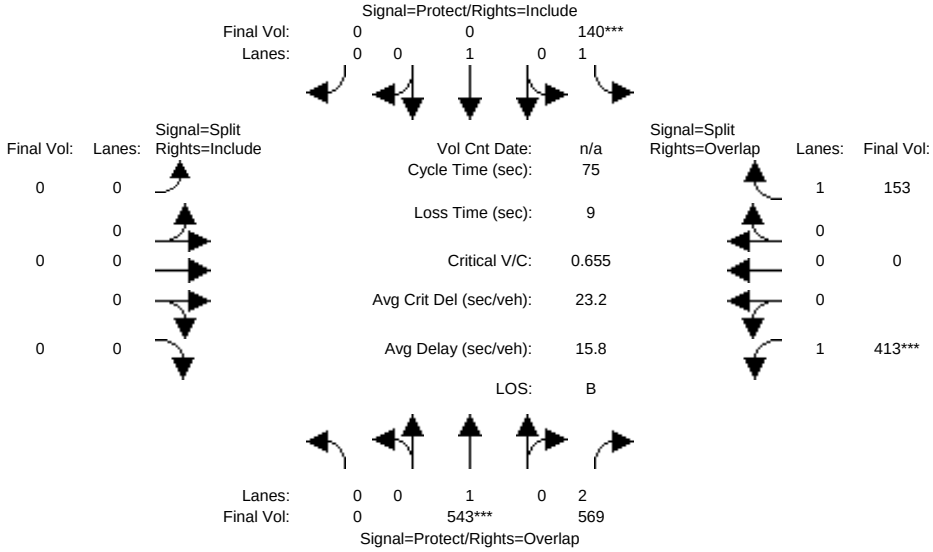
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc1 School PM w/Proj

Intersection #9: Blackhawk Rd and Blackhawk Dr



Street Name:	Blackhawk Road						Blackhawk Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	467	489	120	523	0	0	0	0	355	0	132
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	467	489	120	523	0	0	0	0	355	0	132
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	467	489	120	523	0	0	0	0	355	0	132
User Adj:	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
PHF Volume:	0	543	569	140	0	0	0	0	0	413	0	153
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	543	569	140	0	0	0	0	0	413	0	153
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	543	569	140	0	0	0	0	0	413	0	153
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	1.00	2.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	1900	3344	1900	1900	0	0	0	0	1900	0	1900
Capacity Analysis Module:												
Vol/Sat:	0.00	0.29	0.17	0.07	0.00	0.00	0.00	0.00	0.00	0.22	0.00	0.08
Crit Moves:		****		****						****		
Green Time:	0.0	32.7	57.6	8.4	0.0	0.0	0.0	0.0	0.0	24.9	0.0	33.3
Volume/Cap:	0.00	0.66	0.22	0.66	0.00	0.00	0.00	0.00	0.00	0.66	0.00	0.18
Delay/Veh:	0.0	18.6	2.5	39.1	0.0	0.0	0.0	0.0	0.0	23.9	0.0	12.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	18.6	2.5	39.1	0.0	0.0	0.0	0.0	0.0	23.9	0.0	12.7
LOS by Move:	A	B	A	D	A	A	A	A	A	C	A	B
HCM2k95thQ:	0	20	4	9	0	0	0	0	0	17	0	4

Note: Queue reported is the number of cars per lane.

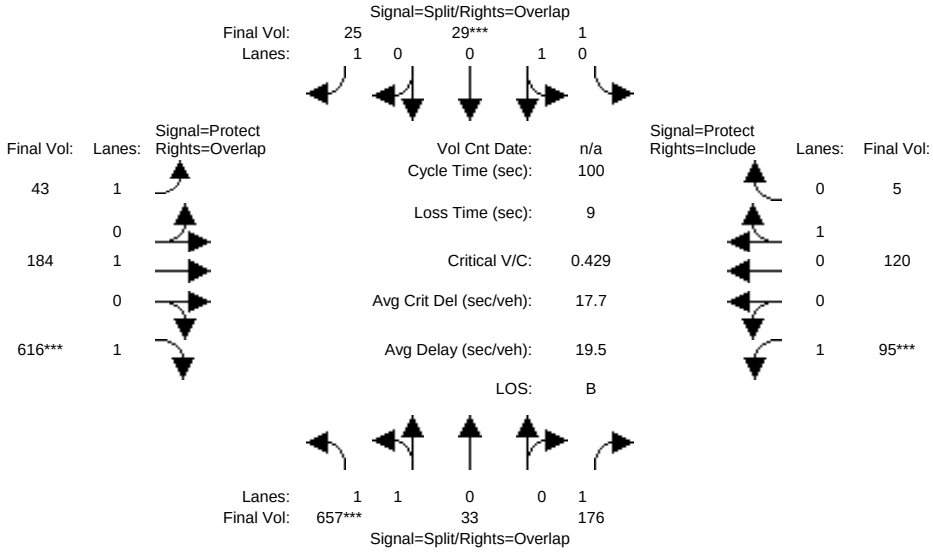
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum PM No Project

Intersection #5: Green Valley Rd and Stone Valley Rd



Street Name:	Green Valley Road						Stone Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	545	27	146	1	24	21	36	153	511	79	100	4
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	545	27	146	1	24	21	36	153	511	79	100	4
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	545	27	146	1	24	21	36	153	511	79	100	4
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
PHF Volume:	657	33	176	1	29	25	43	184	616	95	120	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	657	33	176	1	29	25	43	184	616	95	120	5
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	657	33	176	1	29	25	43	184	616	95	120	5
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.91	0.09	1.00	0.04	0.96	1.00	1.00	1.00	1.00	1.00	0.96	0.04
Final Sat.:	3621	179	1900	76	1824	1900	1900	1900	1900	1900	1827	73
Capacity Analysis Module:												
Vol/Sat:	0.18	0.18	0.09	0.02	0.02	0.01	0.02	0.10	0.32	0.05	0.07	0.07
Crit Moves:	****				****				****	****		
Green Time:	39.3	39.3	50.1	10.0	10.0	27.2	17.2	30.9	70.2	10.8	24.6	24.6
Volume/Cap:	0.46	0.46	0.18	0.16	0.16	0.05	0.13	0.31	0.46	0.46	0.27	0.27
Delay/Veh:	22.8	22.8	13.8	41.5	41.5	26.9	35.3	26.8	6.8	43.5	30.8	30.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	22.8	22.8	13.8	41.5	41.5	26.9	35.3	26.8	6.8	43.5	30.8	30.8
LOS by Move:	C	C	B	D	D	C	D	C	A	D	C	C
HCM2k95thQ:	15	15	6	2	2	1	2	9	16	7	6	6

Note: Queue reported is the number of cars per lane.

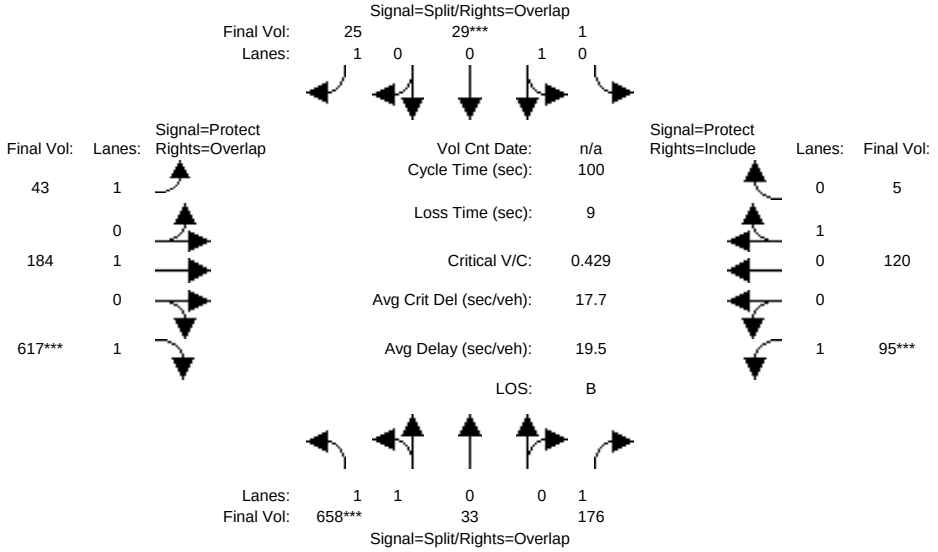
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc1 PM w/Proj

Intersection #5: Green Valley Rd and Stone Valley Rd



Street Name:	Green Valley Road						Stone Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	546	27	146	1	24	21	36	153	512	79	100	4
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	546	27	146	1	24	21	36	153	512	79	100	4
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	546	27	146	1	24	21	36	153	512	79	100	4
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
PHF Volume:	658	33	176	1	29	25	43	184	617	95	120	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	658	33	176	1	29	25	43	184	617	95	120	5
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	658	33	176	1	29	25	43	184	617	95	120	5
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.91	0.09	1.00	0.04	0.96	1.00	1.00	1.00	1.00	1.00	0.96	0.04
Final Sat.:	3621	179	1900	76	1824	1900	1900	1900	1900	1900	1827	73
Capacity Analysis Module:												
Vol/Sat:	0.18	0.18	0.09	0.02	0.02	0.01	0.02	0.10	0.32	0.05	0.07	0.07
Crit Moves:	****				****				****	****		
Green Time:	39.3	39.3	50.1	10.0	10.0	27.2	17.2	30.9	70.2	10.8	24.5	24.5
Volume/Cap:	0.46	0.46	0.18	0.16	0.16	0.05	0.13	0.31	0.46	0.46	0.27	0.27
Delay/Veh:	22.8	22.8	13.8	41.5	41.5	26.9	35.3	26.7	6.8	43.5	30.8	30.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	22.8	22.8	13.8	41.5	41.5	26.9	35.3	26.7	6.8	43.5	30.8	30.8
LOS by Move:	C	C	B	D	D	C	D	C	A	D	C	C
HCM2k95thQ:	15	15	6	2	2	1	2	9	16	7	6	6

Note: Queue reported is the number of cars per lane.

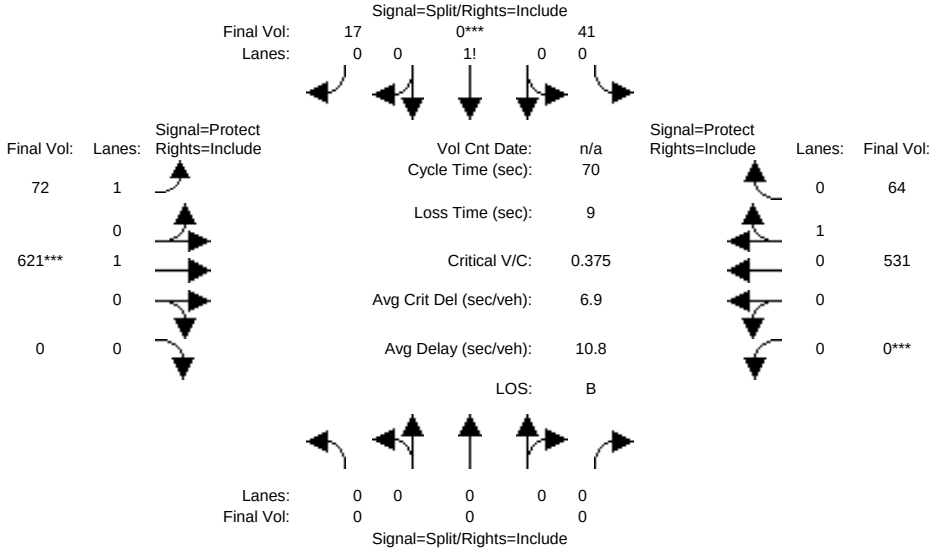
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum PM No Project

Intersection #7: Mt Diablo Scenic Blvd and Diablo Rd



Street Name:	Mt Diablo Scenic Blvd						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	37	0	15	65	559	0	0	478	58
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	37	0	15	65	559	0	0	478	58
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	37	0	15	65	559	0	0	478	58
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	0	0	0	41	0	17	72	621	0	0	531	64
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	41	0	17	72	621	0	0	531	64
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	41	0	17	72	621	0	0	531	64
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.71	0.00	0.29	1.00	1.00	0.00	0.00	0.89	0.11
Final Sat.:	0	0	0	1352	0	548	1900	1900	0	0	1694	206
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.03	0.00	0.03	0.04	0.33	0.00	0.00	0.31	0.31
Crit Moves:					****			****		****		
Green Time:	0.0	0.0	0.0	10.0	0.0	10.0	12.3	44.0	0.0	0.0	38.7	38.7
Volume/Cap:	0.00	0.00	0.00	0.21	0.00	0.21	0.22	0.52	0.00	0.00	0.57	0.57
Delay/Veh:	0.0	0.0	0.0	26.9	0.0	26.9	25.0	7.6	0.0	0.0	11.0	11.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	26.9	0.0	26.9	25.0	7.6	0.0	0.0	11.0	11.0
LOS by Move:	A	A	A	C	A	C	C	A	A	A	B	B
HCM2k95thQ:	0	0	0	3	0	3	3	15	0	0	16	16

Note: Queue reported is the number of cars per lane.

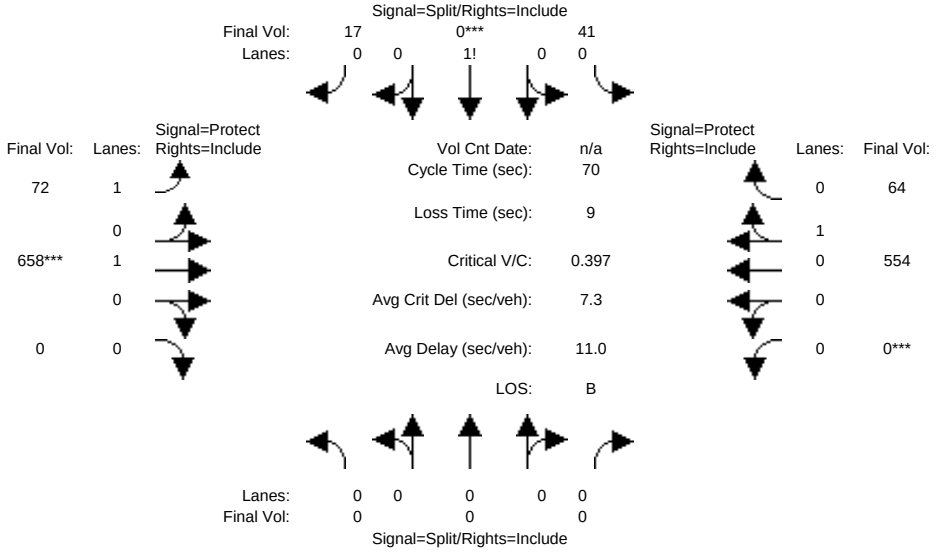
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc1 PM w/Proj

Intersection #7: Mt Diablo Scenic Blvd and Diablo Rd



Street Name:	Mt Diablo Scenic Blvd						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	37	0	15	65	592	0	0	499	58
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	37	0	15	65	592	0	0	499	58
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	37	0	15	65	592	0	0	499	58
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	0	0	0	41	0	17	72	658	0	0	554	64
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	41	0	17	72	658	0	0	554	64
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	41	0	17	72	658	0	0	554	64
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.71	0.00	0.29	1.00	1.00	0.00	0.00	0.90	0.10
Final Sat.:	0	0	0	1352	0	548	1900	1900	0	0	1702	198
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.03	0.00	0.03	0.04	0.35	0.00	0.00	0.33	0.33
Crit Moves:					****			****		****		
Green Time:	0.0	0.0	0.0	10.0	0.0	10.0	12.0	44.0	0.0	0.0	39.0	39.0
Volume/Cap:	0.00	0.00	0.00	0.21	0.00	0.21	0.22	0.55	0.00	0.00	0.58	0.58
Delay/Veh:	0.0	0.0	0.0	26.9	0.0	26.9	25.3	7.9	0.0	0.0	11.0	11.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	26.9	0.0	26.9	25.3	7.9	0.0	0.0	11.0	11.0
LOS by Move:	A	A	A	C	A	C	C	A	A	A	B	B
HCM2k95thQ:	0	0	0	3	0	3	3	16	0	0	17	17

Note: Queue reported is the number of cars per lane.

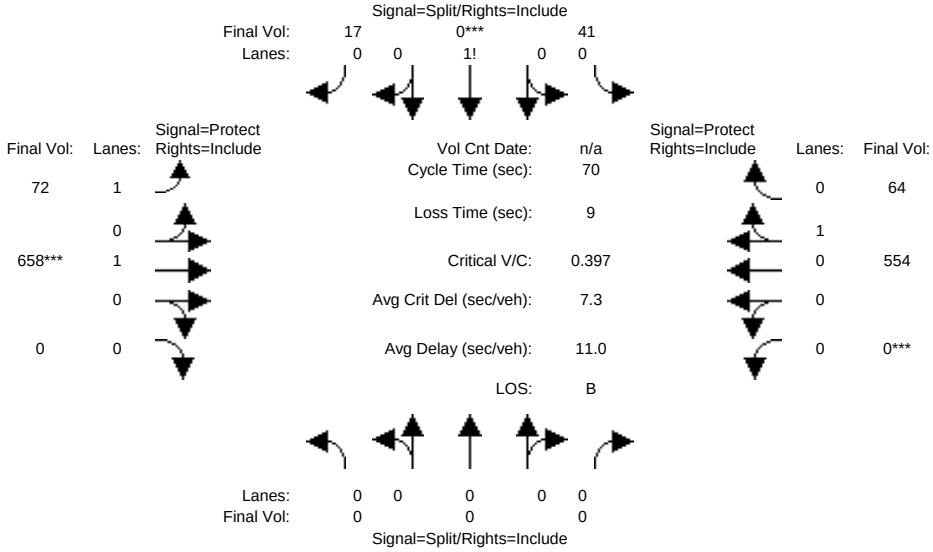
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc4 PM w/Proj

Intersection #7: Mt Diablo Scenic Blvd and Diablo Rd



Street Name:	Mt Diablo Scenic Blvd						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	37	0	15	65	592	0	0	499	58
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	37	0	15	65	592	0	0	499	58
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	37	0	15	65	592	0	0	499	58
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	0	0	0	41	0	17	72	658	0	0	554	64
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	41	0	17	72	658	0	0	554	64
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	41	0	17	72	658	0	0	554	64
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.71	0.00	0.29	1.00	1.00	0.00	0.00	0.90	0.10
Final Sat.:	0	0	0	1352	0	548	1900	1900	0	0	1702	198
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.03	0.00	0.03	0.04	0.35	0.00	0.00	0.33	0.33
Crit Moves:					****			****		****		
Green Time:	0.0	0.0	0.0	10.0	0.0	10.0	12.0	44.0	0.0	0.0	39.0	39.0
Volume/Cap:	0.00	0.00	0.00	0.21	0.00	0.21	0.22	0.55	0.00	0.00	0.58	0.58
Delay/Veh:	0.0	0.0	0.0	26.9	0.0	26.9	25.3	7.9	0.0	0.0	11.0	11.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	26.9	0.0	26.9	25.3	7.9	0.0	0.0	11.0	11.0
LOS by Move:	A	A	A	C	A	C	C	A	A	A	B	B
HCM2k95thQ:	0	0	0	3	0	3	3	16	0	0	17	17

Note: Queue reported is the number of cars per lane.

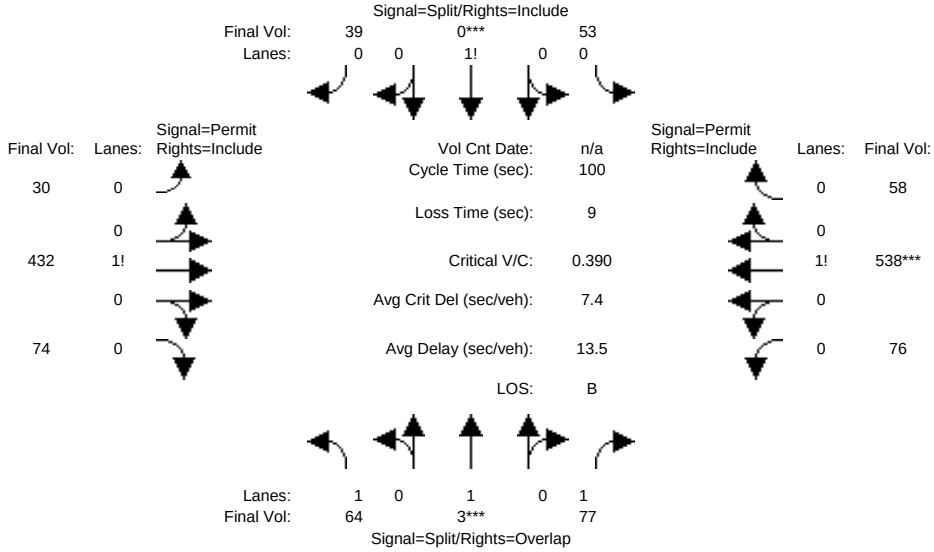
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum PM No Project

Intersection #8: HIdden Oaks Dr/Magee Ranch Rd and Blackhawk Rd



Street Name:	Hidden Oaks Dr/Magee Ranch Rd						Blackhawk Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	59	3	71	49	0	36	28	397	68	70	495	53
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	59	3	71	49	0	36	28	397	68	70	495	53
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	59	3	71	49	0	36	28	397	68	70	495	53
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	64	3	77	53	0	39	30	432	74	76	538	58
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	64	3	77	53	0	39	30	432	74	76	538	58
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	64	3	77	53	0	39	30	432	74	76	538	58
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	0.58	0.00	0.42	0.06	0.80	0.14	0.11	0.80	0.09
Final Sat.:	1900	1900	1900	1095	0	805	108	1530	262	215	1522	163
Capacity Analysis Module:												
Vol/Sat:	0.03	0.00	0.04	0.05	0.00	0.05	0.28	0.28	0.28	0.35	0.35	0.35
Crit Moves:		****			****						****	
Green Time:	10.4	10.4	10.4	12.5	0.0	12.5	68.1	68.1	68.1	68.1	68.1	68.1
Volume/Cap:	0.32	0.02	0.39	0.39	0.00	0.39	0.41	0.41	0.41	0.52	0.52	0.52
Delay/Veh:	42.5	40.2	43.1	41.3	0.0	41.3	7.3	7.3	7.3	8.2	8.2	8.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	42.5	40.2	43.1	41.3	0.0	41.3	7.3	7.3	7.3	8.2	8.2	8.2
LOS by Move:	D	D	D	D	A	D	A	A	A	A	A	A
HCM2k95thQ:	4	0	5	6	0	6	14	14	14	19	19	19

Note: Queue reported is the number of cars per lane.

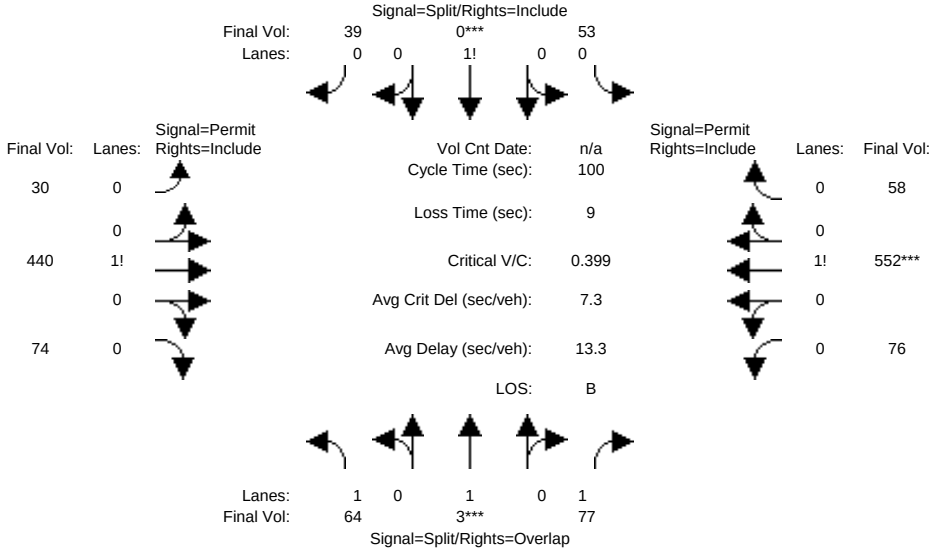
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc1 PM w/Proj

Intersection #8: HIdden Oaks Dr/Magee Ranch Rd and Blackhawk Rd



Street Name:	Hidden Oaks Dr/Magee Ranch Rd						Blackhawk Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	59	3	71	49	0	36	28	405	68	70	508	53
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	59	3	71	49	0	36	28	405	68	70	508	53
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	59	3	71	49	0	36	28	405	68	70	508	53
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	64	3	77	53	0	39	30	440	74	76	552	58
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	64	3	77	53	0	39	30	440	74	76	552	58
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	64	3	77	53	0	39	30	440	74	76	552	58
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	0.58	0.00	0.42	0.06	0.81	0.13	0.11	0.81	0.08
Final Sat.:	1900	1900	1900	1095	0	805	106	1536	258	211	1530	160
Capacity Analysis Module:												
Vol/Sat:	0.03	0.00	0.04	0.05	0.00	0.05	0.29	0.29	0.29	0.36	0.36	0.36
Crit Moves:		****			****						****	
Green Time:	10.2	10.2	10.2	12.2	0.0	12.2	68.6	68.6	68.6	68.6	68.6	68.6
Volume/Cap:	0.33	0.02	0.40	0.40	0.00	0.40	0.42	0.42	0.42	0.53	0.53	0.53
Delay/Veh:	42.7	40.4	43.4	41.6	0.0	41.6	7.1	7.1	7.1	8.1	8.1	8.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	42.7	40.4	43.4	41.6	0.0	41.6	7.1	7.1	7.1	8.1	8.1	8.1
LOS by Move:	D	D	D	D	A	D	A	A	A	A	A	A
HCM2k95thQ:	4	0	5	6	0	6	14	14	14	19	19	19

Note: Queue reported is the number of cars per lane.

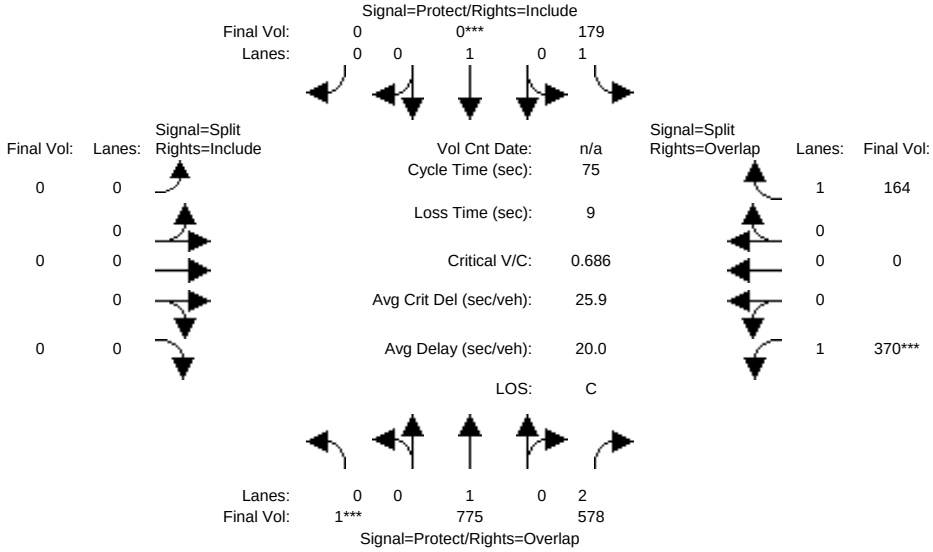
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum PM No Project

Intersection #9: Blackhawk Rd and Blackhawk Dr



Street Name:	Blackhawk Road						Blackhawk Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	1	620	462	143	465	0	0	0	0	296	0	131
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1	620	462	143	465	0	0	0	0	296	0	131
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	1	620	462	143	465	0	0	0	0	296	0	131
User Adj:	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
PHF Volume:	1	775	578	179	0	0	0	0	0	370	0	164
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1	775	578	179	0	0	0	0	0	370	0	164
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	1	775	578	179	0	0	0	0	0	370	0	164
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.01	0.99	2.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	3	1897	3344	1900	1900	0	0	0	0	1900	0	1900
Capacity Analysis Module:												
Vol/Sat:	0.41	0.41	0.17	0.09	0.00	0.00	0.00	0.00	0.00	0.19	0.00	0.09
Crit Moves:	****				****					****		
Green Time:	37.9	39.0	57.0	9.0	0.0	0.0	0.0	0.0	0.0	18.1	0.0	27.0
Volume/Cap:	0.81	0.79	0.23	0.79	0.00	0.00	0.00	0.00	0.00	0.81	0.00	0.24
Delay/Veh:	20.6	18.9	2.6	48.6	0.0	0.0	0.0	0.0	0.0	37.1	0.0	17.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	20.6	18.9	2.6	48.6	0.0	0.0	0.0	0.0	0.0	37.1	0.0	17.0
LOS by Move:	C	B	A	D	A	A	A	A	A	D	A	B
HCM2k95thQ:	30	29	5	12	0	0	0	0	0	19	0	5

Note: Queue reported is the number of cars per lane.

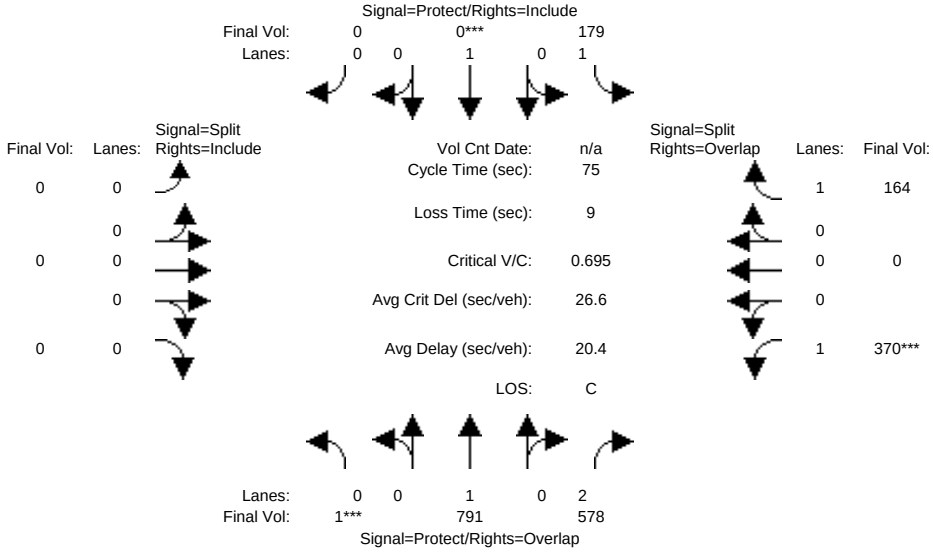
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

2000 HCM

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Cum Sc1 PM w/Proj

Intersection #9: Blackhawk Rd and Blackhawk Dr



Street Name:	Blackhawk Road						Blackhawk Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	1	633	462	143	473	0	0	0	0	296	0	131
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1	633	462	143	473	0	0	0	0	296	0	131
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	1	633	462	143	473	0	0	0	0	296	0	131
User Adj:	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
PHF Volume:	1	791	578	179	0	0	0	0	0	370	0	164
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1	791	578	179	0	0	0	0	0	370	0	164
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	1	791	578	179	0	0	0	0	0	370	0	164
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.01	0.99	2.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	3	1897	3344	1900	1900	0	0	0	0	1900	0	1900
Capacity Analysis Module:												
Vol/Sat:	0.42	0.42	0.17	0.09	0.00	0.00	0.00	0.00	0.00	0.19	0.00	0.09
Crit Moves:	****				****					****		
Green Time:	38.2	39.3	57.1	8.9	0.0	0.0	0.0	0.0	0.0	17.8	0.0	26.7
Volume/Cap:	0.82	0.80	0.23	0.80	0.00	0.00	0.00	0.00	0.00	0.82	0.00	0.24
Delay/Veh:	21.1	19.1	2.6	49.8	0.0	0.0	0.0	0.0	0.0	38.4	0.0	17.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	21.1	19.1	2.6	49.8	0.0	0.0	0.0	0.0	0.0	38.4	0.0	17.2
LOS by Move:	C	B	A	D	A	A	A	A	A	D	A	B
HCM2k95thQ:	31	29	5	12	0	0	0	0	0	20	0	5

Note: Queue reported is the number of cars per lane.

Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

(>>>>>>>>>This Page Intentionally Left Blank<<<<<<<<)

CCTA AM LOS Calcs

(>>>>>>>>>This Page Intentionally Left Blank<<<<<<<<)

Note:

In the course of the Magee Ranch TIA analysis, the Cumulative Sensitivity Analysis scenarios were revised/updated in cooperation with the Town of Danville to best reflect the alternative scenarios appropriate for study. For this reason, after the cumulative level of service (LOS) calculations were completed, some of the scenario names/numbers were changed. The changes are as follows:

- Cum Sc4 AM w/Proj, Cum Sc4 school PM w/Proj, and Cum Sc4 PM w/Proj LOS calculation sheets in this appendix refer to Cumulative Scenario 3 results shown in the report.
- Cum Sc5 AM w/Proj, Cum Sc5 school PM w/Proj, and Cum Sc5 PM w/Proj LOS calculation sheets in this appendix refer to Cumulative Scenario 4 results shown in the report.

All of the other LOS calculations in this appendix correspond to the same name/number as shown in the report.

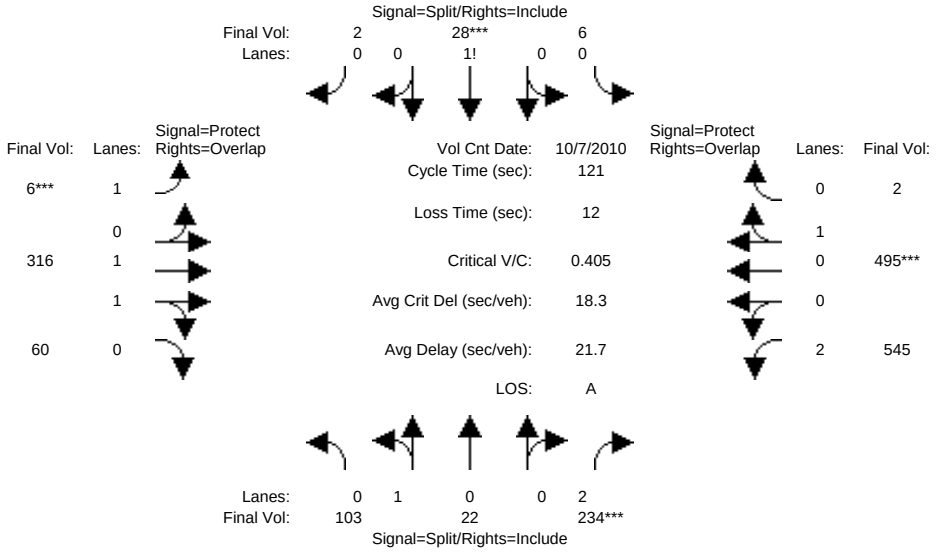
(>>>>>>>>>This Page Intentionally Left Blank<<<<<<<<)

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Existing AM

Intersection #1: Diablo Rd and El Cerro Blvd



Street Name:	Diablo Road						El Cerro Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 7 Oct 2010 <<												
Base Vol:	90	19	464	5	24	2	5	275	52	474	431	2
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	90	19	464	5	24	2	5	275	52	474	431	2
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	90	19	464	5	24	2	5	275	52	474	431	2
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
PHF Volume:	103	22	533	6	28	2	6	316	60	545	495	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	103	22	533	6	28	2	6	316	60	545	495	2
RTOR Reduct:	0	0	300	0	0	0	0	0	0	0	0	0
RTOR Vol:	103	22	234	6	28	2	6	316	60	545	495	2
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	103	22	234	6	28	2	6	316	60	545	495	2
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00
Lanes:	0.83	0.17	2.00	0.16	0.78	0.06	1.00	1.68	0.32	2.00	0.99	0.01
Final Sat.:	1362	288	3000	266	1277	106	1650	2775	525	3000	1642	8
Capacity Analysis Module:												
Vol/Sat:	0.08	0.08	0.08	0.02	0.02	0.02	0.00	0.11	0.11	0.18	0.30	0.30
Crit Volume:			117		36		6				498	
Crit Moves:			****		****		****				****	

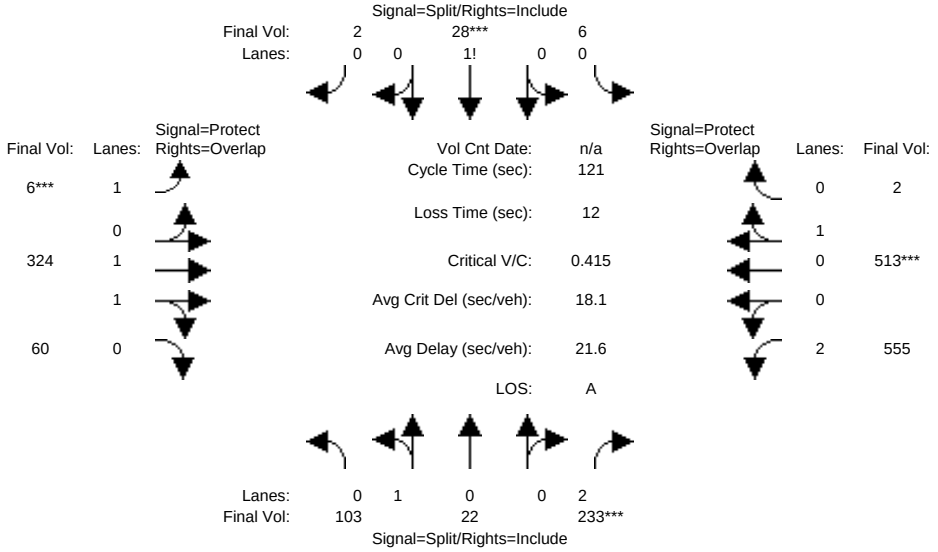
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Project AM

Intersection #1: Diablo Rd and El Cerro Blvd



Street Name:	Diablo Road						El Cerro Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	90	19	468	5	24	2	5	282	52	483	446	2
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	90	19	468	5	24	2	5	282	52	483	446	2
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	90	19	468	5	24	2	5	282	52	483	446	2
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
PHF Volume:	103	22	538	6	28	2	6	324	60	555	513	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	103	22	538	6	28	2	6	324	60	555	513	2
RTOR Reduct:	0	0	305	0	0	0	0	0	0	0	0	0
RTOR Vol:	103	22	233	6	28	2	6	324	60	555	513	2
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	103	22	233	6	28	2	6	324	60	555	513	2
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00
Lanes:	0.83	0.17	2.00	0.16	0.78	0.06	1.00	1.69	0.31	2.00	0.99	0.01
Final Sat.:	1362	288	3000	266	1277	106	1650	2786	514	3000	1643	7
Capacity Analysis Module:												
Vol/Sat:	0.08	0.08	0.08	0.02	0.02	0.02	0.00	0.12	0.12	0.19	0.31	0.31
Crit Volume:			116		36		6				515	
Crit Moves:			****		****		****				****	

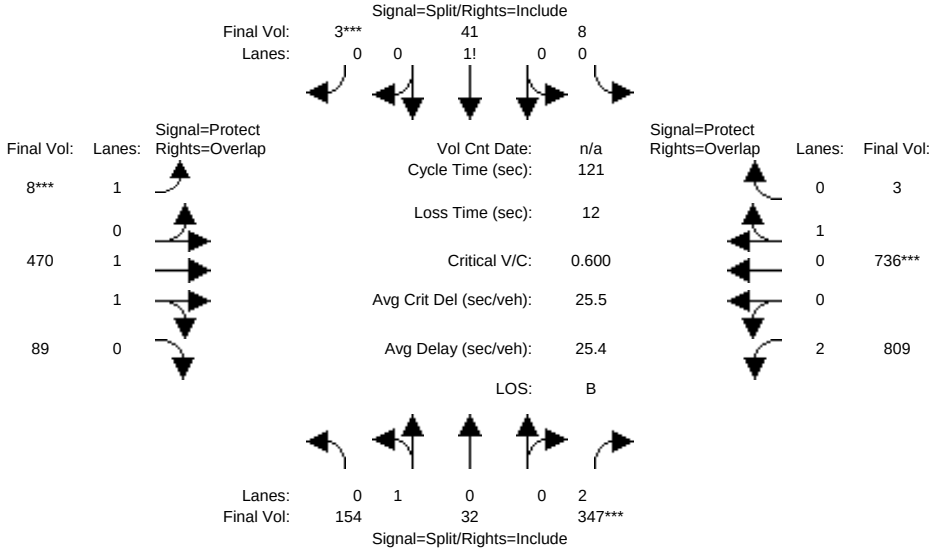
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum AM No Project

Intersection #1: Diablo Rd and El Cerro Blvd



Street Name:	Diablo Road						El Cerro Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	134	28	689	7	36	3	7	409	77	704	640	3
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	134	28	689	7	36	3	7	409	77	704	640	3
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	134	28	689	7	36	3	7	409	77	704	640	3
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
PHF Volume:	154	32	792	8	41	3	8	470	89	809	736	3
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	154	32	792	8	41	3	8	470	89	809	736	3
RTOR Reduct:	0	0	445	0	0	0	0	0	0	0	0	0
RTOR Vol:	154	32	347	8	41	3	8	470	89	809	736	3
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	154	32	347	8	41	3	8	470	89	809	736	3
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00
Lanes:	0.83	0.17	2.00	0.15	0.78	0.07	1.00	1.68	0.32	2.00	0.99	0.01
Final Sat.:	1365	285	3000	251	1291	108	1650	2777	523	3000	1642	8
Capacity Analysis Module:												
Vol/Sat:	0.11	0.11	0.12	0.03	0.03	0.03	0.00	0.17	0.17	0.27	0.45	0.45
Crit Volume:			173			53	8				739	
Crit Moves:			****			****	****				****	

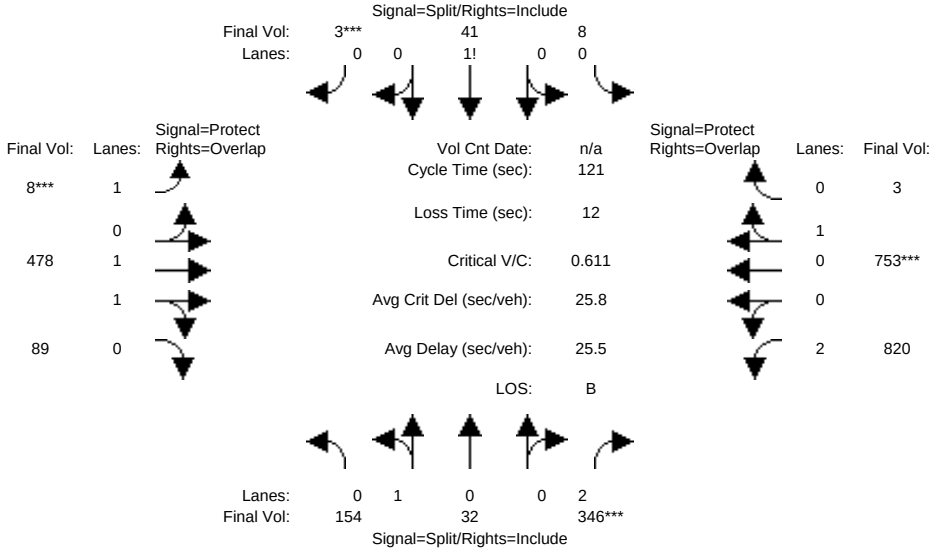
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc1 AM w/Proj

Intersection #1: Diablo Rd and El Cerro Blvd



Street Name:	Diablo Road						El Cerro Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	134	28	693	7	36	3	7	416	77	713	655	3
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	134	28	693	7	36	3	7	416	77	713	655	3
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	134	28	693	7	36	3	7	416	77	713	655	3
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
PHF Volume:	154	32	797	8	41	3	8	478	89	820	753	3
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	154	32	797	8	41	3	8	478	89	820	753	3
RTOR Reduct:	0	0	451	0	0	0	0	0	0	0	0	0
RTOR Vol:	154	32	346	8	41	3	8	478	89	820	753	3
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	154	32	346	8	41	3	8	478	89	820	753	3
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00
Lanes:	0.83	0.17	2.00	0.15	0.78	0.07	1.00	1.69	0.31	2.00	0.99	0.01
Final Sat.:	1365	285	3000	251	1291	108	1650	2785	515	3000	1642	8
Capacity Analysis Module:												
Vol/Sat:	0.11	0.11	0.12	0.03	0.03	0.03	0.00	0.17	0.17	0.27	0.46	0.46
Crit Volume:			173			53	8				756	
Crit Moves:			****			****	****				****	

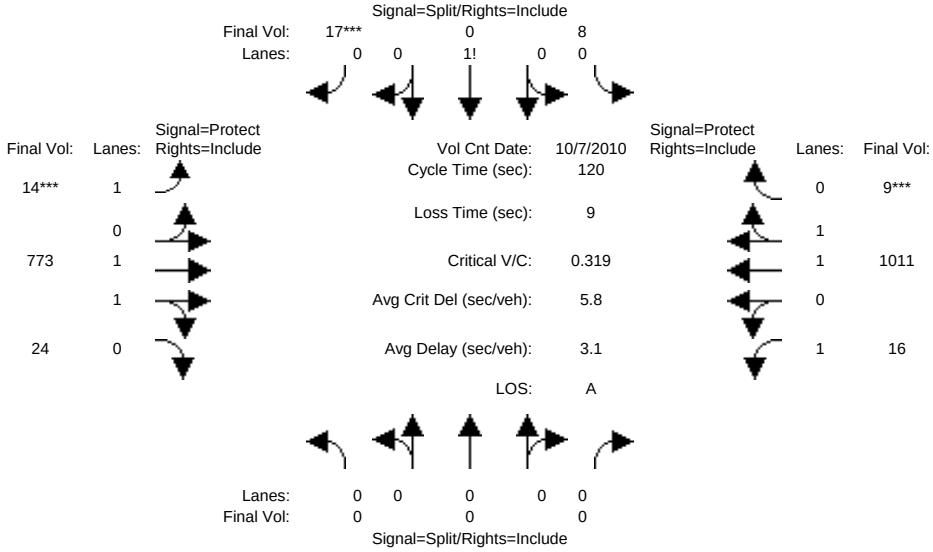
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Existing AM

Intersection #2: Matadera Wy and Diablo Rd



Street Name:	Matadera Way						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 7 Oct 2010 <<												
Base Vol:	0	0	0	7	0	15	12	680	21	14	890	8
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	7	0	15	12	680	21	14	890	8
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	7	0	15	12	680	21	14	890	8
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
PHF Volume:	0	0	0	8	0	17	14	773	24	16	1011	9
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	8	0	17	14	773	24	16	1011	9
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	0	0	0	8	0	17	14	773	24	16	1011	9
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	8	0	17	14	773	24	16	1011	9
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.32	0.00	0.68	1.00	1.94	0.06	1.00	1.98	0.02
Final Sat.:	0	0	0	547	0	1173	1720	3337	103	1720	3409	31
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.23	0.23	0.01	0.30	0.30
Crit Volume:		0				25	14					510
Crit Moves:						****	****					****

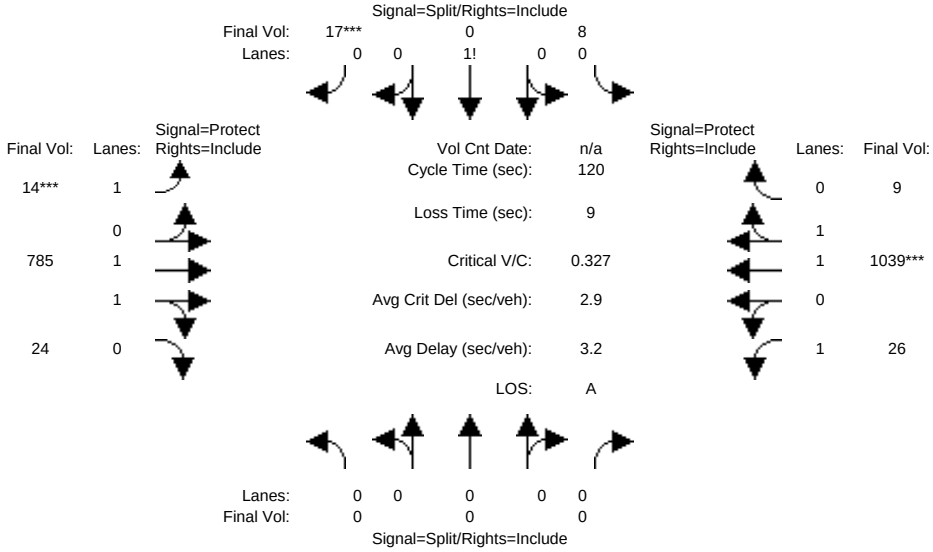
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Project AM

Intersection #2: Matadera Wy and Diablo Rd



Street Name:	Matadera Way						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	7	0	15	12	691	21	23	914	8
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	7	0	15	12	691	21	23	914	8
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	7	0	15	12	691	21	23	914	8
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
PHF Volume:	0	0	0	8	0	17	14	785	24	26	1039	9
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	8	0	17	14	785	24	26	1039	9
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	0	0	0	8	0	17	14	785	24	26	1039	9
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	8	0	17	14	785	24	26	1039	9
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.32	0.00	0.68	1.00	1.94	0.06	1.00	1.98	0.02
Final Sat.:	0	0	0	547	0	1173	1720	3339	101	1720	3410	30
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.24	0.24	0.02	0.30	0.30
Crit Volume:		0				25	14				524	
Crit Moves:						****	****				****	

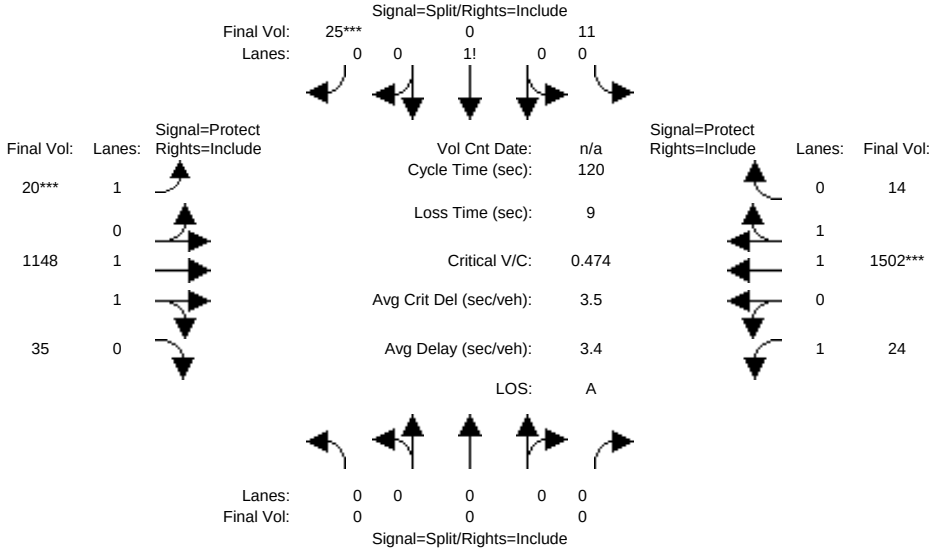
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum AM No Project

Intersection #2: Matadera Wy and Diablo Rd



Street Name:	Matadera Way						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	10	0	22	18	1010	31	21	1322	12
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	10	0	22	18	1010	31	21	1322	12
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	10	0	22	18	1010	31	21	1322	12
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
PHF Volume:	0	0	0	11	0	25	20	1148	35	24	1502	14
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	11	0	25	20	1148	35	24	1502	14
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	0	0	0	11	0	25	20	1148	35	24	1502	14
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	11	0	25	20	1148	35	24	1502	14
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.31	0.00	0.69	1.00	1.94	0.06	1.00	1.98	0.02
Final Sat.:	0	0	0	538	0	1182	1720	3338	102	1720	3409	31
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.02	0.00	0.02	0.01	0.34	0.34	0.01	0.44	0.44
Crit Volume:		0				36	20				758	
Crit Moves:						****	****				****	

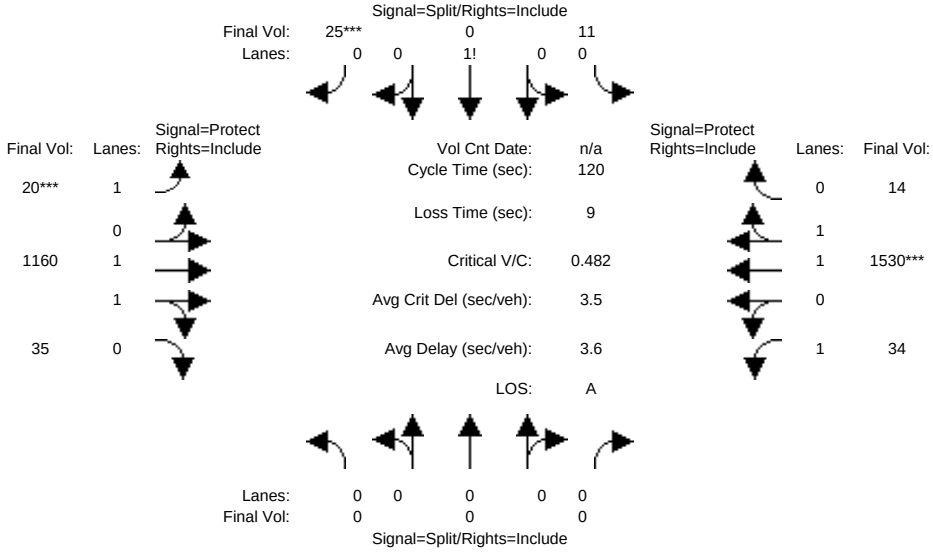
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc1 AM w/Proj

Intersection #2: Matadera Wy and Diablo Rd



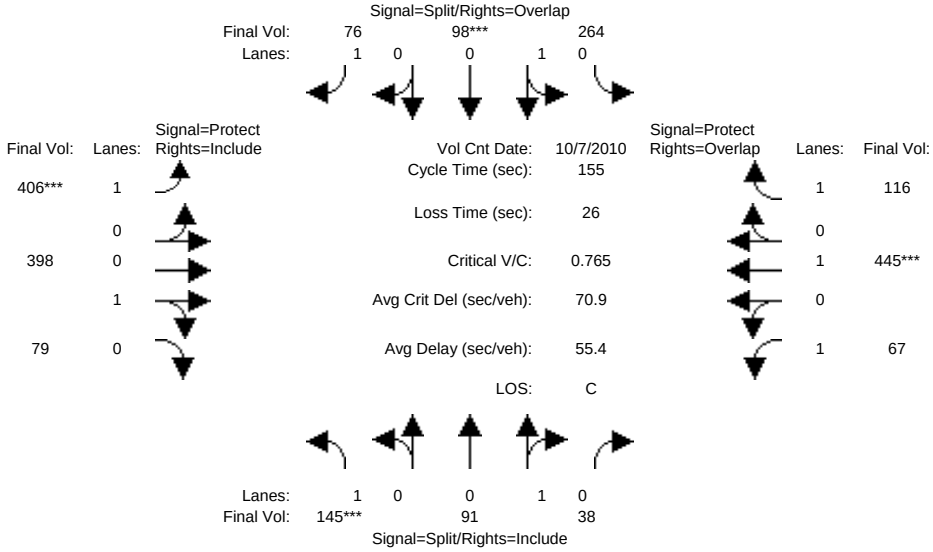
Street Name:	Matadera Way						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	10	0	22	18	1021	31	30	1346	12
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	10	0	22	18	1021	31	30	1346	12
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	10	0	22	18	1021	31	30	1346	12
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
PHF Volume:	0	0	0	11	0	25	20	1160	35	34	1530	14
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	11	0	25	20	1160	35	34	1530	14
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	0	0	0	11	0	25	20	1160	35	34	1530	14
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	11	0	25	20	1160	35	34	1530	14
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.31	0.00	0.69	1.00	1.94	0.06	1.00	1.98	0.02
Final Sat.:	0	0	0	538	0	1182	1720	3339	101	1720	3410	30
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.02	0.00	0.02	0.01	0.35	0.35	0.02	0.45	0.45
Crit Volume:		0				36	20				772	
Crit Moves:						****	****				****	

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Existing AM

Intersection #3: Green Valley Rd and Diablo Rd



Street Name:	Green Valley Road						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 7 Oct 2010 <<												
Base Vol:	125	78	33	227	84	414	349	342	68	58	383	327
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	125	78	33	227	84	414	349	342	68	58	383	327
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	125	78	33	227	84	414	349	342	68	58	383	327
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
PHF Volume:	145	91	38	264	98	481	406	398	79	67	445	380
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	145	91	38	264	98	481	406	398	79	67	445	380
RTOR Reduct:	0	0	0	0	0	406	0	0	0	0	0	264
RTOR Vol:	145	91	38	264	98	76	406	398	79	67	445	116
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	145	91	38	264	98	76	406	398	79	67	445	116
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.70	0.30	0.73	0.27	1.00	1.00	0.83	0.17	1.00	1.00	1.00
Final Sat.:	1650	1159	491	1204	446	1650	1650	1376	274	1650	2100	1650
Capacity Analysis Module:												
Vol/Sat:	0.09	0.08	0.08	0.22	0.22	0.05	0.25	0.29	0.29	0.04	0.21	0.07
Crit Volume:	145				362		406				350	
Crit Moves:	****				****		****				****	

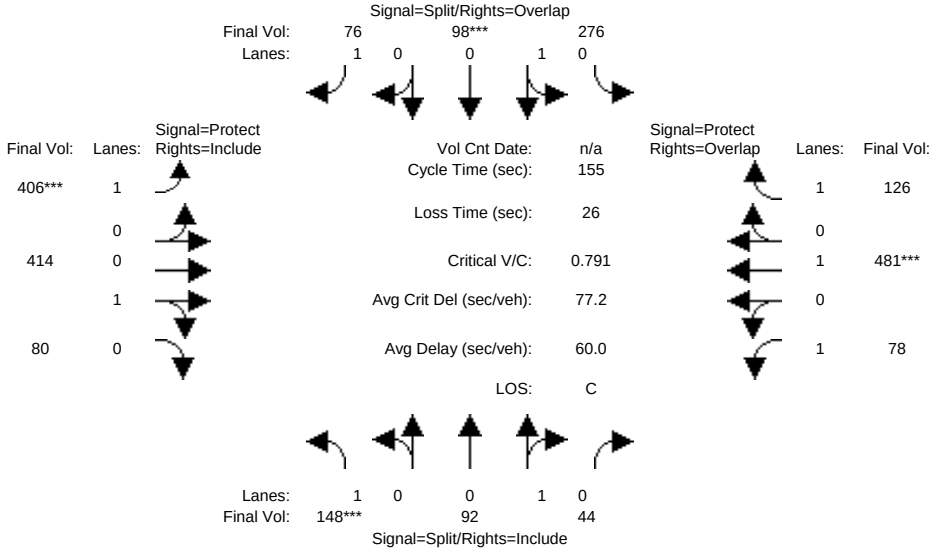
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Project AM

Intersection #3: Green Valley Rd and Diablo Rd



Street Name:	Green Valley Road						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	127	79	38	237	84	414	349	356	69	67	414	345
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	127	79	38	237	84	414	349	356	69	67	414	345
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	127	79	38	237	84	414	349	356	69	67	414	345
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
PHF Volume:	148	92	44	276	98	481	406	414	80	78	481	401
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	148	92	44	276	98	481	406	414	80	78	481	401
RTOR Reduct:	0	0	0	0	0	406	0	0	0	0	0	276
RTOR Vol:	148	92	44	276	98	76	406	414	80	78	481	126
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	148	92	44	276	98	76	406	414	80	78	481	126
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.68	0.32	0.74	0.26	1.00	1.00	0.84	0.16	1.00	1.00	1.00
Final Sat.:	1650	1114	536	1218	432	1650	1650	1382	268	1650	2100	1650
Capacity Analysis Module:												
Vol/Sat:	0.09	0.08	0.08	0.23	0.23	0.05	0.25	0.30	0.30	0.05	0.23	0.08
Crit Volume:	148				373		406				378	
Crit Moves:	****				****		****				****	

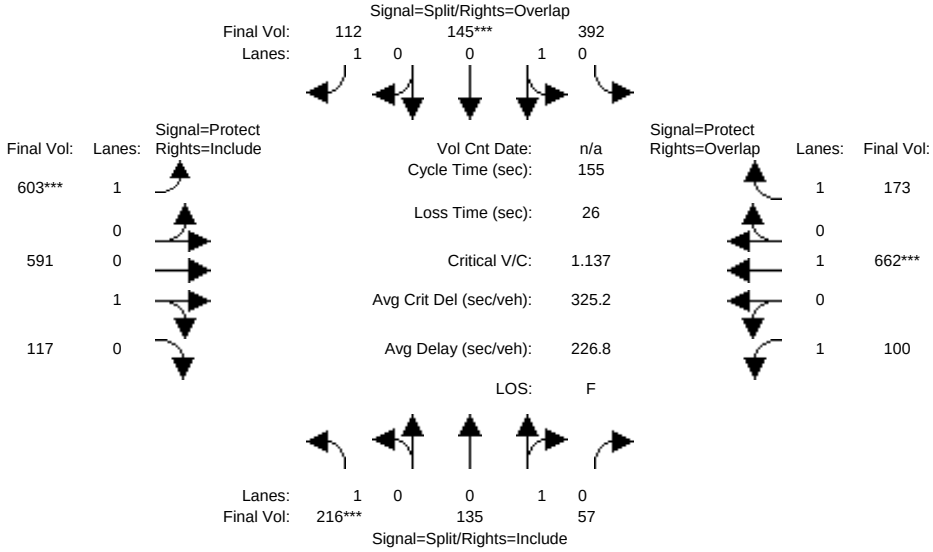
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum AM No Project

Intersection #3: Green Valley Rd and Diablo Rd



Street Name:	Green Valley Road						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	186	116	49	337	125	615	519	508	101	86	569	486
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	186	116	49	337	125	615	519	508	101	86	569	486
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	186	116	49	337	125	615	519	508	101	86	569	486
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
PHF Volume:	216	135	57	392	145	715	603	591	117	100	662	565
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	216	135	57	392	145	715	603	591	117	100	662	565
RTOR Reduct:	0	0	0	0	0	603	0	0	0	0	0	392
RTOR Vol:	216	135	57	392	145	112	603	591	117	100	662	173
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	216	135	57	392	145	112	603	591	117	100	662	173
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.70	0.30	0.73	0.27	1.00	1.00	0.83	0.17	1.00	1.00	1.00
Final Sat.:	1650	1160	490	1204	446	1650	1650	1376	274	1650	2100	1650
Capacity Analysis Module:												
Vol/Sat:	0.13	0.12	0.12	0.33	0.33	0.07	0.37	0.43	0.43	0.06	0.32	0.11
Crit Volume:	216				537		603				520	
Crit Moves:	****				****		****				****	

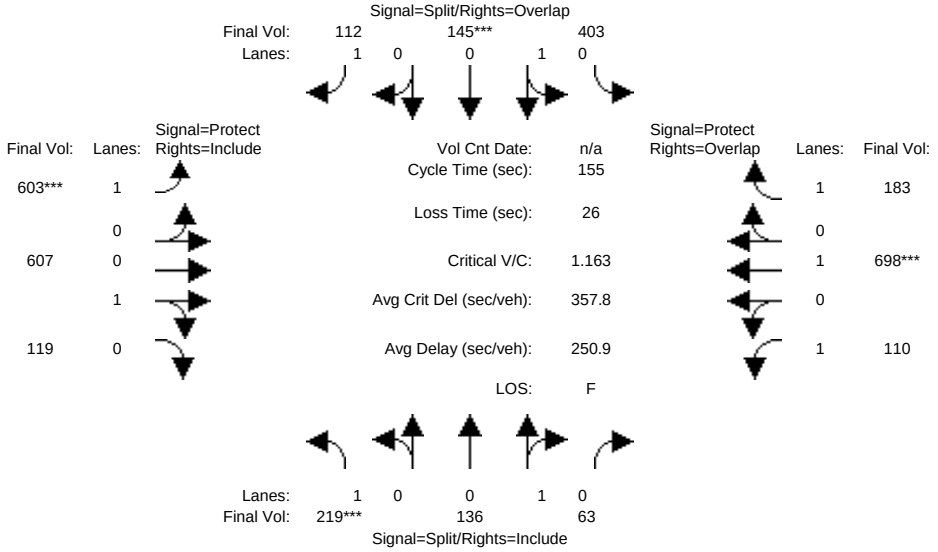
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc1 AM w/Proj

Intersection #3: Green Valley Rd and Diablo Rd



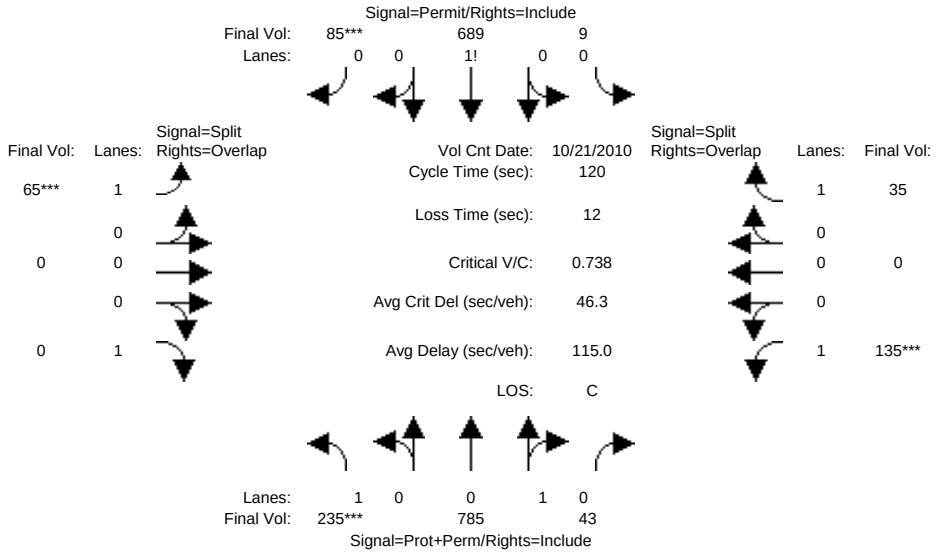
Street Name:	Green Valley Road						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	188	117	54	347	125	615	519	522	102	95	600	504
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	188	117	54	347	125	615	519	522	102	95	600	504
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	188	117	54	347	125	615	519	522	102	95	600	504
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
PHF Volume:	219	136	63	403	145	715	603	607	119	110	698	586
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	219	136	63	403	145	715	603	607	119	110	698	586
RTOR Reduct:	0	0	0	0	0	603	0	0	0	0	0	403
RTOR Vol:	219	136	63	403	145	112	603	607	119	110	698	183
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	219	136	63	403	145	112	603	607	119	110	698	183
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.68	0.32	0.74	0.26	1.00	1.00	0.84	0.16	1.00	1.00	1.00
Final Sat.:	1650	1129	521	1213	437	1650	1650	1380	270	1650	2100	1650
Capacity Analysis Module:												
Vol/Sat:	0.13	0.12	0.12	0.33	0.33	0.07	0.37	0.44	0.44	0.07	0.33	0.11
Crit Volume:	219				549		603				548	
Crit Moves:	****				****		****				****	

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Existing AM

Intersection #4: Green Valley Rd and Blemer Rd/Cameo Dr



Street Name:	Green Valley Road						Blemer Road/Cameo Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	3	3	3	3	3	3	2	3	3	2	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 21 Oct 2010 <<												
Base Vol:	193	644	35	7	565	70	53	0	176	111	0	36
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	193	644	35	7	565	70	53	0	176	111	0	36
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	193	644	35	7	565	70	53	0	176	111	0	36
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
PHF Volume:	235	785	43	9	689	85	65	0	215	135	0	44
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	235	785	43	9	689	85	65	0	215	135	0	44
RTOR Reduct:	0	0	0	0	0	0	0	0	215	0	0	9
RTOR Vol:	235	785	43	9	689	85	65	0	0	135	0	35
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	235	785	43	9	689	85	65	0	0	135	0	35
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.95	0.05	0.01	0.88	0.11	1.00	0.00	1.00	1.00	0.00	1.00
Final Sat.:	1650	1565	85	18	1452	180	1650	0	1650	1650	0	1650
Capacity Analysis Module:												
Vol/Sat:	0.14	0.50	0.50	0.47	0.47	0.47	0.04	0.00	0.00	0.08	0.00	0.02
Crit Volume:	235					783	65			135		
Crit Moves:	****					****	****			****		

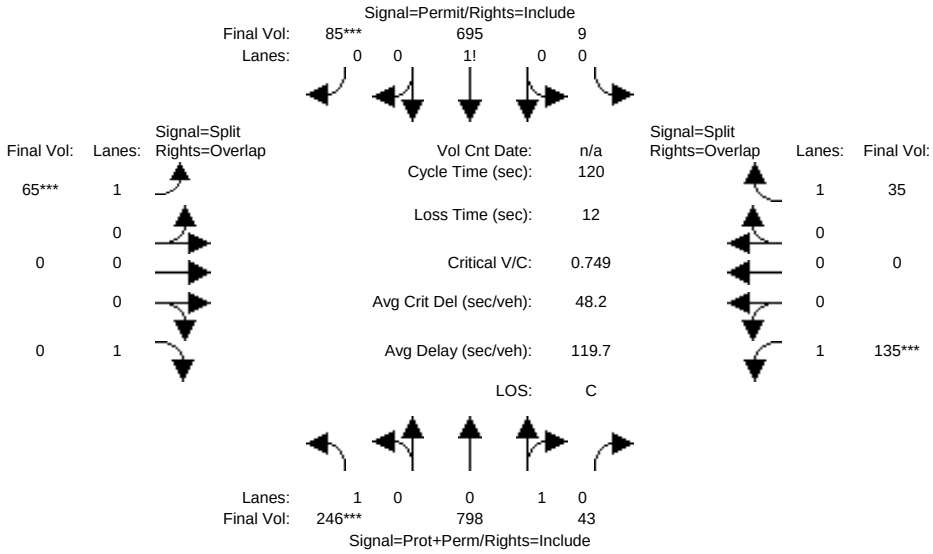
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Project AM

Intersection #4: Green Valley Rd and Blemer Rd/Cameo Dr



Street Name:	Green Valley Road						Blemer Road/Cameo Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	3	3	3	3	3	3	2	3	3	2	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	202	654	35	7	570	70	53	0	181	111	0	36
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	202	654	35	7	570	70	53	0	181	111	0	36
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	202	654	35	7	570	70	53	0	181	111	0	36
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
PHF Volume:	246	798	43	9	695	85	65	0	221	135	0	44
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	246	798	43	9	695	85	65	0	221	135	0	44
RTOR Reduct:	0	0	0	0	0	0	0	0	221	0	0	9
RTOR Vol:	246	798	43	9	695	85	65	0	0	135	0	35
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	246	798	43	9	695	85	65	0	0	135	0	35
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.95	0.05	0.01	0.88	0.11	1.00	0.00	1.00	1.00	0.00	1.00
Final Sat.:	1650	1566	84	18	1454	179	1650	0	1650	1650	0	1650
Capacity Analysis Module:												
Vol/Sat:	0.15	0.51	0.51	0.48	0.48	0.48	0.04	0.00	0.00	0.08	0.00	0.02
Crit Volume:	246					789	65			135		
Crit Moves:	****					****	****			****		

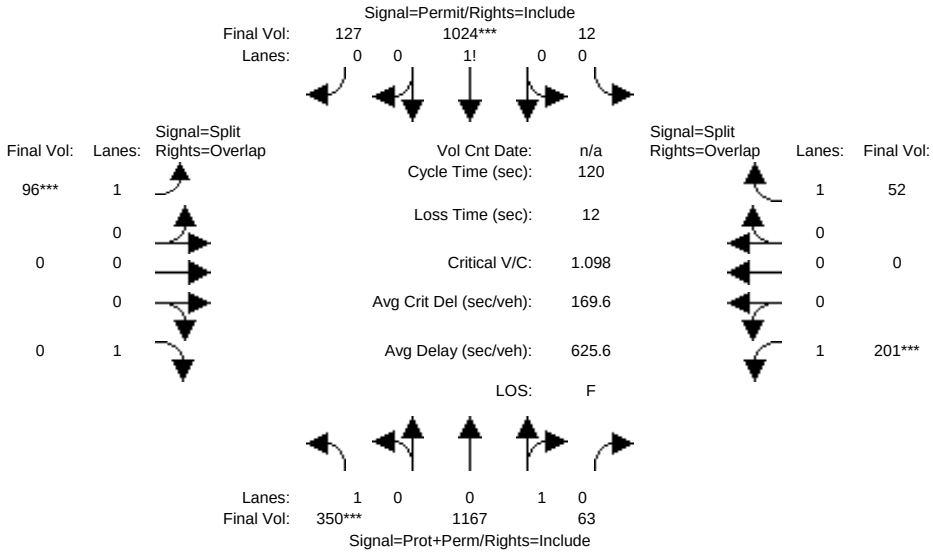
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum AM No Project

Intersection #4: Green Valley Rd and Blemer Rd/Cameo Dr



Street Name:	Green Valley Road						Blemer Road/Cameo Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	3	3	3	3	3	3	2	3	3	2	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	287	957	52	10	840	104	79	0	262	165	0	53
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	287	957	52	10	840	104	79	0	262	165	0	53
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	287	957	52	10	840	104	79	0	262	165	0	53
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
PHF Volume:	350	1167	63	12	1024	127	96	0	320	201	0	65
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	350	1167	63	12	1024	127	96	0	320	201	0	65
RTOR Reduct:	0	0	0	0	0	0	0	0	320	0	0	12
RTOR Vol:	350	1167	63	12	1024	127	96	0	0	201	0	52
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	350	1167	63	12	1024	127	96	0	0	201	0	52
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.95	0.05	0.01	0.88	0.11	1.00	0.00	1.00	1.00	0.00	1.00
Final Sat.:	1650	1565	85	17	1453	180	1650	0	1650	1650	0	1650
Capacity Analysis Module:												
Vol/Sat:	0.21	0.75	0.75	0.71	0.71	0.71	0.06	0.00	0.00	0.12	0.00	0.03
Crit Volume:	350				1163		96			201		
Crit Moves:	****				****		****			****		

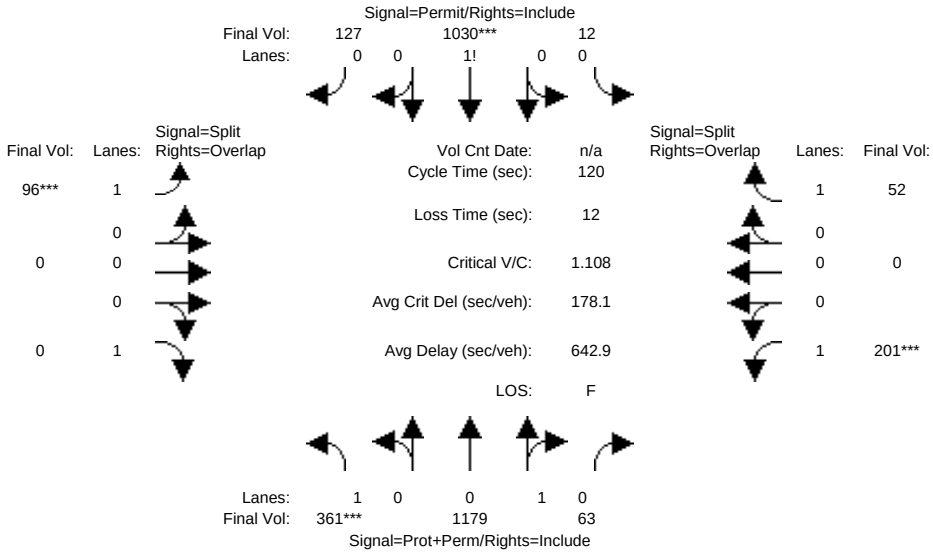
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc1 AM w/Proj

Intersection #4: Green Valley Rd and Blemer Rd/Cameo Dr



Street Name:	Green Valley Road						Blemer Road/Cameo Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	3	3	3	3	3	3	2	3	3	2	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	296	967	52	10	845	104	79	0	267	165	0	53
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	296	967	52	10	845	104	79	0	267	165	0	53
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	296	967	52	10	845	104	79	0	267	165	0	53
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
PHF Volume:	361	1179	63	12	1030	127	96	0	326	201	0	65
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	361	1179	63	12	1030	127	96	0	326	201	0	65
RTOR Reduct:	0	0	0	0	0	0	0	0	326	0	0	12
RTOR Vol:	361	1179	63	12	1030	127	96	0	0	201	0	52
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	361	1179	63	12	1030	127	96	0	0	201	0	52
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.95	0.05	0.01	0.88	0.11	1.00	0.00	1.00	1.00	0.00	1.00
Final Sat.:	1650	1566	84	17	1454	179	1650	0	1650	1650	0	1650
Capacity Analysis Module:												
Vol/Sat:	0.22	0.75	0.75	0.71	0.71	0.71	0.06	0.00	0.00	0.12	0.00	0.03
Crit Volume:	361				1170		96			201		
Crit Moves:	****				****		****			****		

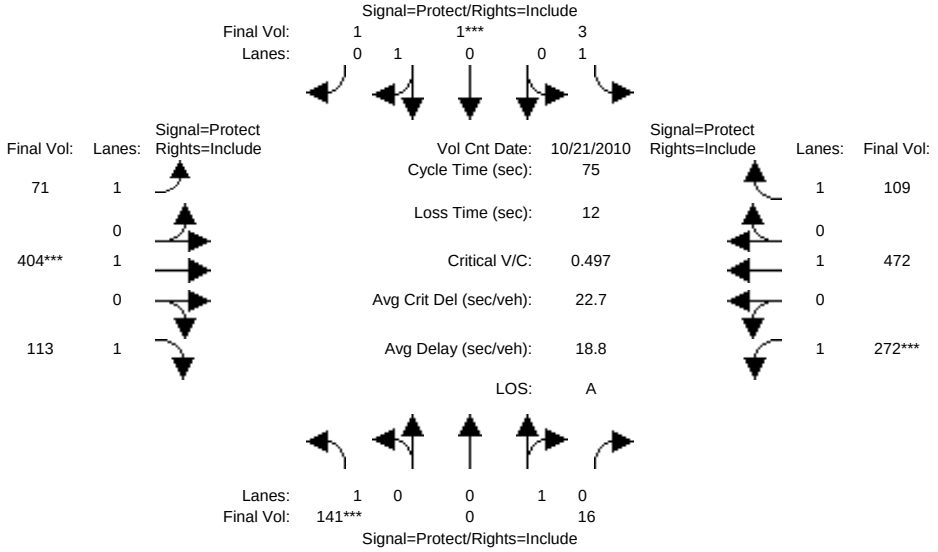
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Existing AM

Intersection #6: Monte Vista H.S. Main and Stone Valley Rd



Street Name:	Monte Vista H.S. Main Parking Lot						Stone Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 21 Oct 2010 <<												
Base Vol:	97	0	11	2	1	1	49	279	175	188	326	77
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	97	0	11	2	1	1	49	279	175	188	326	77
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	97	0	11	2	1	1	49	279	175	188	326	77
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69
PHF Volume:	141	0	16	3	1	1	71	404	254	272	472	112
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	141	0	16	3	1	1	71	404	254	272	472	112
RTOR Reduct:	0	0	0	0	0	0	0	0	141	0	0	3
RTOR Vol:	141	0	16	3	1	1	71	404	113	272	472	109
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	141	0	16	3	1	1	71	404	113	272	472	109
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.00	1.00	1.00	0.50	0.50	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1650	0	1650	1650	825	825	1650	1650	1650	1650	1650	1650
Capacity Analysis Module:												
Vol/Sat:	0.09	0.00	0.01	0.00	0.00	0.00	0.04	0.25	0.07	0.17	0.29	0.07
Crit Volume:	141				3			404		272		
Crit Moves:	****				****			****		****		

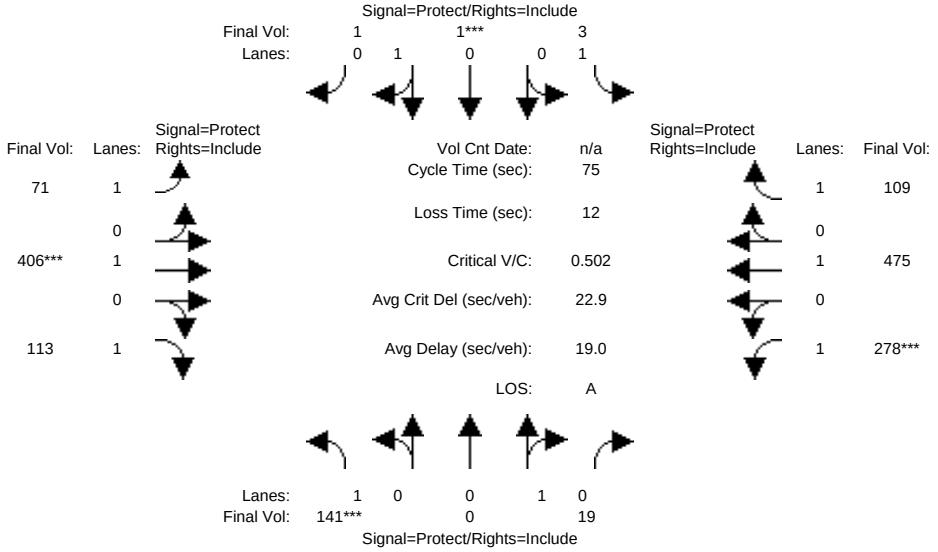
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Project AM

Intersection #6: Monte Vista H.S. Main and Stone Valley Rd



Street Name:	Monte Vista H.S. Main Parking Lot						Stone Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	97	0	13	2	1	1	49	280	175	192	328	77
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	97	0	13	2	1	1	49	280	175	192	328	77
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	97	0	13	2	1	1	49	280	175	192	328	77
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69
PHF Volume:	141	0	19	3	1	1	71	406	254	278	475	112
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	141	0	19	3	1	1	71	406	254	278	475	112
RTOR Reduct:	0	0	0	0	0	0	0	0	141	0	0	3
RTOR Vol:	141	0	19	3	1	1	71	406	113	278	475	109
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	141	0	19	3	1	1	71	406	113	278	475	109
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.00	1.00	1.00	0.50	0.50	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1650	0	1650	1650	825	825	1650	1650	1650	1650	1650	1650
Capacity Analysis Module:												
Vol/Sat:	0.09	0.00	0.01	0.00	0.00	0.00	0.04	0.25	0.07	0.17	0.29	0.07
Crit Volume:	141				3			406		278		
Crit Moves:	****				****			****		****		

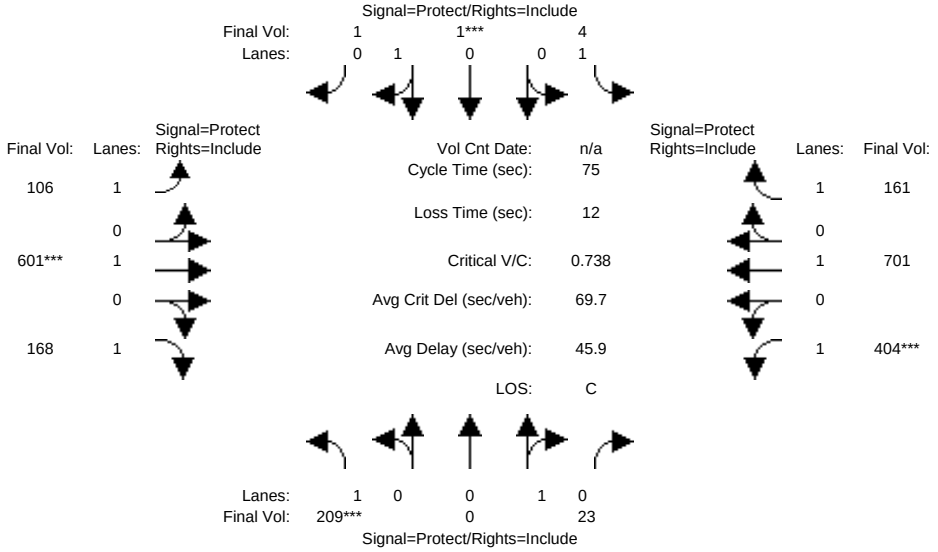
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum AM No Project

Intersection #6: Monte Vista H.S. Main and Stone Valley Rd



Street Name:	Monte Vista H.S. Main Parking Lot						Stone Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	144	0	16	3	1	1	73	415	260	279	484	114
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	144	0	16	3	1	1	73	415	260	279	484	114
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	144	0	16	3	1	1	73	415	260	279	484	114
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69
PHF Volume:	209	0	23	4	1	1	106	601	377	404	701	165
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	209	0	23	4	1	1	106	601	377	404	701	165
RTOR Reduct:	0	0	0	0	0	0	0	0	209	0	0	4
RTOR Vol:	209	0	23	4	1	1	106	601	168	404	701	161
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	209	0	23	4	1	1	106	601	168	404	701	161
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.00	1.00	1.00	0.50	0.50	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1650	0	1650	1650	825	825	1650	1650	1650	1650	1650	1650
Capacity Analysis Module:												
Vol/Sat:	0.13	0.00	0.01	0.00	0.00	0.00	0.06	0.36	0.10	0.25	0.43	0.10
Crit Volume:	209				3			601		404		
Crit Moves:	****				****			****		****		

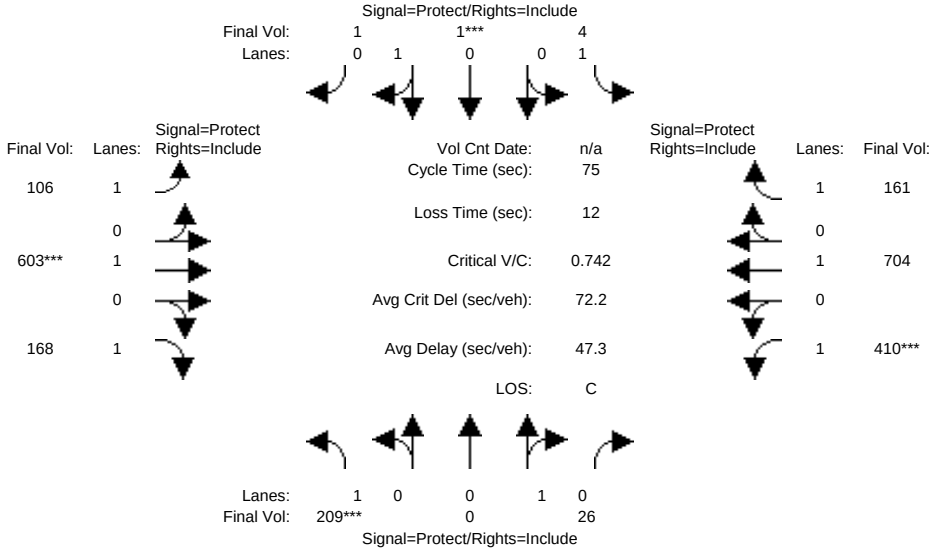
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc1 AM w/Proj

Intersection #6: Monte Vista H.S. Main and Stone Valley Rd



Street Name:	Monte Vista H.S. Main Parking Lot						Stone Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	144	0	18	3	1	1	73	416	260	283	486	114
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	144	0	18	3	1	1	73	416	260	283	486	114
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	144	0	18	3	1	1	73	416	260	283	486	114
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69
PHF Volume:	209	0	26	4	1	1	106	603	377	410	704	165
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	209	0	26	4	1	1	106	603	377	410	704	165
RTOR Reduct:	0	0	0	0	0	0	0	0	209	0	0	4
RTOR Vol:	209	0	26	4	1	1	106	603	168	410	704	161
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	209	0	26	4	1	1	106	603	168	410	704	161
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.00	1.00	1.00	0.50	0.50	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1650	0	1650	1650	825	825	1650	1650	1650	1650	1650	1650
Capacity Analysis Module:												
Vol/Sat:	0.13	0.00	0.02	0.00	0.00	0.00	0.06	0.37	0.10	0.25	0.43	0.10
Crit Volume:	209				3			603		410		
Crit Moves:	****				****			****		****		

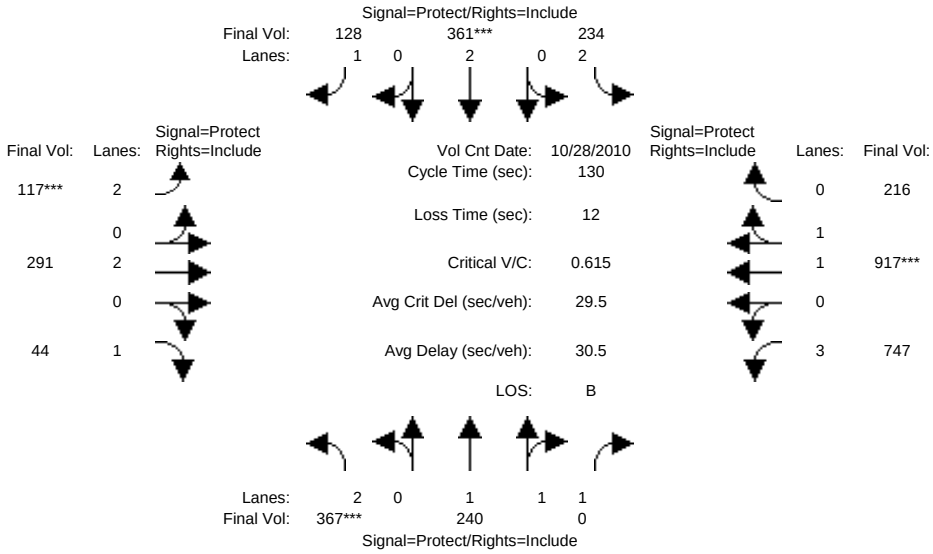
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Existing AM

Intersection #10: Blackhawk Rd/Crow Canyon Rd and Camino Tassajara



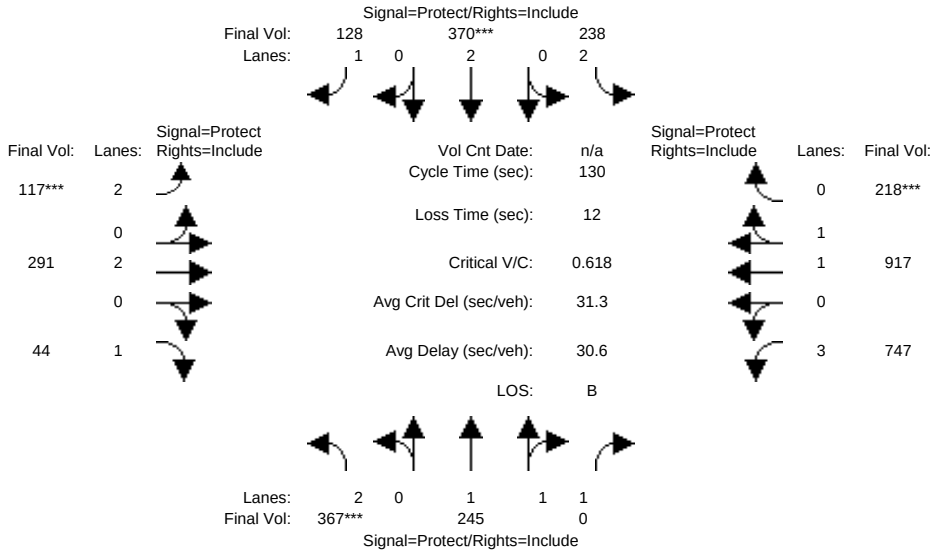
Street Name:	Blackhawk Rd/Crow Canyon Rd						Camino Tassajara					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 28 Oct 2010 <<												
Base Vol:	338	221	159	215	332	177	108	268	226	687	844	199
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	338	221	159	215	332	177	108	268	226	687	844	199
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	338	221	159	215	332	177	108	268	226	687	844	199
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	367	240	173	234	361	192	117	291	246	747	917	216
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	367	240	173	234	361	192	117	291	246	747	917	216
RTOR Reduct:	0	0	173	0	0	65	0	0	202	0	0	0
RTOR Vol:	367	240	0	234	361	128	117	291	44	747	917	216
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	367	240	0	234	361	128	117	291	44	747	917	216
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	0.91	1.00	0.91	0.91	1.00	1.00	0.91	1.00	1.00	0.87	1.00	1.00
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00	3.00	1.62	0.38
Final Sat.:	3000	3300	1500	3000	3300	1650	3000	3300	1650	4307	2670	630
Capacity Analysis Module:												
Vol/Sat:	0.12	0.07	0.00	0.08	0.11	0.08	0.04	0.09	0.03	0.17	0.34	0.34
Crit Volume:	184				180		59				567	
Crit Moves:	****				****		****				****	

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Project AM

Intersection #10: Blackhawk Rd/Crow Canyon Rd and Camino Tassajara



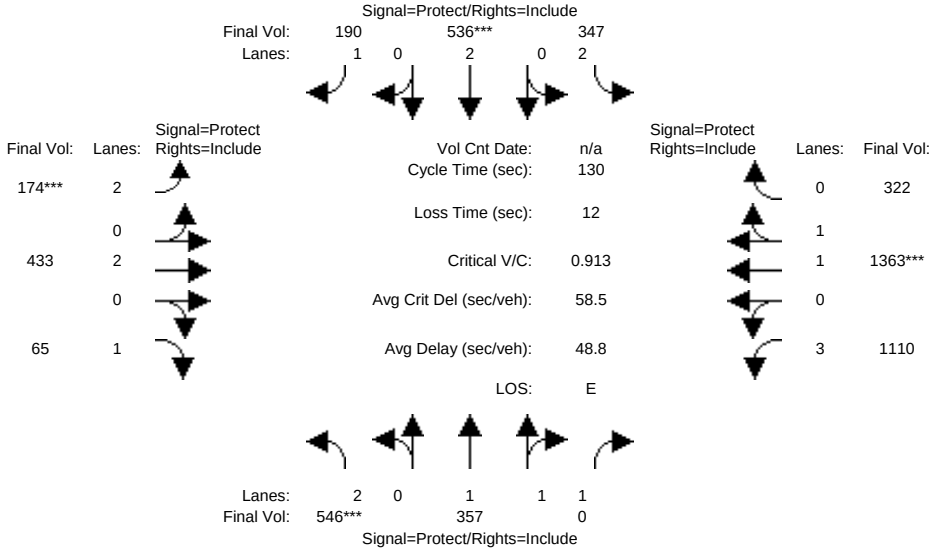
Street Name:	Blackhawk Rd/Crow Canyon Rd						Camino Tassajara					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	338	225	159	219	340	177	108	268	226	687	844	201
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	338	225	159	219	340	177	108	268	226	687	844	201
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	338	225	159	219	340	177	108	268	226	687	844	201
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	367	245	173	238	370	192	117	291	246	747	917	218
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	367	245	173	238	370	192	117	291	246	747	917	218
RTOR Reduct:	0	0	173	0	0	65	0	0	202	0	0	0
RTOR Vol:	367	245	0	238	370	128	117	291	44	747	917	218
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	367	245	0	238	370	128	117	291	44	747	917	218
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	0.91	1.00	0.91	0.91	1.00	1.00	0.91	1.00	1.00	0.87	1.00	1.00
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00	3.00	1.62	0.38
Final Sat.:	3000	3300	1500	3000	3300	1650	3000	3300	1650	4307	2665	635
Capacity Analysis Module:												
Vol/Sat:	0.12	0.07	0.00	0.08	0.11	0.08	0.04	0.09	0.03	0.17	0.34	0.34
Crit Volume:	184				185		59					568
Crit Moves:	****				****		****					****

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum AM No Project

Intersection #10: Blackhawk Rd/Crow Canyon Rd and Camino Tassajara



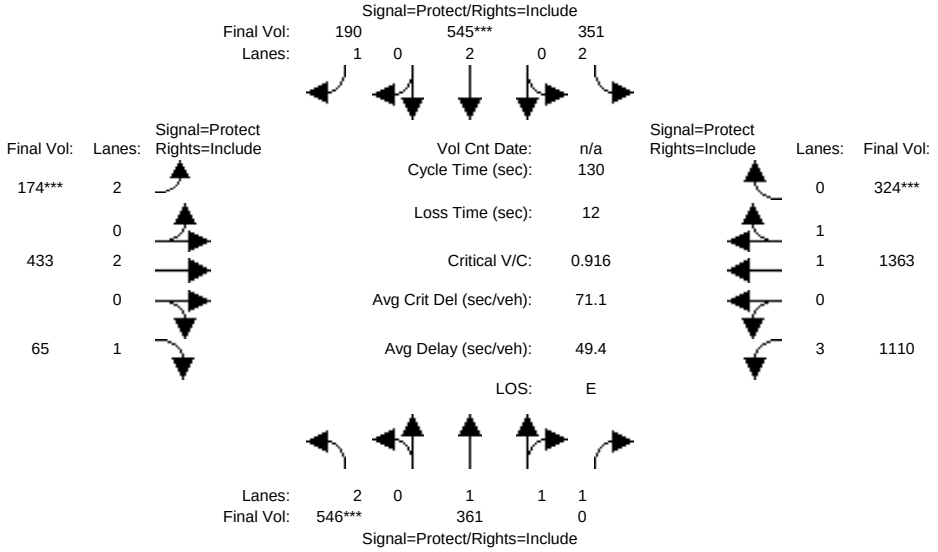
Street Name:	Blackhawk Rd/Crow Canyon Rd						Camino Tassajara					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	502	328	236	319	493	263	160	398	336	1021	1254	296
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	502	328	236	319	493	263	160	398	336	1021	1254	296
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	502	328	236	319	493	263	160	398	336	1021	1254	296
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	546	357	257	347	536	286	174	433	365	1110	1363	322
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	546	357	257	347	536	286	174	433	365	1110	1363	322
RTOR Reduct:	0	0	257	0	0	96	0	0	300	0	0	0
RTOR Vol:	546	357	0	347	536	190	174	433	65	1110	1363	322
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	546	357	0	347	536	190	174	433	65	1110	1363	322
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	0.91	1.00	0.91	0.91	1.00	1.00	0.91	1.00	1.00	0.87	1.00	1.00
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00	3.00	1.62	0.38
Final Sat.:	3000	3300	1500	3000	3300	1650	3000	3300	1650	4307	2670	630
Capacity Analysis Module:												
Vol/Sat:	0.18	0.11	0.00	0.12	0.16	0.12	0.06	0.13	0.04	0.26	0.51	0.51
Crit Volume:	273				268		87				842	
Crit Moves:	****				****		****				****	

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc1 AM w/Proj

Intersection #10: Blackhawk Rd/Crow Canyon Rd and Camino Tassajara



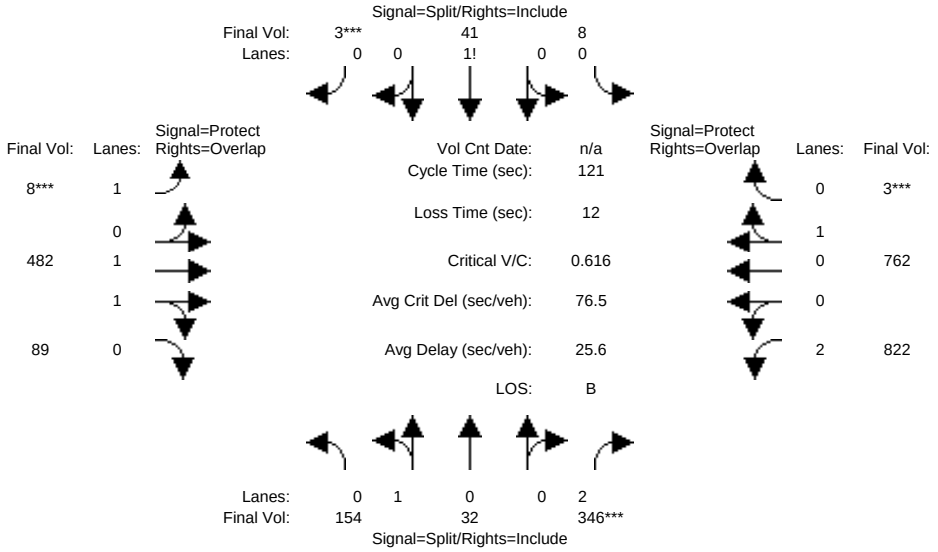
Street Name:	Blackhawk Rd/Crow Canyon Rd						Camino Tassajara					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	502	332	236	323	501	263	160	398	336	1021	1254	298
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	502	332	236	323	501	263	160	398	336	1021	1254	298
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	502	332	236	323	501	263	160	398	336	1021	1254	298
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	546	361	257	351	545	286	174	433	365	1110	1363	324
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	546	361	257	351	545	286	174	433	365	1110	1363	324
RTOR Reduct:	0	0	257	0	0	96	0	0	300	0	0	0
RTOR Vol:	546	361	0	351	545	190	174	433	65	1110	1363	324
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	546	361	0	351	545	190	174	433	65	1110	1363	324
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	0.91	1.00	0.91	0.91	1.00	1.00	0.91	1.00	1.00	0.87	1.00	1.00
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00	3.00	1.62	0.38
Final Sat.:	3000	3300	1500	3000	3300	1650	3000	3300	1650	4307	2666	634
Capacity Analysis Module:												
Vol/Sat:	0.18	0.11	0.00	0.12	0.17	0.12	0.06	0.13	0.04	0.26	0.51	0.51
Crit Volume:	273				272		87					843
Crit Moves:	****				****		****					****

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc2 AM w/Proj

Intersection #1: Diablo Rd and El Cerro Blvd



Street Name:	Diablo Road						El Cerro Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	134	28	694	7	36	3	7	419	77	715	663	3
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	134	28	694	7	36	3	7	419	77	715	663	3
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	134	28	694	7	36	3	7	419	77	715	663	3
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
PHF Volume:	154	32	798	8	41	3	8	482	89	822	762	3
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	154	32	798	8	41	3	8	482	89	822	762	3
RTOR Reduct:	0	0	452	0	0	0	0	0	0	0	0	0
RTOR Vol:	154	32	346	8	41	3	8	482	89	822	762	3
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	154	32	346	8	41	3	8	482	89	822	762	3
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00
Lanes:	0.83	0.17	2.00	0.15	0.78	0.07	1.00	1.69	0.31	2.00	0.99	0.01
Final Sat.:	1365	285	3000	251	1291	108	1650	2788	512	3000	1643	7
Capacity Analysis Module:												
Vol/Sat:	0.11	0.11	0.12	0.03	0.03	0.03	0.00	0.17	0.17	0.27	0.46	0.46
Crit Volume:			173			53	8					766
Crit Moves:			****			****	****					****

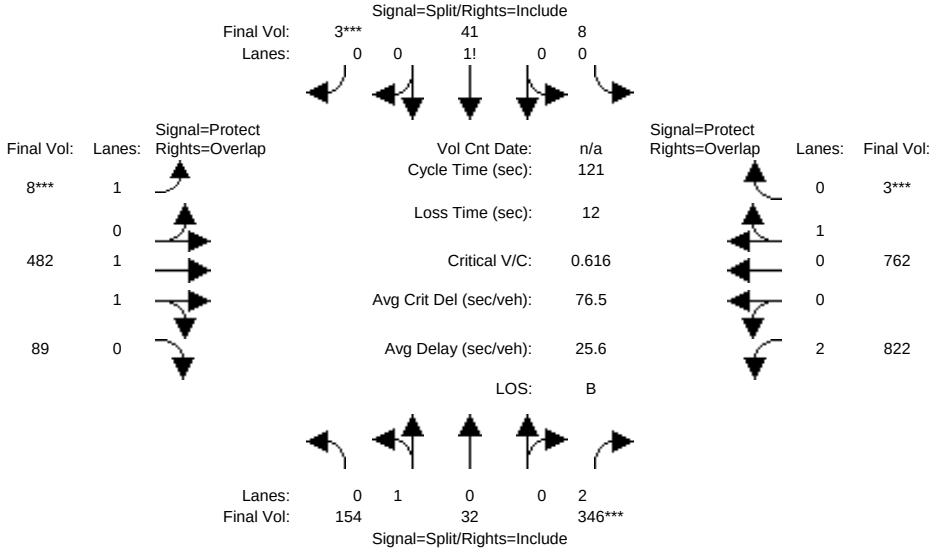
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc4 AM w/Proj

Intersection #1: Diablo Rd and El Cerro Blvd



Street Name:	Diablo Road						El Cerro Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	134	28	694	7	36	3	7	419	77	715	663	3
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	134	28	694	7	36	3	7	419	77	715	663	3
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	134	28	694	7	36	3	7	419	77	715	663	3
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
PHF Volume:	154	32	798	8	41	3	8	482	89	822	762	3
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	154	32	798	8	41	3	8	482	89	822	762	3
RTOR Reduct:	0	0	452	0	0	0	0	0	0	0	0	0
RTOR Vol:	154	32	346	8	41	3	8	482	89	822	762	3
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	154	32	346	8	41	3	8	482	89	822	762	3
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00
Lanes:	0.83	0.17	2.00	0.15	0.78	0.07	1.00	1.69	0.31	2.00	0.99	0.01
Final Sat.:	1365	285	3000	251	1291	108	1650	2788	512	3000	1643	7
Capacity Analysis Module:												
Vol/Sat:	0.11	0.11	0.12	0.03	0.03	0.03	0.00	0.17	0.17	0.27	0.46	0.46
Crit Volume:			173			53	8					766
Crit Moves:			****			****	****					****

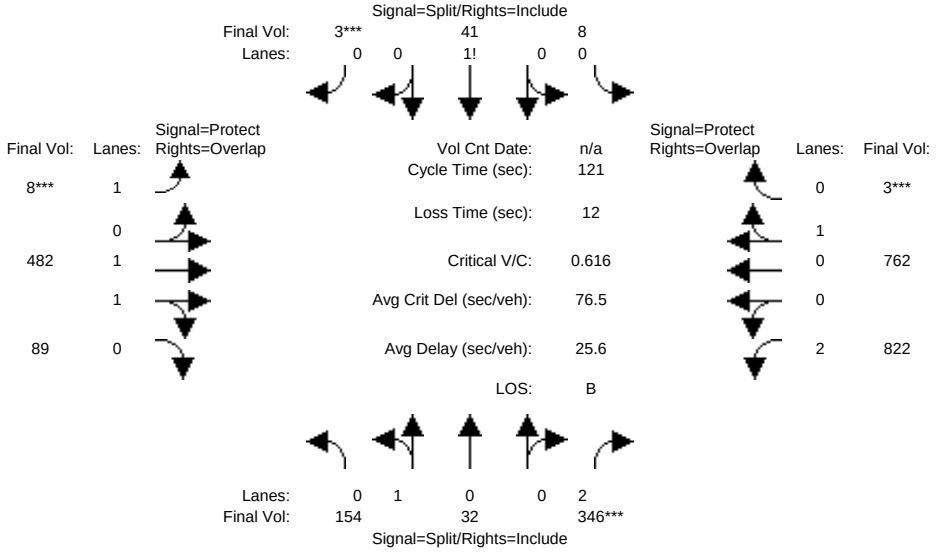
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc5 AM w/Proj

Intersection #1: Diablo Rd and El Cerro Blvd



Street Name:	Diablo Road						El Cerro Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	134	28	694	7	36	3	7	419	77	715	663	3
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	134	28	694	7	36	3	7	419	77	715	663	3
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	134	28	694	7	36	3	7	419	77	715	663	3
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
PHF Volume:	154	32	798	8	41	3	8	482	89	822	762	3
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	154	32	798	8	41	3	8	482	89	822	762	3
RTOR Reduct:	0	0	452	0	0	0	0	0	0	0	0	0
RTOR Vol:	154	32	346	8	41	3	8	482	89	822	762	3
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	154	32	346	8	41	3	8	482	89	822	762	3
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00
Lanes:	0.83	0.17	2.00	0.15	0.78	0.07	1.00	1.69	0.31	2.00	0.99	0.01
Final Sat.:	1365	285	3000	251	1291	108	1650	2788	512	3000	1643	7
Capacity Analysis Module:												
Vol/Sat:	0.11	0.11	0.12	0.03	0.03	0.03	0.00	0.17	0.17	0.27	0.46	0.46
Crit Volume:			173			53	8					766
Crit Moves:			****			****	****					****

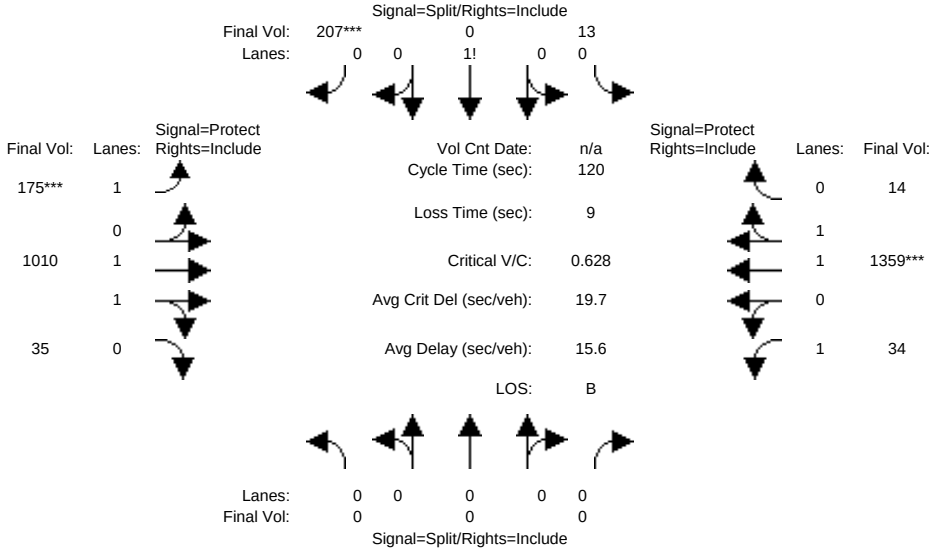
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc2 AM w/Proj

Intersection #2: Matadera Wy and Diablo Rd



Street Name:	Matadera Way						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	11	0	182	154	889	31	30	1196	12
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	11	0	182	154	889	31	30	1196	12
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	11	0	182	154	889	31	30	1196	12
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
PHF Volume:	0	0	0	13	0	207	175	1010	35	34	1359	14
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	13	0	207	175	1010	35	34	1359	14
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	0	0	0	13	0	207	175	1010	35	34	1359	14
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	13	0	207	175	1010	35	34	1359	14
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.06	0.00	0.94	1.00	1.93	0.07	1.00	1.98	0.02
Final Sat.:	0	0	0	98	0	1622	1720	3324	116	1720	3406	34
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.13	0.00	0.13	0.10	0.30	0.30	0.02	0.40	0.40
Crit Volume:		0				219	175				686	
Crit Moves:						****	****				****	

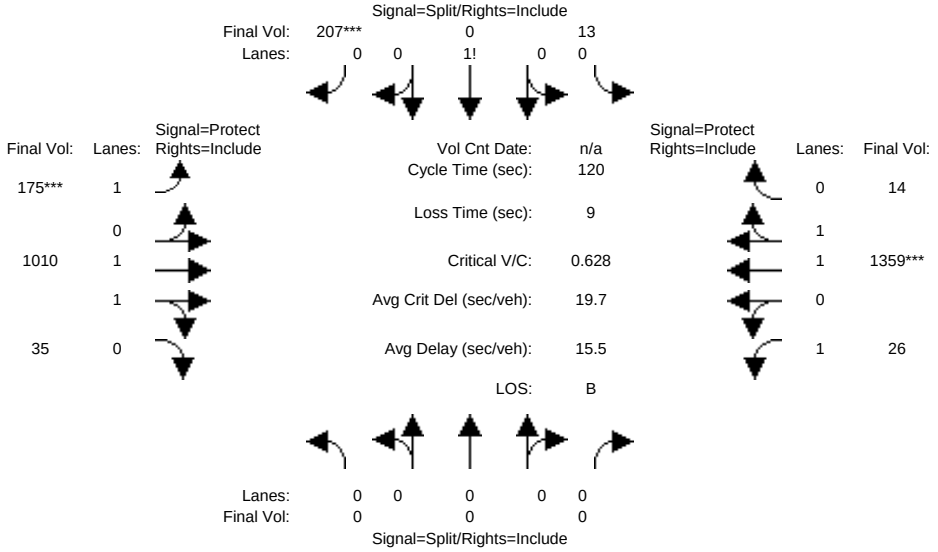
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc4 AM w/Proj

Intersection #2: Matadera Wy and Diablo Rd



Street Name:	Matadera Way						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	11	0	182	154	889	31	23	1196	12
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	11	0	182	154	889	31	23	1196	12
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	11	0	182	154	889	31	23	1196	12
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
PHF Volume:	0	0	0	13	0	207	175	1010	35	26	1359	14
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	13	0	207	175	1010	35	26	1359	14
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	0	0	0	13	0	207	175	1010	35	26	1359	14
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	13	0	207	175	1010	35	26	1359	14
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.06	0.00	0.94	1.00	1.93	0.07	1.00	1.98	0.02
Final Sat.:	0	0	0	98	0	1622	1720	3324	116	1720	3406	34
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.13	0.00	0.13	0.10	0.30	0.30	0.02	0.40	0.40
Crit Volume:		0				219	175				686	
Crit Moves:						****	****				****	

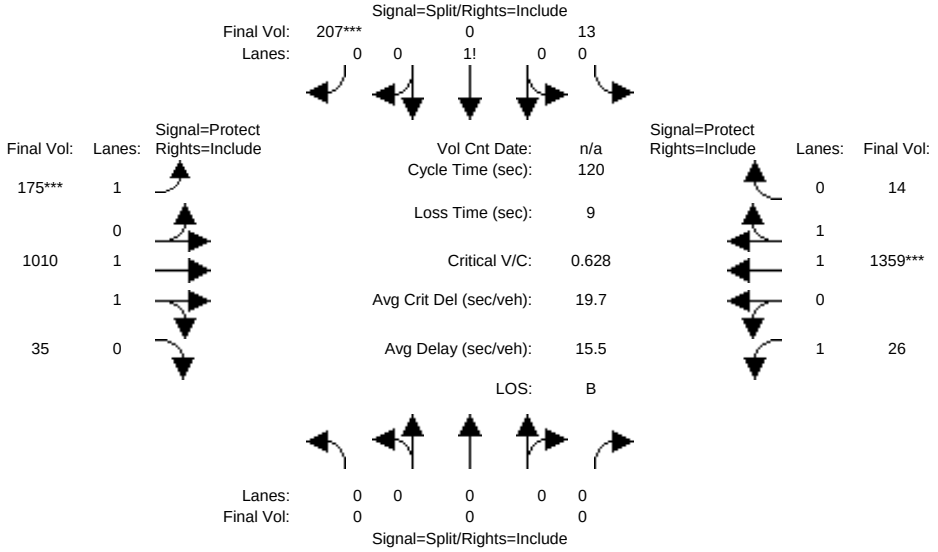
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc5 AM w/Proj

Intersection #2: Matadera Wy and Diablo Rd



Street Name:	Matadera Way						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	11	0	182	154	889	31	23	1196	12
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	11	0	182	154	889	31	23	1196	12
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	11	0	182	154	889	31	23	1196	12
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
PHF Volume:	0	0	0	13	0	207	175	1010	35	26	1359	14
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	13	0	207	175	1010	35	26	1359	14
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	0	0	0	13	0	207	175	1010	35	26	1359	14
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	13	0	207	175	1010	35	26	1359	14
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.06	0.00	0.94	1.00	1.93	0.07	1.00	1.98	0.02
Final Sat.:	0	0	0	98	0	1622	1720	3324	116	1720	3406	34
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.13	0.00	0.13	0.10	0.30	0.30	0.02	0.40	0.40
Crit Volume:		0				219	175				686	
Crit Moves:						****	****				****	

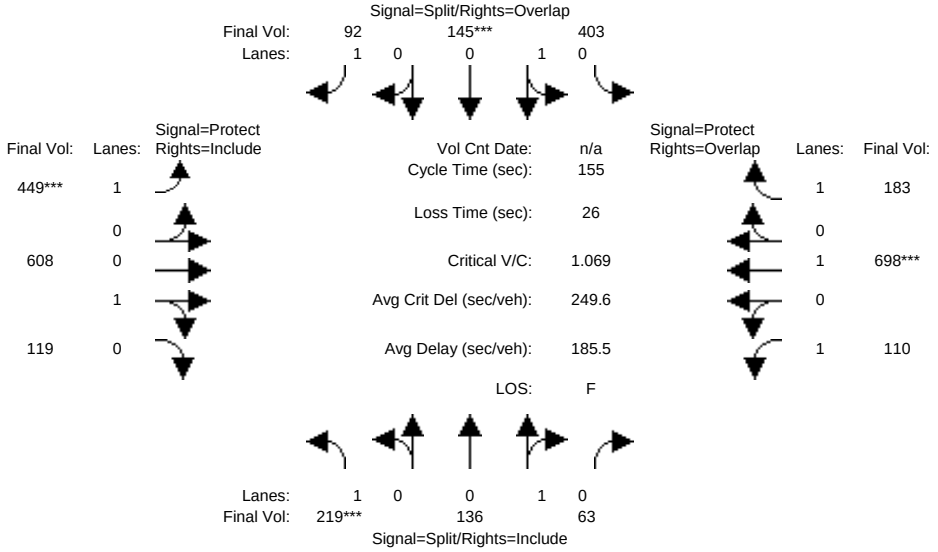
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc2 AM w/Proj

Intersection #3: Green Valley Rd and Diablo Rd



Street Name:	Green Valley Road						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	188	117	54	347	125	465	386	523	102	95	600	504
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	188	117	54	347	125	465	386	523	102	95	600	504
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	188	117	54	347	125	465	386	523	102	95	600	504
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
PHF Volume:	219	136	63	403	145	541	449	608	119	110	698	586
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	219	136	63	403	145	541	449	608	119	110	698	586
RTOR Reduct:	0	0	0	0	0	449	0	0	0	0	0	403
RTOR Vol:	219	136	63	403	145	92	449	608	119	110	698	183
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	219	136	63	403	145	92	449	608	119	110	698	183
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.68	0.32	0.74	0.26	1.00	1.00	0.84	0.16	1.00	1.00	1.00
Final Sat.:	1650	1129	521	1213	437	1650	1650	1381	269	1650	2100	1650
Capacity Analysis Module:												
Vol/Sat:	0.13	0.12	0.12	0.33	0.33	0.06	0.27	0.44	0.44	0.07	0.33	0.11
Crit Volume:	219				549		449				548	
Crit Moves:	****				****		****				****	

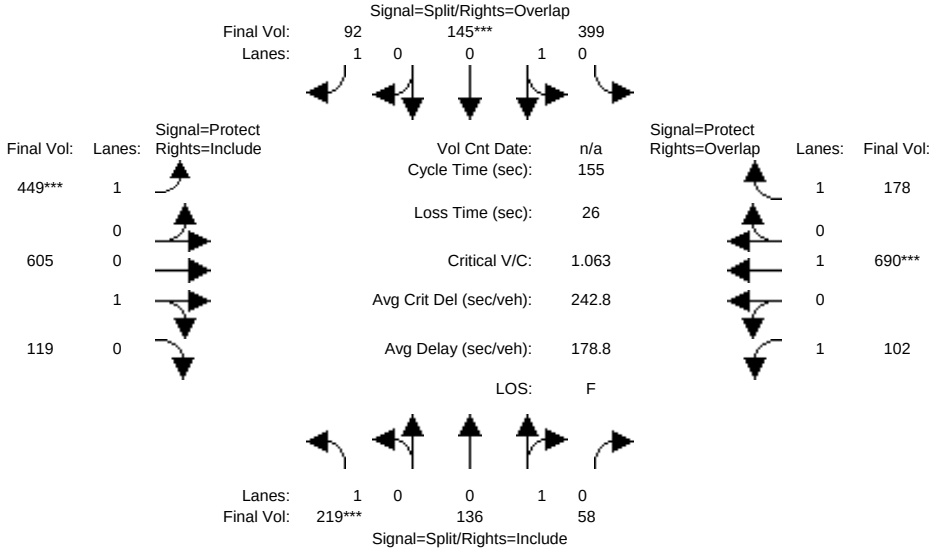
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc4 AM w/Proj

Intersection #3: Green Valley Rd and Diablo Rd



Street Name:	Green Valley Road						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	188	117	50	343	125	465	386	520	102	88	593	496
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	188	117	50	343	125	465	386	520	102	88	593	496
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	188	117	50	343	125	465	386	520	102	88	593	496
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
PHF Volume:	219	136	58	399	145	541	449	605	119	102	690	577
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	219	136	58	399	145	541	449	605	119	102	690	577
RTOR Reduct:	0	0	0	0	0	449	0	0	0	0	0	399
RTOR Vol:	219	136	58	399	145	92	449	605	119	102	690	178
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	219	136	58	399	145	92	449	605	119	102	690	178
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.70	0.30	0.73	0.27	1.00	1.00	0.84	0.16	1.00	1.00	1.00
Final Sat.:	1650	1156	494	1209	441	1650	1650	1379	271	1650	2100	1650
Capacity Analysis Module:												
Vol/Sat:	0.13	0.12	0.12	0.33	0.33	0.06	0.27	0.44	0.44	0.06	0.33	0.11
Crit Volume:	219				544		449				542	
Crit Moves:	****				****		****				****	

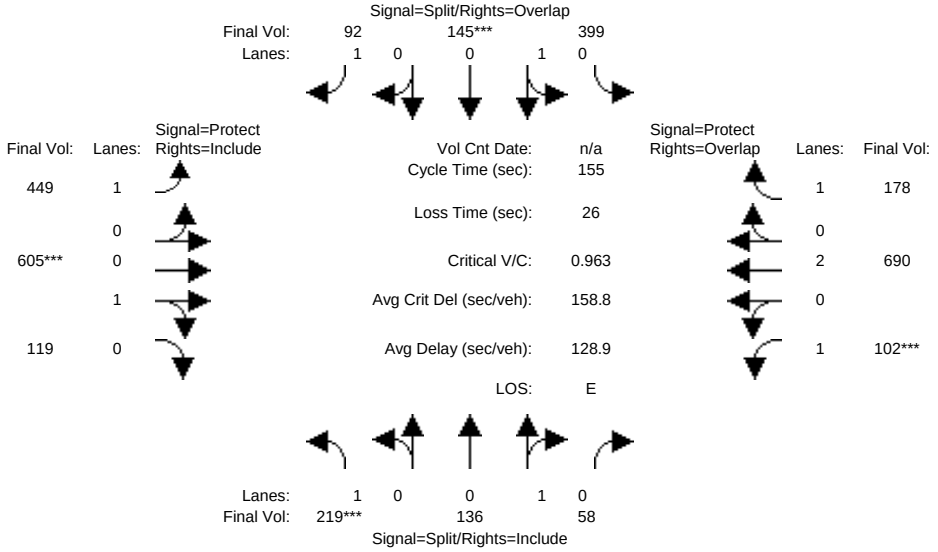
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc5 AM w/Proj

Intersection #3: Green Valley Rd and Diablo Rd



Street Name:	Green Valley Road						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	188	117	50	343	125	465	386	520	102	88	593	496
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	188	117	50	343	125	465	386	520	102	88	593	496
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	188	117	50	343	125	465	386	520	102	88	593	496
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
PHF Volume:	219	136	58	399	145	541	449	605	119	102	690	577
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	219	136	58	399	145	541	449	605	119	102	690	577
RTOR Reduct:	0	0	0	0	0	449	0	0	0	0	0	399
RTOR Vol:	219	136	58	399	145	92	449	605	119	102	690	178
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	219	136	58	399	145	92	449	605	119	102	690	178
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.70	0.30	0.73	0.27	1.00	1.00	0.84	0.16	1.00	2.00	1.00
Final Sat.:	1650	1156	494	1209	441	1650	1650	1379	271	1650	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.13	0.12	0.12	0.33	0.33	0.06	0.27	0.44	0.44	0.06	0.21	0.11
Crit Volume:	219				544			723		102		
Crit Moves:	****				****			****		****		

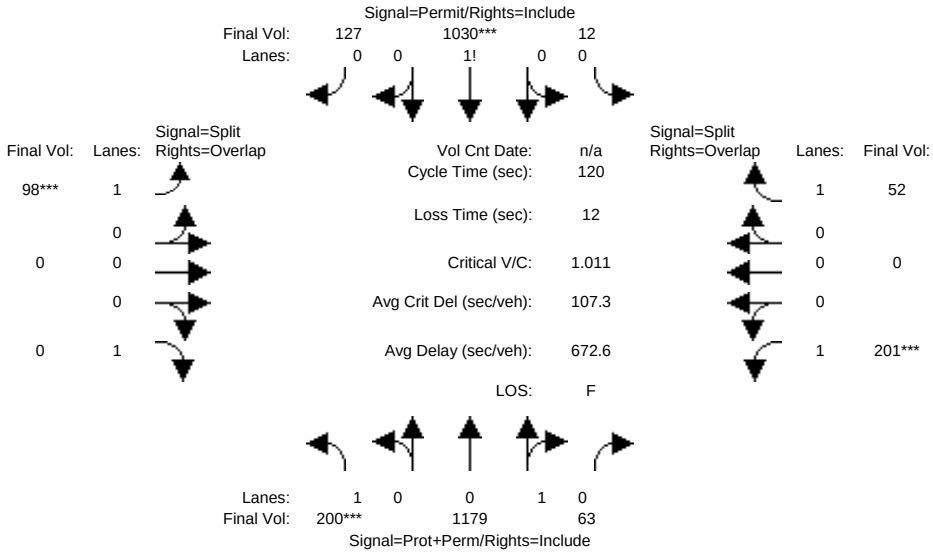
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc2 AM w/Proj

Intersection #4: Green Valley Rd and Blemer Rd/Cameo Dr



Street Name:	Green Valley Road						Blemer Road/Cameo Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	3	3	3	3	3	3	2	3	3	2	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	164	967	52	10	845	104	80	0	116	165	0	53
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	164	967	52	10	845	104	80	0	116	165	0	53
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	164	967	52	10	845	104	80	0	116	165	0	53
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
PHF Volume:	200	1179	63	12	1030	127	98	0	141	201	0	65
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	200	1179	63	12	1030	127	98	0	141	201	0	65
RTOR Reduct:	0	0	0	0	0	0	0	0	141	0	0	12
RTOR Vol:	200	1179	63	12	1030	127	98	0	0	201	0	52
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	200	1179	63	12	1030	127	98	0	0	201	0	52
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.95	0.05	0.01	0.88	0.11	1.00	0.00	1.00	1.00	0.00	1.00
Final Sat.:	1650	1566	84	17	1454	179	1650	0	1650	1650	0	1650
Capacity Analysis Module:												
Vol/Sat:	0.12	0.75	0.75	0.71	0.71	0.71	0.06	0.00	0.00	0.12	0.00	0.03
Crit Volume:	200				1170		98			201		
Crit Moves:	****				****		****			****		

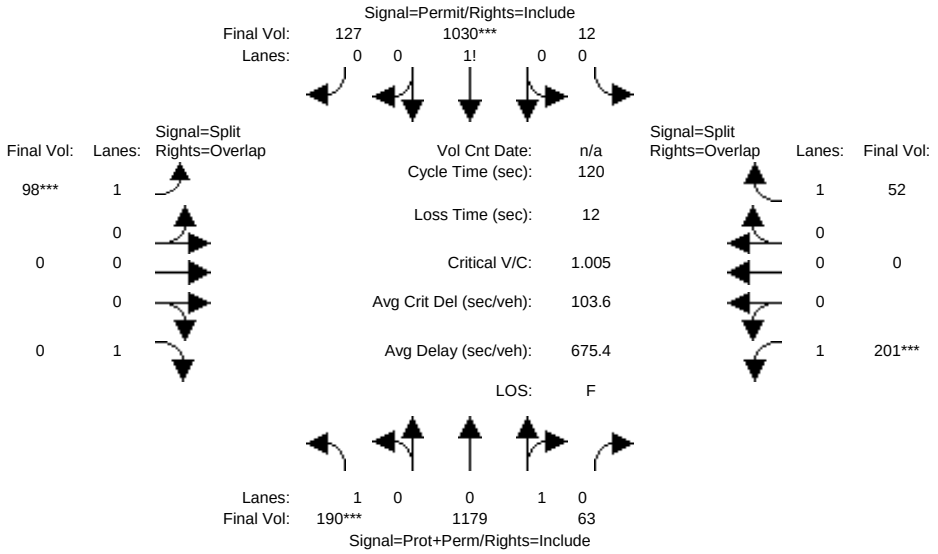
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc4 AM w/Proj

Intersection #4: Green Valley Rd and Blemer Rd/Cameo Dr



Street Name:	Green Valley Road						Blemer Road/Cameo Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	3	3	3	3	3	3	2	3	3	2	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	156	967	52	10	845	104	80	0	112	165	0	53
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	156	967	52	10	845	104	80	0	112	165	0	53
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	156	967	52	10	845	104	80	0	112	165	0	53
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
PHF Volume:	190	1179	63	12	1030	127	98	0	137	201	0	65
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	190	1179	63	12	1030	127	98	0	137	201	0	65
RTOR Reduct:	0	0	0	0	0	0	0	0	137	0	0	12
RTOR Vol:	190	1179	63	12	1030	127	98	0	0	201	0	52
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	190	1179	63	12	1030	127	98	0	0	201	0	52
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.95	0.05	0.01	0.88	0.11	1.00	0.00	1.00	1.00	0.00	1.00
Final Sat.:	1650	1566	84	17	1454	179	1650	0	1650	1650	0	1650
Capacity Analysis Module:												
Vol/Sat:	0.12	0.75	0.75	0.71	0.71	0.71	0.06	0.00	0.00	0.12	0.00	0.03
Crit Volume:	190				1170		98			201		
Crit Moves:	****				****		****			****		

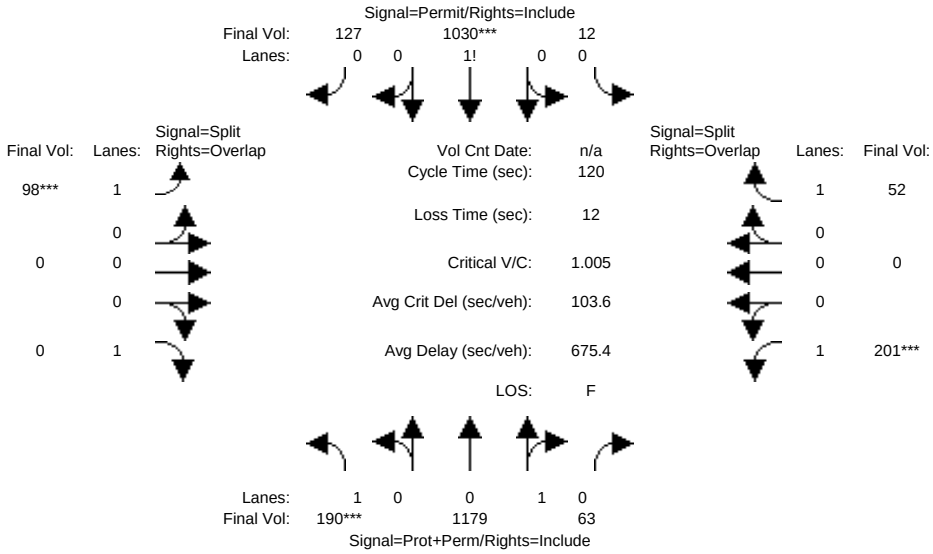
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc5 AM w/Proj

Intersection #4: Green Valley Rd and Blemer Rd/Cameo Dr



Street Name:	Green Valley Road						Blemer Road/Cameo Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	3	3	3	3	3	3	2	3	3	2	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	156	967	52	10	845	104	80	0	112	165	0	53
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	156	967	52	10	845	104	80	0	112	165	0	53
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	156	967	52	10	845	104	80	0	112	165	0	53
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
PHF Volume:	190	1179	63	12	1030	127	98	0	137	201	0	65
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	190	1179	63	12	1030	127	98	0	137	201	0	65
RTOR Reduct:	0	0	0	0	0	0	0	0	137	0	0	12
RTOR Vol:	190	1179	63	12	1030	127	98	0	0	201	0	52
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	190	1179	63	12	1030	127	98	0	0	201	0	52
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.95	0.05	0.01	0.88	0.11	1.00	0.00	1.00	1.00	0.00	1.00
Final Sat.:	1650	1566	84	17	1454	179	1650	0	1650	1650	0	1650
Capacity Analysis Module:												
Vol/Sat:	0.12	0.75	0.75	0.71	0.71	0.71	0.06	0.00	0.00	0.12	0.00	0.03
Crit Volume:	190				1170		98			201		
Crit Moves:	****				****		****			****		

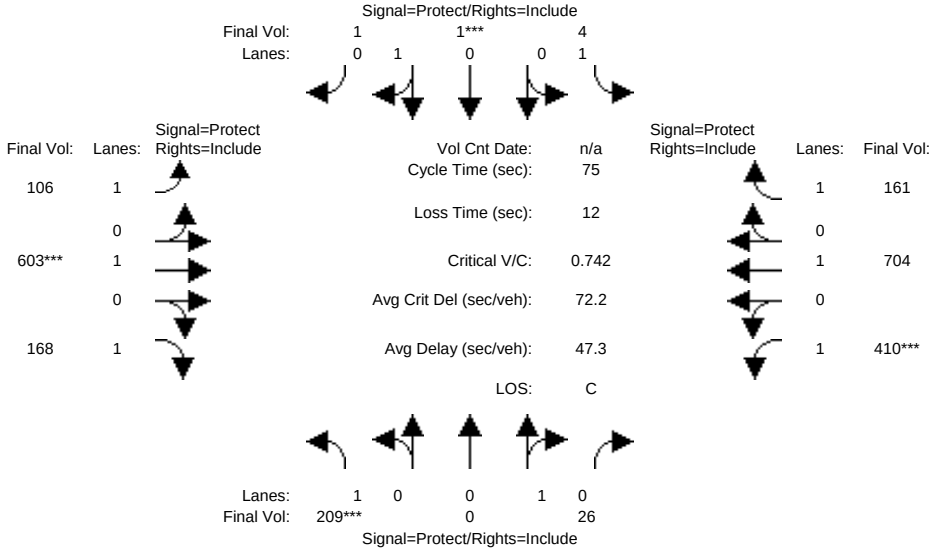
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc2 AM w/Proj

Intersection #6: Monte Vista H.S. Main and Stone Valley Rd



Street Name:	Monte Vista H.S. Main Parking Lot						Stone Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	144	0	18	3	1	1	73	416	260	283	486	114
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	144	0	18	3	1	1	73	416	260	283	486	114
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	144	0	18	3	1	1	73	416	260	283	486	114
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69
PHF Volume:	209	0	26	4	1	1	106	603	377	410	704	165
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	209	0	26	4	1	1	106	603	377	410	704	165
RTOR Reduct:	0	0	0	0	0	0	0	0	209	0	0	4
RTOR Vol:	209	0	26	4	1	1	106	603	168	410	704	161
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	209	0	26	4	1	1	106	603	168	410	704	161
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.00	1.00	1.00	0.50	0.50	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1650	0	1650	1650	825	825	1650	1650	1650	1650	1650	1650
Capacity Analysis Module:												
Vol/Sat:	0.13	0.00	0.02	0.00	0.00	0.00	0.06	0.37	0.10	0.25	0.43	0.10
Crit Volume:	209				3			603		410		
Crit Moves:	****				****			****		****		

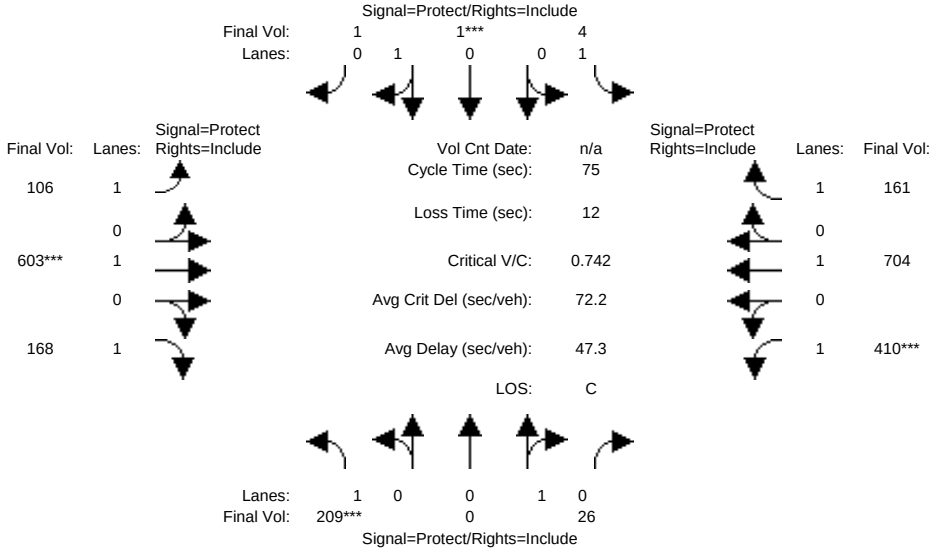
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc4 AM w/Proj

Intersection #6: Monte Vista H.S. Main and Stone Valley Rd



Street Name:	Monte Vista H.S. Main Parking Lot						Stone Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	144	0	18	3	1	1	73	416	260	283	486	114
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	144	0	18	3	1	1	73	416	260	283	486	114
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	144	0	18	3	1	1	73	416	260	283	486	114
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69
PHF Volume:	209	0	26	4	1	1	106	603	377	410	704	165
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	209	0	26	4	1	1	106	603	377	410	704	165
RTOR Reduct:	0	0	0	0	0	0	0	0	209	0	0	4
RTOR Vol:	209	0	26	4	1	1	106	603	168	410	704	161
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	209	0	26	4	1	1	106	603	168	410	704	161
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.00	1.00	1.00	0.50	0.50	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1650	0	1650	1650	825	825	1650	1650	1650	1650	1650	1650
Capacity Analysis Module:												
Vol/Sat:	0.13	0.00	0.02	0.00	0.00	0.00	0.06	0.37	0.10	0.25	0.43	0.10
Crit Volume:	209				3			603		410		
Crit Moves:	****				****			****		****		

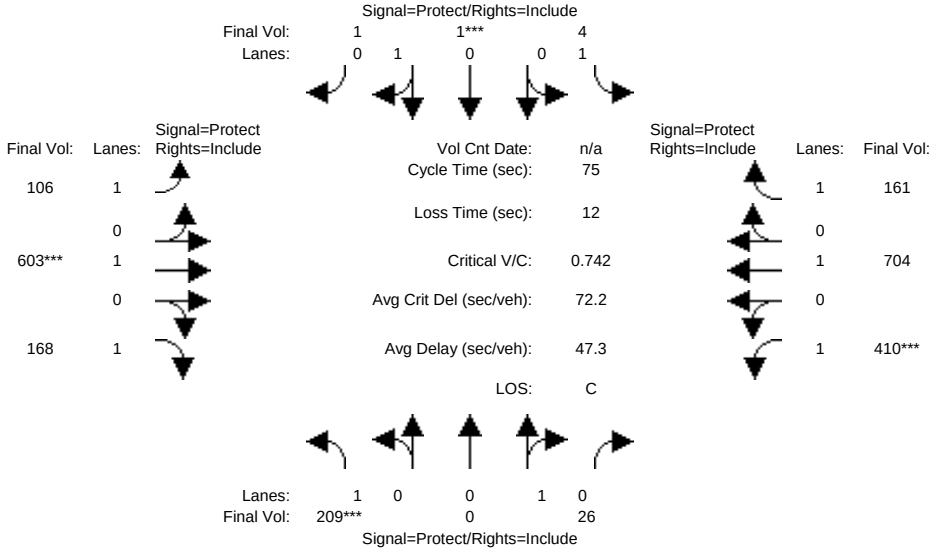
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc5 AM w/Proj

Intersection #6: Monte Vista H.S. Main and Stone Valley Rd



Street Name:	Monte Vista H.S. Main Parking Lot						Stone Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	144	0	18	3	1	1	73	416	260	283	486	114
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	144	0	18	3	1	1	73	416	260	283	486	114
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	144	0	18	3	1	1	73	416	260	283	486	114
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69
PHF Volume:	209	0	26	4	1	1	106	603	377	410	704	165
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	209	0	26	4	1	1	106	603	377	410	704	165
RTOR Reduct:	0	0	0	0	0	0	0	0	209	0	0	4
RTOR Vol:	209	0	26	4	1	1	106	603	168	410	704	161
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	209	0	26	4	1	1	106	603	168	410	704	161
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.00	1.00	1.00	0.50	0.50	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1650	0	1650	1650	825	825	1650	1650	1650	1650	1650	1650
Capacity Analysis Module:												
Vol/Sat:	0.13	0.00	0.02	0.00	0.00	0.00	0.06	0.37	0.10	0.25	0.43	0.10
Crit Volume:	209				3			603		410		
Crit Moves:	****				****			****		****		

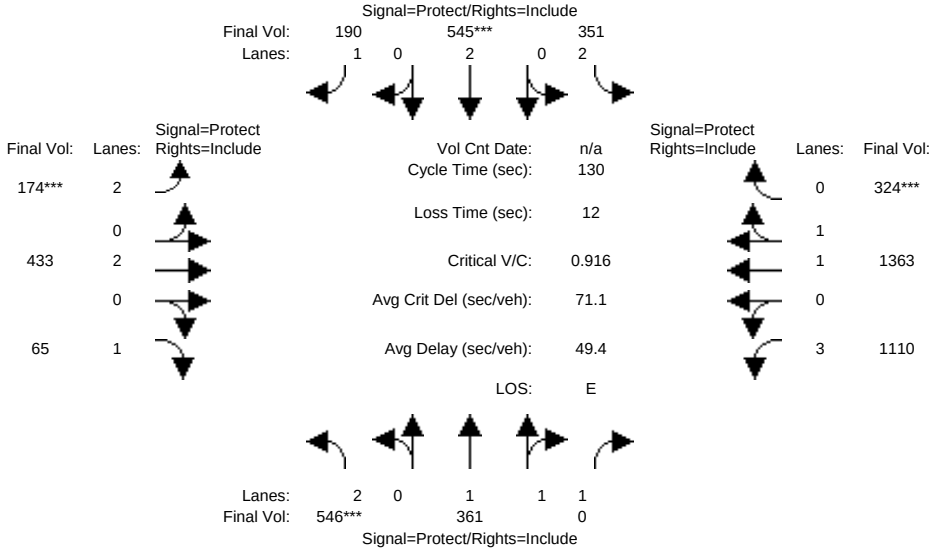
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc2 AM w/Proj

Intersection #10: Blackhawk Rd/Crow Canyon Rd and Camino Tassajara



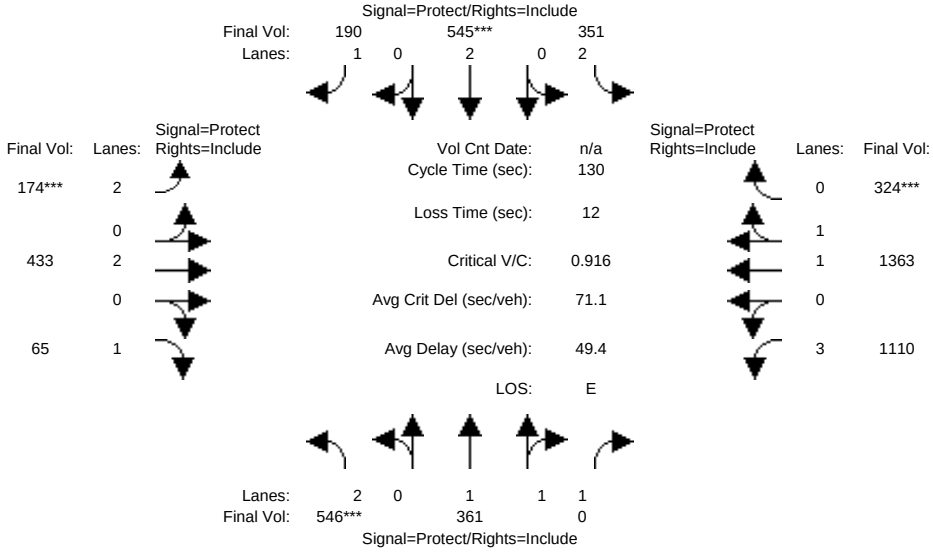
Street Name:	Blackhawk Rd/Crow Canyon Rd						Camino Tassajara					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	502	332	236	323	501	263	160	398	336	1021	1254	298
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	502	332	236	323	501	263	160	398	336	1021	1254	298
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	502	332	236	323	501	263	160	398	336	1021	1254	298
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	546	361	257	351	545	286	174	433	365	1110	1363	324
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	546	361	257	351	545	286	174	433	365	1110	1363	324
RTOR Reduct:	0	0	257	0	0	96	0	0	300	0	0	0
RTOR Vol:	546	361	0	351	545	190	174	433	65	1110	1363	324
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	546	361	0	351	545	190	174	433	65	1110	1363	324
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	0.91	1.00	0.91	0.91	1.00	1.00	0.91	1.00	1.00	0.87	1.00	1.00
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00	3.00	1.62	0.38
Final Sat.:	3000	3300	1500	3000	3300	1650	3000	3300	1650	4307	2666	634
Capacity Analysis Module:												
Vol/Sat:	0.18	0.11	0.00	0.12	0.17	0.12	0.06	0.13	0.04	0.26	0.51	0.51
Crit Volume:	273				272		87					843
Crit Moves:	****				****		****					****

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc4 AM w/Proj

Intersection #10: Blackhawk Rd/Crow Canyon Rd and Camino Tassajara



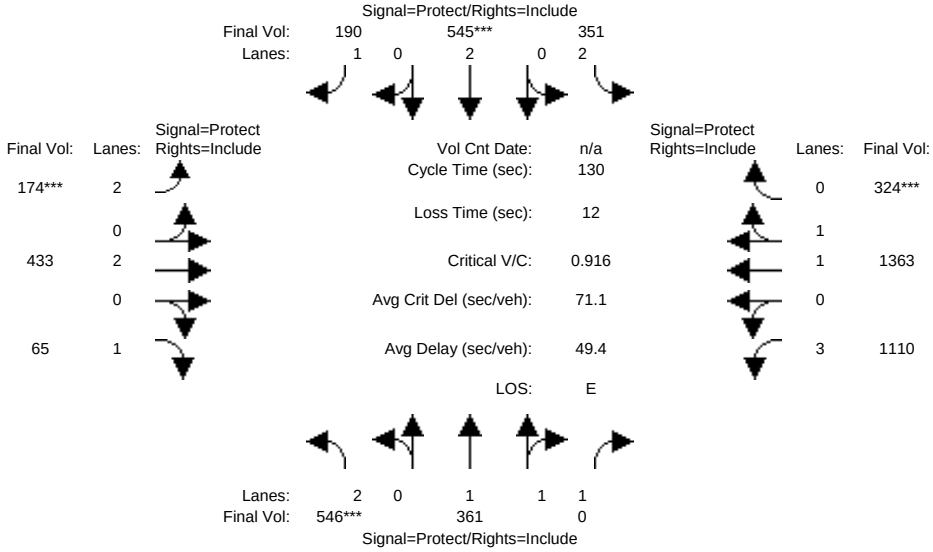
Street Name:	Blackhawk Rd/Crow Canyon Rd						Camino Tassajara					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	502	332	236	323	501	263	160	398	336	1021	1254	298
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	502	332	236	323	501	263	160	398	336	1021	1254	298
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	502	332	236	323	501	263	160	398	336	1021	1254	298
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	546	361	257	351	545	286	174	433	365	1110	1363	324
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	546	361	257	351	545	286	174	433	365	1110	1363	324
RTOR Reduct:	0	0	257	0	0	96	0	0	300	0	0	0
RTOR Vol:	546	361	0	351	545	190	174	433	65	1110	1363	324
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	546	361	0	351	545	190	174	433	65	1110	1363	324
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	0.91	1.00	0.91	0.91	1.00	1.00	0.91	1.00	1.00	0.87	1.00	1.00
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00	3.00	1.62	0.38
Final Sat.:	3000	3300	1500	3000	3300	1650	3000	3300	1650	4307	2666	634
Capacity Analysis Module:												
Vol/Sat:	0.18	0.11	0.00	0.12	0.17	0.12	0.06	0.13	0.04	0.26	0.51	0.51
Crit Volume:	273				272		87					843
Crit Moves:	****				****		****					****

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc5 AM w/Proj

Intersection #10: Blackhawk Rd/Crow Canyon Rd and Camino Tassajara



Street Name:	Blackhawk Rd/Crow Canyon Rd						Camino Tassajara					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	502	332	236	323	501	263	160	398	336	1021	1254	298
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	502	332	236	323	501	263	160	398	336	1021	1254	298
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	502	332	236	323	501	263	160	398	336	1021	1254	298
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	546	361	257	351	545	286	174	433	365	1110	1363	324
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	546	361	257	351	545	286	174	433	365	1110	1363	324
RTOR Reduct:	0	0	257	0	0	96	0	0	300	0	0	0
RTOR Vol:	546	361	0	351	545	190	174	433	65	1110	1363	324
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	546	361	0	351	545	190	174	433	65	1110	1363	324
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	0.91	1.00	0.91	0.91	1.00	1.00	0.91	1.00	1.00	0.87	1.00	1.00
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00	3.00	1.62	0.38
Final Sat.:	3000	3300	1500	3000	3300	1650	3000	3300	1650	4307	2666	634
Capacity Analysis Module:												
Vol/Sat:	0.18	0.11	0.00	0.12	0.17	0.12	0.06	0.13	0.04	0.26	0.51	0.51
Crit Volume:	273				272		87					843
Crit Moves:	****				****		****					****

CCTA School PM LOS Calcs

(>>>>>>>>>This Page Intentionally Left Blank<<<<<<<<)

Note:

In the course of the Magee Ranch TIA analysis, the Cumulative Sensitivity Analysis scenarios were revised/updated in cooperation with the Town of Danville to best reflect the alternative scenarios appropriate for study. For this reason, after the cumulative level of service (LOS) calculations were completed, some of the scenario names/numbers were changed. The changes are as follows:

- Cum Sc4 AM w/Proj, Cum Sc4 school PM w/Proj, and Cum Sc4 PM w/Proj LOS calculation sheets in this appendix refer to Cumulative Scenario 3 results shown in the report.
- Cum Sc5 AM w/Proj, Cum Sc5 school PM w/Proj, and Cum Sc5 PM w/Proj LOS calculation sheets in this appendix refer to Cumulative Scenario 4 results shown in the report.

All of the other LOS calculations in this appendix correspond to the same name/number as shown in the report.

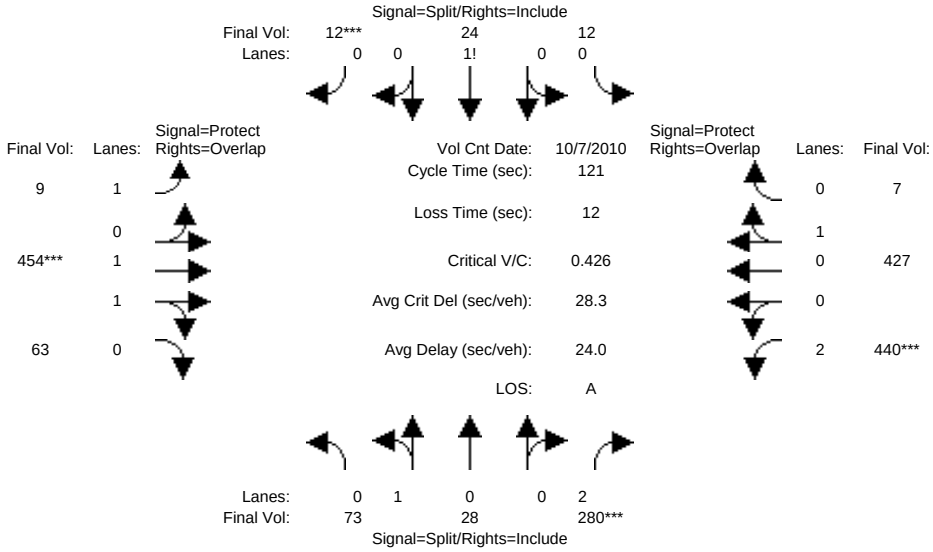
(>>>>>>>>>This Page Intentionally Left Blank<<<<<<<<)

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Existing School PM

Intersection #1: Diablo Rd and El Cerro Blvd



Street Name:	Diablo Road						El Cerro Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 7 Oct 2010 <<												
Base Vol:	69	26	491	11	23	11	8	427	59	414	401	7
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	69	26	491	11	23	11	8	427	59	414	401	7
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	69	26	491	11	23	11	8	427	59	414	401	7
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	73	28	522	12	24	12	9	454	63	440	427	7
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	73	28	522	12	24	12	9	454	63	440	427	7
RTOR Reduct:	0	0	242	0	0	0	0	0	0	0	0	0
RTOR Vol:	73	28	280	12	24	12	9	454	63	440	427	7
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	73	28	280	12	24	12	9	454	63	440	427	7
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00
Lanes:	0.73	0.27	2.00	0.24	0.52	0.24	1.00	1.76	0.24	2.00	0.98	0.02
Final Sat.:	1198	452	3000	403	843	403	1650	2899	401	3000	1622	28
Capacity Analysis Module:												
Vol/Sat:	0.06	0.06	0.09	0.03	0.03	0.03	0.01	0.16	0.16	0.15	0.26	0.26
Crit Volume:			140			48		259		220		
Crit Moves:			****			****		****		****		

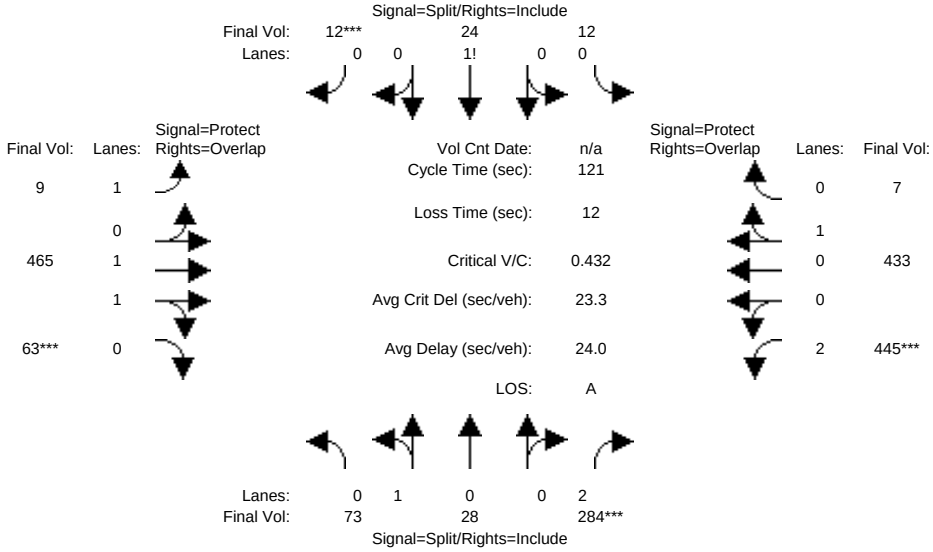
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Project School PM

Intersection #1: Diablo Rd and El Cerro Blvd



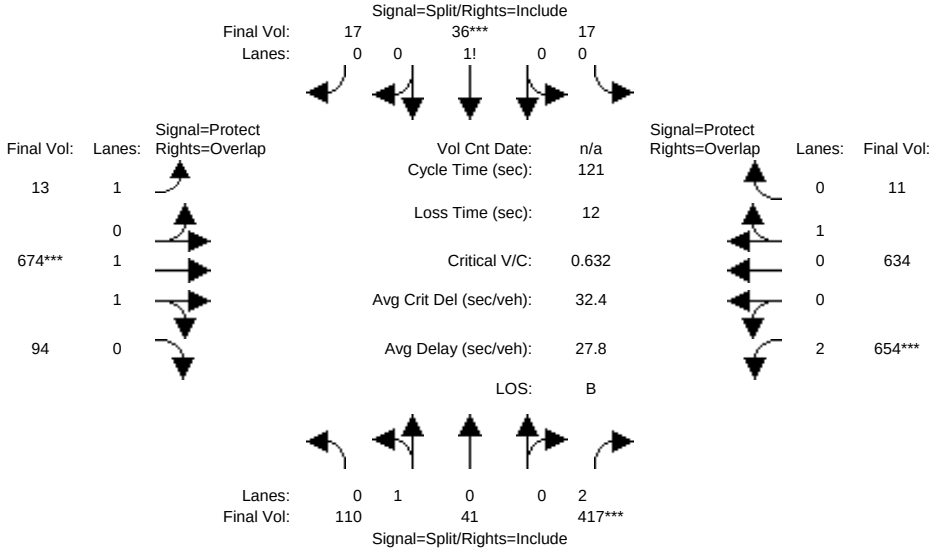
Street Name:	Diablo Road						El Cerro Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	69	26	497	11	23	11	8	437	59	418	407	7
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	69	26	497	11	23	11	8	437	59	418	407	7
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	69	26	497	11	23	11	8	437	59	418	407	7
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	73	28	529	12	24	12	9	465	63	445	433	7
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	73	28	529	12	24	12	9	465	63	445	433	7
RTOR Reduct:	0	0	245	0	0	0	0	0	0	0	0	0
RTOR Vol:	73	28	284	12	24	12	9	465	63	445	433	7
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	73	28	284	12	24	12	9	465	63	445	433	7
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00
Lanes:	0.73	0.27	2.00	0.24	0.52	0.24	1.00	1.76	0.24	2.00	0.98	0.02
Final Sat.:	1198	452	3000	403	843	403	1650	2907	393	3000	1622	28
Capacity Analysis Module:												
Vol/Sat:	0.06	0.06	0.09	0.03	0.03	0.03	0.01	0.16	0.16	0.15	0.27	0.27
Crit Volume:			142			48			264	222		
Crit Moves:			****			****			****	****		

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum School PM No Project

Intersection #1: Diablo Rd and El Cerro Blvd



Street Name:	Diablo Road						El Cerro Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	103	39	730	16	34	16	12	634	88	615	596	10
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	103	39	730	16	34	16	12	634	88	615	596	10
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	103	39	730	16	34	16	12	634	88	615	596	10
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	110	41	777	17	36	17	13	674	94	654	634	11
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	110	41	777	17	36	17	13	674	94	654	634	11
RTOR Reduct:	0	0	360	0	0	0	0	0	0	0	0	0
RTOR Vol:	110	41	417	17	36	17	13	674	94	654	634	11
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	110	41	417	17	36	17	13	674	94	654	634	11
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00
Lanes:	0.73	0.27	2.00	0.24	0.52	0.24	1.00	1.76	0.24	2.00	0.98	0.02
Final Sat.:	1197	453	3000	400	850	400	1650	2898	402	3000	1623	27
Capacity Analysis Module:												
Vol/Sat:	0.09	0.09	0.14	0.04	0.04	0.04	0.01	0.23	0.23	0.22	0.39	0.39
Crit Volume:			208		70			384		327		
Crit Moves:			****		****			****		****		

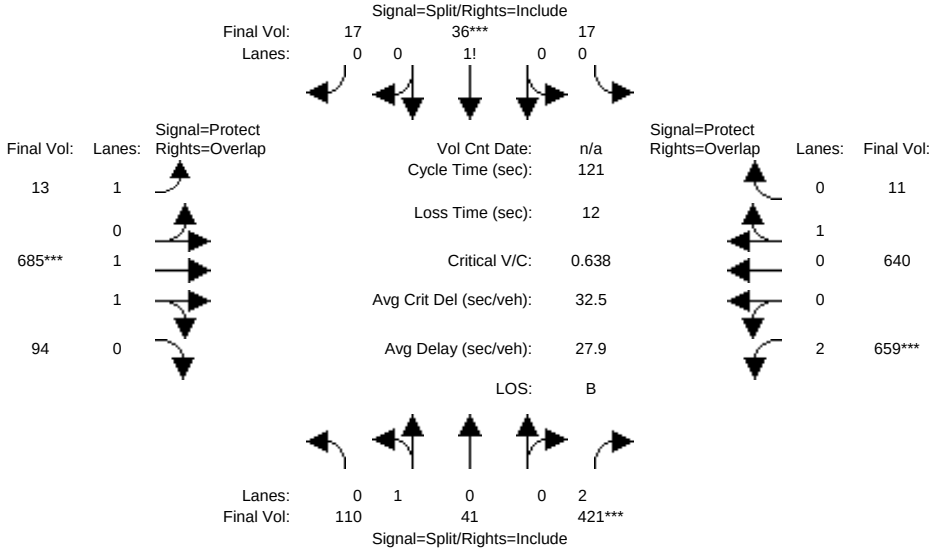
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc1 School PM w/Proj

Intersection #1: Diablo Rd and El Cerro Blvd



Street Name:	Diablo Road						El Cerro Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	103	39	736	16	34	16	12	644	88	619	602	10
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	103	39	736	16	34	16	12	644	88	619	602	10
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	103	39	736	16	34	16	12	644	88	619	602	10
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	110	41	783	17	36	17	13	685	94	659	640	11
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	110	41	783	17	36	17	13	685	94	659	640	11
RTOR Reduct:	0	0	362	0	0	0	0	0	0	0	0	0
RTOR Vol:	110	41	421	17	36	17	13	685	94	659	640	11
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	110	41	421	17	36	17	13	685	94	659	640	11
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00
Lanes:	0.73	0.27	2.00	0.24	0.52	0.24	1.00	1.76	0.24	2.00	0.98	0.02
Final Sat.:	1197	453	3000	400	850	400	1650	2903	397	3000	1623	27
Capacity Analysis Module:												
Vol/Sat:	0.09	0.09	0.14	0.04	0.04	0.04	0.01	0.24	0.24	0.22	0.39	0.39
Crit Volume:			210		70			389		329		
Crit Moves:			****		****			****		****		

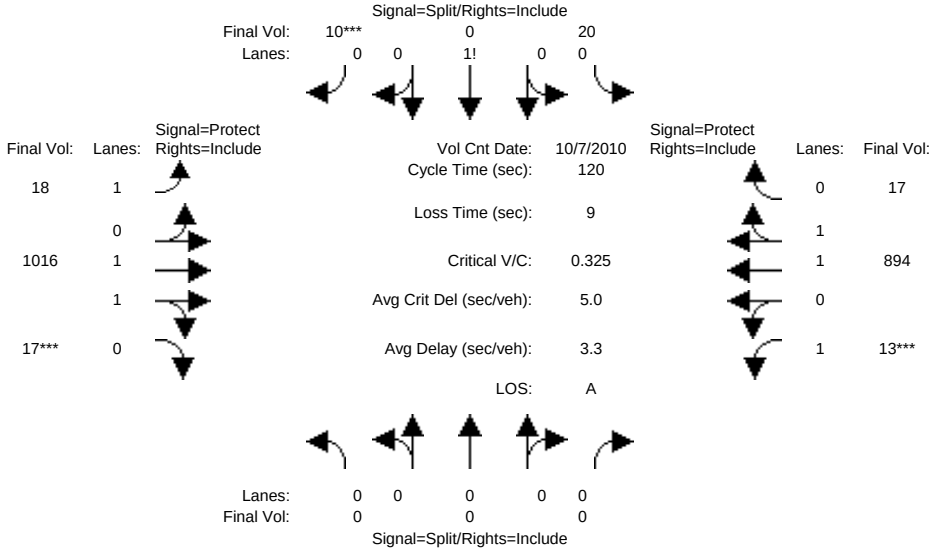
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Existing School PM

Intersection #2: Matadera Wy and Diablo Rd



Street Name:	Matadera Way						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 7 Oct 2010 <<												
Base Vol:	0	0	0	17	0	8	15	843	14	11	742	14
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	17	0	8	15	843	14	11	742	14
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	17	0	8	15	843	14	11	742	14
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
PHF Volume:	0	0	0	20	0	10	18	1016	17	13	894	17
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	20	0	10	18	1016	17	13	894	17
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	0	0	0	20	0	10	18	1016	17	13	894	17
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	20	0	10	18	1016	17	13	894	17
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.68	0.00	0.32	1.00	1.97	0.03	1.00	1.96	0.04
Final Sat.:	0	0	0	1170	0	550	1720	3384	56	1720	3376	64
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.02	0.00	0.02	0.01	0.30	0.30	0.01	0.26	0.26
Crit Volume:		0				30			516	13		
Crit Moves:						****			****	****		

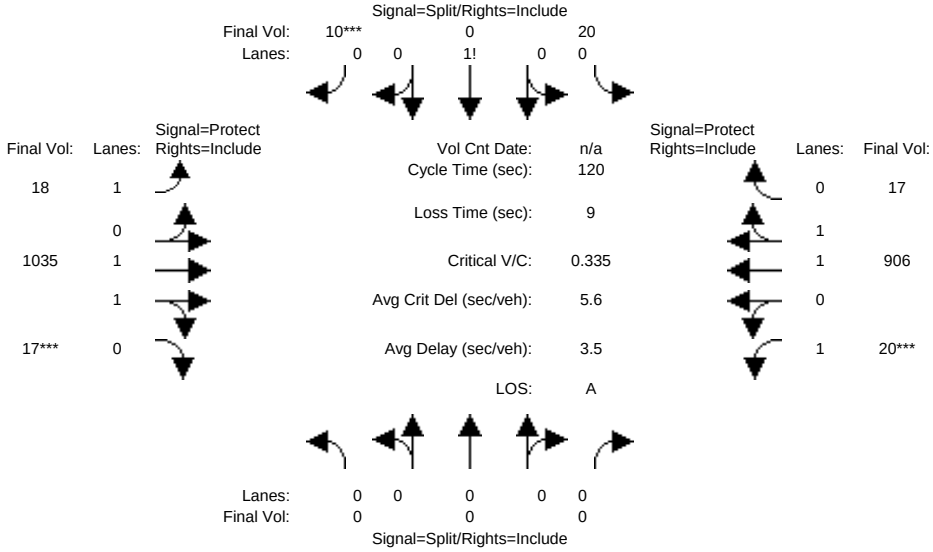
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Project School PM

Intersection #2: Matadera Wy and Diablo Rd



Street Name:	Matadera Way						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	17	0	8	15	859	14	17	752	14
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	17	0	8	15	859	14	17	752	14
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	17	0	8	15	859	14	17	752	14
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
PHF Volume:	0	0	0	20	0	10	18	1035	17	20	906	17
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	20	0	10	18	1035	17	20	906	17
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	0	0	0	20	0	10	18	1035	17	20	906	17
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	20	0	10	18	1035	17	20	906	17
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.68	0.00	0.32	1.00	1.97	0.03	1.00	1.96	0.04
Final Sat.:	0	0	0	1170	0	550	1720	3385	55	1720	3377	63
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.02	0.00	0.02	0.01	0.31	0.31	0.01	0.27	0.27
Crit Volume:		0				30			526	20		
Crit Moves:						****			****	****		

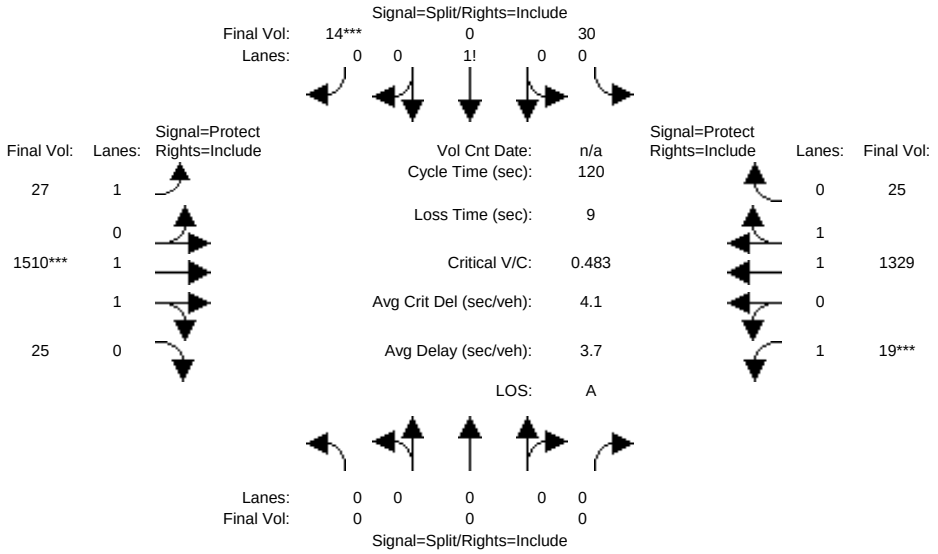
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum School PM No Project

Intersection #2: Matadera Wy and Diablo Rd



Street Name:	Matadera Way						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	25	0	12	22	1253	21	16	1103	21
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	25	0	12	22	1253	21	16	1103	21
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	25	0	12	22	1253	21	16	1103	21
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
PHF Volume:	0	0	0	30	0	14	27	1510	25	19	1329	25
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	30	0	14	27	1510	25	19	1329	25
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	0	0	0	30	0	14	27	1510	25	19	1329	25
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	30	0	14	27	1510	25	19	1329	25
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.68	0.00	0.32	1.00	1.97	0.03	1.00	1.96	0.04
Final Sat.:	0	0	0	1162	0	558	1720	3383	57	1720	3376	64
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.03	0.00	0.03	0.02	0.45	0.45	0.01	0.39	0.39
Crit Volume:		0				45		767			19	
Crit Moves:						****		****			****	

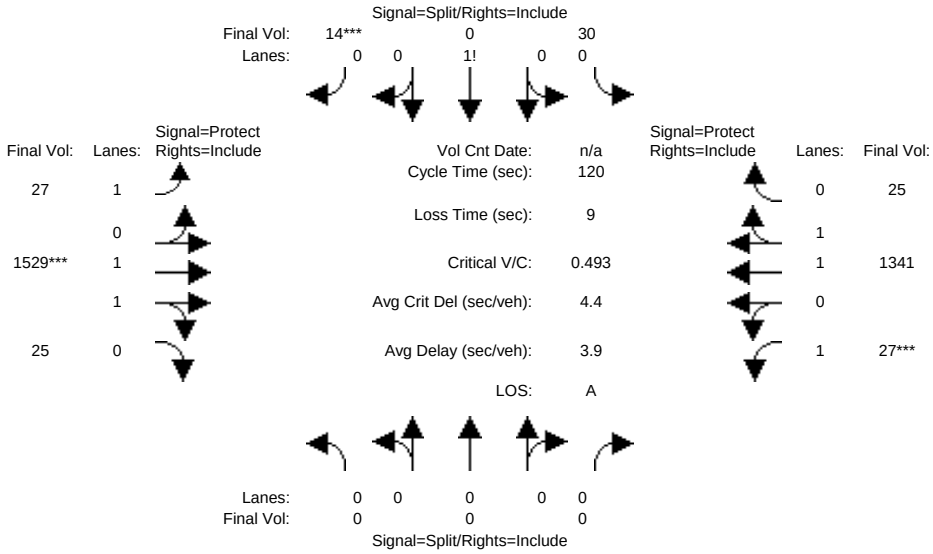
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc1 School PM w/Proj

Intersection #2: Matadera Wy and Diablo Rd



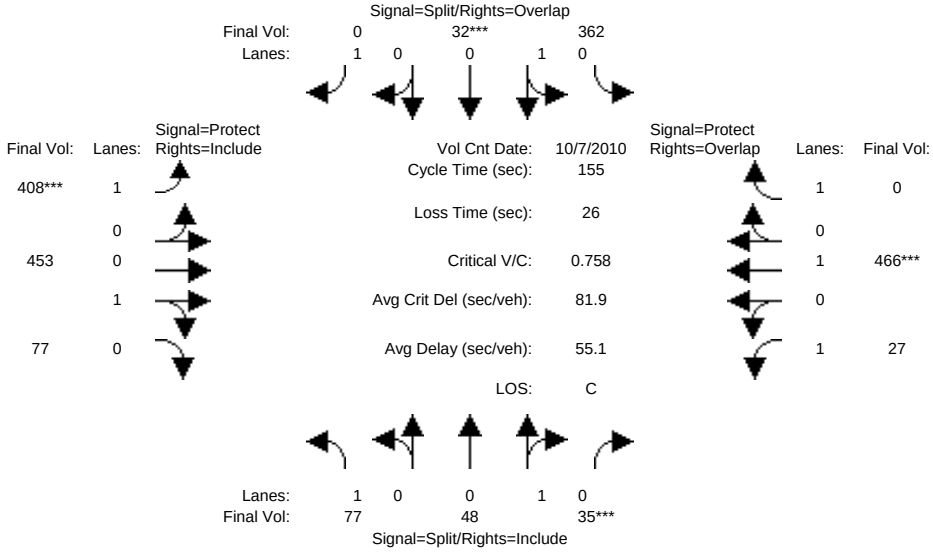
Street Name:	Matadera Way						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	25	0	12	22	1269	21	22	1113	21
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	25	0	12	22	1269	21	22	1113	21
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	25	0	12	22	1269	21	22	1113	21
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
PHF Volume:	0	0	0	30	0	14	27	1529	25	27	1341	25
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	30	0	14	27	1529	25	27	1341	25
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	0	0	0	30	0	14	27	1529	25	27	1341	25
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	30	0	14	27	1529	25	27	1341	25
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.68	0.00	0.32	1.00	1.97	0.03	1.00	1.96	0.04
Final Sat.:	0	0	0	1162	0	558	1720	3384	56	1720	3376	64
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.03	0.00	0.03	0.02	0.45	0.45	0.02	0.40	0.40
Crit Volume:		0				45		777		27		
Crit Moves:						****		****		****		

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Existing School PM

Intersection #3: Green Valley Rd and Diablo Rd



Street Name:	Green Valley Road						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 7 Oct 2010 <<												
Base Vol:	71	44	32	333	29	310	375	417	71	25	429	231
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	71	44	32	333	29	310	375	417	71	25	429	231
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	71	44	32	333	29	310	375	417	71	25	429	231
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	77	48	35	362	32	337	408	453	77	27	466	251
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	77	48	35	362	32	337	408	453	77	27	466	251
RTOR Reduct:	0	0	0	0	0	337	0	0	0	0	0	251
RTOR Vol:	77	48	35	362	32	0	408	453	77	27	466	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	77	48	35	362	32	0	408	453	77	27	466	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.58	0.42	0.92	0.08	1.00	1.00	0.85	0.15	1.00	1.00	1.00
Final Sat.:	1650	955	695	1518	132	1650	1650	1410	240	1650	2100	1650
Capacity Analysis Module:												
Vol/Sat:	0.05	0.05	0.05	0.24	0.24	0.00	0.25	0.32	0.32	0.02	0.22	0.00
Crit Volume:			83		393		408				366	
Crit Moves:			****		****		****				****	

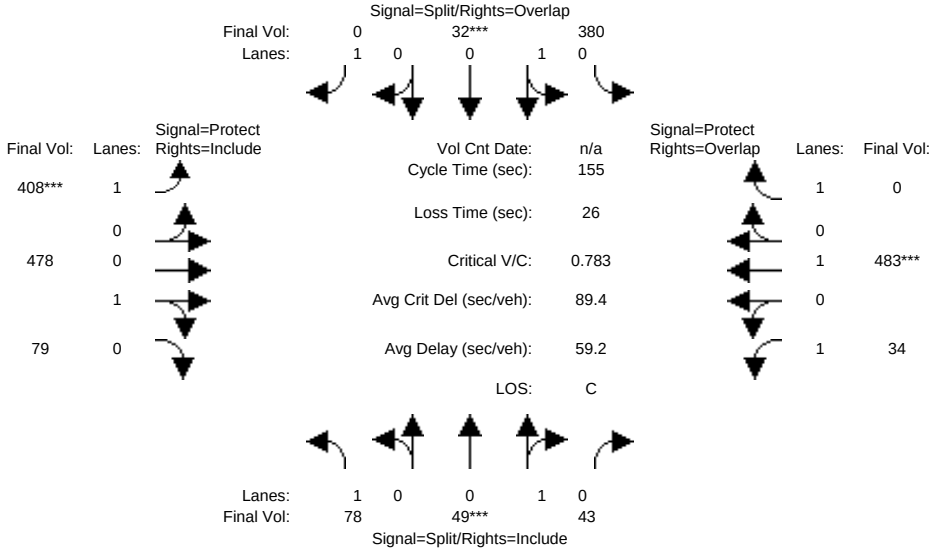
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Project School PM

Intersection #3: Green Valley Rd and Diablo Rd



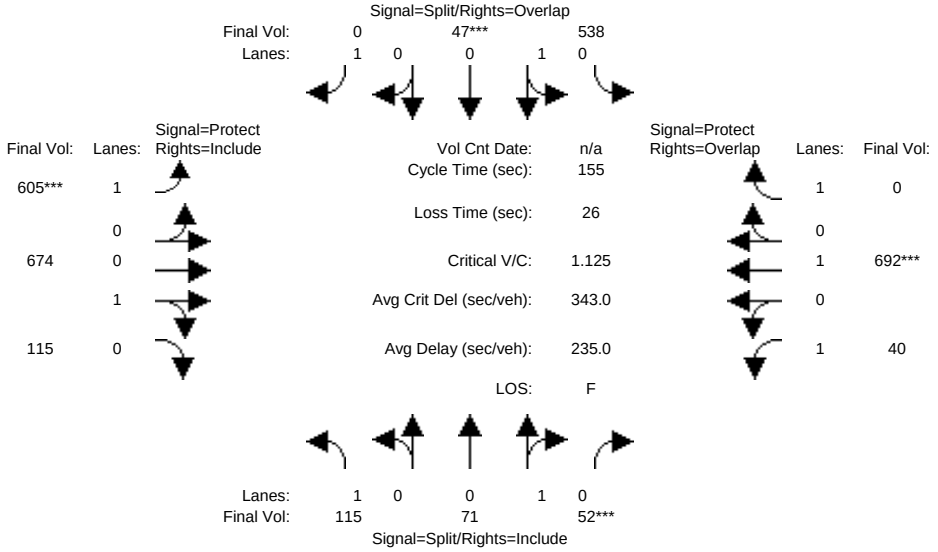
Street Name:	Green Valley Road						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	72	45	40	350	29	310	375	440	73	31	444	241
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	72	45	40	350	29	310	375	440	73	31	444	241
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	72	45	40	350	29	310	375	440	73	31	444	241
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	78	49	43	380	32	337	408	478	79	34	483	262
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	78	49	43	380	32	337	408	478	79	34	483	262
RTOR Reduct:	0	0	0	0	0	337	0	0	0	0	0	262
RTOR Vol:	78	49	43	380	32	0	408	478	79	34	483	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	78	49	43	380	32	0	408	478	79	34	483	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.53	0.47	0.92	0.08	1.00	1.00	0.86	0.14	1.00	1.00	1.00
Final Sat.:	1650	874	776	1524	126	1650	1650	1415	235	1650	2100	1650
Capacity Analysis Module:												
Vol/Sat:	0.05	0.06	0.06	0.25	0.25	0.00	0.25	0.34	0.34	0.02	0.23	0.00
Crit Volume:		92			412		408				379	
Crit Moves:		****			****		****				****	

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum School PM No Project

Intersection #3: Green Valley Rd and Diablo Rd



Street Name:	Green Valley Road						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	106	65	48	495	43	461	557	620	106	37	637	343
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	106	65	48	495	43	461	557	620	106	37	637	343
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	106	65	48	495	43	461	557	620	106	37	637	343
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	115	71	52	538	47	501	605	674	115	40	692	373
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	115	71	52	538	47	501	605	674	115	40	692	373
RTOR Reduct:	0	0	0	0	0	501	0	0	0	0	0	373
RTOR Vol:	115	71	52	538	47	0	605	674	115	40	692	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	115	71	52	538	47	0	605	674	115	40	692	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.58	0.42	0.92	0.08	1.00	1.00	0.85	0.15	1.00	1.00	1.00
Final Sat.:	1650	949	701	1518	132	1650	1650	1409	241	1650	2100	1650
Capacity Analysis Module:												
Vol/Sat:	0.07	0.07	0.07	0.35	0.35	0.00	0.37	0.48	0.48	0.02	0.33	0.00
Crit Volume:			123		585		605				544	
Crit Moves:			****		****		****				****	

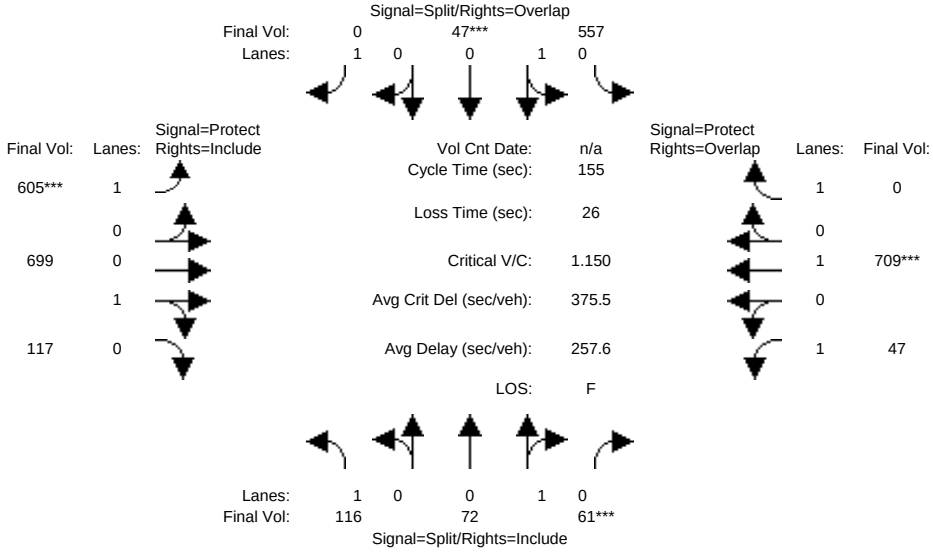
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc1 School PM w/Proj

Intersection #3: Green Valley Rd and Diablo Rd



Street Name:	Green Valley Road						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	107	66	56	512	43	461	557	643	108	43	652	353
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	107	66	56	512	43	461	557	643	108	43	652	353
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	107	66	56	512	43	461	557	643	108	43	652	353
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	116	72	61	557	47	501	605	699	117	47	709	384
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	116	72	61	557	47	501	605	699	117	47	709	384
RTOR Reduct:	0	0	0	0	0	501	0	0	0	0	0	384
RTOR Vol:	116	72	61	557	47	0	605	699	117	47	709	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	116	72	61	557	47	0	605	699	117	47	709	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.54	0.46	0.92	0.08	1.00	1.00	0.86	0.14	1.00	1.00	1.00
Final Sat.:	1650	893	757	1522	128	1650	1650	1413	237	1650	2100	1650
Capacity Analysis Module:												
Vol/Sat:	0.07	0.08	0.08	0.37	0.37	0.00	0.37	0.49	0.49	0.03	0.34	0.00
Crit Volume:			133		603		605				557	
Crit Moves:			****		****		****				****	

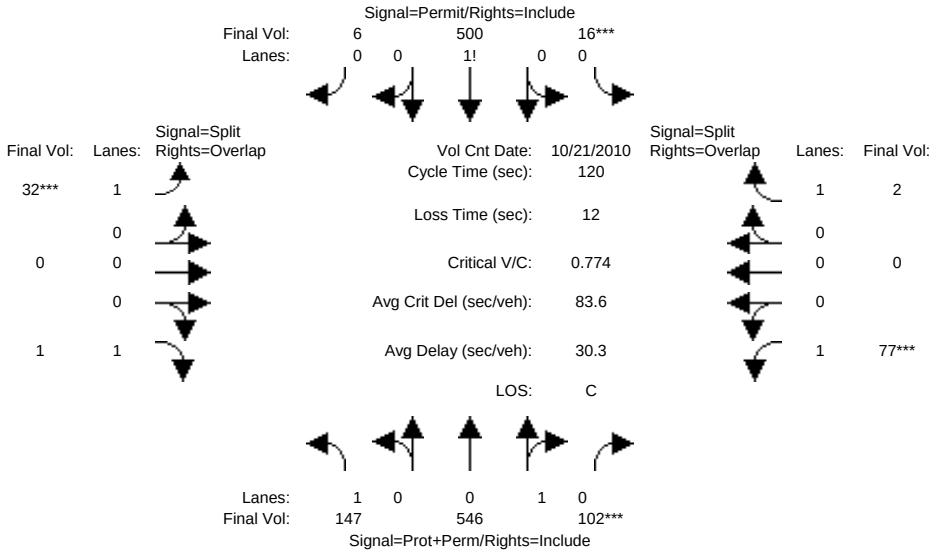
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Existing School PM

Intersection #4: Green Valley Rd and Blemer Rd/Cameo Dr



Street Name:	Green Valley Road						Blemer Road/Cameo Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	3	3	3	3	3	3	2	3	3	2	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 21 Oct 2010 <<												
Base Vol:	132	491	92	14	450	5	29	0	133	69	0	16
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	132	491	92	14	450	5	29	0	133	69	0	16
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	132	491	92	14	450	5	29	0	133	69	0	16
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	147	546	102	16	500	6	32	0	148	77	0	18
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	147	546	102	16	500	6	32	0	148	77	0	18
RTOR Reduct:	0	0	0	0	0	0	0	0	147	0	0	16
RTOR Vol:	147	546	102	16	500	6	32	0	1	77	0	2
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	147	546	102	16	500	6	32	0	1	77	0	2
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.84	0.16	0.03	0.96	0.01	1.00	0.00	1.00	1.00	0.00	1.00
Final Sat.:	1650	1390	260	49	1583	18	1650	0	1650	1650	0	1650
Capacity Analysis Module:												
Vol/Sat:	0.09	0.39	0.39	0.32	0.32	0.32	0.02	0.00	0.00	0.05	0.00	0.00
Crit Volume:			648	16			32			77		
Crit Moves:			****	****			****			****		

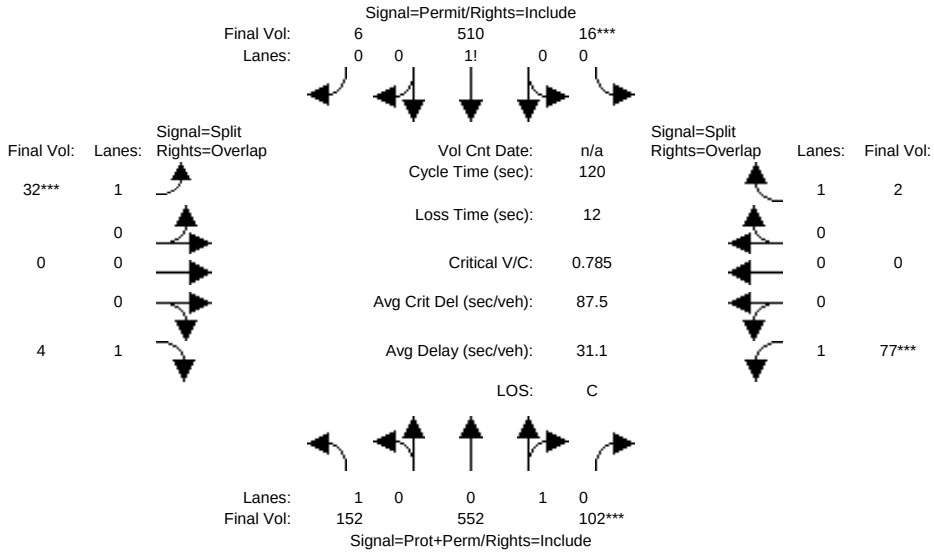
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Project School PM

Intersection #4: Green Valley Rd and Blemer Rd/Cameo Dr



Street Name:	Green Valley Road						Blemer Road/Cameo Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	3	3	3	3	3	3	2	3	3	2	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	137	497	92	14	459	5	29	0	141	69	0	16
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	137	497	92	14	459	5	29	0	141	69	0	16
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	137	497	92	14	459	5	29	0	141	69	0	16
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	152	552	102	16	510	6	32	0	157	77	0	18
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	152	552	102	16	510	6	32	0	157	77	0	18
RTOR Reduct:	0	0	0	0	0	0	0	0	152	0	0	16
RTOR Vol:	152	552	102	16	510	6	32	0	4	77	0	2
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	152	552	102	16	510	6	32	0	4	77	0	2
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.84	0.16	0.03	0.96	0.01	1.00	0.00	1.00	1.00	0.00	1.00
Final Sat.:	1650	1392	258	48	1584	17	1650	0	1650	1650	0	1650
Capacity Analysis Module:												
Vol/Sat:	0.09	0.40	0.40	0.32	0.32	0.32	0.02	0.00	0.00	0.05	0.00	0.00
Crit Volume:			654	16			32			77		
Crit Moves:			****	****			****			****		

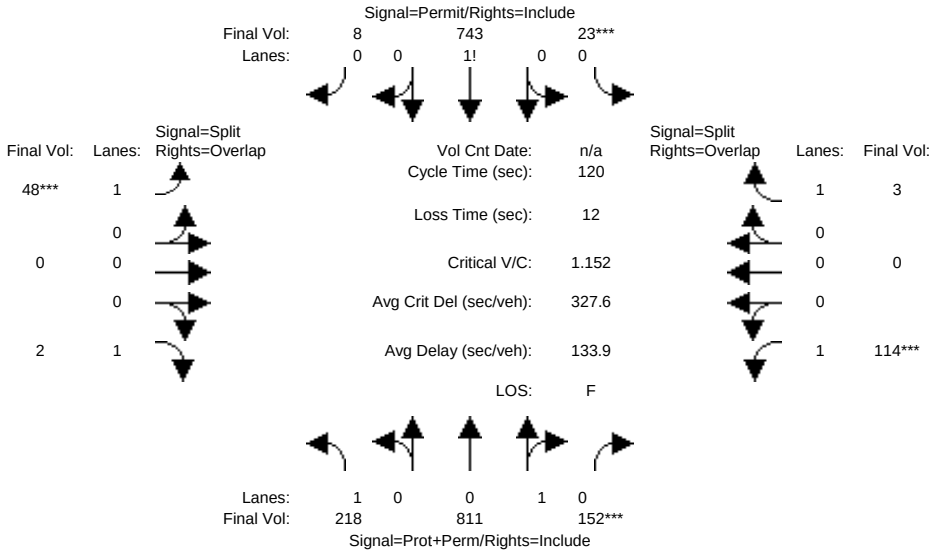
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum School PM No Project

Intersection #4: Green Valley Rd and Blemer Rd/Cameo Dr



Street Name:	Green Valley Road						Blemer Road/Cameo Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	3	3	3	3	3	3	2	3	3	2	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	196	730	137	21	669	7	43	0	198	103	0	24
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	196	730	137	21	669	7	43	0	198	103	0	24
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	196	730	137	21	669	7	43	0	198	103	0	24
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	218	811	152	23	743	8	48	0	220	114	0	27
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	218	811	152	23	743	8	48	0	220	114	0	27
RTOR Reduct:	0	0	0	0	0	0	0	0	218	0	0	23
RTOR Vol:	218	811	152	23	743	8	48	0	2	114	0	3
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	218	811	152	23	743	8	48	0	2	114	0	3
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.84	0.16	0.03	0.96	0.01	1.00	0.00	1.00	1.00	0.00	1.00
Final Sat.:	1650	1389	261	50	1584	17	1650	0	1650	1650	0	1650
Capacity Analysis Module:												
Vol/Sat:	0.13	0.58	0.58	0.47	0.47	0.47	0.03	0.00	0.00	0.07	0.00	0.00
Crit Volume:			963	23			48			114		
Crit Moves:			****	****			****			****		

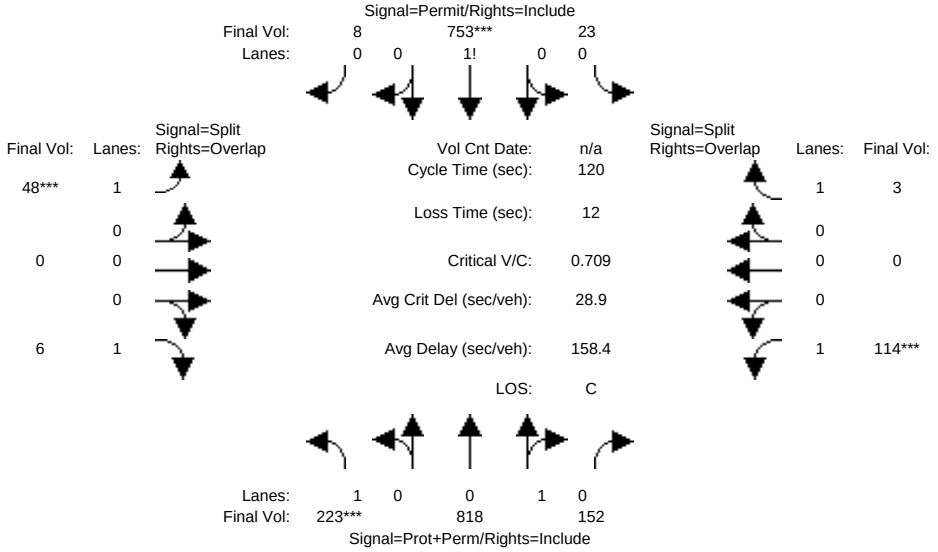
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc1 School PM w/Proj

Intersection #4: Green Valley Rd and Blemer Rd/Cameo Dr



Street Name:	Green Valley Road						Blemer Road/Cameo Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	3	3	3	3	3	3	2	3	3	2	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	201	736	137	21	678	7	43	0	206	103	0	24
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	201	736	137	21	678	7	43	0	206	103	0	24
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	201	736	137	21	678	7	43	0	206	103	0	24
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	223	818	152	23	753	8	48	0	229	114	0	27
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	223	818	152	23	753	8	48	0	229	114	0	27
RTOR Reduct:	0	0	0	0	0	0	0	0	223	0	0	23
RTOR Vol:	223	818	152	23	753	8	48	0	6	114	0	3
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	223	818	152	23	753	8	48	0	6	114	0	3
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.84	0.16	0.03	0.96	0.01	1.00	0.00	1.00	1.00	0.00	1.00
Final Sat.:	1650	1391	259	49	1585	16	1650	0	1650	1650	0	1650
Capacity Analysis Module:												
Vol/Sat:	0.14	0.59	0.59	0.48	0.48	0.48	0.03	0.00	0.00	0.07	0.00	0.00
Crit Volume:	223				784		48			114		
Crit Moves:	****				****		****			****		

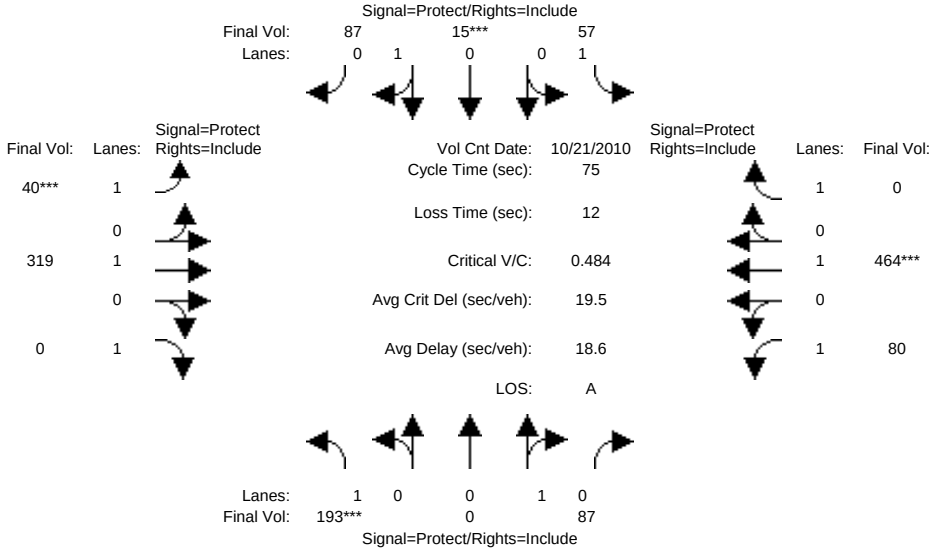
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Existing School PM

Intersection #6: Monte Vista H.S. Main and Stone Valley Rd



Street Name:	Monte Vista H.S. Main Parking Lot						Stone Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 21 Oct 2010 <<												
Base Vol:	145	0	65	43	11	65	30	239	73	60	348	15
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	145	0	65	43	11	65	30	239	73	60	348	15
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	145	0	65	43	11	65	30	239	73	60	348	15
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
PHF Volume:	193	0	87	57	15	87	40	319	97	80	464	20
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	193	0	87	57	15	87	40	319	97	80	464	20
RTOR Reduct:	0	0	0	0	0	0	0	0	97	0	0	20
RTOR Vol:	193	0	87	57	15	87	40	319	0	80	464	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	193	0	87	57	15	87	40	319	0	80	464	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.00	1.00	1.00	0.14	0.86	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1650	0	1650	1650	239	1411	1650	1650	1650	1650	1650	1650
Capacity Analysis Module:												
Vol/Sat:	0.12	0.00	0.05	0.03	0.06	0.06	0.02	0.19	0.00	0.05	0.28	0.00
Crit Volume:	193				101		40				464	
Crit Moves:	****				****		****				****	

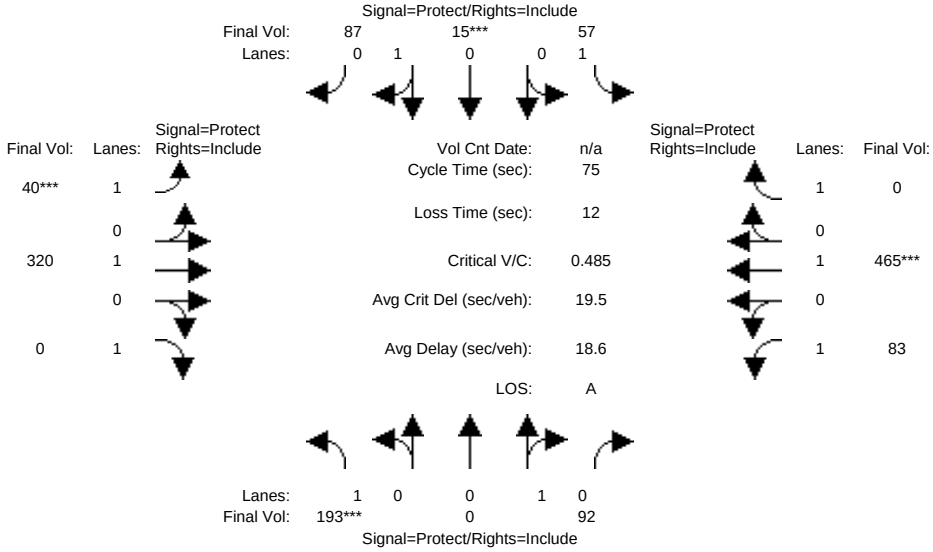
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Project School PM

Intersection #6: Monte Vista H.S. Main and Stone Valley Rd



Street Name:	Monte Vista H.S. Main Parking Lot						Stone Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	145	0	69	43	11	65	30	240	73	62	349	15
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	145	0	69	43	11	65	30	240	73	62	349	15
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	145	0	69	43	11	65	30	240	73	62	349	15
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
PHF Volume:	193	0	92	57	15	87	40	320	97	83	465	20
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	193	0	92	57	15	87	40	320	97	83	465	20
RTOR Reduct:	0	0	0	0	0	0	0	0	97	0	0	20
RTOR Vol:	193	0	92	57	15	87	40	320	0	83	465	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	193	0	92	57	15	87	40	320	0	83	465	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.00	1.00	1.00	0.14	0.86	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1650	0	1650	1650	239	1411	1650	1650	1650	1650	1650	1650
Capacity Analysis Module:												
Vol/Sat:	0.12	0.00	0.06	0.03	0.06	0.06	0.02	0.19	0.00	0.05	0.28	0.00
Crit Volume:	193				101		40				465	
Crit Moves:	****				****		****				****	

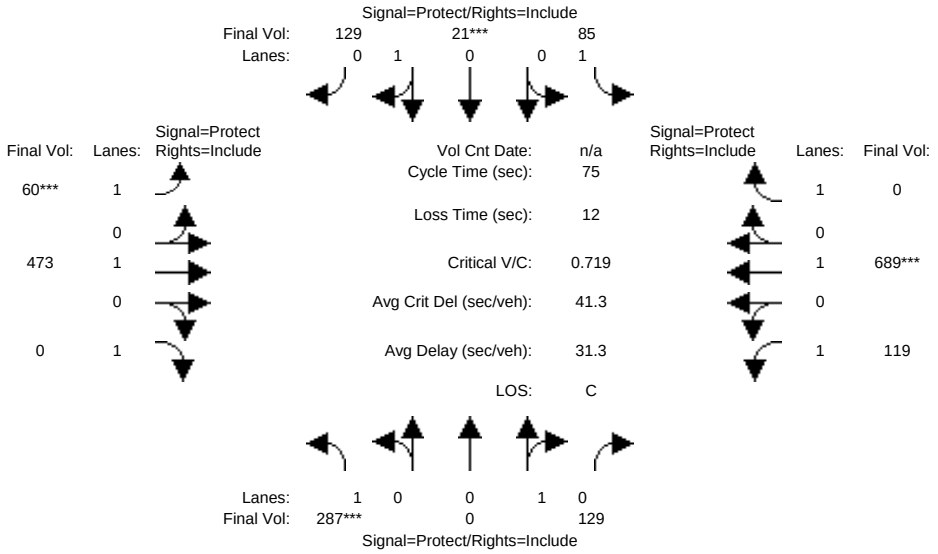
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum School PM No Project

Intersection #6: Monte Vista H.S. Main and Stone Valley Rd



Street Name:	Monte Vista H.S. Main Parking Lot						Stone Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	215	0	97	64	16	97	45	355	108	89	517	22
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	215	0	97	64	16	97	45	355	108	89	517	22
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	215	0	97	64	16	97	45	355	108	89	517	22
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
PHF Volume:	287	0	129	85	21	129	60	473	144	119	689	29
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	287	0	129	85	21	129	60	473	144	119	689	29
RTOR Reduct:	0	0	0	0	0	0	0	0	144	0	0	29
RTOR Vol:	287	0	129	85	21	129	60	473	0	119	689	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	287	0	129	85	21	129	60	473	0	119	689	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.00	1.00	1.00	0.14	0.86	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1650	0	1650	1650	234	1416	1650	1650	1650	1650	1650	1650
Capacity Analysis Module:												
Vol/Sat:	0.17	0.00	0.08	0.05	0.09	0.09	0.04	0.29	0.00	0.07	0.42	0.00
Crit Volume:	287				151		60				689	
Crit Moves:	****				****		****				****	

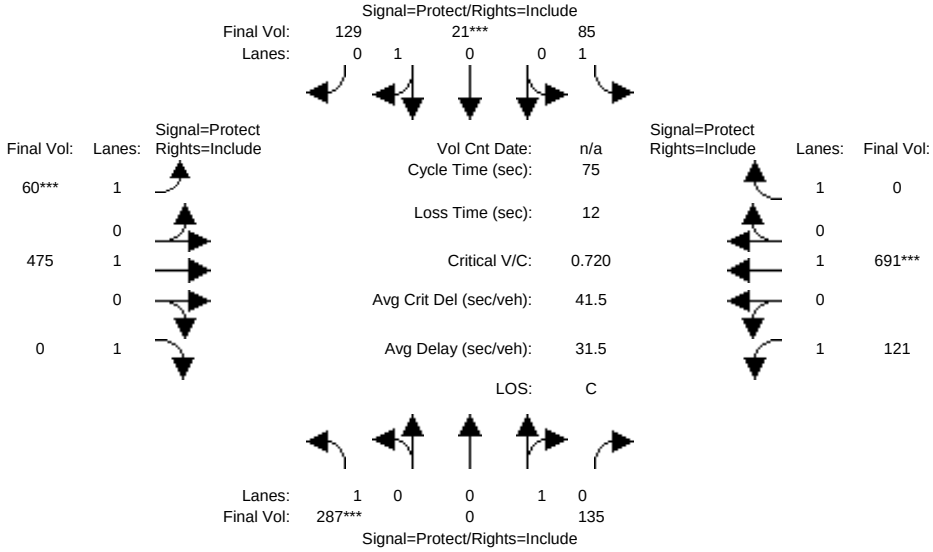
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc1 School PM w/Proj

Intersection #6: Monte Vista H.S. Main and Stone Valley Rd



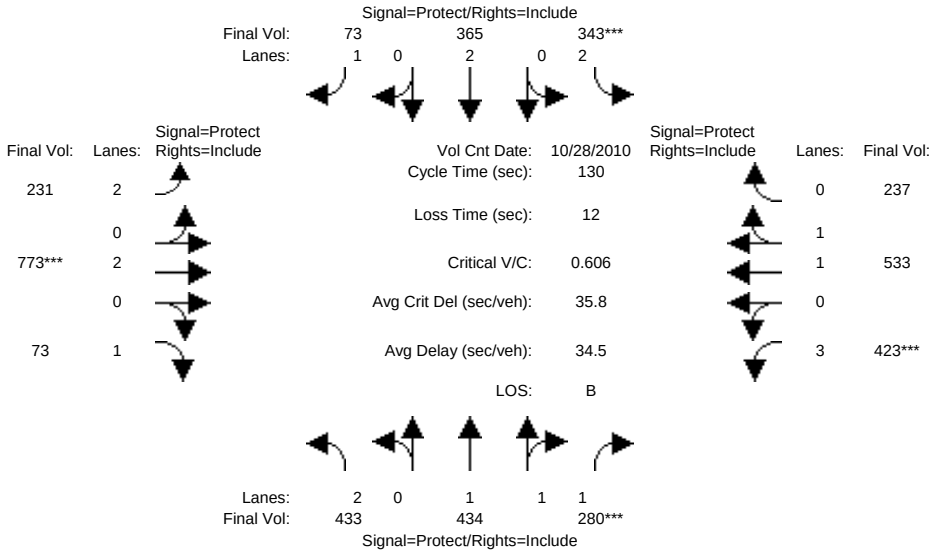

```
Street Name:Monte Vista H.S. Main Parking Lot         Stone Valley Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10     7   10    10     7   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     215    0   101   64   16    97    45  356   108   91  518    22
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  215    0   101   64   16    97    45  356   108   91  518    22
Added Vol:      0    0     0    0    0     0     0    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0     0    0     0    0    0     0
Initial Fut:  215    0   101   64   16    97    45  356   108   91  518    22
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     0.75 0.75  0.75 0.75 0.75  0.75  0.75 0.75  0.75 0.75 0.75  0.75
PHF Volume:   287    0   135   85   21   129    60  475   144  121  691    29
Reduct Vol:     0    0     0    0    0     0     0    0     0    0    0     0
Reduced Vol:  287    0   135   85   21   129    60  475   144  121  691    29
RTOR Reduct:    0    0     0    0    0     0     0    0   144    0    0    29
RTOR Vol:     287    0   135   85   21   129    60  475     0  121  691     0
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  287    0   135   85   21   129    60  475     0  121  691     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1650 1650  1650 1650 1650  1650  1650 1650  1650 1650 1650  1650
Adjustment:  1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00 1.00 1.00  1.00
Lanes:       1.00 0.00  1.00 1.00 0.14  0.86  1.00 1.00  1.00 1.00 1.00  1.00
Final Sat.:  1650    0  1650 1650  234  1416  1650 1650  1650 1650 1650  1650
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.17 0.00  0.08 0.05 0.09  0.09  0.04 0.29  0.00 0.07 0.42  0.00
Crit Volume:  287                   151          60                   691
Crit Moves:   ****                 ****         ****                 ****
```

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Existing School PM

Intersection #10: Blackhawk Rd/Crow Canyon Rd and Camino Tassajara



Street Name:	Blackhawk Rd/Crow Canyon Rd						Camino Tassajara					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 28 Oct 2010 <<												
Base Vol:	359	360	367	285	303	166	192	642	258	351	442	197
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	359	360	367	285	303	166	192	642	258	351	442	197
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	359	360	367	285	303	166	192	642	258	351	442	197
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
PHF Volume:	433	434	442	343	365	200	231	773	311	423	533	237
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	433	434	442	343	365	200	231	773	311	423	533	237
RTOR Reduct:	0	0	162	0	0	127	0	0	238	0	0	0
RTOR Vol:	433	434	280	343	365	73	231	773	73	423	533	237
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	433	434	280	343	365	73	231	773	73	423	533	237
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	0.91	1.00	0.91	0.91	1.00	1.00	0.91	1.00	1.00	0.87	1.00	1.00
Lanes:	2.00	1.82	1.18	2.00	2.00	1.00	2.00	2.00	1.00	3.00	1.38	0.62
Final Sat.:	3000	3008	1765	3000	3300	1650	3000	3300	1650	4307	2283	1017
Capacity Analysis Module:												
Vol/Sat:	0.14	0.14	0.16	0.11	0.11	0.04	0.08	0.23	0.04	0.10	0.23	0.23
Crit Volume:			238	172				387		141		
Crit Moves:			****	****				****		****		

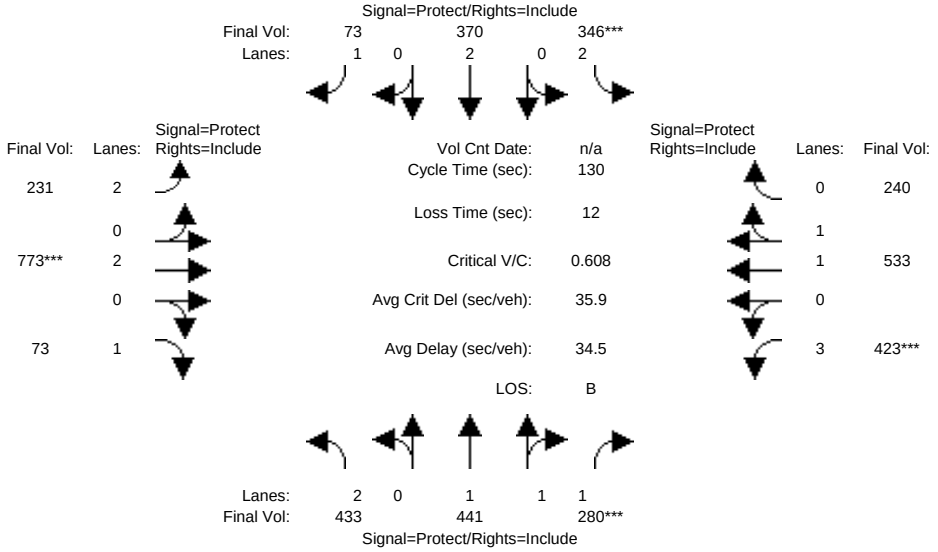
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Project School PM

Intersection #10: Blackhawk Rd/Crow Canyon Rd and Camino Tassajara



Street Name:	Blackhawk Rd/Crow Canyon Rd						Camino Tassajara					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	359	366	367	287	307	166	192	642	258	351	442	199
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	359	366	367	287	307	166	192	642	258	351	442	199
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	359	366	367	287	307	166	192	642	258	351	442	199
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
PHF Volume:	433	441	442	346	370	200	231	773	311	423	533	240
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	433	441	442	346	370	200	231	773	311	423	533	240
RTOR Reduct:	0	0	162	0	0	127	0	0	238	0	0	0
RTOR Vol:	433	441	280	346	370	73	231	773	73	423	533	240
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	433	441	280	346	370	73	231	773	73	423	533	240
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	0.91	1.00	0.91	0.91	1.00	1.00	0.91	1.00	1.00	0.87	1.00	1.00
Lanes:	2.00	1.83	1.17	2.00	2.00	1.00	2.00	2.00	1.00	3.00	1.38	0.62
Final Sat.:	3000	3027	1748	3000	3300	1650	3000	3300	1650	4307	2276	1024
Capacity Analysis Module:												
Vol/Sat:	0.14	0.15	0.16	0.12	0.11	0.04	0.08	0.23	0.04	0.10	0.23	0.23
Crit Volume:			240	173				387		141		
Crit Moves:			****	****				****		****		

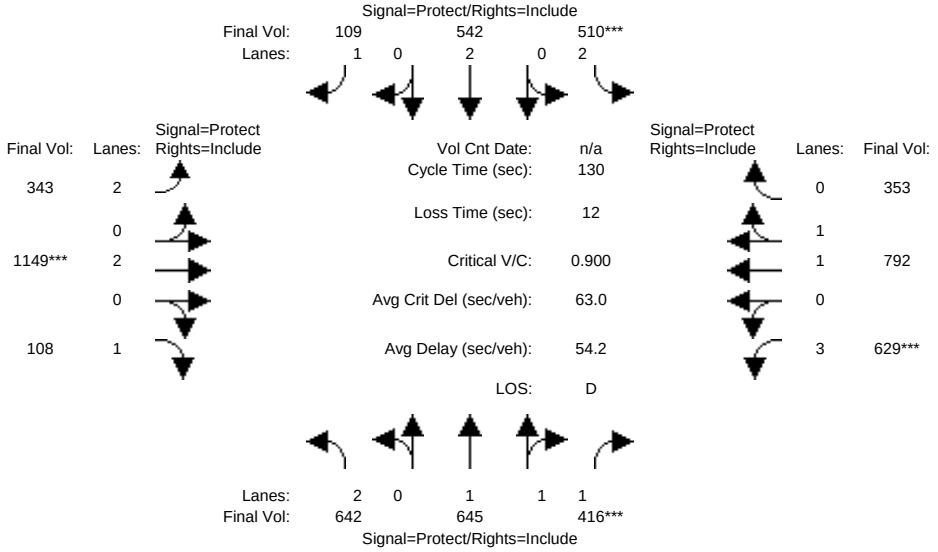
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum School PM No Project

Intersection #10: Blackhawk Rd/Crow Canyon Rd and Camino Tassajara



Street Name:	Blackhawk Rd/Crow Canyon Rd						Camino Tassajara					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	533	535	545	423	450	247	285	954	383	522	657	293
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	533	535	545	423	450	247	285	954	383	522	657	293
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	533	535	545	423	450	247	285	954	383	522	657	293
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
PHF Volume:	642	645	657	510	542	298	343	1149	461	629	792	353
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	642	645	657	510	542	298	343	1149	461	629	792	353
RTOR Reduct:	0	0	241	0	0	189	0	0	353	0	0	0
RTOR Vol:	642	645	416	510	542	109	343	1149	108	629	792	353
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	642	645	416	510	542	109	343	1149	108	629	792	353
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	0.91	1.00	0.91	0.91	1.00	1.00	0.91	1.00	1.00	0.87	1.00	1.00
Lanes:	2.00	1.82	1.18	2.00	2.00	1.00	2.00	2.00	1.00	3.00	1.38	0.62
Final Sat.:	3000	3010	1764	3000	3300	1650	3000	3300	1650	4307	2282	1018
Capacity Analysis Module:												
Vol/Sat:	0.21	0.21	0.24	0.17	0.16	0.07	0.11	0.35	0.07	0.15	0.35	0.35
Crit Volume:			353	255				575		210		
Crit Moves:			****	****				****		****		

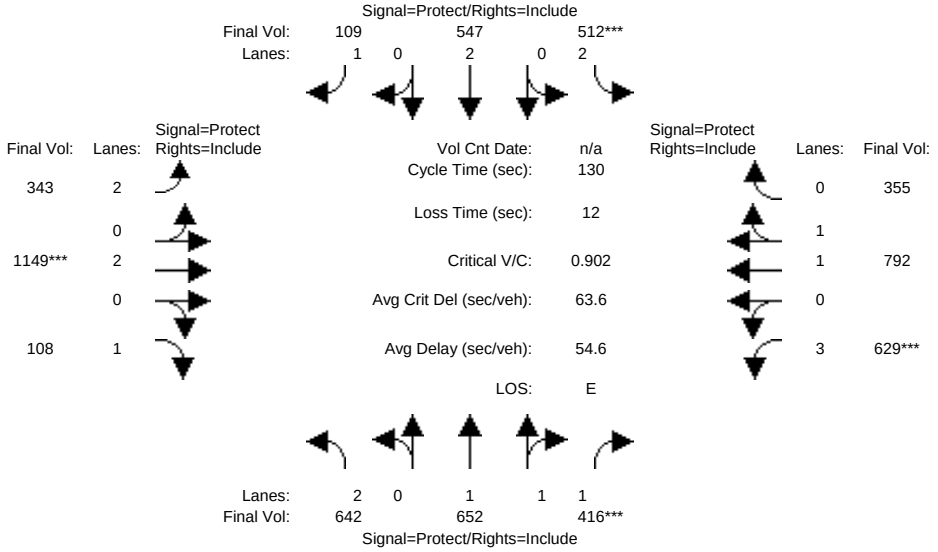
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc1 School PM w/Proj

Intersection #10: Blackhawk Rd/Crow Canyon Rd and Camino Tassajara



Street Name:	Blackhawk Rd/Crow Canyon Rd						Camino Tassajara					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	533	541	545	425	454	247	285	954	383	522	657	295
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	533	541	545	425	454	247	285	954	383	522	657	295
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	533	541	545	425	454	247	285	954	383	522	657	295
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
PHF Volume:	642	652	657	512	547	298	343	1149	461	629	792	355
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	642	652	657	512	547	298	343	1149	461	629	792	355
RTOR Reduct:	0	0	241	0	0	189	0	0	353	0	0	0
RTOR Vol:	642	652	416	512	547	109	343	1149	108	629	792	355
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	642	652	416	512	547	109	343	1149	108	629	792	355
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	0.91	1.00	0.91	0.91	1.00	1.00	0.91	1.00	1.00	0.87	1.00	1.00
Lanes:	2.00	1.83	1.17	2.00	2.00	1.00	2.00	2.00	1.00	3.00	1.38	0.62
Final Sat.:	3000	3023	1752	3000	3300	1650	3000	3300	1650	4307	2277	1023
Capacity Analysis Module:												
Vol/Sat:	0.21	0.22	0.24	0.17	0.17	0.07	0.11	0.35	0.07	0.15	0.35	0.35
Crit Volume:			356	256				575		210		
Crit Moves:			****	****				****		****		

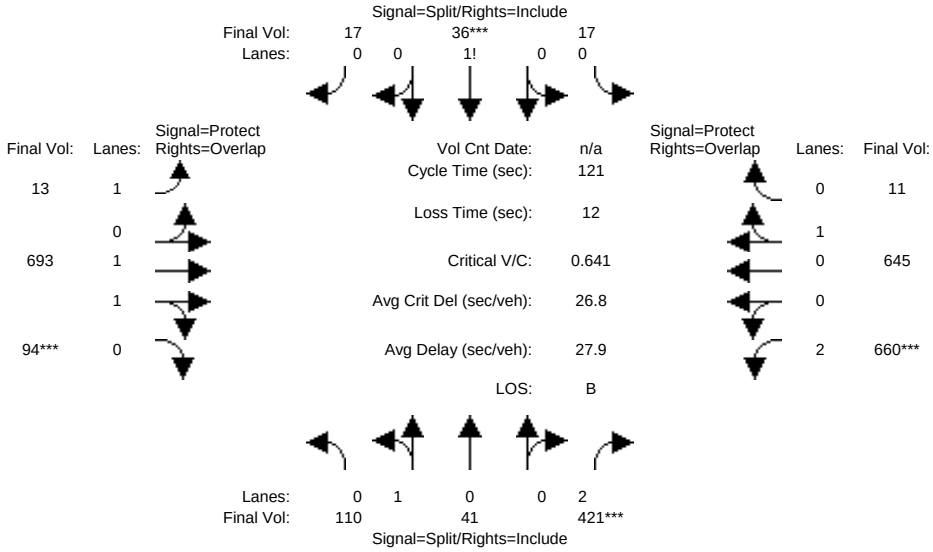
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc2 School PM w/Proj

Intersection #1: Diablo Rd and El Cerro Blvd



Street Name:	Diablo Road						El Cerro Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	103	39	737	16	34	16	12	651	88	620	606	10
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	103	39	737	16	34	16	12	651	88	620	606	10
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	103	39	737	16	34	16	12	651	88	620	606	10
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	110	41	784	17	36	17	13	693	94	660	645	11
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	110	41	784	17	36	17	13	693	94	660	645	11
RTOR Reduct:	0	0	363	0	0	0	0	0	0	0	0	0
RTOR Vol:	110	41	421	17	36	17	13	693	94	660	645	11
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	110	41	421	17	36	17	13	693	94	660	645	11
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00
Lanes:	0.73	0.27	2.00	0.24	0.52	0.24	1.00	1.76	0.24	2.00	0.98	0.02
Final Sat.:	1197	453	3000	400	850	400	1650	2907	393	3000	1623	27
Capacity Analysis Module:												
Vol/Sat:	0.09	0.09	0.14	0.04	0.04	0.04	0.01	0.24	0.24	0.22	0.40	0.40
Crit Volume:			211		70				393	330		
Crit Moves:			****		****				****	****		

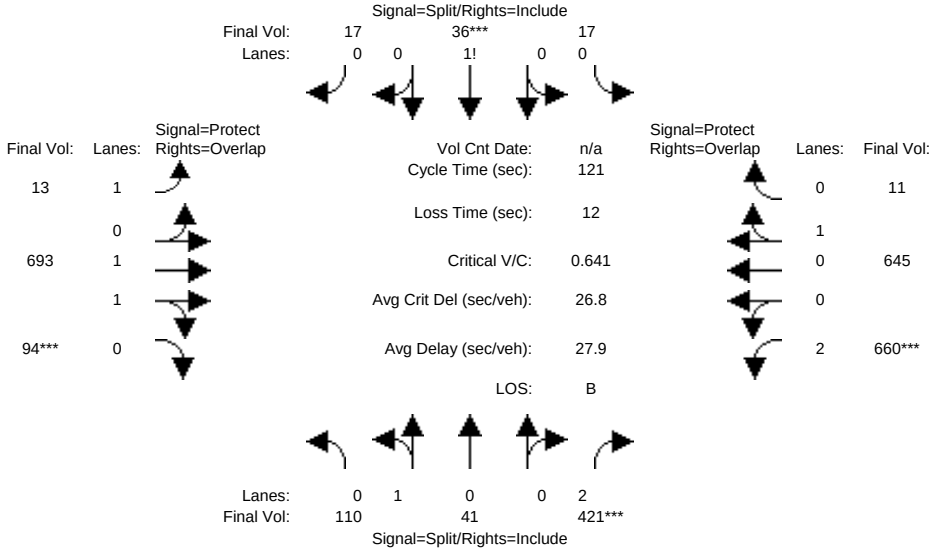
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc4 School PM w/Proj

Intersection #1: Diablo Rd and El Cerro Blvd



Street Name:	Diablo Road						El Cerro Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	103	39	737	16	34	16	12	651	88	620	606	10
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	103	39	737	16	34	16	12	651	88	620	606	10
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	103	39	737	16	34	16	12	651	88	620	606	10
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	110	41	784	17	36	17	13	693	94	660	645	11
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	110	41	784	17	36	17	13	693	94	660	645	11
RTOR Reduct:	0	0	363	0	0	0	0	0	0	0	0	0
RTOR Vol:	110	41	421	17	36	17	13	693	94	660	645	11
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	110	41	421	17	36	17	13	693	94	660	645	11
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00
Lanes:	0.73	0.27	2.00	0.24	0.52	0.24	1.00	1.76	0.24	2.00	0.98	0.02
Final Sat.:	1197	453	3000	400	850	400	1650	2907	393	3000	1623	27
Capacity Analysis Module:												
Vol/Sat:	0.09	0.09	0.14	0.04	0.04	0.04	0.01	0.24	0.24	0.22	0.40	0.40
Crit Volume:			211		70				393	330		
Crit Moves:			****		****				****	****		

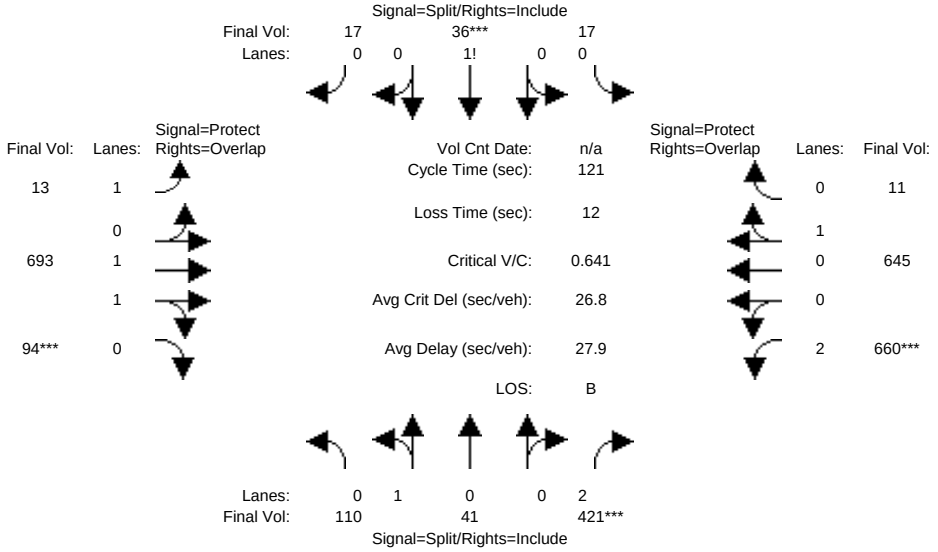
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc5 School PM w/Proj

Intersection #1: Diablo Rd and El Cerro Blvd



Street Name:	Diablo Road						El Cerro Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	103	39	737	16	34	16	12	651	88	620	606	10
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	103	39	737	16	34	16	12	651	88	620	606	10
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	103	39	737	16	34	16	12	651	88	620	606	10
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	110	41	784	17	36	17	13	693	94	660	645	11
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	110	41	784	17	36	17	13	693	94	660	645	11
RTOR Reduct:	0	0	363	0	0	0	0	0	0	0	0	0
RTOR Vol:	110	41	421	17	36	17	13	693	94	660	645	11
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	110	41	421	17	36	17	13	693	94	660	645	11
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00
Lanes:	0.73	0.27	2.00	0.24	0.52	0.24	1.00	1.76	0.24	2.00	0.98	0.02
Final Sat.:	1197	453	3000	400	850	400	1650	2907	393	3000	1623	27
Capacity Analysis Module:												
Vol/Sat:	0.09	0.09	0.14	0.04	0.04	0.04	0.01	0.24	0.24	0.22	0.40	0.40
Crit Volume:			211		70				393	330		
Crit Moves:			****		****				****	****		

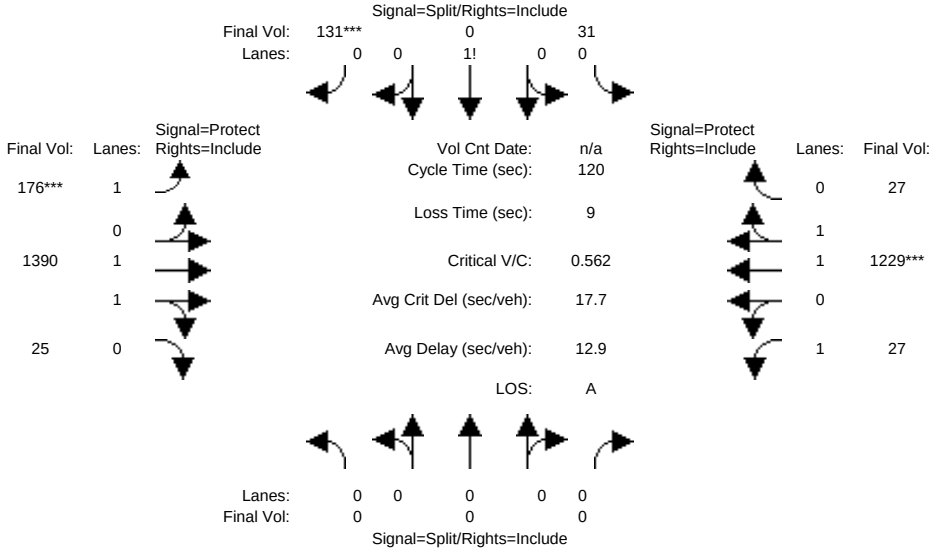
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc2 School PM w/Proj

Intersection #2: Matadera Wy and Diablo Rd



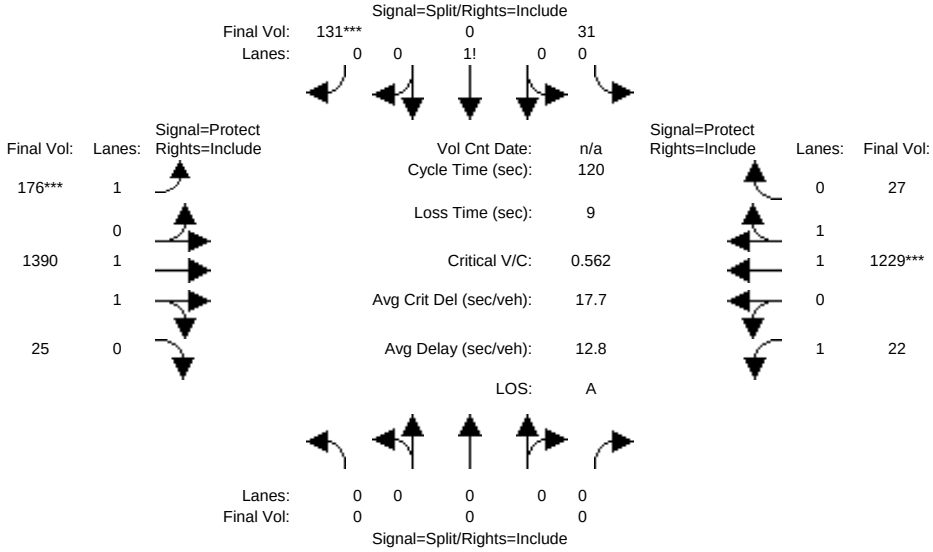
Street Name:	Matadera Way						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	26	0	109	146	1154	21	22	1020	22
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	26	0	109	146	1154	21	22	1020	22
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	26	0	109	146	1154	21	22	1020	22
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
PHF Volume:	0	0	0	31	0	131	176	1390	25	27	1229	27
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	31	0	131	176	1390	25	27	1229	27
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	0	0	0	31	0	131	176	1390	25	27	1229	27
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	31	0	131	176	1390	25	27	1229	27
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.19	0.00	0.81	1.00	1.96	0.04	1.00	1.96	0.04
Final Sat.:	0	0	0	331	0	1389	1720	3379	61	1720	3367	73
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.09	0.00	0.09	0.10	0.41	0.41	0.02	0.36	0.36
Crit Volume:		0				163	176				628	
Crit Moves:						****	****				****	

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc4 School PM w/Proj

Intersection #2: Matadera Wy and Diablo Rd



Street Name:	Matadera Way						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	26	0	109	146	1154	21	18	1020	22
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	26	0	109	146	1154	21	18	1020	22
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	26	0	109	146	1154	21	18	1020	22
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
PHF Volume:	0	0	0	31	0	131	176	1390	25	22	1229	27
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	31	0	131	176	1390	25	22	1229	27
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	0	0	0	31	0	131	176	1390	25	22	1229	27
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	31	0	131	176	1390	25	22	1229	27
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.19	0.00	0.81	1.00	1.96	0.04	1.00	1.96	0.04
Final Sat.:	0	0	0	331	0	1389	1720	3379	61	1720	3367	73
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.09	0.00	0.09	0.10	0.41	0.41	0.01	0.36	0.36
Crit Volume:		0				163	176				628	
Crit Moves:						****	****				****	

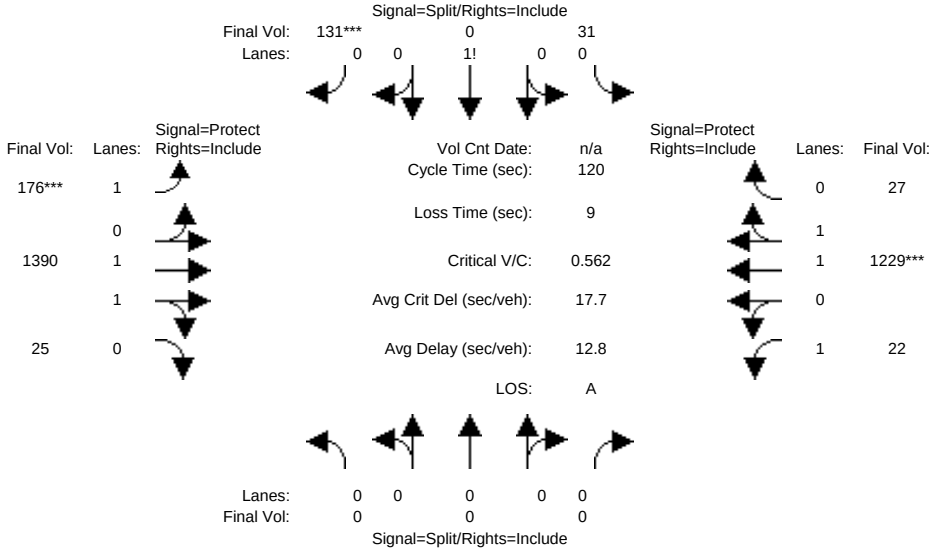
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc5 School PM w/Proj

Intersection #2: Matadera Wy and Diablo Rd



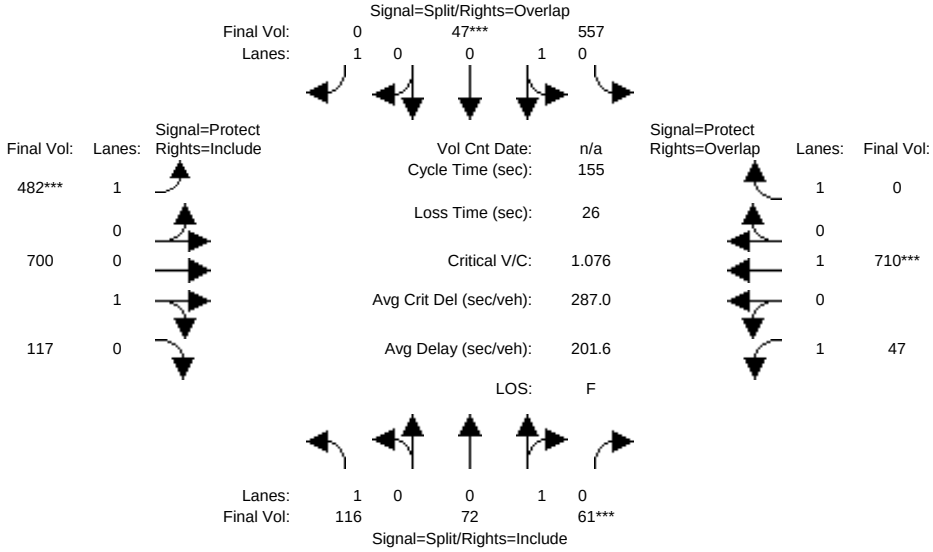
Street Name:	Matadera Way						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	26	0	109	146	1154	21	18	1020	22
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	26	0	109	146	1154	21	18	1020	22
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	26	0	109	146	1154	21	18	1020	22
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
PHF Volume:	0	0	0	31	0	131	176	1390	25	22	1229	27
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	31	0	131	176	1390	25	22	1229	27
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	0	0	0	31	0	131	176	1390	25	22	1229	27
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	31	0	131	176	1390	25	22	1229	27
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.19	0.00	0.81	1.00	1.96	0.04	1.00	1.96	0.04
Final Sat.:	0	0	0	331	0	1389	1720	3379	61	1720	3367	73
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.09	0.00	0.09	0.10	0.41	0.41	0.01	0.36	0.36
Crit Volume:		0				163	176				628	
Crit Moves:						****	****				****	

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc2 School PM w/Proj

Intersection #3: Green Valley Rd and Diablo Rd



Street Name:	Green Valley Road						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	107	66	56	512	43	369	443	644	108	43	653	353
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	107	66	56	512	43	369	443	644	108	43	653	353
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	107	66	56	512	43	369	443	644	108	43	653	353
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	116	72	61	557	47	401	482	700	117	47	710	384
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	116	72	61	557	47	401	482	700	117	47	710	384
RTOR Reduct:	0	0	0	0	0	401	0	0	0	0	0	384
RTOR Vol:	116	72	61	557	47	0	482	700	117	47	710	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	116	72	61	557	47	0	482	700	117	47	710	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.54	0.46	0.92	0.08	1.00	1.00	0.86	0.14	1.00	1.00	1.00
Final Sat.:	1650	893	757	1522	128	1650	1650	1413	237	1650	2100	1650
Capacity Analysis Module:												
Vol/Sat:	0.07	0.08	0.08	0.37	0.37	0.00	0.29	0.50	0.50	0.03	0.34	0.00
Crit Volume:			133		603		482				558	
Crit Moves:			****		****		****				****	

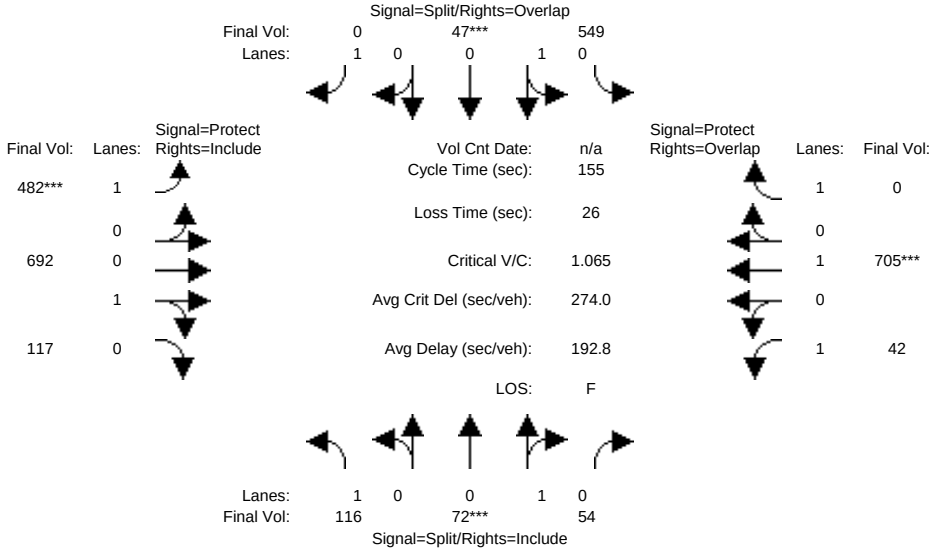
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc4 School PM w/Proj

Intersection #3: Green Valley Rd and Diablo Rd



Street Name:	Green Valley Road						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	107	66	50	505	43	369	443	637	108	39	649	349
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	107	66	50	505	43	369	443	637	108	39	649	349
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	107	66	50	505	43	369	443	637	108	39	649	349
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	116	72	54	549	47	401	482	692	117	42	705	379
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	116	72	54	549	47	401	482	692	117	42	705	379
RTOR Reduct:	0	0	0	0	0	401	0	0	0	0	0	379
RTOR Vol:	116	72	54	549	47	0	482	692	117	42	705	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	116	72	54	549	47	0	482	692	117	42	705	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.57	0.43	0.92	0.08	1.00	1.00	0.86	0.14	1.00	1.00	1.00
Final Sat.:	1650	939	711	1521	129	1650	1650	1411	239	1650	2100	1650
Capacity Analysis Module:												
Vol/Sat:	0.07	0.08	0.08	0.36	0.36	0.00	0.29	0.49	0.49	0.03	0.34	0.00
Crit Volume:		126			596		482				554	
Crit Moves:		****			****		****				****	

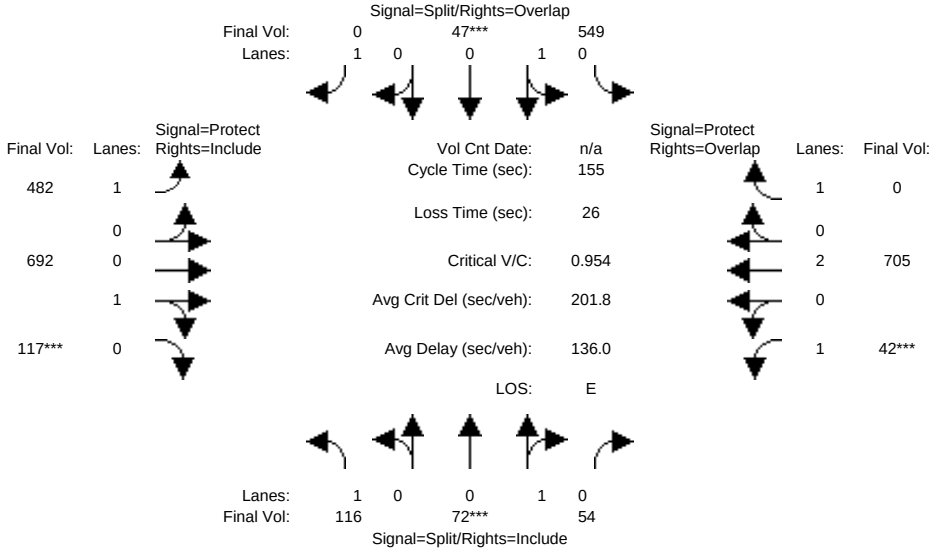
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc5 School PM w/Proj

Intersection #3: Green Valley Rd and Diablo Rd



Street Name:	Green Valley Road						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	107	66	50	505	43	369	443	637	108	39	649	349
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	107	66	50	505	43	369	443	637	108	39	649	349
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	107	66	50	505	43	369	443	637	108	39	649	349
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	116	72	54	549	47	401	482	692	117	42	705	379
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	116	72	54	549	47	401	482	692	117	42	705	379
RTOR Reduct:	0	0	0	0	0	401	0	0	0	0	0	379
RTOR Vol:	116	72	54	549	47	0	482	692	117	42	705	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	116	72	54	549	47	0	482	692	117	42	705	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.57	0.43	0.92	0.08	1.00	1.00	0.86	0.14	1.00	2.00	1.00
Final Sat.:	1650	939	711	1521	129	1650	1650	1411	239	1650	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.07	0.08	0.08	0.36	0.36	0.00	0.29	0.49	0.49	0.03	0.21	0.00
Crit Volume:		126			596				810	42		
Crit Moves:		****			****				****	****		

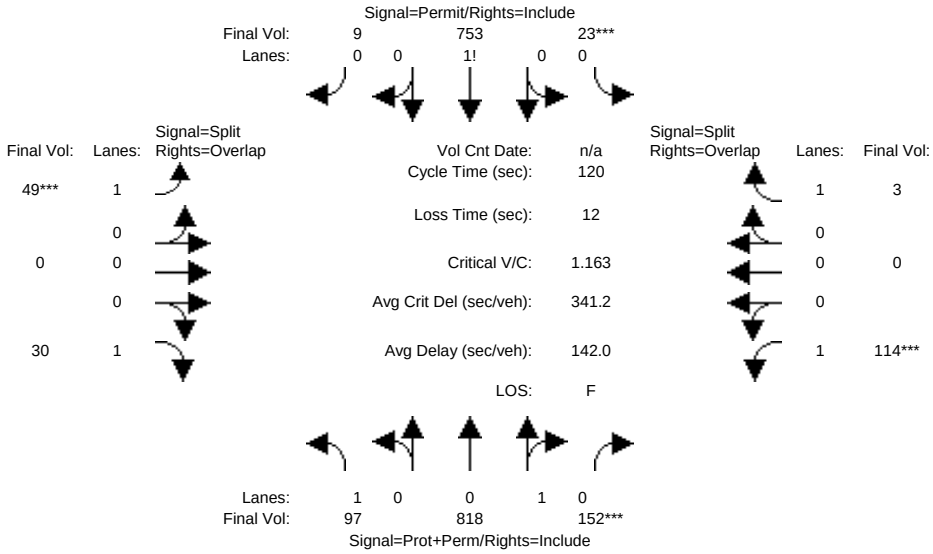
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc2 School PM w/Proj

Intersection #4: Green Valley Rd and Blemer Rd/Cameo Dr



Street Name:	Green Valley Road						Blemer Road/Cameo Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	3	3	3	3	3	3	2	3	3	2	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	87	736	137	21	678	8	44	0	114	103	0	24
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	87	736	137	21	678	8	44	0	114	103	0	24
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	87	736	137	21	678	8	44	0	114	103	0	24
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	97	818	152	23	753	9	49	0	127	114	0	27
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	97	818	152	23	753	9	49	0	127	114	0	27
RTOR Reduct:	0	0	0	0	0	0	0	0	97	0	0	23
RTOR Vol:	97	818	152	23	753	9	49	0	30	114	0	3
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	97	818	152	23	753	9	49	0	30	114	0	3
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.84	0.16	0.03	0.96	0.01	1.00	0.00	1.00	1.00	0.00	1.00
Final Sat.:	1650	1391	259	49	1582	19	1650	0	1650	1650	0	1650
Capacity Analysis Module:												
Vol/Sat:	0.06	0.59	0.59	0.48	0.48	0.48	0.03	0.00	0.02	0.07	0.00	0.00
Crit Volume:			970	23			49			114		
Crit Moves:			****	****			****			****		

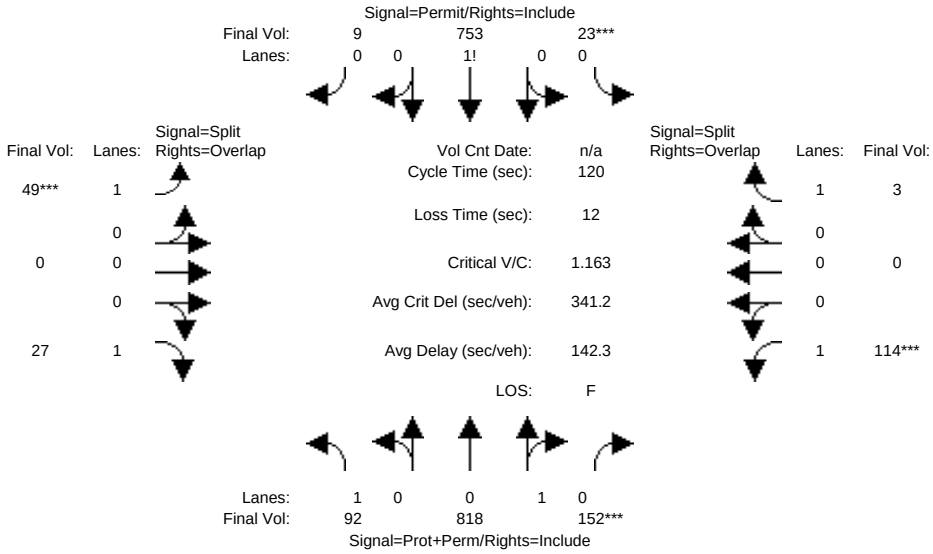
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc4 School PM w/Proj

Intersection #4: Green Valley Rd and Blemer Rd/Cameo Dr



Street Name:	Green Valley Road						Blemer Road/Cameo Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	3	3	3	3	3	3	2	3	3	2	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	83	736	137	21	678	8	44	0	107	103	0	24
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	83	736	137	21	678	8	44	0	107	103	0	24
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	83	736	137	21	678	8	44	0	107	103	0	24
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	92	818	152	23	753	9	49	0	119	114	0	27
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	92	818	152	23	753	9	49	0	119	114	0	27
RTOR Reduct:	0	0	0	0	0	0	0	0	92	0	0	23
RTOR Vol:	92	818	152	23	753	9	49	0	27	114	0	3
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	92	818	152	23	753	9	49	0	27	114	0	3
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.84	0.16	0.03	0.96	0.01	1.00	0.00	1.00	1.00	0.00	1.00
Final Sat.:	1650	1391	259	49	1582	19	1650	0	1650	1650	0	1650
Capacity Analysis Module:												
Vol/Sat:	0.06	0.59	0.59	0.48	0.48	0.48	0.03	0.00	0.02	0.07	0.00	0.00
Crit Volume:			970	23			49			114		
Crit Moves:			****	****			****			****		

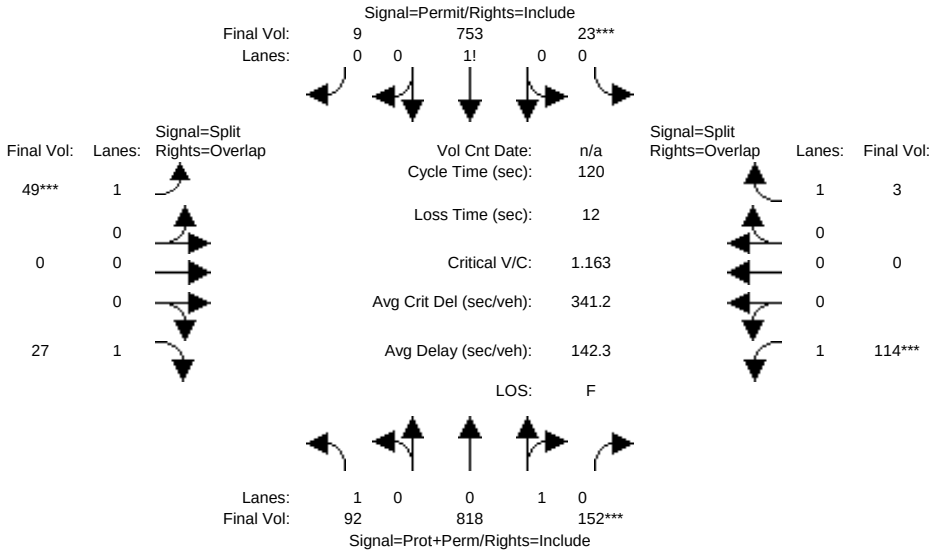
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc5 School PM w/Proj

Intersection #4: Green Valley Rd and Blemer Rd/Cameo Dr



Street Name:	Green Valley Road						Blemer Road/Cameo Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	3	3	3	3	3	3	2	3	3	2	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	83	736	137	21	678	8	44	0	107	103	0	24
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	83	736	137	21	678	8	44	0	107	103	0	24
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	83	736	137	21	678	8	44	0	107	103	0	24
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	92	818	152	23	753	9	49	0	119	114	0	27
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	92	818	152	23	753	9	49	0	119	114	0	27
RTOR Reduct:	0	0	0	0	0	0	0	0	92	0	0	23
RTOR Vol:	92	818	152	23	753	9	49	0	27	114	0	3
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	92	818	152	23	753	9	49	0	27	114	0	3
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.84	0.16	0.03	0.96	0.01	1.00	0.00	1.00	1.00	0.00	1.00
Final Sat.:	1650	1391	259	49	1582	19	1650	0	1650	1650	0	1650
Capacity Analysis Module:												
Vol/Sat:	0.06	0.59	0.59	0.48	0.48	0.48	0.03	0.00	0.02	0.07	0.00	0.00
Crit Volume:			970	23			49			114		
Crit Moves:			****	****			****			****		

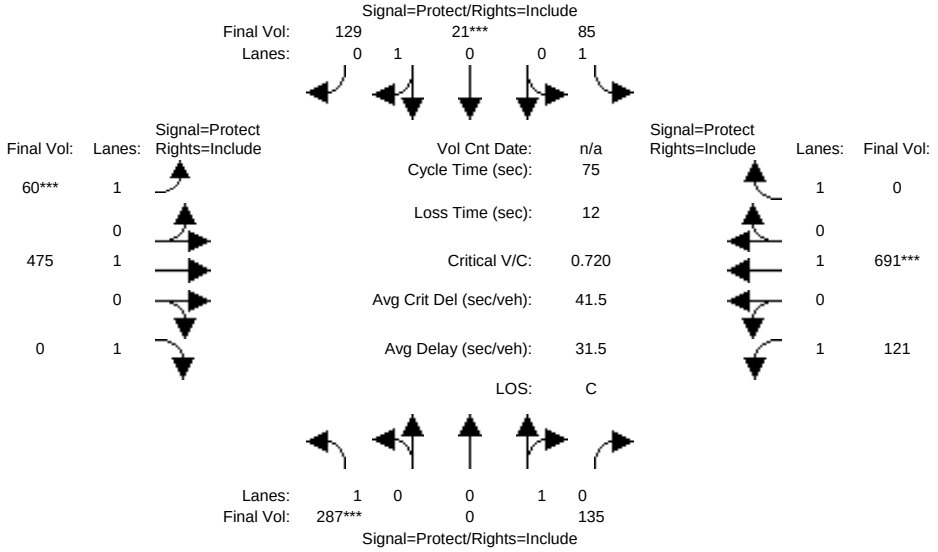
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc2 School PM w/Proj

Intersection #6: Monte Vista H.S. Main and Stone Valley Rd



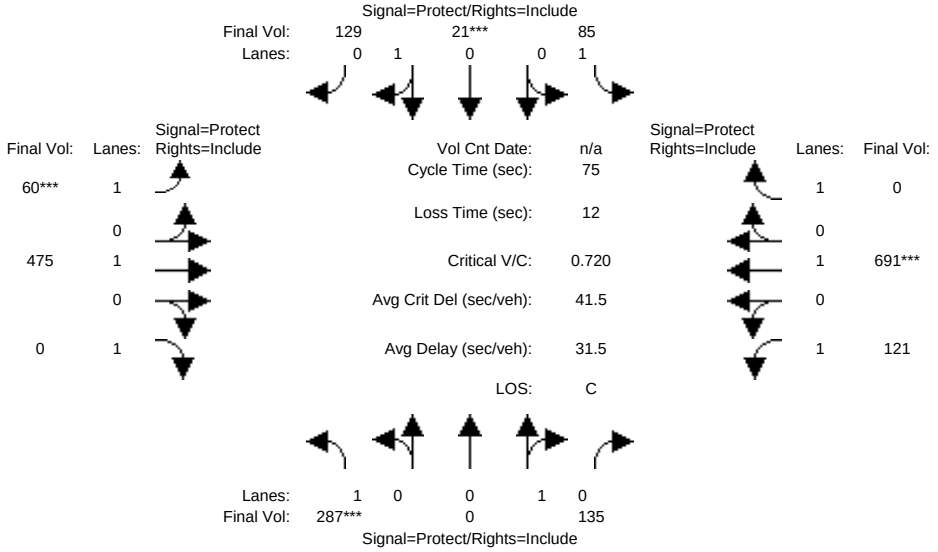

```
Street Name:Monte Vista H.S. Main Parking Lot         Stone Valley Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10    10   10    10     7   10    10     7   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     215    0   101    64   16    97    45  356   108    91  518    22
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  215    0   101    64   16    97    45  356   108    91  518    22
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  215    0   101    64   16    97    45  356   108    91  518    22
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.75 0.75  0.75  0.75 0.75  0.75  0.75 0.75  0.75  0.75 0.75  0.75
PHF Volume:   287    0   135    85   21   129    60  475   144   121  691    29
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  287    0   135    85   21   129    60  475   144   121  691    29
RTOR Reduct:    0    0     0     0    0     0     0    0   144     0    0    29
RTOR Vol:     287    0   135    85   21   129    60  475     0   121  691     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  287    0   135    85   21   129    60  475     0   121  691     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1650 1650  1650  1650 1650  1650  1650 1650  1650  1650 1650  1650
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.00 0.00  1.00  1.00 0.14  0.86  1.00 1.00  1.00  1.00 1.00  1.00
Final Sat.:  1650    0  1650  1650  234  1416  1650 1650  1650  1650 1650  1650
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.17 0.00  0.08  0.05 0.09  0.09  0.04 0.29  0.00  0.07 0.42  0.00
Crit Volume:  287                   151          60                   691
Crit Moves:   ****                 ****         ****                 ****
```

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc4 School PM w/Proj

Intersection #6: Monte Vista H.S. Main and Stone Valley Rd



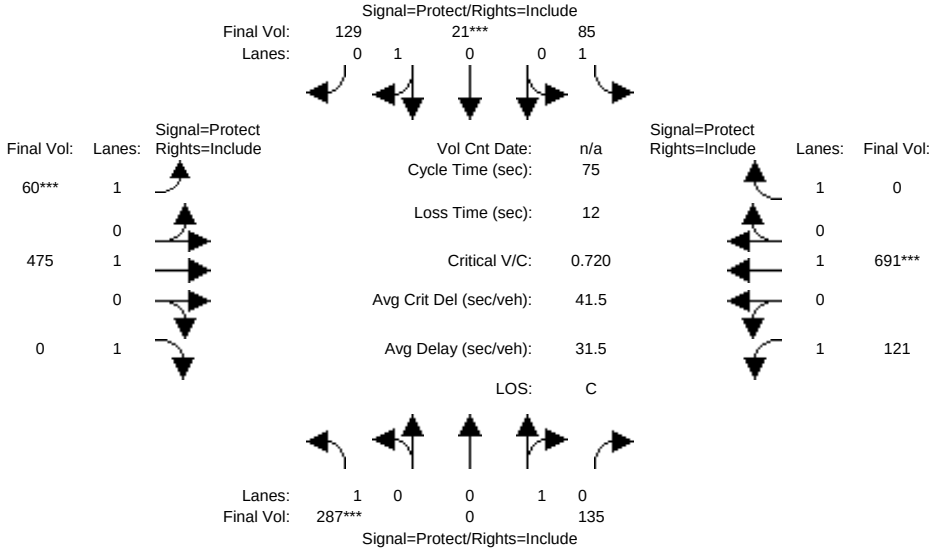

```
Street Name:Monte Vista H.S. Main Parking Lot         Stone Valley Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10     7   10    10     7   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     215    0   101   64   16    97    45  356   108   91  518    22
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  215    0   101   64   16    97    45  356   108   91  518    22
Added Vol:      0    0     0    0    0     0     0    0     0    0    0     0
PasserByVol:    0    0     0    0    0     0     0    0     0    0    0     0
Initial Fut:  215    0   101   64   16    97    45  356   108   91  518    22
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     0.75 0.75  0.75 0.75 0.75  0.75  0.75 0.75  0.75 0.75 0.75  0.75
PHF Volume:   287    0   135   85   21   129    60  475   144  121  691    29
Reduct Vol:     0    0     0    0    0     0     0    0     0    0    0     0
Reduced Vol:  287    0   135   85   21   129    60  475   144  121  691    29
RTOR Reduct:    0    0     0    0    0     0     0    0   144    0    0    29
RTOR Vol:     287    0   135   85   21   129    60  475     0  121  691     0
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  287    0   135   85   21   129    60  475     0  121  691     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1650 1650  1650 1650 1650  1650  1650 1650  1650 1650 1650  1650
Adjustment:  1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00 1.00 1.00  1.00
Lanes:       1.00 0.00  1.00 1.00 0.14  0.86  1.00 1.00  1.00 1.00 1.00  1.00
Final Sat.:  1650    0  1650 1650  234  1416  1650 1650  1650 1650 1650  1650
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.17 0.00  0.08 0.05 0.09  0.09  0.04 0.29  0.00 0.07 0.42  0.00
Crit Volume:  287                   151          60                   691
Crit Moves:   ****                 ****         ****                 ****
```

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc5 School PM w/Proj

Intersection #6: Monte Vista H.S. Main and Stone Valley Rd



Street Name:	Monte Vista H.S. Main Parking Lot						Stone Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	215	0	101	64	16	97	45	356	108	91	518	22
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	215	0	101	64	16	97	45	356	108	91	518	22
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	215	0	101	64	16	97	45	356	108	91	518	22
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
PHF Volume:	287	0	135	85	21	129	60	475	144	121	691	29
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	287	0	135	85	21	129	60	475	144	121	691	29
RTOR Reduct:	0	0	0	0	0	0	0	0	144	0	0	29
RTOR Vol:	287	0	135	85	21	129	60	475	0	121	691	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	287	0	135	85	21	129	60	475	0	121	691	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.00	1.00	1.00	0.14	0.86	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1650	0	1650	1650	234	1416	1650	1650	1650	1650	1650	1650
Capacity Analysis Module:												
Vol/Sat:	0.17	0.00	0.08	0.05	0.09	0.09	0.04	0.29	0.00	0.07	0.42	0.00
Crit Volume:	287				151		60				691	
Crit Moves:	****				****		****				****	

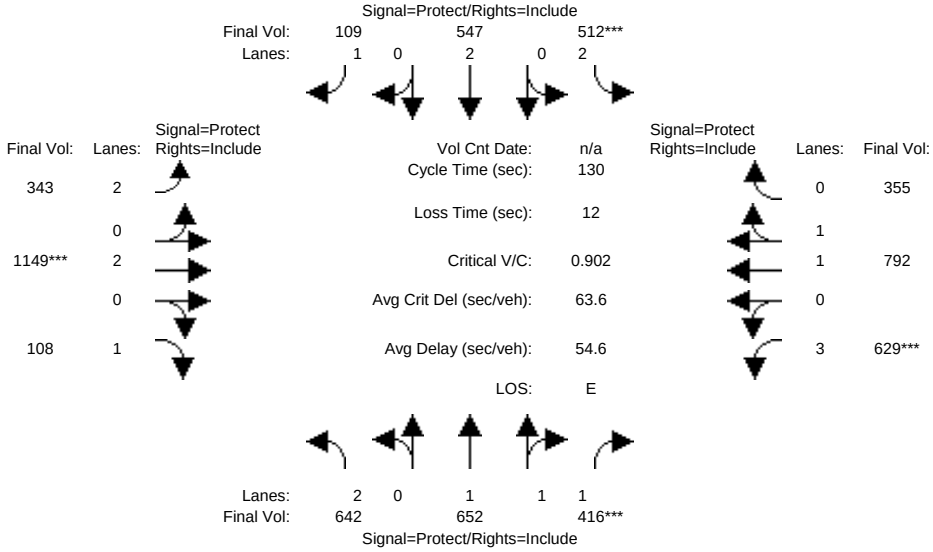
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc2 School PM w/Proj

Intersection #10: Blackhawk Rd/Crow Canyon Rd and Camino Tassajara



Street Name:	Blackhawk Rd/Crow Canyon Rd						Camino Tassajara					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	533	541	545	425	454	247	285	954	383	522	657	295
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	533	541	545	425	454	247	285	954	383	522	657	295
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	533	541	545	425	454	247	285	954	383	522	657	295
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
PHF Volume:	642	652	657	512	547	298	343	1149	461	629	792	355
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	642	652	657	512	547	298	343	1149	461	629	792	355
RTOR Reduct:	0	0	241	0	0	189	0	0	353	0	0	0
RTOR Vol:	642	652	416	512	547	109	343	1149	108	629	792	355
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	642	652	416	512	547	109	343	1149	108	629	792	355
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	0.91	1.00	0.91	0.91	1.00	1.00	0.91	1.00	1.00	0.87	1.00	1.00
Lanes:	2.00	1.83	1.17	2.00	2.00	1.00	2.00	2.00	1.00	3.00	1.38	0.62
Final Sat.:	3000	3023	1752	3000	3300	1650	3000	3300	1650	4307	2277	1023
Capacity Analysis Module:												
Vol/Sat:	0.21	0.22	0.24	0.17	0.17	0.07	0.11	0.35	0.07	0.15	0.35	0.35
Crit Volume:			356	256				575		210		
Crit Moves:			****	****				****		****		

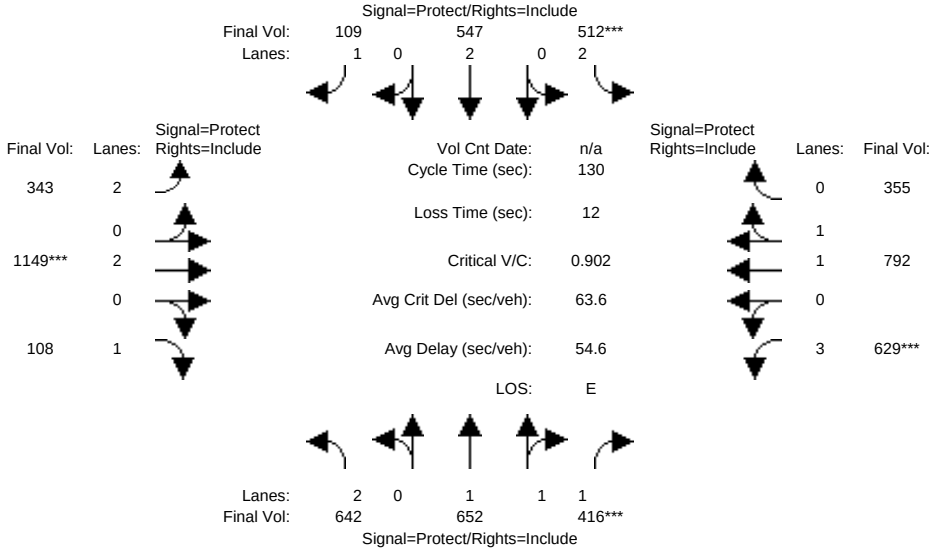
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc4 School PM w/Proj

Intersection #10: Blackhawk Rd/Crow Canyon Rd and Camino Tassajara



Street Name:	Blackhawk Rd/Crow Canyon Rd						Camino Tassajara					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	533	541	545	425	454	247	285	954	383	522	657	295
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	533	541	545	425	454	247	285	954	383	522	657	295
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	533	541	545	425	454	247	285	954	383	522	657	295
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
PHF Volume:	642	652	657	512	547	298	343	1149	461	629	792	355
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	642	652	657	512	547	298	343	1149	461	629	792	355
RTOR Reduct:	0	0	241	0	0	189	0	0	353	0	0	0
RTOR Vol:	642	652	416	512	547	109	343	1149	108	629	792	355
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	642	652	416	512	547	109	343	1149	108	629	792	355
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	0.91	1.00	0.91	0.91	1.00	1.00	0.91	1.00	1.00	0.87	1.00	1.00
Lanes:	2.00	1.83	1.17	2.00	2.00	1.00	2.00	2.00	1.00	3.00	1.38	0.62
Final Sat.:	3000	3023	1752	3000	3300	1650	3000	3300	1650	4307	2277	1023
Capacity Analysis Module:												
Vol/Sat:	0.21	0.22	0.24	0.17	0.17	0.07	0.11	0.35	0.07	0.15	0.35	0.35
Crit Volume:			356	256				575		210		
Crit Moves:			****	****				****		****		

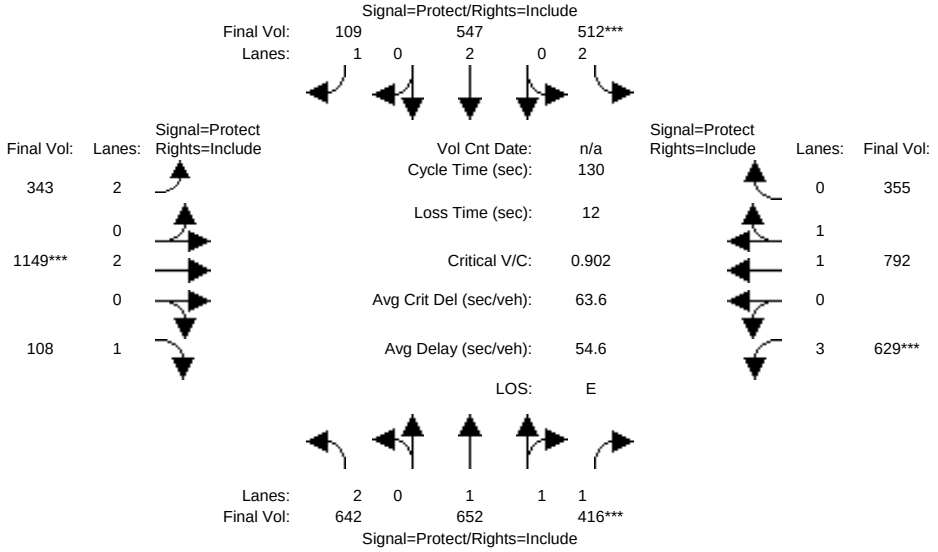
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc5 School PM w/Proj

Intersection #10: Blackhawk Rd/Crow Canyon Rd and Camino Tassajara



Street Name:	Blackhawk Rd/Crow Canyon Rd						Camino Tassajara					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	533	541	545	425	454	247	285	954	383	522	657	295
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	533	541	545	425	454	247	285	954	383	522	657	295
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	533	541	545	425	454	247	285	954	383	522	657	295
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
PHF Volume:	642	652	657	512	547	298	343	1149	461	629	792	355
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	642	652	657	512	547	298	343	1149	461	629	792	355
RTOR Reduct:	0	0	241	0	0	189	0	0	353	0	0	0
RTOR Vol:	642	652	416	512	547	109	343	1149	108	629	792	355
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	642	652	416	512	547	109	343	1149	108	629	792	355
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	0.91	1.00	0.91	0.91	1.00	1.00	0.91	1.00	1.00	0.87	1.00	1.00
Lanes:	2.00	1.83	1.17	2.00	2.00	1.00	2.00	2.00	1.00	3.00	1.38	0.62
Final Sat.:	3000	3023	1752	3000	3300	1650	3000	3300	1650	4307	2277	1023
Capacity Analysis Module:												
Vol/Sat:	0.21	0.22	0.24	0.17	0.17	0.07	0.11	0.35	0.07	0.15	0.35	0.35
Crit Volume:			356	256				575		210		
Crit Moves:			****	****				****		****		

Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

CCTA PM LOS Calcs

(>>>>>>>>>This Page Intentionally Left Blank<<<<<<<<)

Note:

In the course of the Magee Ranch TIA analysis, the Cumulative Sensitivity Analysis scenarios were revised/updated in cooperation with the Town of Danville to best reflect the alternative scenarios appropriate for study. For this reason, after the cumulative level of service (LOS) calculations were completed, some of the scenario names/numbers were changed. The changes are as follows:

- Cum Sc4 AM w/Proj, Cum Sc4 school PM w/Proj, and Cum Sc4 PM w/Proj LOS calculation sheets in this appendix refer to Cumulative Scenario 3 results shown in the report.
- Cum Sc5 AM w/Proj, Cum Sc5 school PM w/Proj, and Cum Sc5 PM w/Proj LOS calculation sheets in this appendix refer to Cumulative Scenario 4 results shown in the report.

All of the other LOS calculations in this appendix correspond to the same name/number as shown in the report.

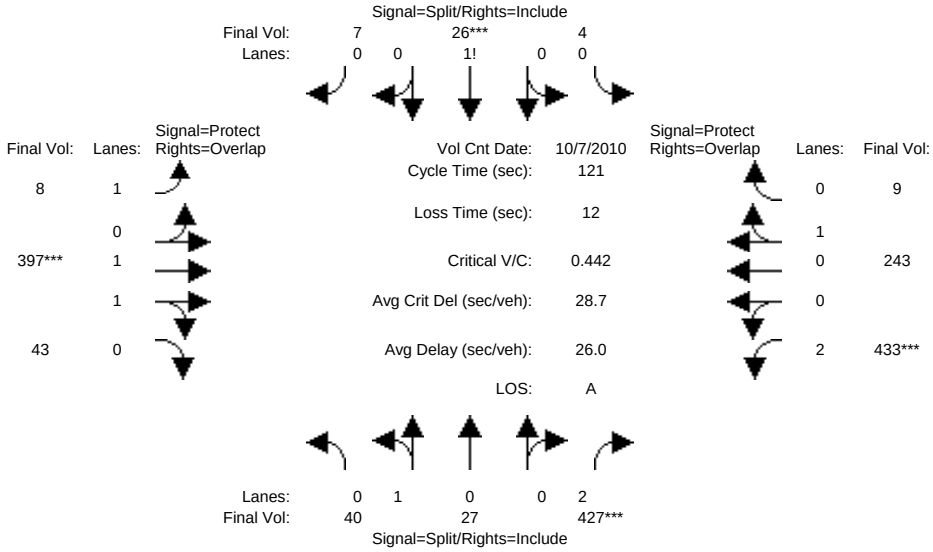
(>>>>>>>>>This Page Intentionally Left Blank<<<<<<<<)

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Existing PM

Intersection #1: Diablo Rd and El Cerro Blvd



Street Name:	Diablo Road						El Cerro Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 7 Oct 2010 <<												
Base Vol:	36	25	605	4	24	6	7	361	39	394	221	8
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	36	25	605	4	24	6	7	361	39	394	221	8
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	36	25	605	4	24	6	7	361	39	394	221	8
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	40	27	665	4	26	7	8	397	43	433	243	9
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	40	27	665	4	26	7	8	397	43	433	243	9
RTOR Reduct:	0	0	238	0	0	0	0	0	0	0	0	0
RTOR Vol:	40	27	427	4	26	7	8	397	43	433	243	9
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	40	27	427	4	26	7	8	397	43	433	243	9
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00
Lanes:	0.59	0.41	2.00	0.12	0.70	0.18	1.00	1.81	0.19	2.00	0.97	0.03
Final Sat.:	974	676	3000	194	1165	291	1650	2978	322	3000	1592	58
Capacity Analysis Module:												
Vol/Sat:	0.04	0.04	0.14	0.02	0.02	0.02	0.00	0.13	0.13	0.14	0.15	0.15
Crit Volume:			213		37			220		216		
Crit Moves:			****		****			****		****		

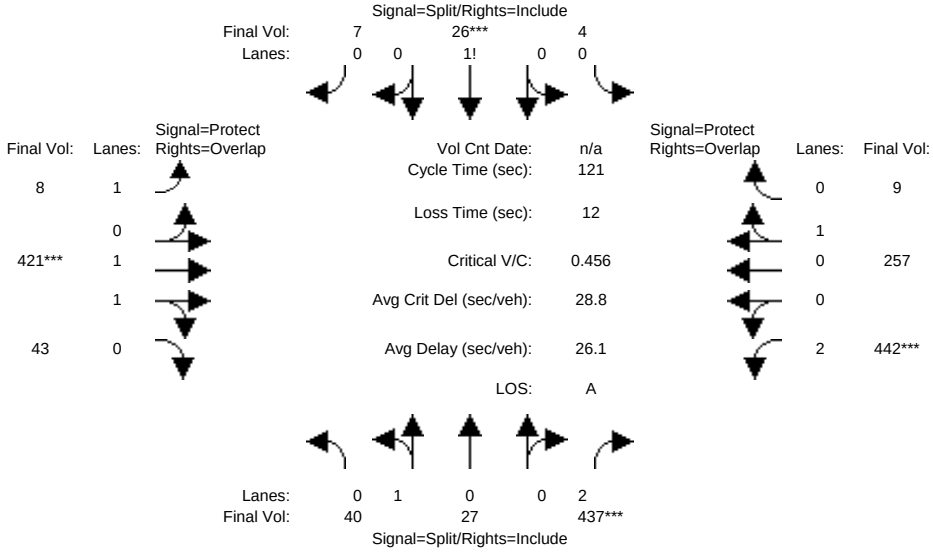
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Project PM

Intersection #1: Diablo Rd and El Cerro Blvd



Street Name:	Diablo Road						El Cerro Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	36	25	619	4	24	6	7	383	39	402	234	8
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	36	25	619	4	24	6	7	383	39	402	234	8
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	36	25	619	4	24	6	7	383	39	402	234	8
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	40	27	680	4	26	7	8	421	43	442	257	9
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	40	27	680	4	26	7	8	421	43	442	257	9
RTOR Reduct:	0	0	243	0	0	0	0	0	0	0	0	0
RTOR Vol:	40	27	437	4	26	7	8	421	43	442	257	9
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	40	27	437	4	26	7	8	421	43	442	257	9
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00
Lanes:	0.59	0.41	2.00	0.12	0.70	0.18	1.00	1.82	0.18	2.00	0.97	0.03
Final Sat.:	974	676	3000	194	1165	291	1650	2995	305	3000	1595	55
Capacity Analysis Module:												
Vol/Sat:	0.04	0.04	0.15	0.02	0.02	0.02	0.00	0.14	0.14	0.15	0.16	0.16
Crit Volume:			219		37			232		221		
Crit Moves:			****		****			****		****		

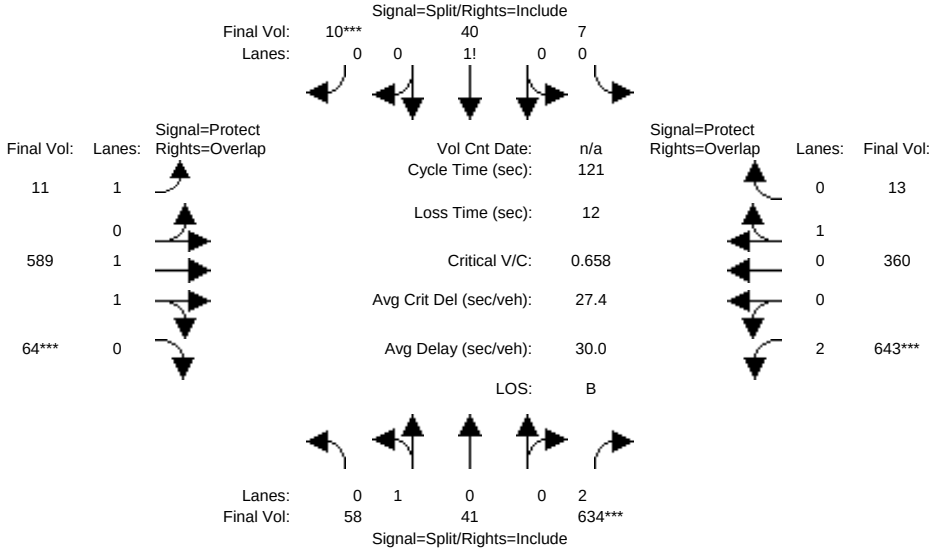
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum PM No Project

Intersection #1: Diablo Rd and El Cerro Blvd



Street Name:	Diablo Road						El Cerro Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	53	37	899	6	36	9	10	536	58	585	328	12
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	53	37	899	6	36	9	10	536	58	585	328	12
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	53	37	899	6	36	9	10	536	58	585	328	12
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	58	41	988	7	40	10	11	589	64	643	360	13
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	58	41	988	7	40	10	11	589	64	643	360	13
RTOR Reduct:	0	0	354	0	0	0	0	0	0	0	0	0
RTOR Vol:	58	41	634	7	40	10	11	589	64	643	360	13
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	58	41	634	7	40	10	11	589	64	643	360	13
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00
Lanes:	0.59	0.41	2.00	0.12	0.70	0.18	1.00	1.80	0.20	2.00	0.96	0.04
Final Sat.:	972	678	3000	194	1165	291	1650	2978	322	3000	1592	58
Capacity Analysis Module:												
Vol/Sat:	0.06	0.06	0.21	0.03	0.03	0.03	0.01	0.20	0.20	0.21	0.23	0.23
Crit Volume:			317			56			326	321		
Crit Moves:			****			****			****	****		

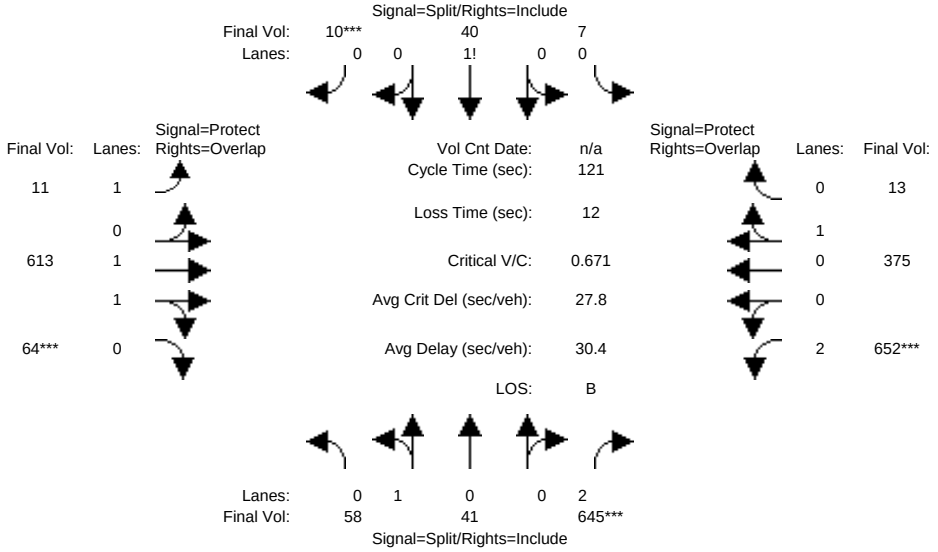
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc1 PM w/Proj

Intersection #1: Diablo Rd and El Cerro Blvd



Street Name:	Diablo Road						El Cerro Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	53	37	913	6	36	9	10	558	58	593	341	12
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	53	37	913	6	36	9	10	558	58	593	341	12
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	53	37	913	6	36	9	10	558	58	593	341	12
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	58	41	1003	7	40	10	11	613	64	652	375	13
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	58	41	1003	7	40	10	11	613	64	652	375	13
RTOR Reduct:	0	0	358	0	0	0	0	0	0	0	0	0
RTOR Vol:	58	41	645	7	40	10	11	613	64	652	375	13
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	58	41	645	7	40	10	11	613	64	652	375	13
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00
Lanes:	0.59	0.41	2.00	0.12	0.70	0.18	1.00	1.81	0.19	2.00	0.97	0.03
Final Sat.:	972	678	3000	194	1165	291	1650	2989	311	3000	1594	56
Capacity Analysis Module:												
Vol/Sat:	0.06	0.06	0.21	0.03	0.03	0.03	0.01	0.21	0.21	0.22	0.24	0.24
Crit Volume:			322			56			338	326		
Crit Moves:			****			****			****	****		

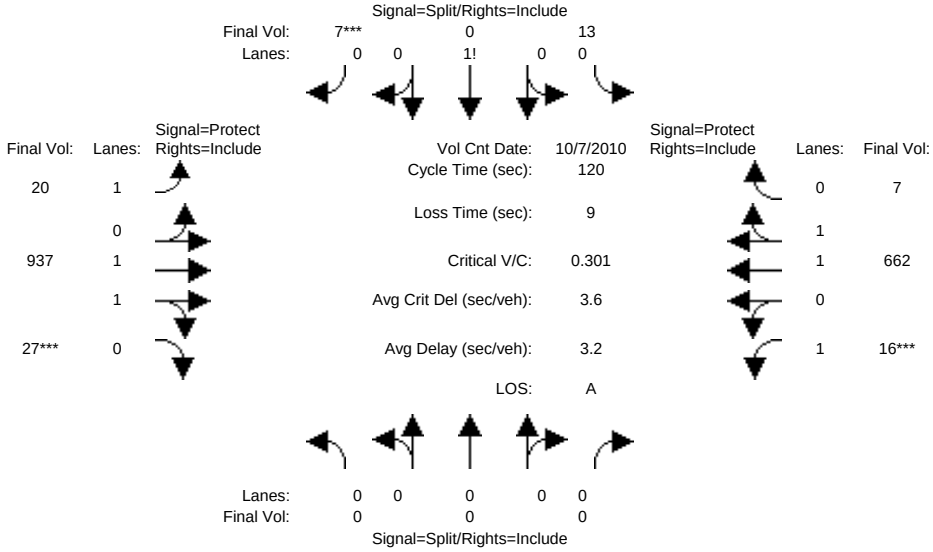
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Existing PM

Intersection #2: Matadera Wy and Diablo Rd



Street Name:	Matadera Way						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 7 Oct 2010 <<												
Base Vol:	0	0	0	12	0	6	18	862	25	15	609	6
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	12	0	6	18	862	25	15	609	6
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	12	0	6	18	862	25	15	609	6
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	0	0	0	13	0	7	20	937	27	16	662	7
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	13	0	7	20	937	27	16	662	7
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	0	0	0	13	0	7	20	937	27	16	662	7
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	13	0	7	20	937	27	16	662	7
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.67	0.00	0.33	1.00	1.94	0.06	1.00	1.98	0.02
Final Sat.:	0	0	0	1147	0	573	1720	3343	97	1720	3406	34
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.28	0.28	0.01	0.19	0.19
Crit Volume:		0				20			482	16		
Crit Moves:						****			****	****		

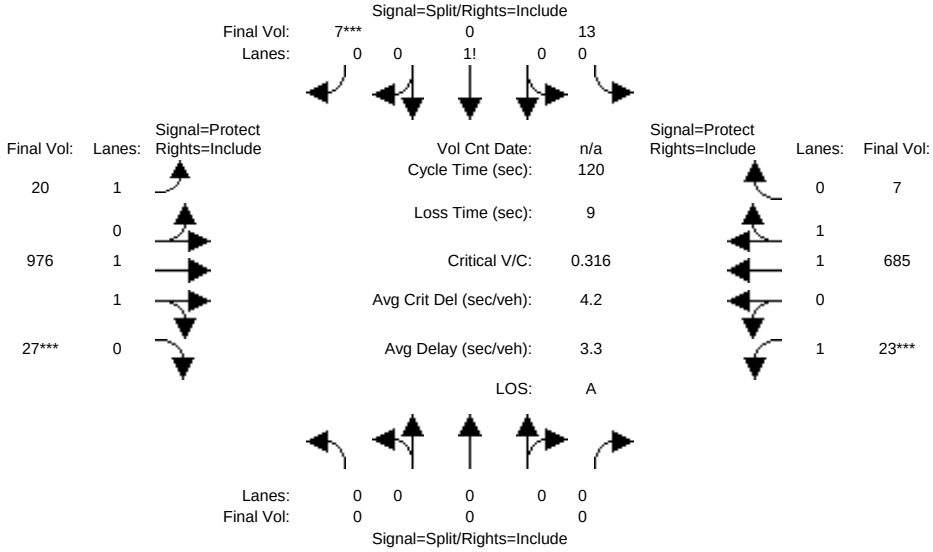
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Project PM

Intersection #2: Matadera Wy and Diablo Rd



Street Name:	Matadera Way						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	12	0	6	18	898	25	21	630	6
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	12	0	6	18	898	25	21	630	6
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	12	0	6	18	898	25	21	630	6
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	0	0	0	13	0	7	20	976	27	23	685	7
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	13	0	7	20	976	27	23	685	7
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	0	0	0	13	0	7	20	976	27	23	685	7
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	13	0	7	20	976	27	23	685	7
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.67	0.00	0.33	1.00	1.95	0.05	1.00	1.98	0.02
Final Sat.:	0	0	0	1147	0	573	1720	3347	93	1720	3408	32
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.29	0.29	0.01	0.20	0.20
Crit Volume:		0				20			502	23		
Crit Moves:						****			****	****		

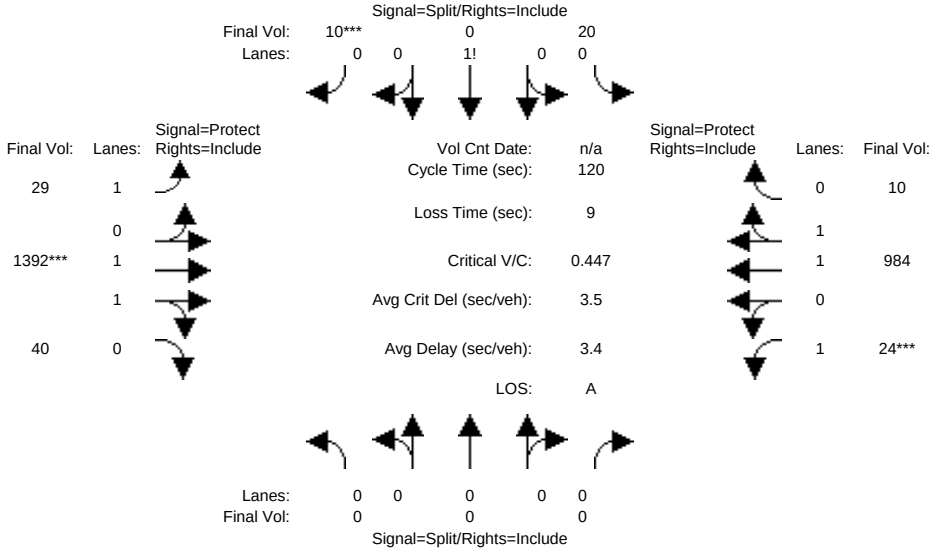
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum PM No Project

Intersection #2: Matadera Wy and Diablo Rd



Street Name:	Matadera Way						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	18	0	9	27	1281	37	22	905	9
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	18	0	9	27	1281	37	22	905	9
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	18	0	9	27	1281	37	22	905	9
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	0	0	0	20	0	10	29	1392	40	24	984	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	20	0	10	29	1392	40	24	984	10
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	0	0	0	20	0	10	29	1392	40	24	984	10
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	20	0	10	29	1392	40	24	984	10
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.67	0.00	0.33	1.00	1.94	0.06	1.00	1.98	0.02
Final Sat.:	0	0	0	1147	0	573	1720	3343	97	1720	3406	34
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.02	0.00	0.02	0.02	0.42	0.42	0.01	0.29	0.29
Crit Volume:		0				29		716		24		
Crit Moves:						****		****		****		

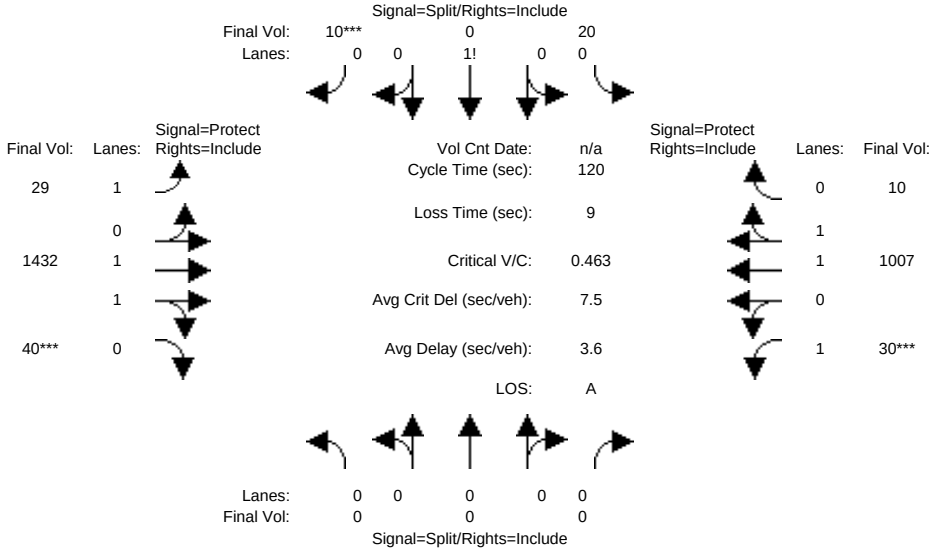
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc1 PM w/Proj

Intersection #2: Matadera Wy and Diablo Rd



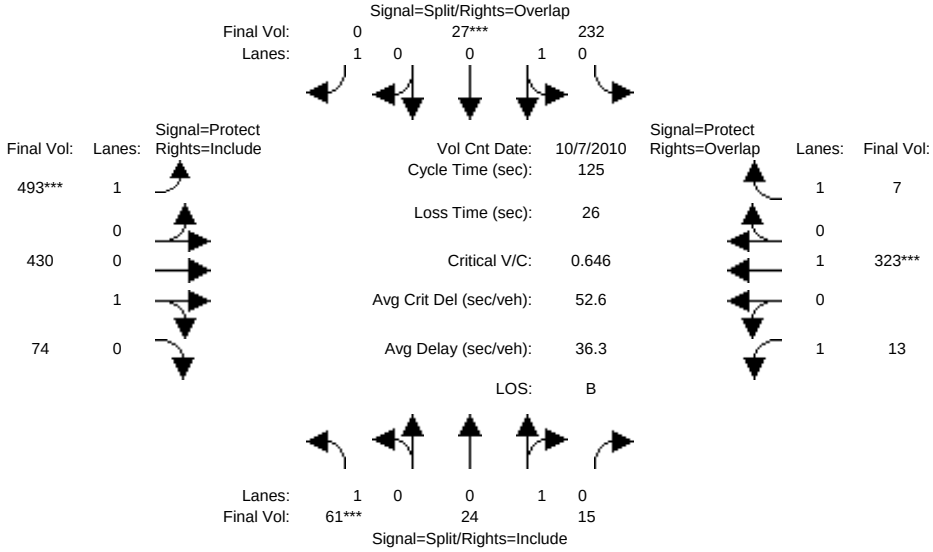
Street Name:	Matadera Way						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	18	0	9	27	1317	37	28	926	9
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	18	0	9	27	1317	37	28	926	9
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	18	0	9	27	1317	37	28	926	9
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	0	0	0	20	0	10	29	1432	40	30	1007	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	20	0	10	29	1432	40	30	1007	10
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	0	0	0	20	0	10	29	1432	40	30	1007	10
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	20	0	10	29	1432	40	30	1007	10
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.67	0.00	0.33	1.00	1.95	0.05	1.00	1.98	0.02
Final Sat.:	0	0	0	1147	0	573	1720	3346	94	1720	3407	33
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.02	0.00	0.02	0.02	0.43	0.43	0.02	0.30	0.30
Crit Volume:		0				29			736	30		
Crit Moves:						****			****	****		

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Existing PM

Intersection #3: Green Valley Rd and Diablo Rd



Street Name:	Green Valley Road						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 7 Oct 2010 <<												
Base Vol:	56	22	14	213	25	259	454	396	68	12	297	219
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	56	22	14	213	25	259	454	396	68	12	297	219
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	56	22	14	213	25	259	454	396	68	12	297	219
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	61	24	15	232	27	282	493	430	74	13	323	238
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	61	24	15	232	27	282	493	430	74	13	323	238
RTOR Reduct:	0	0	0	0	0	282	0	0	0	0	0	232
RTOR Vol:	61	24	15	232	27	0	493	430	74	13	323	7
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	61	24	15	232	27	0	493	430	74	13	323	7
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.61	0.39	0.89	0.11	1.00	1.00	0.85	0.15	1.00	1.00	1.00
Final Sat.:	1650	1008	642	1477	173	1650	1650	1408	242	1650	2100	1650
Capacity Analysis Module:												
Vol/Sat:	0.04	0.02	0.02	0.16	0.16	0.00	0.30	0.31	0.31	0.01	0.15	0.00
Crit Volume:	61				259		493				254	
Crit Moves:	****				****		****				****	

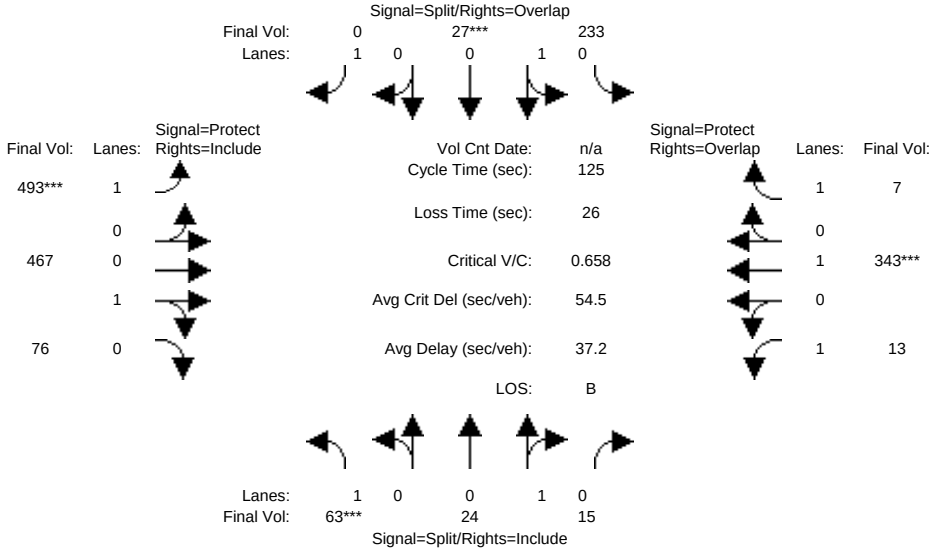
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Project PM

Intersection #3: Green Valley Rd and Diablo Rd



Street Name:	Green Valley Road						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	58	22	14	214	25	259	454	430	70	12	316	220
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	58	22	14	214	25	259	454	430	70	12	316	220
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	58	22	14	214	25	259	454	430	70	12	316	220
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	63	24	15	233	27	282	493	467	76	13	343	239
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	63	24	15	233	27	282	493	467	76	13	343	239
RTOR Reduct:	0	0	0	0	0	282	0	0	0	0	0	233
RTOR Vol:	63	24	15	233	27	0	493	467	76	13	343	7
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	63	24	15	233	27	0	493	467	76	13	343	7
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.61	0.39	0.90	0.10	1.00	1.00	0.86	0.14	1.00	1.00	1.00
Final Sat.:	1650	1008	642	1477	173	1650	1650	1419	231	1650	2100	1650
Capacity Analysis Module:												
Vol/Sat:	0.04	0.02	0.02	0.16	0.16	0.00	0.30	0.33	0.33	0.01	0.16	0.00
Crit Volume:	63				260		493				270	
Crit Moves:	****				****		****				****	

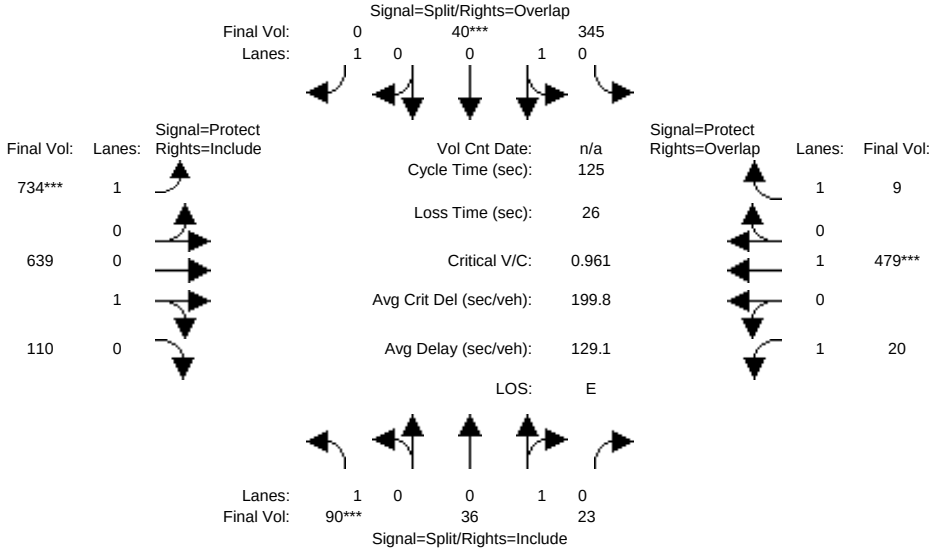
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum PM No Project

Intersection #3: Green Valley Rd and Diablo Rd



Street Name:	Green Valley Road						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	83	33	21	317	37	385	675	588	101	18	441	325
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	83	33	21	317	37	385	675	588	101	18	441	325
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	83	33	21	317	37	385	675	588	101	18	441	325
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	90	36	23	345	40	418	734	639	110	20	479	353
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	90	36	23	345	40	418	734	639	110	20	479	353
RTOR Reduct:	0	0	0	0	0	418	0	0	0	0	0	345
RTOR Vol:	90	36	23	345	40	0	734	639	110	20	479	9
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	90	36	23	345	40	0	734	639	110	20	479	9
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.61	0.39	0.90	0.10	1.00	1.00	0.85	0.15	1.00	1.00	1.00
Final Sat.:	1650	1008	642	1478	172	1650	1650	1408	242	1650	2100	1650
Capacity Analysis Module:												
Vol/Sat:	0.05	0.04	0.04	0.23	0.23	0.00	0.44	0.45	0.45	0.01	0.23	0.01
Crit Volume:	90				385		734				377	
Crit Moves:	****				****		****				****	

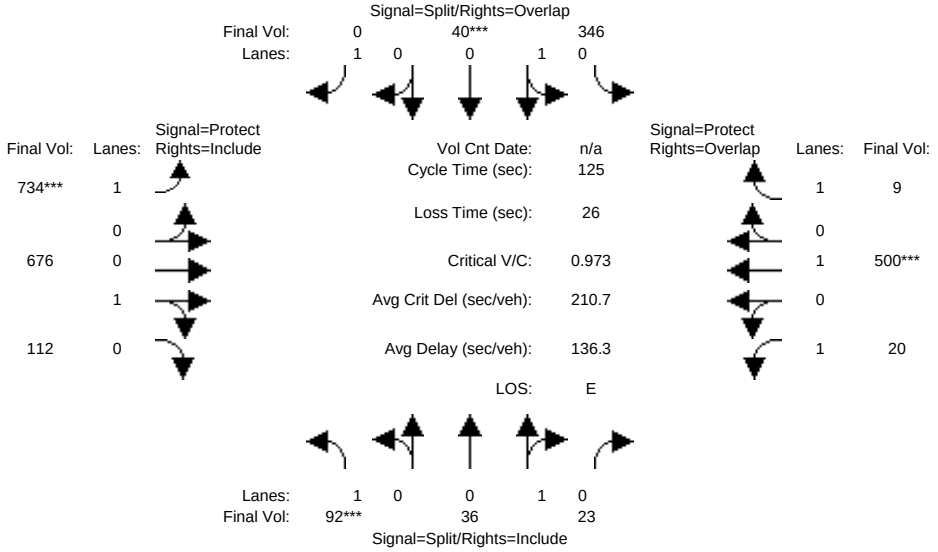
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc1 PM w/Proj

Intersection #3: Green Valley Rd and Diablo Rd



Street Name:	Green Valley Road						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	85	33	21	318	37	385	675	622	103	18	460	326
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	85	33	21	318	37	385	675	622	103	18	460	326
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	85	33	21	318	37	385	675	622	103	18	460	326
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	92	36	23	346	40	418	734	676	112	20	500	354
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	92	36	23	346	40	418	734	676	112	20	500	354
RTOR Reduct:	0	0	0	0	0	418	0	0	0	0	0	346
RTOR Vol:	92	36	23	346	40	0	734	676	112	20	500	9
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	92	36	23	346	40	0	734	676	112	20	500	9
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.61	0.39	0.90	0.10	1.00	1.00	0.86	0.14	1.00	1.00	1.00
Final Sat.:	1650	1008	642	1478	172	1650	1650	1416	234	1650	2100	1650
Capacity Analysis Module:												
Vol/Sat:	0.06	0.04	0.04	0.23	0.23	0.00	0.44	0.48	0.48	0.01	0.24	0.01
Crit Volume:	92				386		734				393	
Crit Moves:	****				****		****				****	

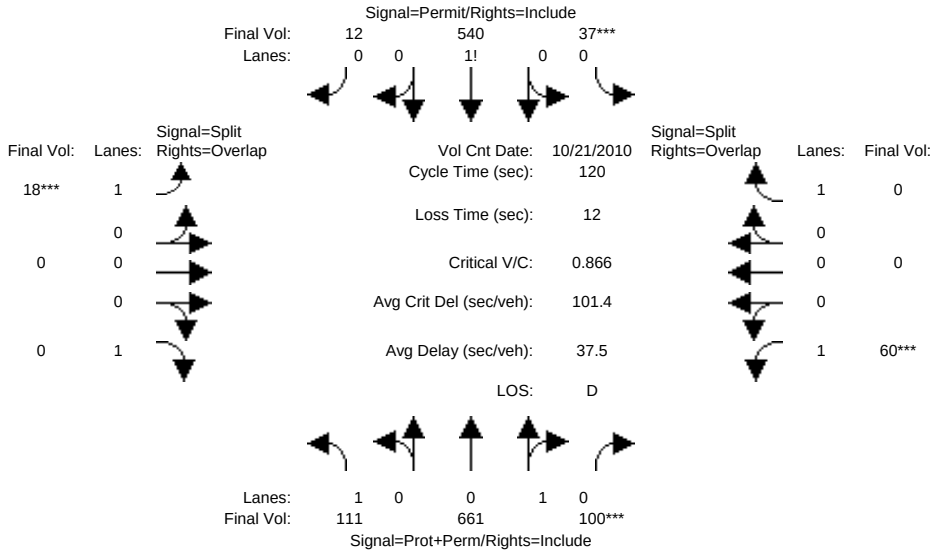
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Existing PM

Intersection #4: Green Valley Rd and Blemer Rd/Cameo Dr



Street Name:	Green Valley Road						Blemer Road/Cameo Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	3	3	3	3	3	3	2	3	3	2	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 21 Oct 2010 <<												
Base Vol:	102	608	92	34	497	11	17	0	62	55	0	22
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	102	608	92	34	497	11	17	0	62	55	0	22
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	102	608	92	34	497	11	17	0	62	55	0	22
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	111	661	100	37	540	12	18	0	67	60	0	24
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	111	661	100	37	540	12	18	0	67	60	0	24
RTOR Reduct:	0	0	0	0	0	0	0	0	67	0	0	24
RTOR Vol:	111	661	100	37	540	12	18	0	0	60	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	111	661	100	37	540	12	18	0	0	60	0	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.87	0.13	0.06	0.92	0.02	1.00	0.00	1.00	1.00	0.00	1.00
Final Sat.:	1650	1433	217	104	1513	33	1650	0	1650	1650	0	1650
Capacity Analysis Module:												
Vol/Sat:	0.07	0.46	0.46	0.36	0.36	0.36	0.01	0.00	0.00	0.04	0.00	0.00
Crit Volume:			761	37			18			60		
Crit Moves:			****	****			****			****		

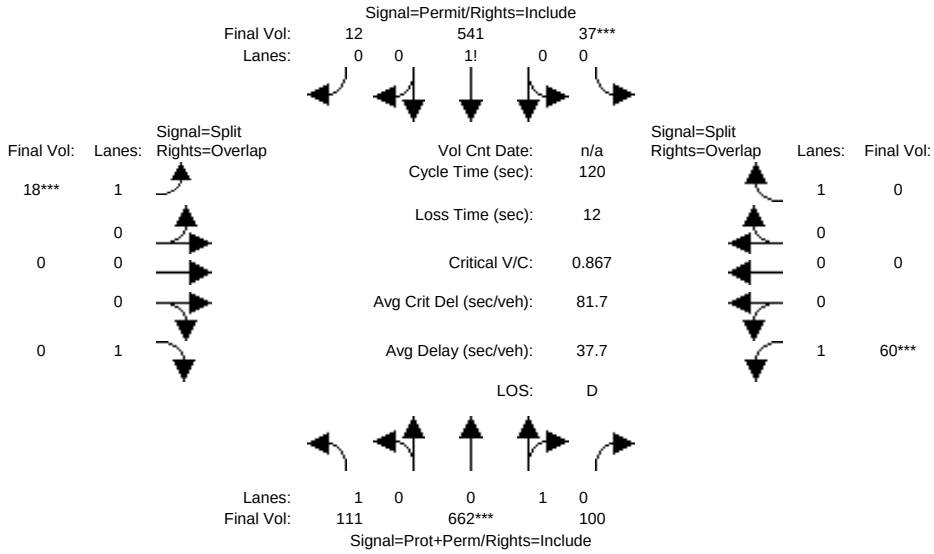
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Project PM

Intersection #4: Green Valley Rd and Blemer Rd/Cameo Dr



Street Name:	Green Valley Road						Blemer Road/Cameo Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	3	3	3	3	3	3	2	3	3	2	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	102	609	92	34	498	11	17	0	62	55	0	22
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	102	609	92	34	498	11	17	0	62	55	0	22
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	102	609	92	34	498	11	17	0	62	55	0	22
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	111	662	100	37	541	12	18	0	67	60	0	24
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	111	662	100	37	541	12	18	0	67	60	0	24
RTOR Reduct:	0	0	0	0	0	0	0	0	67	0	0	24
RTOR Vol:	111	662	100	37	541	12	18	0	0	60	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	111	662	100	37	541	12	18	0	0	60	0	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.87	0.13	0.06	0.92	0.02	1.00	0.00	1.00	1.00	0.00	1.00
Final Sat.:	1650	1433	217	103	1513	33	1650	0	1650	1650	0	1650
Capacity Analysis Module:												
Vol/Sat:	0.07	0.46	0.46	0.36	0.36	0.36	0.01	0.00	0.00	0.04	0.00	0.00
Crit Volume:		762			37			18			60	
Crit Moves:		****			****			****			****	

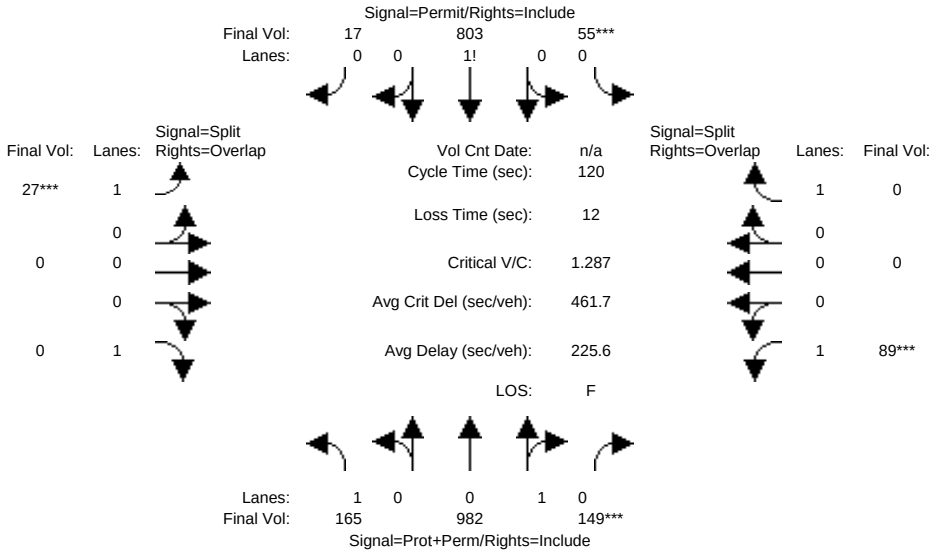
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum PM No Project

Intersection #4: Green Valley Rd and Blemer Rd/Cameo Dr



Street Name:	Green Valley Road						Blemer Road/Cameo Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	3	3	3	3	3	3	2	3	3	2	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	152	903	137	51	739	16	25	0	92	82	0	33
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	152	903	137	51	739	16	25	0	92	82	0	33
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	152	903	137	51	739	16	25	0	92	82	0	33
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	165	982	149	55	803	17	27	0	100	89	0	36
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	165	982	149	55	803	17	27	0	100	89	0	36
RTOR Reduct:	0	0	0	0	0	0	0	0	100	0	0	36
RTOR Vol:	165	982	149	55	803	17	27	0	0	89	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	165	982	149	55	803	17	27	0	0	89	0	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.87	0.13	0.06	0.92	0.02	1.00	0.00	1.00	1.00	0.00	1.00
Final Sat.:	1650	1433	217	104	1513	33	1650	0	1650	1650	0	1650
Capacity Analysis Module:												
Vol/Sat:	0.10	0.69	0.69	0.53	0.53	0.53	0.02	0.00	0.00	0.05	0.00	0.00
Crit Volume:			1130	55			27			89		
Crit Moves:			****	****			****			****		

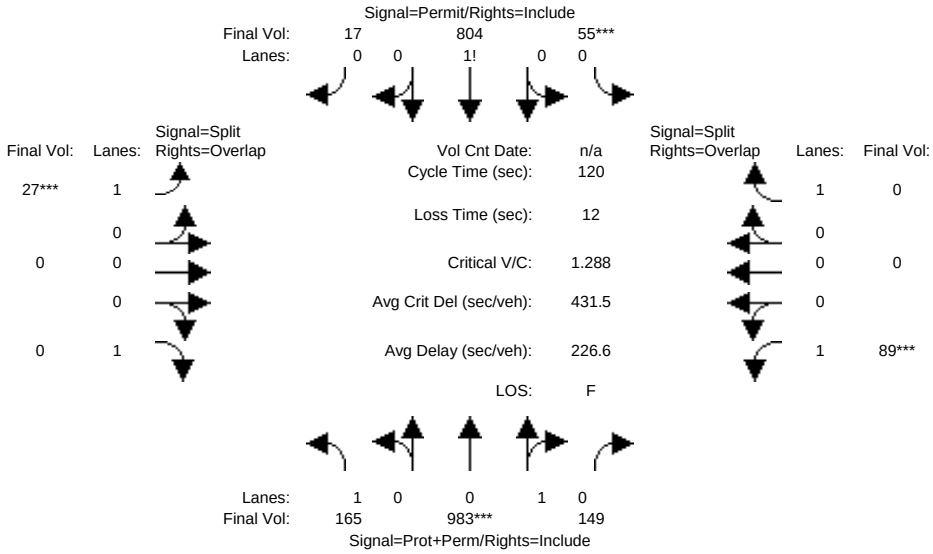
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc1 PM w/Proj

Intersection #4: Green Valley Rd and Blemer Rd/Cameo Dr



Street Name:	Green Valley Road						Blemer Road/Cameo Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	3	3	3	3	3	3	2	3	3	2	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	152	904	137	51	740	16	25	0	92	82	0	33
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	152	904	137	51	740	16	25	0	92	82	0	33
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	152	904	137	51	740	16	25	0	92	82	0	33
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	165	983	149	55	804	17	27	0	100	89	0	36
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	165	983	149	55	804	17	27	0	100	89	0	36
RTOR Reduct:	0	0	0	0	0	0	0	0	100	0	0	36
RTOR Vol:	165	983	149	55	804	17	27	0	0	89	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	165	983	149	55	804	17	27	0	0	89	0	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.87	0.13	0.06	0.92	0.02	1.00	0.00	1.00	1.00	0.00	1.00
Final Sat.:	1650	1433	217	104	1513	33	1650	0	1650	1650	0	1650
Capacity Analysis Module:												
Vol/Sat:	0.10	0.69	0.69	0.53	0.53	0.53	0.02	0.00	0.00	0.05	0.00	0.00
Crit Volume:		1132		55			27			89		
Crit Moves:		****		****			****			****		

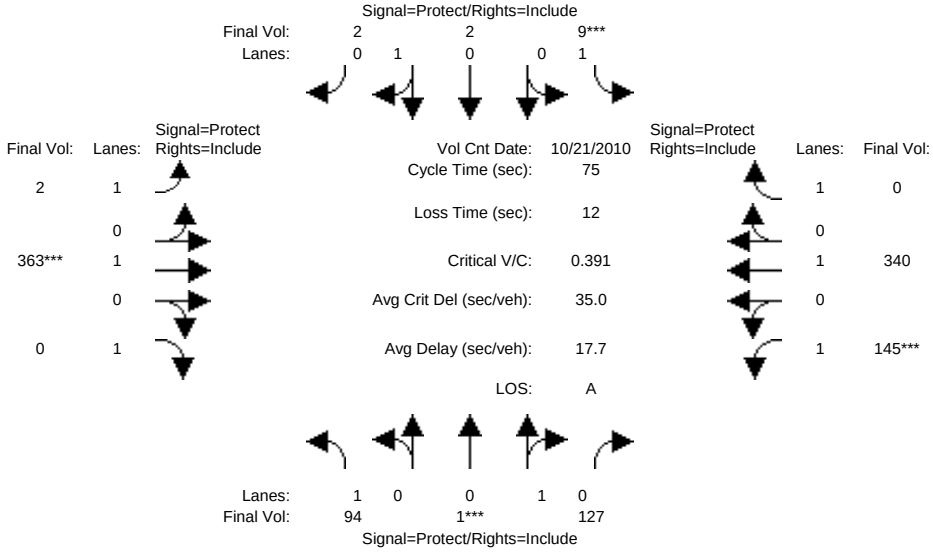
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Existing PM

Intersection #6: Monte Vista H.S. Main and Stone Valley Rd




```
Street Name:Monte Vista H.S. Main Parking Lot         Stone Valley Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10     7   10    10     7   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 21 Oct 2010 <<
Base Vol:      83    1   112    8    2     2     2  319    73   128  299     2
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   83    1   112    8    2     2     2  319    73   128  299     2
Added Vol:      0    0     0    0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0    0    0     0     0    0     0     0    0     0
Initial Fut:   83    1   112    8    2     2     2  319    73   128  299     2
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.88 0.88  0.88 0.88 0.88  0.88  0.88 0.88  0.88  0.88 0.88  0.88
PHF Volume:    94    1   127    9    2     2     2  363    83   145  340     2
Reduct Vol:     0    0     0    0    0     0     0    0     0     0    0     0
Reduced Vol:   94    1   127    9    2     2     2  363    83   145  340     2
RTOR Reduct:    0    0     0    0    0     0     0    0    83     0    0     2
RTOR Vol:      94    1   127    9    2     2     2  363     0   145  340     0
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   94    1   127    9    2     2     2  363     0   145  340     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1650 1650  1650 1650 1650  1650  1650 1650  1650  1650 1650  1650
Adjustment:  1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.00 0.01  0.99 1.00 0.50  0.50  1.00 1.00  1.00  1.00 1.00  1.00
Final Sat.:  1650   15  1635 1650  825   825  1650 1650  1650  1650 1650  1650
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.06 0.08  0.08 0.01 0.00  0.00  0.00 0.22  0.00  0.09 0.21  0.00
Crit Volume:       128          9                     363         145
Crit Moves:       ****        ****                   ****        ****
```

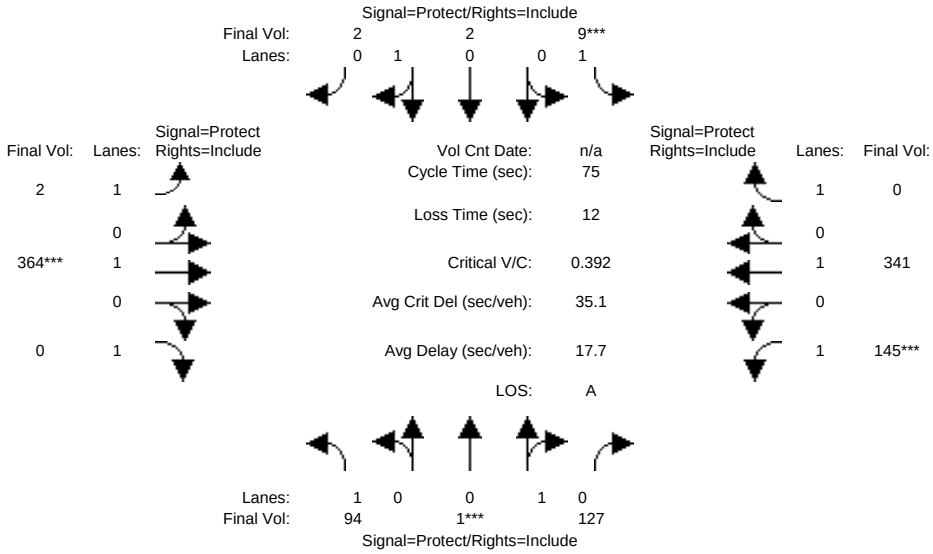

Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Project PM

Intersection #6: Monte Vista H.S. Main and Stone Valley Rd



Street Name:	Monte Vista H.S. Main Parking Lot						Stone Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	83	1	112	8	2	2	2	320	73	128	300	2
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	83	1	112	8	2	2	2	320	73	128	300	2
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	83	1	112	8	2	2	2	320	73	128	300	2
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
PHF Volume:	94	1	127	9	2	2	2	364	83	145	341	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	94	1	127	9	2	2	2	364	83	145	341	2
RTOR Reduct:	0	0	0	0	0	0	0	0	83	0	0	2
RTOR Vol:	94	1	127	9	2	2	2	364	0	145	341	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	94	1	127	9	2	2	2	364	0	145	341	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.01	0.99	1.00	0.50	0.50	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1650	15	1635	1650	825	825	1650	1650	1650	1650	1650	1650
Capacity Analysis Module:												
Vol/Sat:	0.06	0.08	0.08	0.01	0.00	0.00	0.00	0.22	0.00	0.09	0.21	0.00
Crit Volume:		128		9				364		145		
Crit Moves:		****		****				****		****		

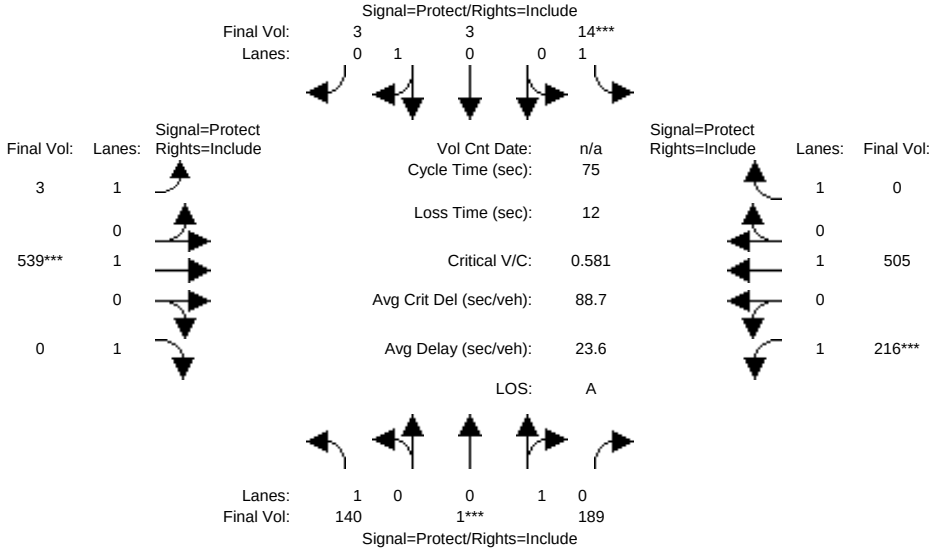
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum PM No Project

Intersection #6: Monte Vista H.S. Main and Stone Valley Rd



Street Name:	Monte Vista H.S. Main Parking Lot						Stone Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	123	1	166	12	3	3	3	474	108	190	444	3
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	123	1	166	12	3	3	3	474	108	190	444	3
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	123	1	166	12	3	3	3	474	108	190	444	3
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
PHF Volume:	140	1	189	14	3	3	3	539	123	216	505	3
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	140	1	189	14	3	3	3	539	123	216	505	3
RTOR Reduct:	0	0	0	0	0	0	0	0	123	0	0	3
RTOR Vol:	140	1	189	14	3	3	3	539	0	216	505	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	140	1	189	14	3	3	3	539	0	216	505	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.01	0.99	1.00	0.50	0.50	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1650	10	1640	1650	825	825	1650	1650	1650	1650	1650	1650
Capacity Analysis Module:												
Vol/Sat:	0.08	0.12	0.12	0.01	0.00	0.00	0.00	0.33	0.00	0.13	0.31	0.00
Crit Volume:		190		14				539		216		
Crit Moves:		****		****				****		****		

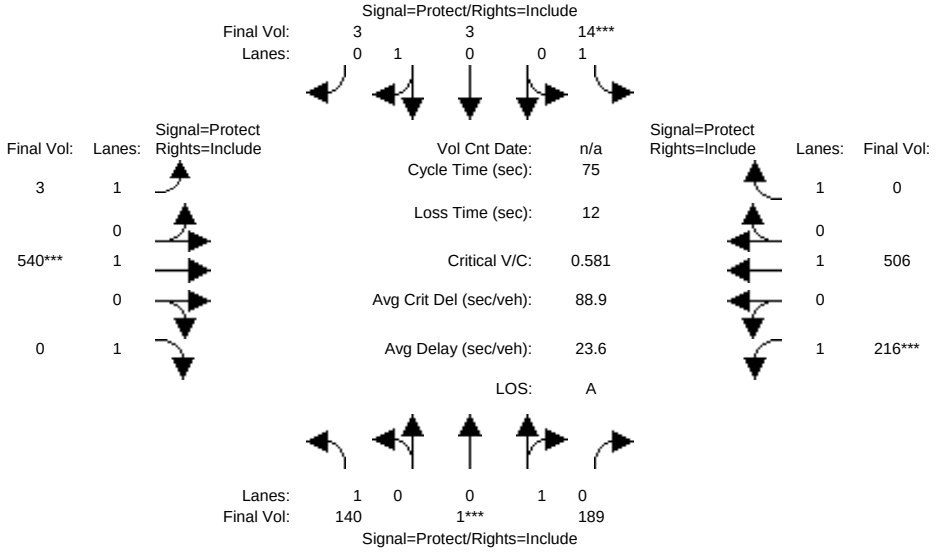
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc1 PM w/Proj

Intersection #6: Monte Vista H.S. Main and Stone Valley Rd



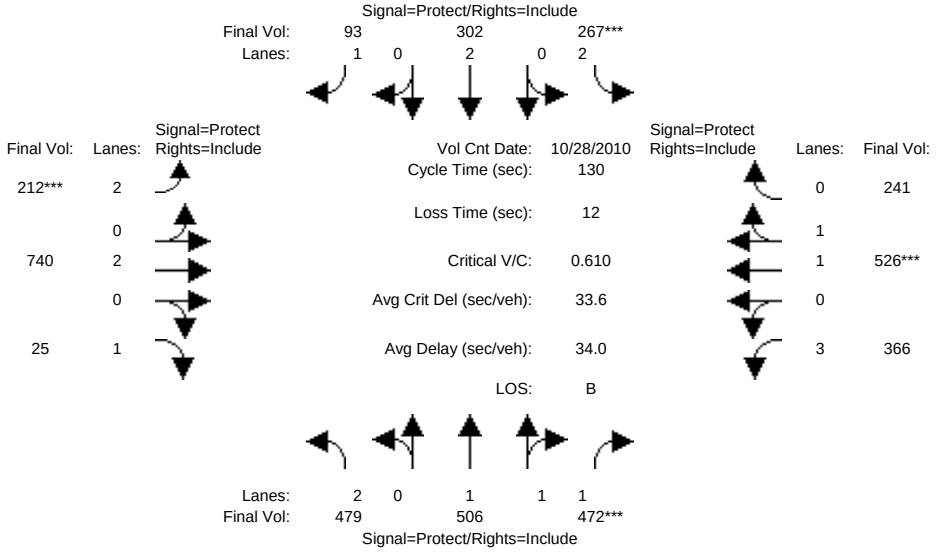

```
Street Name:Monte Vista H.S. Main Parking Lot         Stone Valley Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10    10   10    10     7   10    10     7   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     123    1   166    12    3     3     3  475   108   190  445     3
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  123    1   166    12    3     3     3  475   108   190  445     3
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  123    1   166    12    3     3     3  475   108   190  445     3
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.88 0.88  0.88  0.88 0.88  0.88  0.88 0.88  0.88  0.88 0.88  0.88
PHF Volume:   140    1   189    14    3     3     3  540   123   216  506     3
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  140    1   189    14    3     3     3  540   123   216  506     3
RTOR Reduct:    0    0     0     0    0     0     0    0   123     0    0     3
RTOR Vol:     140    1   189    14    3     3     3  540     0   216  506     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  140    1   189    14    3     3     3  540     0   216  506     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1650 1650  1650  1650 1650  1650  1650 1650  1650  1650 1650  1650
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.00 0.01  0.99  1.00 0.50  0.50  1.00 1.00  1.00  1.00 1.00  1.00
Final Sat.:  1650   10  1640  1650  825   825  1650 1650  1650  1650 1650  1650
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.08 0.12  0.12  0.01 0.00  0.00  0.00 0.33  0.00  0.13 0.31  0.00
Crit Volume:       190          14                    540         216
Crit Moves:       ****         ****                  ****        ****
```

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Existing PM

Intersection #10: Blackhawk Rd/Crow Canyon Rd and Camino Tassajara



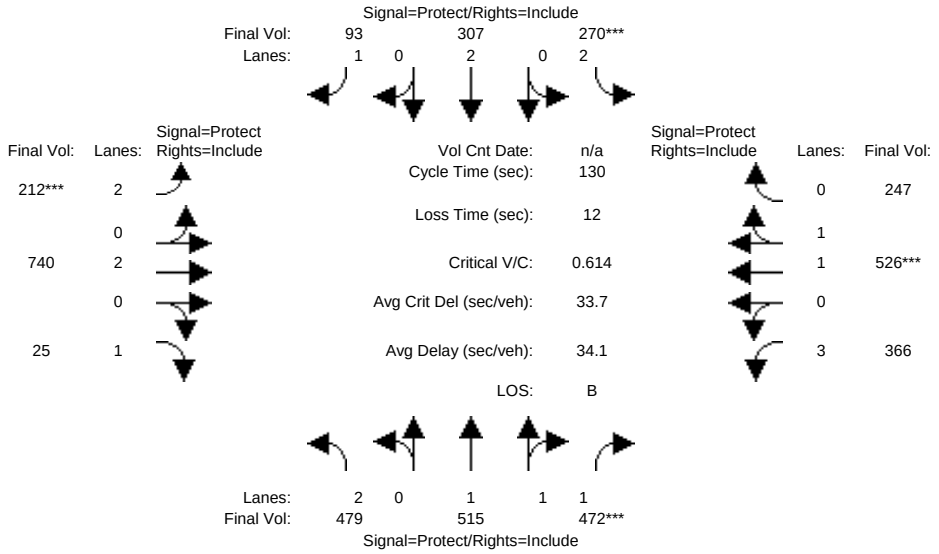
Street Name:	Blackhawk Rd/Crow Canyon Rd						Camino Tassajara					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 28 Oct 2010 <<												
Base Vol:	450	476	576	251	284	197	199	696	271	344	494	227
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	450	476	576	251	284	197	199	696	271	344	494	227
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	450	476	576	251	284	197	199	696	271	344	494	227
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	479	506	613	267	302	210	212	740	288	366	526	241
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	479	506	613	267	302	210	212	740	288	366	526	241
RTOR Reduct:	0	0	140	0	0	116	0	0	263	0	0	0
RTOR Vol:	479	506	472	267	302	93	212	740	25	366	526	241
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	479	506	472	267	302	93	212	740	25	366	526	241
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	0.91	1.00	0.91	0.91	1.00	1.00	0.91	1.00	1.00	0.87	1.00	1.00
Lanes:	2.00	1.55	1.45	2.00	2.00	1.00	2.00	2.00	1.00	3.00	1.37	0.63
Final Sat.:	3000	2561	2172	3000	3300	1650	3000	3300	1650	4307	2261	1039
Capacity Analysis Module:												
Vol/Sat:	0.16	0.20	0.22	0.09	0.09	0.06	0.07	0.22	0.02	0.08	0.23	0.23
Crit Volume:			326	134			106				384	
Crit Moves:			****	****			****				****	

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Project PM

Intersection #10: Blackhawk Rd/Crow Canyon Rd and Camino Tassajara



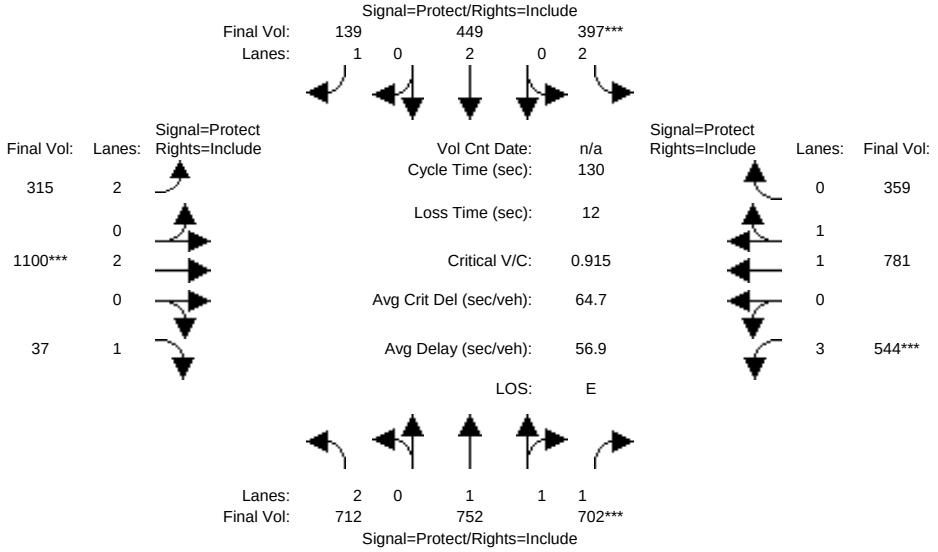
Street Name:	Blackhawk Rd/Crow Canyon Rd						Camino Tassajara					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	450	484	576	254	289	197	199	696	271	344	494	232
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	450	484	576	254	289	197	199	696	271	344	494	232
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	450	484	576	254	289	197	199	696	271	344	494	232
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	479	515	613	270	307	210	212	740	288	366	526	247
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	479	515	613	270	307	210	212	740	288	366	526	247
RTOR Reduct:	0	0	140	0	0	116	0	0	263	0	0	0
RTOR Vol:	479	515	472	270	307	93	212	740	25	366	526	247
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	479	515	472	270	307	93	212	740	25	366	526	247
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	0.91	1.00	0.91	0.91	1.00	1.00	0.91	1.00	1.00	0.87	1.00	1.00
Lanes:	2.00	1.56	1.44	2.00	2.00	1.00	2.00	2.00	1.00	3.00	1.36	0.64
Final Sat.:	3000	2581	2153	3000	3300	1650	3000	3300	1650	4307	2245	1055
Capacity Analysis Module:												
Vol/Sat:	0.16	0.20	0.22	0.09	0.09	0.06	0.07	0.22	0.02	0.08	0.23	0.23
Crit Volume:			329	135			106				386	
Crit Moves:			****	****			****				****	

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum PM No Project

Intersection #10: Blackhawk Rd/Crow Canyon Rd and Camino Tassajara



Street Name:	Blackhawk Rd/Crow Canyon Rd						Camino Tassajara					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	669	707	856	373	422	293	296	1034	403	511	734	337
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	669	707	856	373	422	293	296	1034	403	511	734	337
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	669	707	856	373	422	293	296	1034	403	511	734	337
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	712	752	911	397	449	312	315	1100	429	544	781	359
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	712	752	911	397	449	312	315	1100	429	544	781	359
RTOR Reduct:	0	0	208	0	0	173	0	0	391	0	0	0
RTOR Vol:	712	752	702	397	449	139	315	1100	37	544	781	359
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	712	752	702	397	449	139	315	1100	37	544	781	359
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	0.91	1.00	0.91	0.91	1.00	1.00	0.91	1.00	1.00	0.87	1.00	1.00
Lanes:	2.00	1.55	1.45	2.00	2.00	1.00	2.00	2.00	1.00	3.00	1.37	0.63
Final Sat.:	3000	2560	2173	3000	3300	1650	3000	3300	1650	4307	2262	1038
Capacity Analysis Module:												
Vol/Sat:	0.24	0.29	0.32	0.13	0.14	0.08	0.10	0.33	0.02	0.13	0.35	0.35
Crit Volume:			485	198				550		181		
Crit Moves:			****	****				****		****		

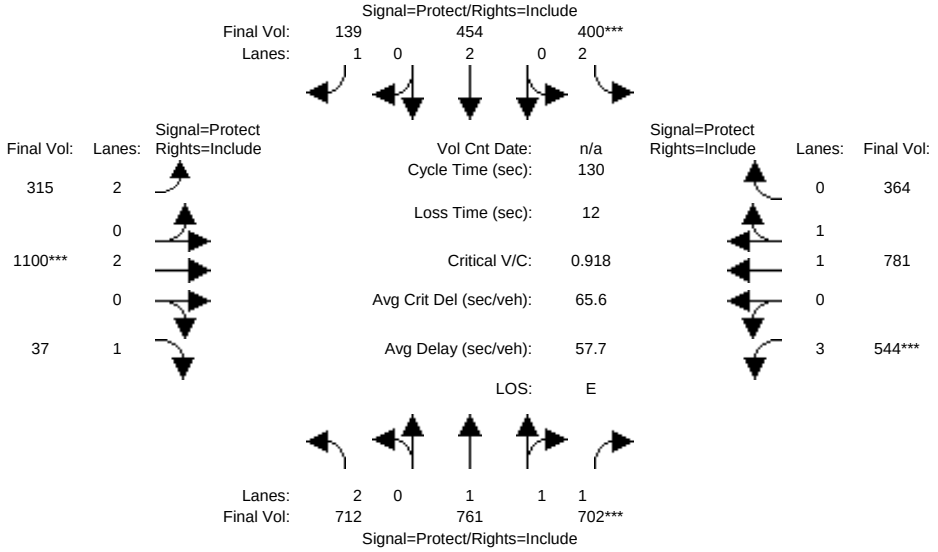
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc1 PM w/Proj

Intersection #10: Blackhawk Rd/Crow Canyon Rd and Camino Tassajara



Street Name:	Blackhawk Rd/Crow Canyon Rd						Camino Tassajara					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	669	715	856	376	427	293	296	1034	403	511	734	342
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	669	715	856	376	427	293	296	1034	403	511	734	342
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	669	715	856	376	427	293	296	1034	403	511	734	342
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	712	761	911	400	454	312	315	1100	429	544	781	364
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	712	761	911	400	454	312	315	1100	429	544	781	364
RTOR Reduct:	0	0	208	0	0	173	0	0	391	0	0	0
RTOR Vol:	712	761	702	400	454	139	315	1100	37	544	781	364
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	712	761	702	400	454	139	315	1100	37	544	781	364
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	0.91	1.00	0.91	0.91	1.00	1.00	0.91	1.00	1.00	0.87	1.00	1.00
Lanes:	2.00	1.56	1.44	2.00	2.00	1.00	2.00	2.00	1.00	3.00	1.36	0.64
Final Sat.:	3000	2574	2160	3000	3300	1650	3000	3300	1650	4307	2251	1049
Capacity Analysis Module:												
Vol/Sat:	0.24	0.30	0.33	0.13	0.14	0.08	0.10	0.33	0.02	0.13	0.35	0.35
Crit Volume:			488	200				550		181		
Crit Moves:			****	****				****		****		

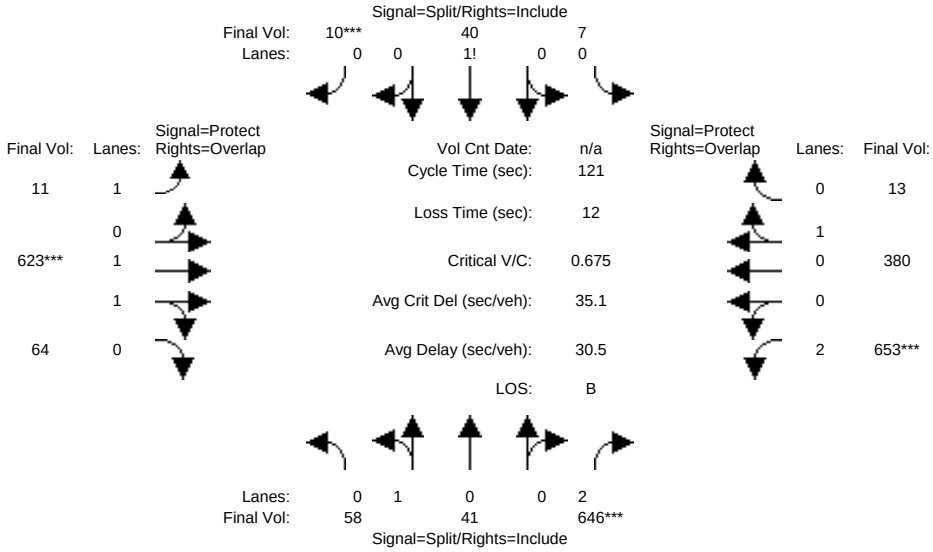
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc2 PM w/Proj

Intersection #1: Diablo Rd and El Cerro Blvd



Street Name:	Diablo Road						El Cerro Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	53	37	915	6	36	9	10	567	58	594	346	12
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	53	37	915	6	36	9	10	567	58	594	346	12
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	53	37	915	6	36	9	10	567	58	594	346	12
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	58	41	1005	7	40	10	11	623	64	653	380	13
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	58	41	1005	7	40	10	11	623	64	653	380	13
RTOR Reduct:	0	0	359	0	0	0	0	0	0	0	0	0
RTOR Vol:	58	41	646	7	40	10	11	623	64	653	380	13
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	58	41	646	7	40	10	11	623	64	653	380	13
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00
Lanes:	0.59	0.41	2.00	0.12	0.70	0.18	1.00	1.81	0.19	2.00	0.97	0.03
Final Sat.:	972	678	3000	194	1165	291	1650	2994	306	3000	1595	55
Capacity Analysis Module:												
Vol/Sat:	0.06	0.06	0.22	0.03	0.03	0.03	0.01	0.21	0.21	0.22	0.24	0.24
Crit Volume:			323			56		343		326		
Crit Moves:			****			****		****		****		

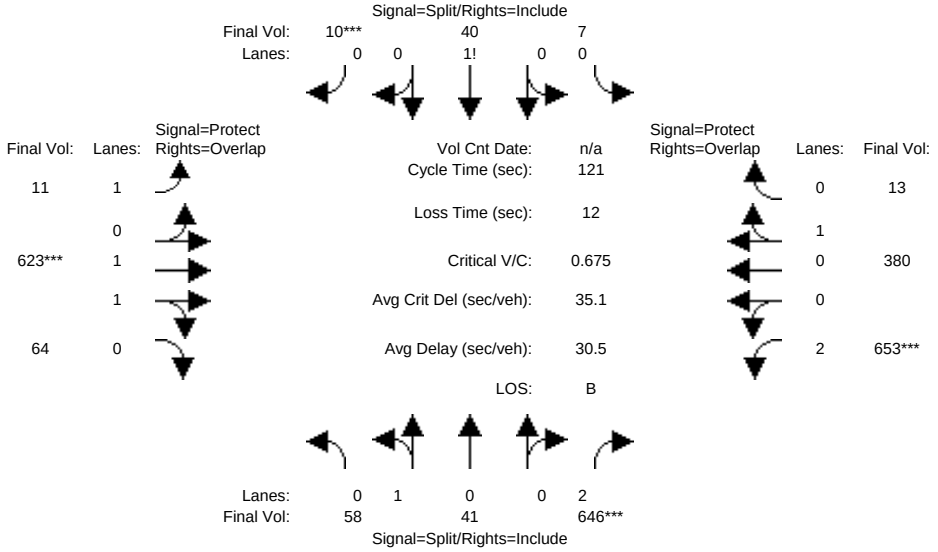
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc4 PM w/Proj

Intersection #1: Diablo Rd and El Cerro Blvd



Street Name:	Diablo Road						El Cerro Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	53	37	915	6	36	9	10	567	58	594	346	12
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	53	37	915	6	36	9	10	567	58	594	346	12
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	53	37	915	6	36	9	10	567	58	594	346	12
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	58	41	1005	7	40	10	11	623	64	653	380	13
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	58	41	1005	7	40	10	11	623	64	653	380	13
RTOR Reduct:	0	0	359	0	0	0	0	0	0	0	0	0
RTOR Vol:	58	41	646	7	40	10	11	623	64	653	380	13
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	58	41	646	7	40	10	11	623	64	653	380	13
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00
Lanes:	0.59	0.41	2.00	0.12	0.70	0.18	1.00	1.81	0.19	2.00	0.97	0.03
Final Sat.:	972	678	3000	194	1165	291	1650	2994	306	3000	1595	55
Capacity Analysis Module:												
Vol/Sat:	0.06	0.06	0.22	0.03	0.03	0.03	0.01	0.21	0.21	0.22	0.24	0.24
Crit Volume:			323			56		343		326		
Crit Moves:			****			****		****		****		

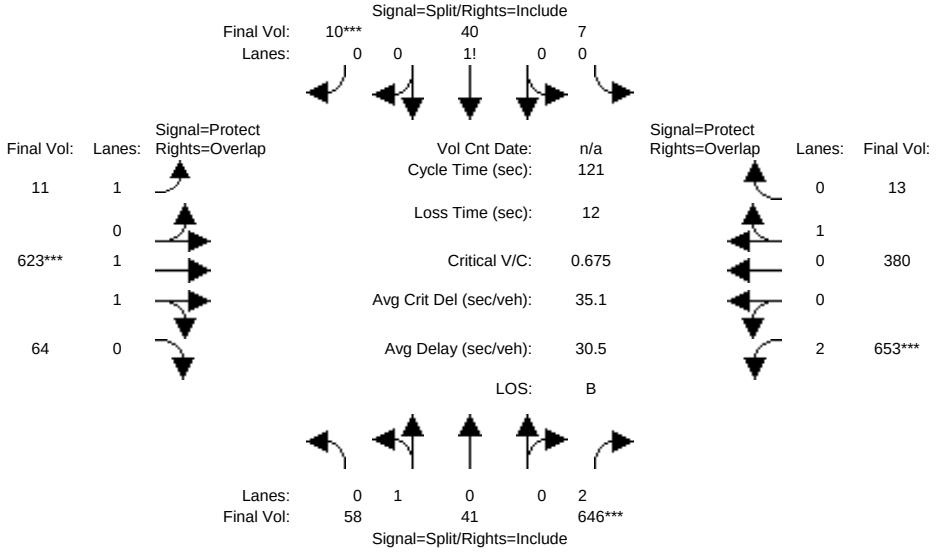
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc5 PM w/Proj

Intersection #1: Diablo Rd and El Cerro Blvd



Street Name:	Diablo Road						El Cerro Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	53	37	915	6	36	9	10	567	58	594	346	12
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	53	37	915	6	36	9	10	567	58	594	346	12
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	53	37	915	6	36	9	10	567	58	594	346	12
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	58	41	1005	7	40	10	11	623	64	653	380	13
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	58	41	1005	7	40	10	11	623	64	653	380	13
RTOR Reduct:	0	0	359	0	0	0	0	0	0	0	0	0
RTOR Vol:	58	41	646	7	40	10	11	623	64	653	380	13
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	58	41	646	7	40	10	11	623	64	653	380	13
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00
Lanes:	0.59	0.41	2.00	0.12	0.70	0.18	1.00	1.81	0.19	2.00	0.97	0.03
Final Sat.:	972	678	3000	194	1165	291	1650	2994	306	3000	1595	55
Capacity Analysis Module:												
Vol/Sat:	0.06	0.06	0.22	0.03	0.03	0.03	0.01	0.21	0.21	0.22	0.24	0.24
Crit Volume:			323			56		343		326		
Crit Moves:			****			****		****		****		

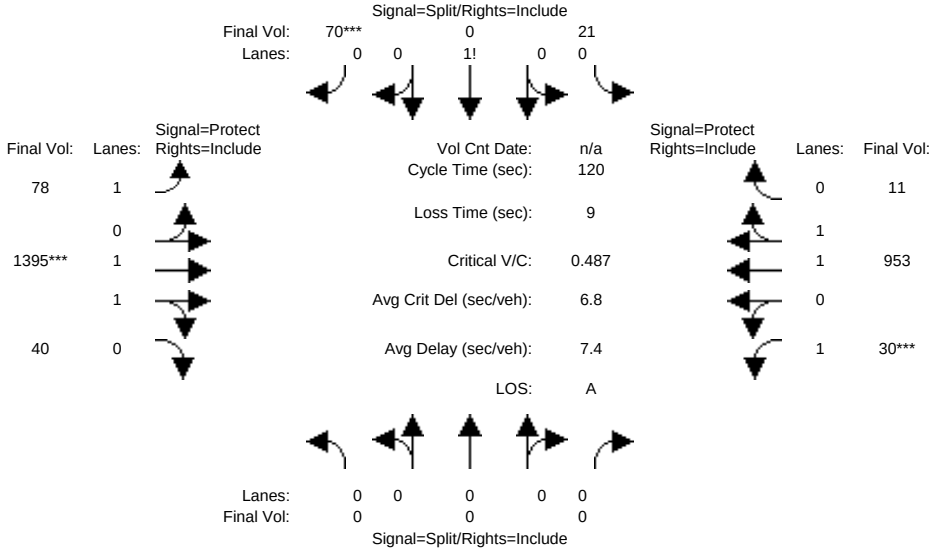
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc2 PM w/Proj

Intersection #2: Matadera Wy and Diablo Rd



Street Name:	Matadera Way						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	19	0	64	72	1283	37	28	877	10
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	19	0	64	72	1283	37	28	877	10
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	19	0	64	72	1283	37	28	877	10
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	0	0	0	21	0	70	78	1395	40	30	953	11
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	21	0	70	78	1395	40	30	953	11
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	0	0	0	21	0	70	78	1395	40	30	953	11
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	21	0	70	78	1395	40	30	953	11
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.23	0.00	0.77	1.00	1.94	0.06	1.00	1.98	0.02
Final Sat.:	0	0	0	394	0	1326	1720	3344	96	1720	3401	39
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.05	0.00	0.05	0.05	0.42	0.42	0.02	0.28	0.28
Crit Volume:		0				90		717			30	
Crit Moves:						****		****			****	

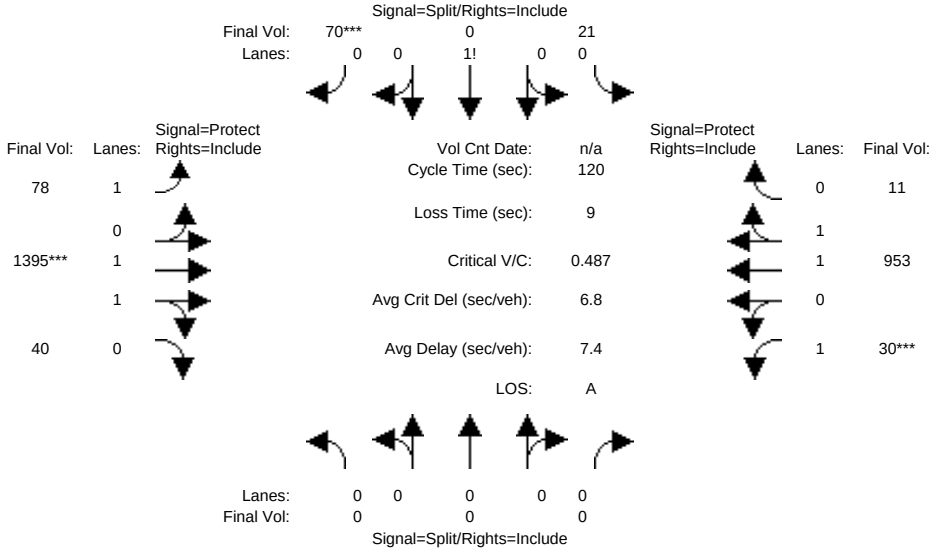
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc4 PM w/Proj

Intersection #2: Matadera Wy and Diablo Rd



Street Name:	Matadera Way						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	19	0	64	72	1283	37	28	877	10
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	19	0	64	72	1283	37	28	877	10
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	19	0	64	72	1283	37	28	877	10
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	0	0	0	21	0	70	78	1395	40	30	953	11
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	21	0	70	78	1395	40	30	953	11
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	0	0	0	21	0	70	78	1395	40	30	953	11
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	21	0	70	78	1395	40	30	953	11
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.23	0.00	0.77	1.00	1.94	0.06	1.00	1.98	0.02
Final Sat.:	0	0	0	394	0	1326	1720	3344	96	1720	3401	39
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.05	0.00	0.05	0.05	0.42	0.42	0.02	0.28	0.28
Crit Volume:		0				90		717			30	
Crit Moves:						****		****			****	

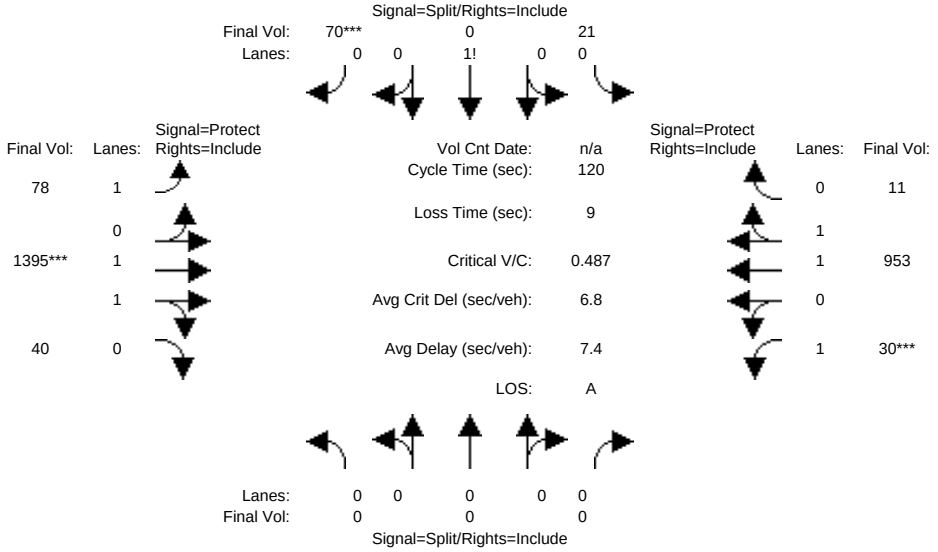
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc5 PM w/Proj

Intersection #2: Matadera Wy and Diablo Rd



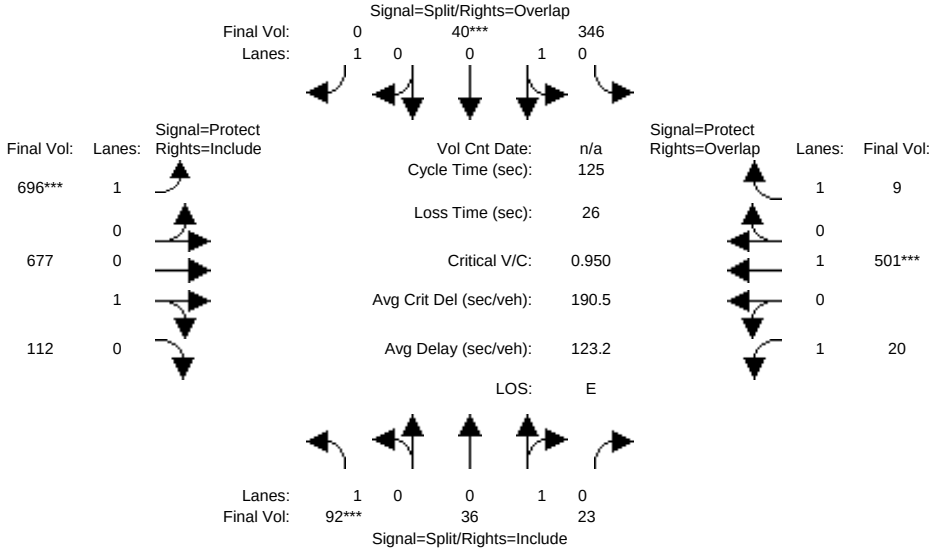
Street Name:	Matadera Way						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	0	0	19	0	64	72	1283	37	28	877	10
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	19	0	64	72	1283	37	28	877	10
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	19	0	64	72	1283	37	28	877	10
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	0	0	0	21	0	70	78	1395	40	30	953	11
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	21	0	70	78	1395	40	30	953	11
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	0	0	0	21	0	70	78	1395	40	30	953	11
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	21	0	70	78	1395	40	30	953	11
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.23	0.00	0.77	1.00	1.94	0.06	1.00	1.98	0.02
Final Sat.:	0	0	0	394	0	1326	1720	3344	96	1720	3401	39
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.05	0.00	0.05	0.05	0.42	0.42	0.02	0.28	0.28
Crit Volume:		0				90		717			30	
Crit Moves:						****		****			****	

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc2 PM w/Proj

Intersection #3: Green Valley Rd and Diablo Rd



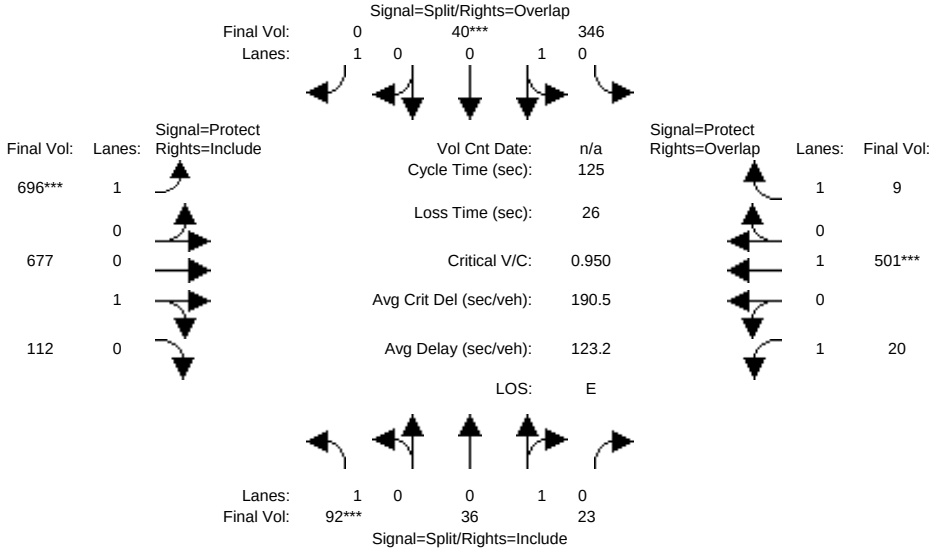
Street Name:	Green Valley Road						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	85	33	21	318	37	336	640	623	103	18	461	326
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	85	33	21	318	37	336	640	623	103	18	461	326
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	85	33	21	318	37	336	640	623	103	18	461	326
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	92	36	23	346	40	365	696	677	112	20	501	354
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	92	36	23	346	40	365	696	677	112	20	501	354
RTOR Reduct:	0	0	0	0	0	365	0	0	0	0	0	346
RTOR Vol:	92	36	23	346	40	0	696	677	112	20	501	9
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	92	36	23	346	40	0	696	677	112	20	501	9
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.61	0.39	0.90	0.10	1.00	1.00	0.86	0.14	1.00	1.00	1.00
Final Sat.:	1650	1008	642	1478	172	1650	1650	1416	234	1650	2100	1650
Capacity Analysis Module:												
Vol/Sat:	0.06	0.04	0.04	0.23	0.23	0.00	0.42	0.48	0.48	0.01	0.24	0.01
Crit Volume:	92				386		696				394	
Crit Moves:	****				****		****				****	

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc4 PM w/Proj

Intersection #3: Green Valley Rd and Diablo Rd



Street Name:	Green Valley Road						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	85	33	21	318	37	336	640	623	103	18	461	326
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	85	33	21	318	37	336	640	623	103	18	461	326
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	85	33	21	318	37	336	640	623	103	18	461	326
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	92	36	23	346	40	365	696	677	112	20	501	354
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	92	36	23	346	40	365	696	677	112	20	501	354
RTOR Reduct:	0	0	0	0	0	365	0	0	0	0	0	346
RTOR Vol:	92	36	23	346	40	0	696	677	112	20	501	9
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	92	36	23	346	40	0	696	677	112	20	501	9
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.61	0.39	0.90	0.10	1.00	1.00	0.86	0.14	1.00	1.00	1.00
Final Sat.:	1650	1008	642	1478	172	1650	1650	1416	234	1650	2100	1650
Capacity Analysis Module:												
Vol/Sat:	0.06	0.04	0.04	0.23	0.23	0.00	0.42	0.48	0.48	0.01	0.24	0.01
Crit Volume:	92				386		696				394	
Crit Moves:	****				****		****				****	

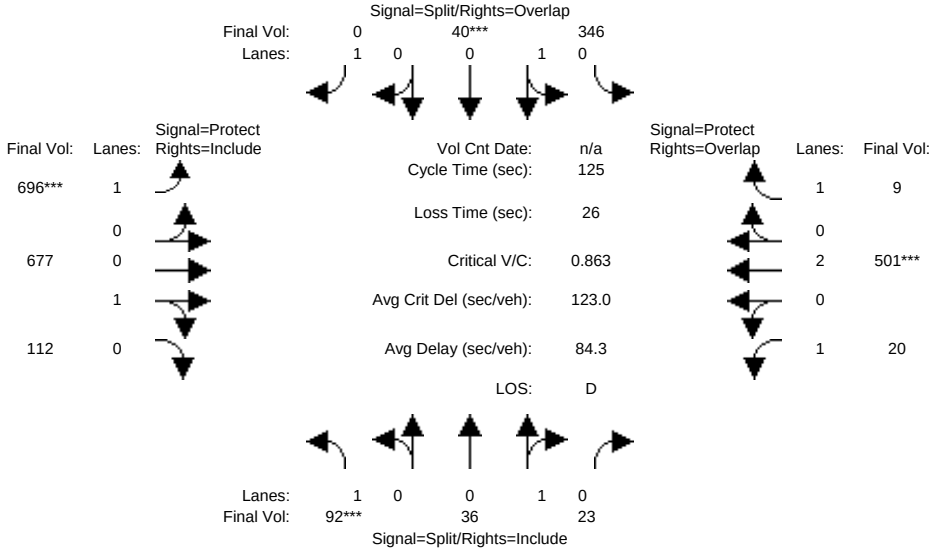
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc5 PM w/Proj

Intersection #3: Green Valley Rd and Diablo Rd



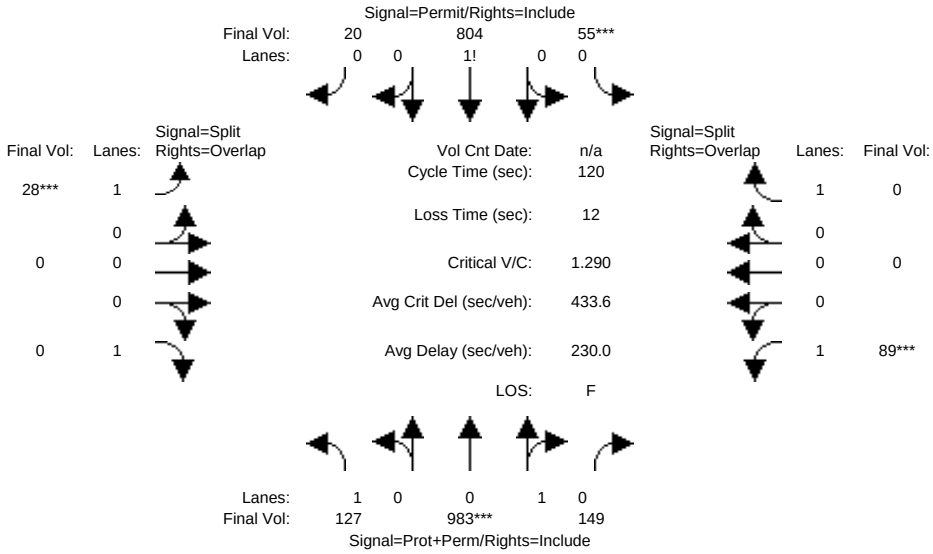
Street Name:	Green Valley Road						Diablo Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	2	3	3	2	3	3	3	3	3	3	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	85	33	21	318	37	336	640	623	103	18	461	326
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	85	33	21	318	37	336	640	623	103	18	461	326
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	85	33	21	318	37	336	640	623	103	18	461	326
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	92	36	23	346	40	365	696	677	112	20	501	354
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	92	36	23	346	40	365	696	677	112	20	501	354
RTOR Reduct:	0	0	0	0	0	365	0	0	0	0	0	346
RTOR Vol:	92	36	23	346	40	0	696	677	112	20	501	9
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	92	36	23	346	40	0	696	677	112	20	501	9
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.61	0.39	0.90	0.10	1.00	1.00	0.86	0.14	1.00	2.00	1.00
Final Sat.:	1650	1008	642	1478	172	1650	1650	1416	234	1650	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.06	0.04	0.04	0.23	0.23	0.00	0.42	0.48	0.48	0.01	0.15	0.01
Crit Volume:	92				386		696				251	
Crit Moves:	****				****		****				****	

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc2 PM w/Proj

Intersection #4: Green Valley Rd and Blemer Rd/Cameo Dr



Street Name:	Green Valley Road						Blemer Road/Cameo Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	3	3	3	3	3	3	2	3	3	2	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	117	904	137	51	740	18	26	0	43	82	0	33
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	117	904	137	51	740	18	26	0	43	82	0	33
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	117	904	137	51	740	18	26	0	43	82	0	33
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	127	983	149	55	804	20	28	0	47	89	0	36
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	127	983	149	55	804	20	28	0	47	89	0	36
RTOR Reduct:	0	0	0	0	0	0	0	0	47	0	0	36
RTOR Vol:	127	983	149	55	804	20	28	0	0	89	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	127	983	149	55	804	20	28	0	0	89	0	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.87	0.13	0.06	0.92	0.02	1.00	0.00	1.00	1.00	0.00	1.00
Final Sat.:	1650	1433	217	104	1509	37	1650	0	1650	1650	0	1650
Capacity Analysis Module:												
Vol/Sat:	0.08	0.69	0.69	0.53	0.53	0.53	0.02	0.00	0.00	0.05	0.00	0.00
Crit Volume:		1132		55			28			89		
Crit Moves:		****		****			****			****		

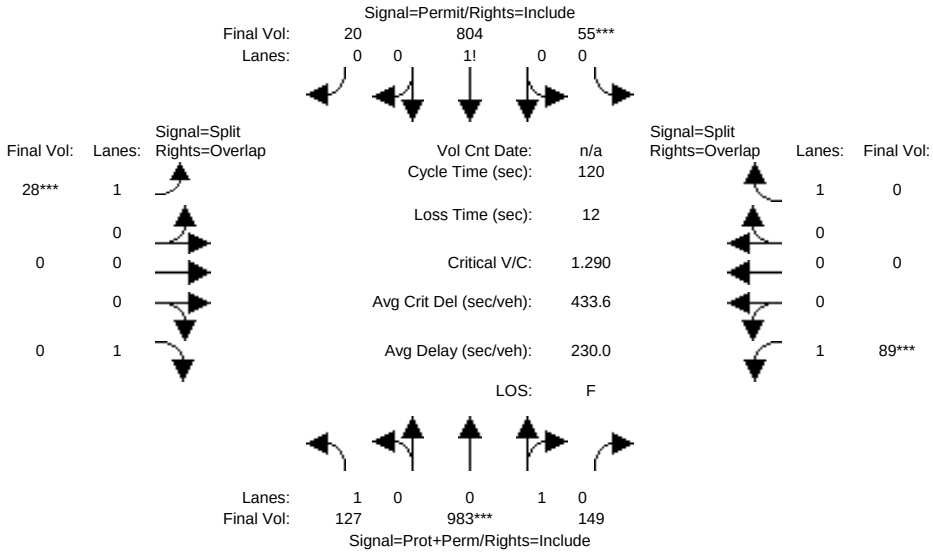
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc4 PM w/Proj

Intersection #4: Green Valley Rd and Blemer Rd/Cameo Dr



Street Name:	Green Valley Road						Blemer Road/Cameo Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	3	3	3	3	3	3	2	3	3	2	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	117	904	137	51	740	18	26	0	43	82	0	33
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	117	904	137	51	740	18	26	0	43	82	0	33
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	117	904	137	51	740	18	26	0	43	82	0	33
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	127	983	149	55	804	20	28	0	47	89	0	36
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	127	983	149	55	804	20	28	0	47	89	0	36
RTOR Reduct:	0	0	0	0	0	0	0	0	47	0	0	36
RTOR Vol:	127	983	149	55	804	20	28	0	0	89	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	127	983	149	55	804	20	28	0	0	89	0	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.87	0.13	0.06	0.92	0.02	1.00	0.00	1.00	1.00	0.00	1.00
Final Sat.:	1650	1433	217	104	1509	37	1650	0	1650	1650	0	1650
Capacity Analysis Module:												
Vol/Sat:	0.08	0.69	0.69	0.53	0.53	0.53	0.02	0.00	0.00	0.05	0.00	0.00
Crit Volume:		1132		55			28			89		
Crit Moves:		****		****			****			****		

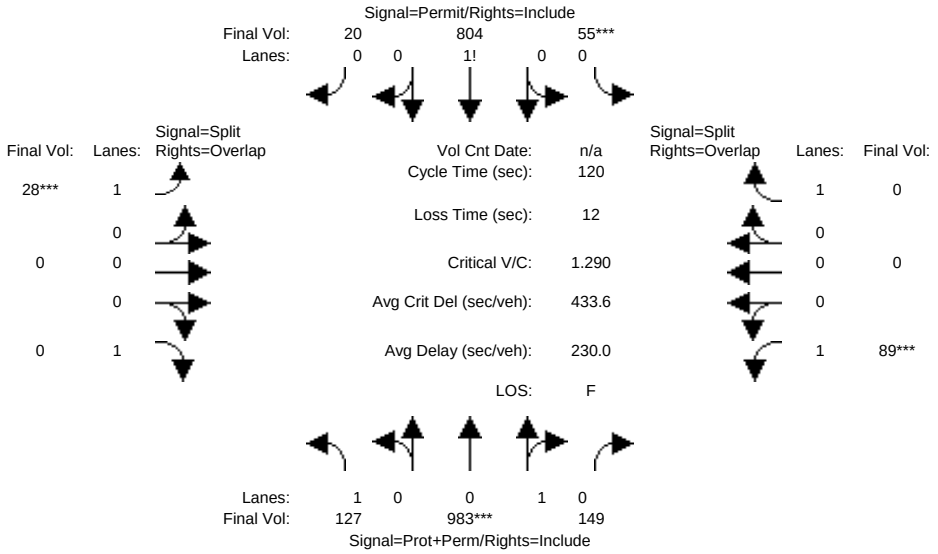
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc5 PM w/Proj

Intersection #4: Green Valley Rd and Blemer Rd/Cameo Dr



Street Name:	Green Valley Road						Blemer Road/Cameo Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	3	3	3	3	3	3	2	3	3	2	3	3
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	117	904	137	51	740	18	26	0	43	82	0	33
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	117	904	137	51	740	18	26	0	43	82	0	33
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	117	904	137	51	740	18	26	0	43	82	0	33
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	127	983	149	55	804	20	28	0	47	89	0	36
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	127	983	149	55	804	20	28	0	47	89	0	36
RTOR Reduct:	0	0	0	0	0	0	0	0	47	0	0	36
RTOR Vol:	127	983	149	55	804	20	28	0	0	89	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	127	983	149	55	804	20	28	0	0	89	0	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.87	0.13	0.06	0.92	0.02	1.00	0.00	1.00	1.00	0.00	1.00
Final Sat.:	1650	1433	217	104	1509	37	1650	0	1650	1650	0	1650
Capacity Analysis Module:												
Vol/Sat:	0.08	0.69	0.69	0.53	0.53	0.53	0.02	0.00	0.00	0.05	0.00	0.00
Crit Volume:		1132		55			28			89		
Crit Moves:		****		****			****			****		

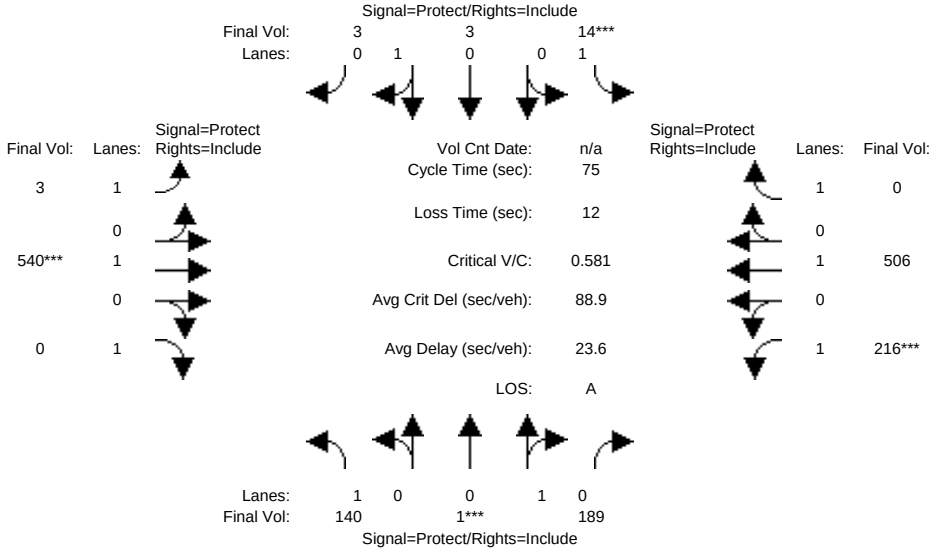
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc2 PM w/Proj

Intersection #6: Monte Vista H.S. Main and Stone Valley Rd



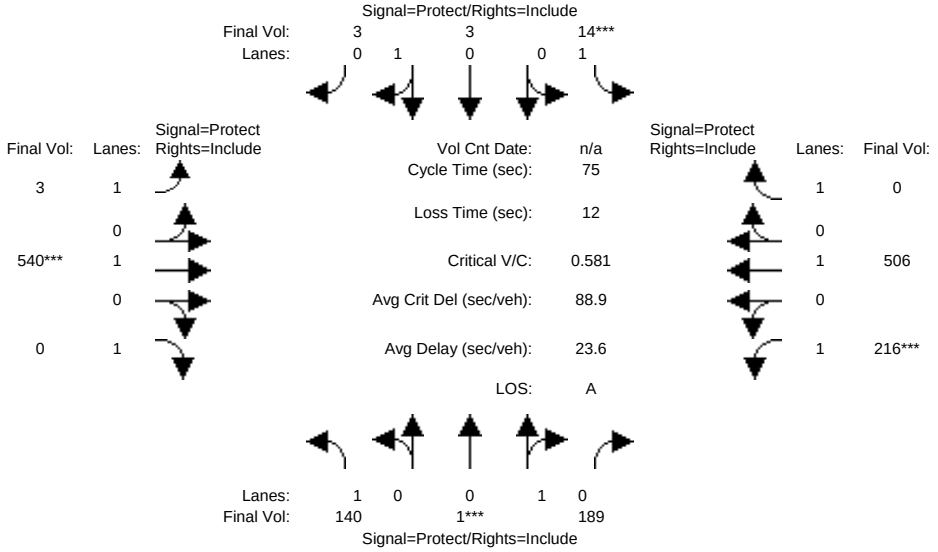

```
Street Name:Monte Vista H.S. Main Parking Lot         Stone Valley Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10   10   10    10     7   10    10     7   10    10
Y+R:          4.0  4.0   4.0  4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     123    1   166   12    3     3     3  475   108   190  445     3
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  123    1   166   12    3     3     3  475   108   190  445     3
Added Vol:      0    0     0    0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0    0    0     0     0    0     0     0    0     0
Initial Fut:  123    1   166   12    3     3     3  475   108   190  445     3
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.88 0.88  0.88 0.88 0.88  0.88  0.88 0.88  0.88  0.88 0.88  0.88
PHF Volume:   140    1   189   14    3     3     3  540   123   216  506     3
Reduct Vol:     0    0     0    0    0     0     0    0     0     0    0     0
Reduced Vol:  140    1   189   14    3     3     3  540   123   216  506     3
RTOR Reduct:    0    0     0    0    0     0     0    0   123     0    0     3
RTOR Vol:     140    1   189   14    3     3     3  540     0   216  506     0
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  140    1   189   14    3     3     3  540     0   216  506     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1650 1650  1650 1650 1650  1650  1650 1650  1650  1650 1650  1650
Adjustment:  1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.00 0.01  0.99 1.00 0.50  0.50  1.00 1.00  1.00  1.00 1.00  1.00
Final Sat.:  1650   10  1640 1650  825   825  1650 1650  1650  1650 1650  1650
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.08 0.12  0.12 0.01 0.00  0.00  0.00 0.33  0.00  0.13 0.31  0.00
Crit Volume:       190          14                    540         216
Crit Moves:       ****         ****                  ****        ****
```

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc4 PM w/Proj

Intersection #6: Monte Vista H.S. Main and Stone Valley Rd



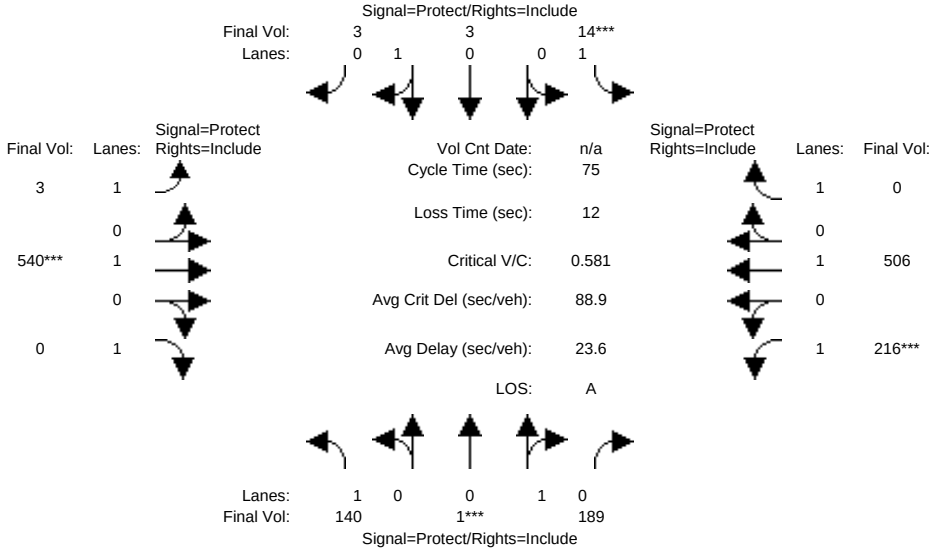

```
Street Name:Monte Vista H.S. Main Parking Lot         Stone Valley Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10    10   10    10     7   10    10     7   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     123    1   166    12    3     3     3  475   108   190  445     3
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  123    1   166    12    3     3     3  475   108   190  445     3
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  123    1   166    12    3     3     3  475   108   190  445     3
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.88 0.88  0.88  0.88 0.88  0.88  0.88 0.88  0.88  0.88 0.88  0.88
PHF Volume:   140    1   189    14    3     3     3  540   123   216  506     3
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  140    1   189    14    3     3     3  540   123   216  506     3
RTOR Reduct:    0    0     0     0    0     0     0    0   123     0    0     3
RTOR Vol:     140    1   189    14    3     3     3  540     0   216  506     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  140    1   189    14    3     3     3  540     0   216  506     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1650 1650  1650  1650 1650  1650  1650 1650  1650  1650 1650  1650
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.00 0.01  0.99  1.00 0.50  0.50  1.00 1.00  1.00  1.00 1.00  1.00
Final Sat.:  1650   10  1640  1650  825   825  1650 1650  1650  1650 1650  1650
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.08 0.12  0.12  0.01 0.00  0.00  0.00 0.33  0.00  0.13 0.31  0.00
Crit Volume:       190          14                    540         216
Crit Moves:       ****         ****                  ****        ****
```

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc5 PM w/Proj

Intersection #6: Monte Vista H.S. Main and Stone Valley Rd



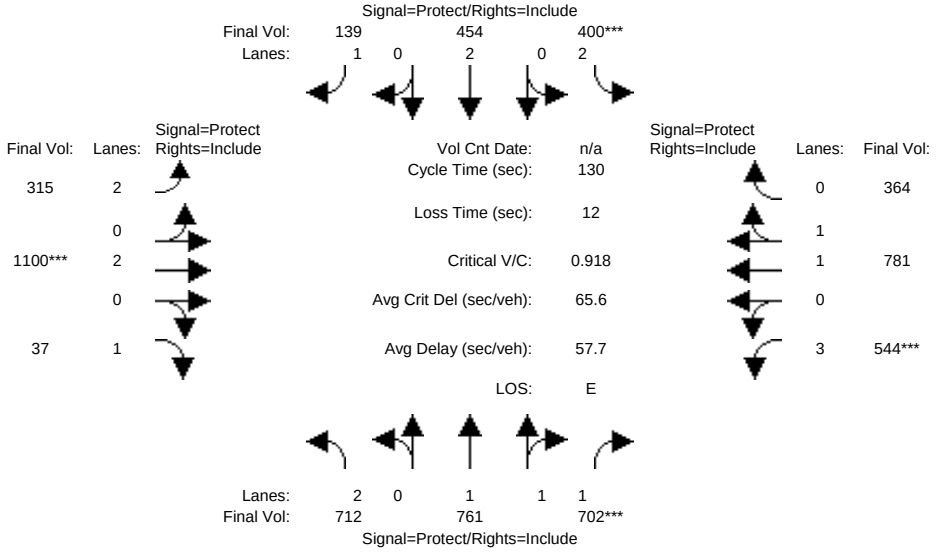

```
Street Name:Monte Vista H.S. Main Parking Lot         Stone Valley Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    10   10    10    10   10    10     7   10    10     7   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     123    1   166    12    3     3     3  475   108   190  445     3
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  123    1   166    12    3     3     3  475   108   190  445     3
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  123    1   166    12    3     3     3  475   108   190  445     3
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.88 0.88  0.88  0.88 0.88  0.88  0.88 0.88  0.88  0.88 0.88  0.88
PHF Volume:   140    1   189    14    3     3     3  540   123   216  506     3
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  140    1   189    14    3     3     3  540   123   216  506     3
RTOR Reduct:    0    0     0     0    0     0     0    0   123     0    0     3
RTOR Vol:     140    1   189    14    3     3     3  540     0   216  506     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  140    1   189    14    3     3     3  540     0   216  506     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1650 1650  1650  1650 1650  1650  1650 1650  1650  1650 1650  1650
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       1.00 0.01  0.99  1.00 0.50  0.50  1.00 1.00  1.00  1.00 1.00  1.00
Final Sat.:  1650   10  1640  1650  825   825  1650 1650  1650  1650 1650  1650
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.08 0.12  0.12  0.01 0.00  0.00  0.00 0.33  0.00  0.13 0.31  0.00
Crit Volume:       190          14                    540         216
Crit Moves:       ****         ****                  ****        ****
```

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc2 PM w/Proj

Intersection #10: Blackhawk Rd/Crow Canyon Rd and Camino Tassajara



Street Name:	Blackhawk Rd/Crow Canyon Rd						Camino Tassajara					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	669	715	856	376	427	293	296	1034	403	511	734	342
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	669	715	856	376	427	293	296	1034	403	511	734	342
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	669	715	856	376	427	293	296	1034	403	511	734	342
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	712	761	911	400	454	312	315	1100	429	544	781	364
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	712	761	911	400	454	312	315	1100	429	544	781	364
RTOR Reduct:	0	0	208	0	0	173	0	0	391	0	0	0
RTOR Vol:	712	761	702	400	454	139	315	1100	37	544	781	364
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	712	761	702	400	454	139	315	1100	37	544	781	364
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	0.91	1.00	0.91	0.91	1.00	1.00	0.91	1.00	1.00	0.87	1.00	1.00
Lanes:	2.00	1.56	1.44	2.00	2.00	1.00	2.00	2.00	1.00	3.00	1.36	0.64
Final Sat.:	3000	2574	2160	3000	3300	1650	3000	3300	1650	4307	2251	1049
Capacity Analysis Module:												
Vol/Sat:	0.24	0.30	0.33	0.13	0.14	0.08	0.10	0.33	0.02	0.13	0.35	0.35
Crit Volume:			488	200				550		181		
Crit Moves:			****	****				****		****		

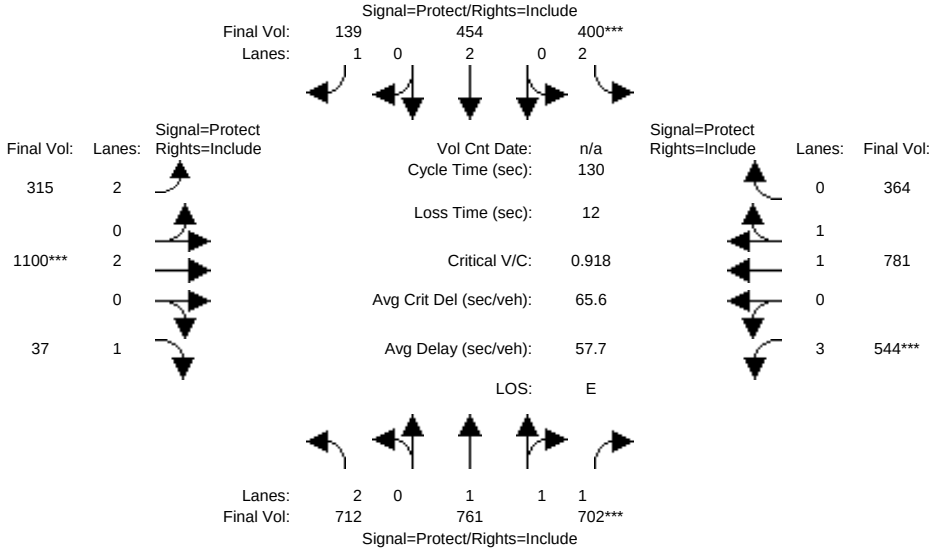
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc4 PM w/Proj

Intersection #10: Blackhawk Rd/Crow Canyon Rd and Camino Tassajara



Street Name:	Blackhawk Rd/Crow Canyon Rd						Camino Tassajara					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	669	715	856	376	427	293	296	1034	403	511	734	342
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	669	715	856	376	427	293	296	1034	403	511	734	342
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	669	715	856	376	427	293	296	1034	403	511	734	342
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	712	761	911	400	454	312	315	1100	429	544	781	364
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	712	761	911	400	454	312	315	1100	429	544	781	364
RTOR Reduct:	0	0	208	0	0	173	0	0	391	0	0	0
RTOR Vol:	712	761	702	400	454	139	315	1100	37	544	781	364
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	712	761	702	400	454	139	315	1100	37	544	781	364
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	0.91	1.00	0.91	0.91	1.00	1.00	0.91	1.00	1.00	0.87	1.00	1.00
Lanes:	2.00	1.56	1.44	2.00	2.00	1.00	2.00	2.00	1.00	3.00	1.36	0.64
Final Sat.:	3000	2574	2160	3000	3300	1650	3000	3300	1650	4307	2251	1049
Capacity Analysis Module:												
Vol/Sat:	0.24	0.30	0.33	0.13	0.14	0.08	0.10	0.33	0.02	0.13	0.35	0.35
Crit Volume:			488	200				550		181		
Crit Moves:			****	****				****		****		

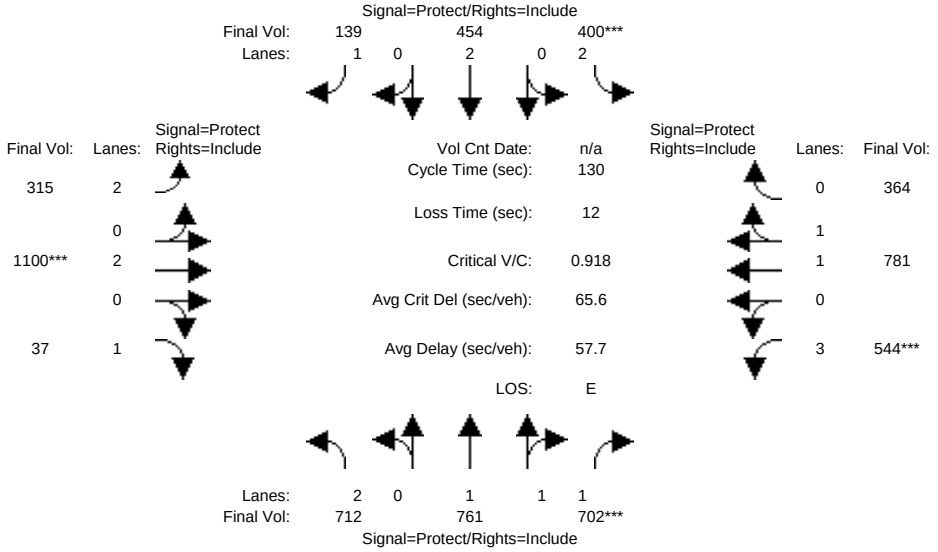
Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Magee Ranch Residential TIA

CCTALOS

Level Of Service Computation Report
CCTALOS (Future Volume Alternative)
Cum Sc5 PM w/Proj

Intersection #10: Blackhawk Rd/Crow Canyon Rd and Camino Tassajara



Street Name:	Blackhawk Rd/Crow Canyon Rd						Camino Tassajara					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	669	715	856	376	427	293	296	1034	403	511	734	342
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	669	715	856	376	427	293	296	1034	403	511	734	342
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	669	715	856	376	427	293	296	1034	403	511	734	342
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	712	761	911	400	454	312	315	1100	429	544	781	364
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	712	761	911	400	454	312	315	1100	429	544	781	364
RTOR Reduct:	0	0	208	0	0	173	0	0	391	0	0	0
RTOR Vol:	712	761	702	400	454	139	315	1100	37	544	781	364
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	712	761	702	400	454	139	315	1100	37	544	781	364
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	0.91	1.00	0.91	0.91	1.00	1.00	0.91	1.00	1.00	0.87	1.00	1.00
Lanes:	2.00	1.56	1.44	2.00	2.00	1.00	2.00	2.00	1.00	3.00	1.36	0.64
Final Sat.:	3000	2574	2160	3000	3300	1650	3000	3300	1650	4307	2251	1049
Capacity Analysis Module:												
Vol/Sat:	0.24	0.30	0.33	0.13	0.14	0.08	0.10	0.33	0.02	0.13	0.35	0.35
Crit Volume:			488	200				550		181		
Crit Moves:			****	****				****		****		

Copyright (c) 2008 Dowling Associates, Inc. Licensed to Hexagon Trans., San Jose

Appendix C

Signal Warrants

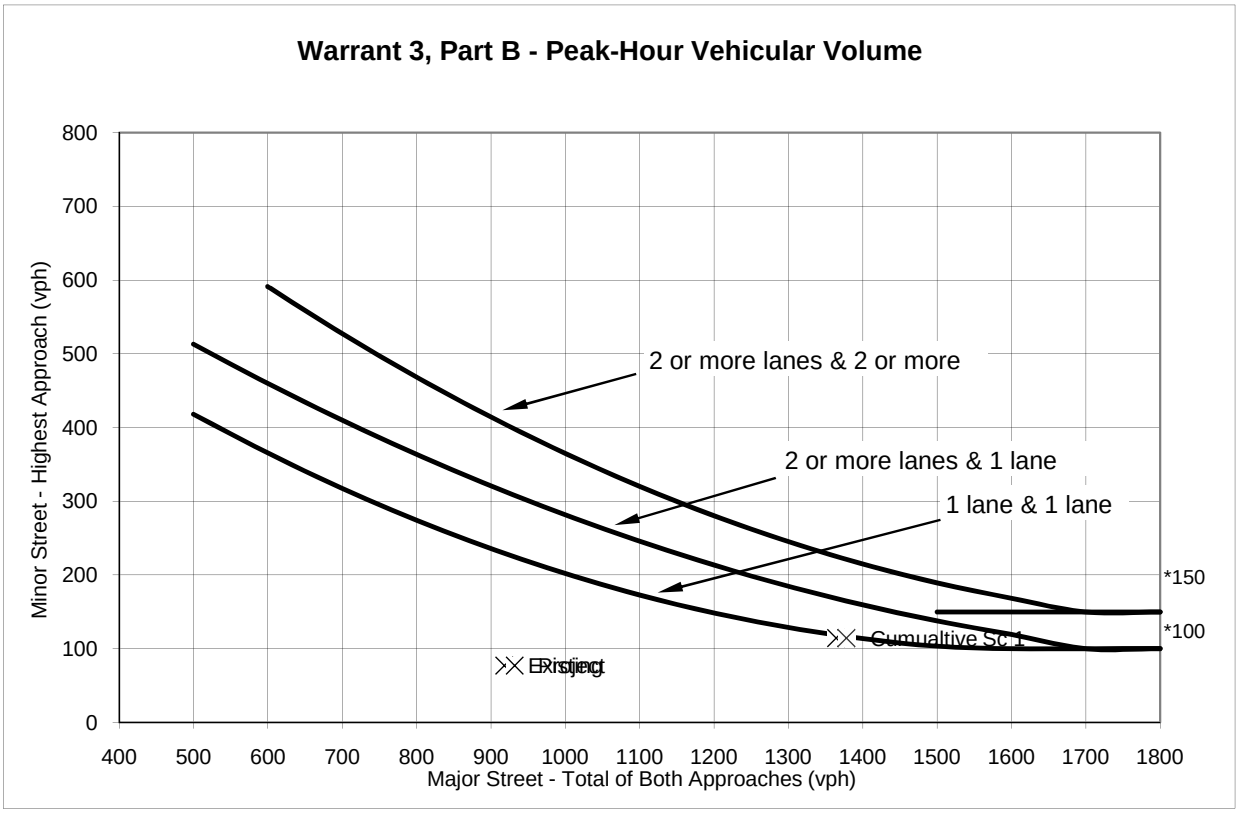
(>>>>>>>>>This Page Intentionally Left Blank<<<<<<<<)

Note:

Scenario 5 is not shown in the signal warrant sheets. The volumes in Scenario 5 are the same as the volumes in Scenario 2. Therefore, Scenario 2 volumes shown in the signal warrant sheets represent both Scenario 2 and 5.

Magee Ranch Residential

Hidden Oaks/Magee Ranch and Blackhawk Rd **School PM PEAK HOUR**



Source: Figure 4C-3 *California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2003 Edition, as amended for use in California)*.

* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

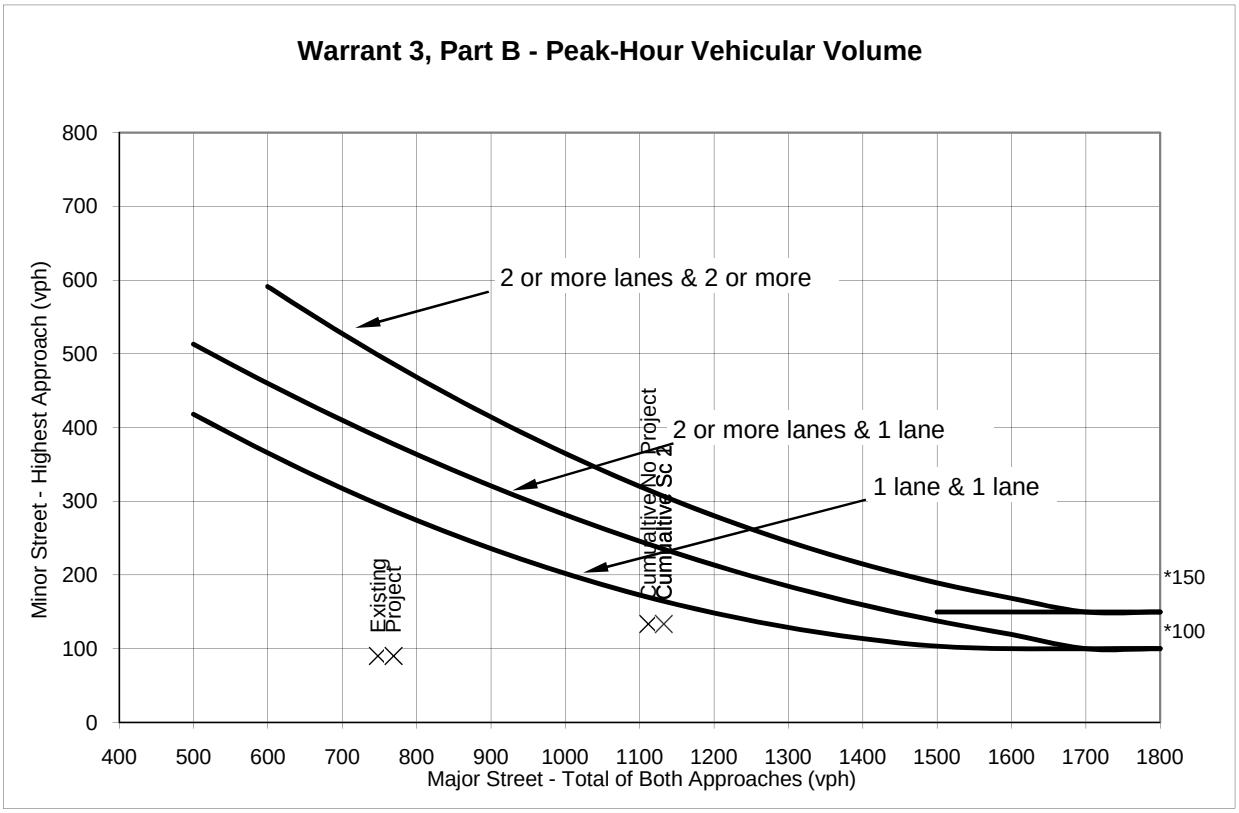
Warrant 3, Part B - Peak-Hour Vehicular Volume

		Approach Lanes		School PM PEAK HOUR							
		One	2 or More	Existing	Project	Cumualtive No Project	Cumualtive Sc 1	Cumualtive Sc 2	0	Cumualtive Sc 3	Cumualtive Sc 4
Major Street - Both Approaches	Blackhawk Rd /	X		918	932	1364	1378	1378	0	1378	1378
Minor Street - Highest Approach	Hidden Oaks/Magee Ranch/	X		77	77	114	114	114	0	114	114
Signal Warranted Based on Part B - Peak-Hour Volumes?				**No**	**No**	**No**	**No**	**No**	**N/A**	**No**	**No**

*Warrant is satisfied if plotted points fall above the appropriate curve in graph above.
Note: Right turn volumes removed from minor approaches per typical transportation engineering practices.

Magee Ranch Residential

Hidden Oaks/Magee Ranch and Blackhawk Rd **PM PEAK HOUR**



Source: Figure 4C-3 *California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California)*.

* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

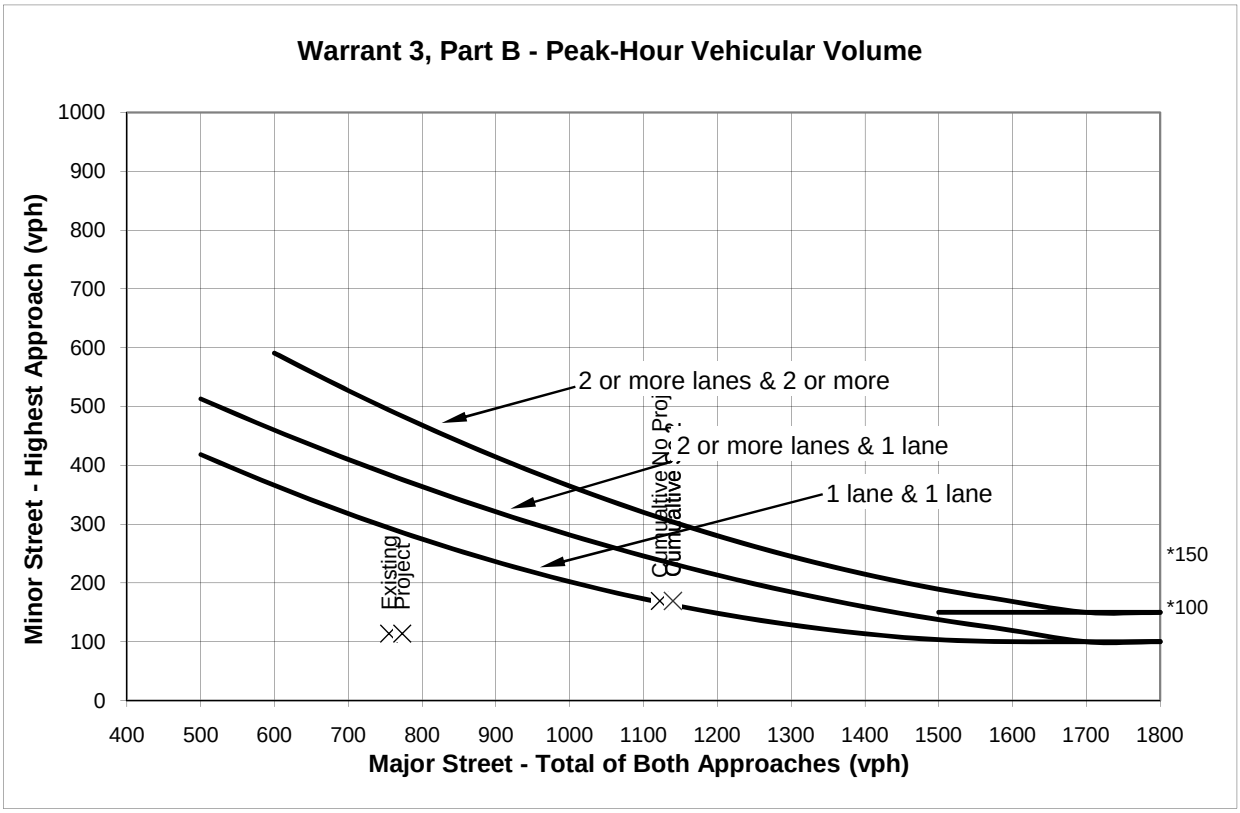
Warrant 3, Part B - Peak-Hour Vehicular Volume

		Approach Lanes		PM PEAK HOUR							
		One	2 or More	Existing	Project	Cumulative No Project	Cumulative Sc 1	Cumulative Sc 2	0	Cumulative Sc 3	Cumulative Sc 4
Major Street - Both Approaches	Blackhawk Rd /	X		748	769	1111	1132	1132	0	1132	1132
Minor Street - Highest Approach	Hidden Oaks/Magee Ranch/	X		90	90	134	134	134	0	134	134
Signal Warranted Based on Part B - Peak-Hour Volumes?				**No**	**No**	**No**	**No**	**No**	**N/A**	**No**	**No**

*Warrant is satisfied if plotted points fall above the appropriate curve in graph above.
Note 1: If applicable, right turn volumes removed from minor approaches per typical transportation engineering pra

Magee Ranch Residential

Hidden Oaks/Magee Ranch and Blackhawk Rd **AM PEAK HOUR**



Source: Figure 4C-3 *California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California)*.

* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

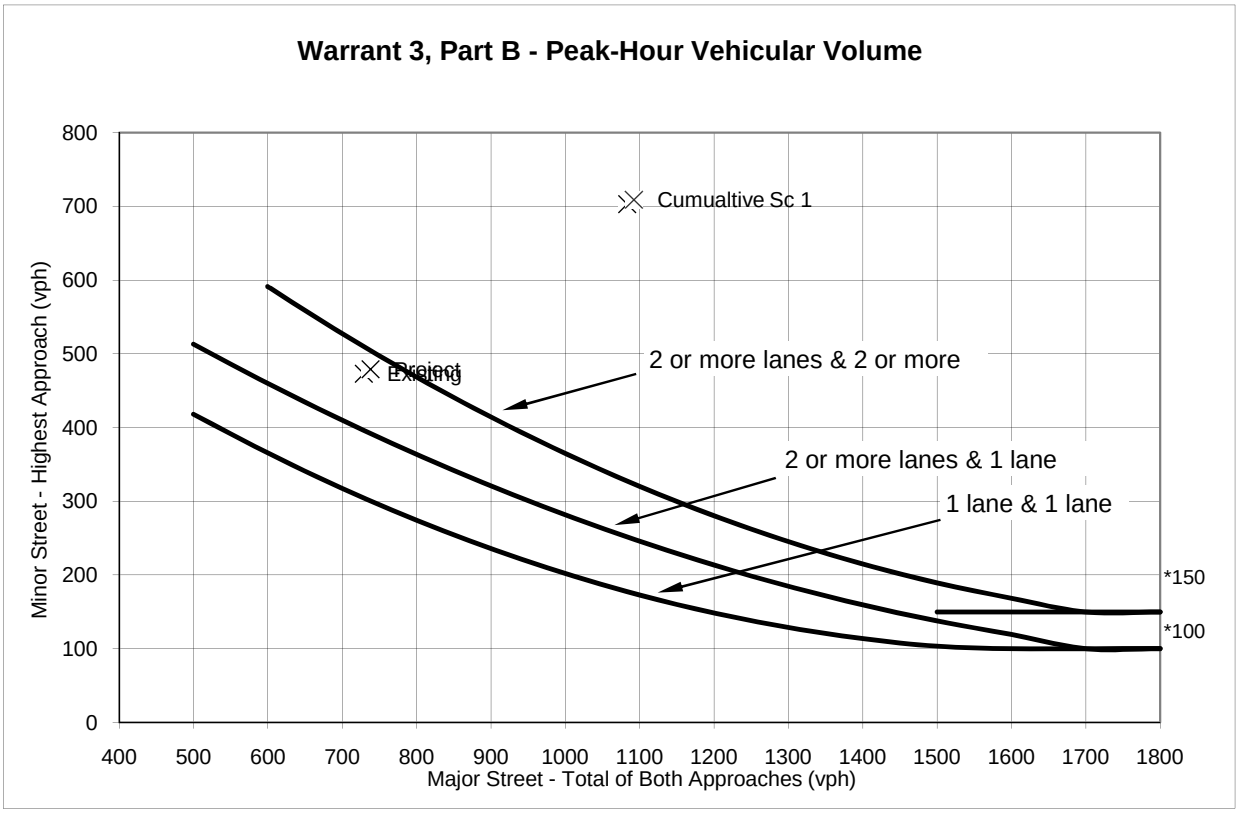
Warrant 3, Part B - Peak-Hour Vehicular Volume

		Approach Lanes		AM PEAK HOUR							
		One	2 or More	Existing	Project	Cumualtive No Project	Cumualtive Sc 1	Cumualtive Sc 2	0	Cumualtive Sc 3	Cumualtive Sc 4
Major Street - Both Approaches	Blackhawk Rd /	X		755	773	1122	1140	1140	0	1140	1140
Minor Street - Highest Approach	Hidden Oaks/Magee Ranch/	X		114	114	169	169	169	0	169	169
Signal Warranted Based on Part B - Peak-Hour Volumes?				**No**	**No**	**Yes**	**Yes**	**Yes**	**N/A**	**Yes**	**Yes**

*Warrant is satisfied if plotted points fall above the appropriate curve in graph above.
Note 1: If applicable, right turn volumes removed from minor approaches per typical transportation engineering pra

Magee Ranch Residential

Green Valley Rd and Stone Valley Rd **School PM PEAK HOUR**



Source: Figure 4C-3 *California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2003 Edition, as amended for use in California)*.

* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

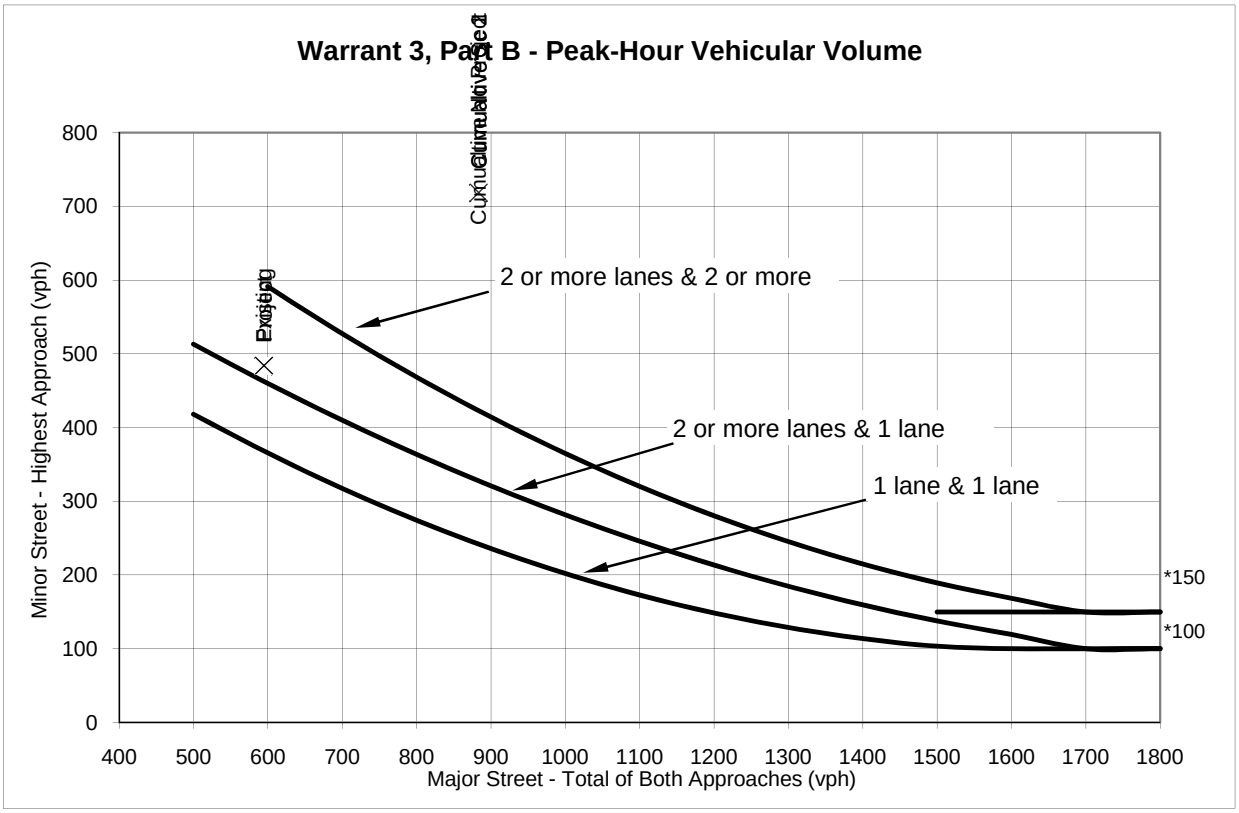
Warrant 3, Part B - Peak-Hour Vehicular Volume

		Approach Lanes		School PM PEAK HOUR							
		One	2 or More	Existing	Project	Cumualtive No Project	Cumualtive Sc 1	Cumualtive Sc 2	0	Cumualtive Sc 3	Cumualtive Sc 4
Major Street - Both Approaches	Stone Valley Rd /		X	729	738	1083	1092	1092	0	1092	1092
Minor Street - Highest Approach	Green Valley Rd/		X	473	479	703	709	709	0	709	709
Signal Warranted Based on Part B - Peak-Hour Volumes?				**No**	**No**	**Yes**	**Yes**	**Yes**	**N/A**	**Yes**	**Yes**

*Warrant is satisfied if plotted points fall above the appropriate curve in graph above.
Note: Right turn volumes removed from minor approaches per typical transportation engineering practices.

Magee Ranch Residential

Green Valley Rd and Stone Valley Rd **PM PEAK HOUR**



Source: Figure 4C-3 *California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California)*.

* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

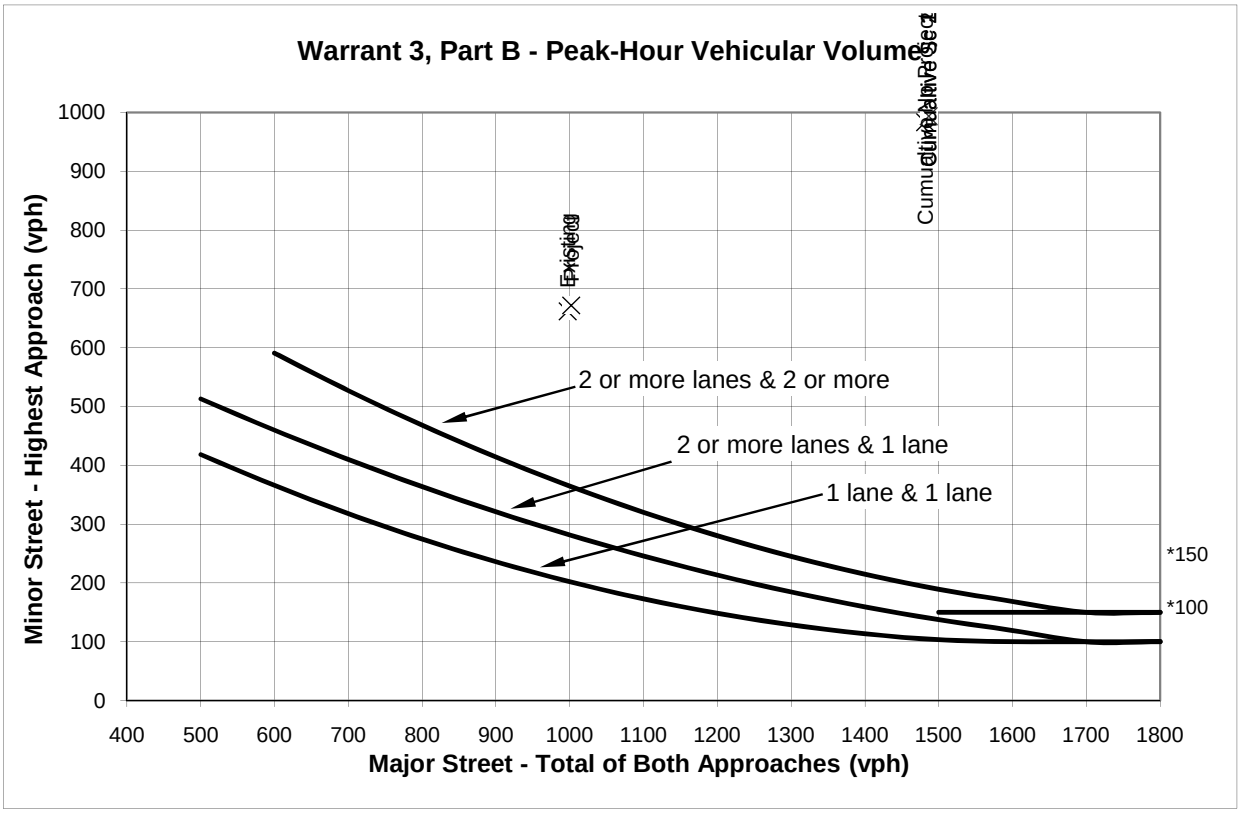
Warrant 3, Part B - Peak-Hour Vehicular Volume

		Approach Lanes		PM PEAK HOUR							
		One	2 or More	Existing	Project	Cumualtive No Project	Cumualtive Sc 1	Cumualtive Sc 2	0	Cumualtive Sc 3	Cumualtive Sc 4
Major Street - Both Approaches	Stone Valley Rd /		X	594	595	883	884	884	0	884	884
Minor Street - Highest Approach	Green Valley Rd/		X	483	484	718	719	719	0	719	719
Signal Warranted Based on Part B - Peak-Hour Volumes?				**No**	**No**	**Yes**	**Yes**	**Yes**	**N/A**	**Yes**	**Yes**

*Warrant is satisfied if plotted points fall above the appropriate curve in graph above.
Note 1: If applicable, right turn volumes removed from minor approaches per typical transportation engineering pra

Magee Ranch Residential

Green Valley Rd and Stone Valley Rd **AM PEAK HOUR**



Source: Figure 4C-3 *California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California)*.

* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

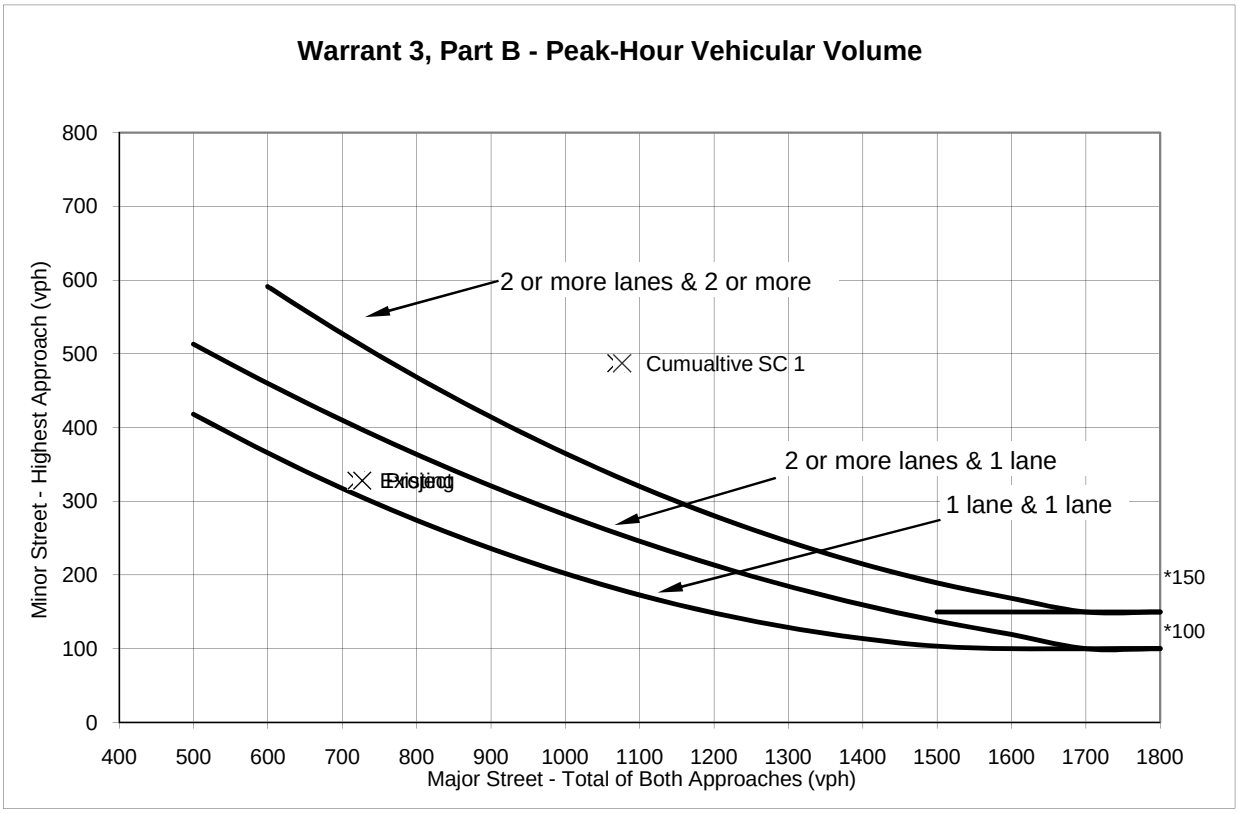
Warrant 3, Part B - Peak-Hour Vehicular Volume

		Approach Lanes		AM PEAK HOUR							
		One	2 or More	Existing	Project	Cumualtive No Project	Cumualtive Sc 1	Cumualtive Sc 2	0	Cumualtive Sc 3	Cumualtive Sc 4
Major Street - Both Approaches	Stone Valley Rd /		X	997	1002	1481	1486	1486	0	1486	1486
Minor Street - Highest Approach	Green Valley Rd/		X	662	672	984	994	994	0	994	994
Signal Warranted Based on Part B - Peak-Hour Volumes?				**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**N/A**	**Yes**	**Yes**

*Warrant is satisfied if plotted points fall above the appropriate curve in graph above.
Note 1: If applicable, right turn volumes removed from minor approaches per typical transportation engineering pra

Magee Ranch Residential

Project Main Entrance and Blackhawk Rd **School PM PEAK HOUR**



Source: Figure 4C-3 *California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2003 Edition, as amended for use in California)*.

* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

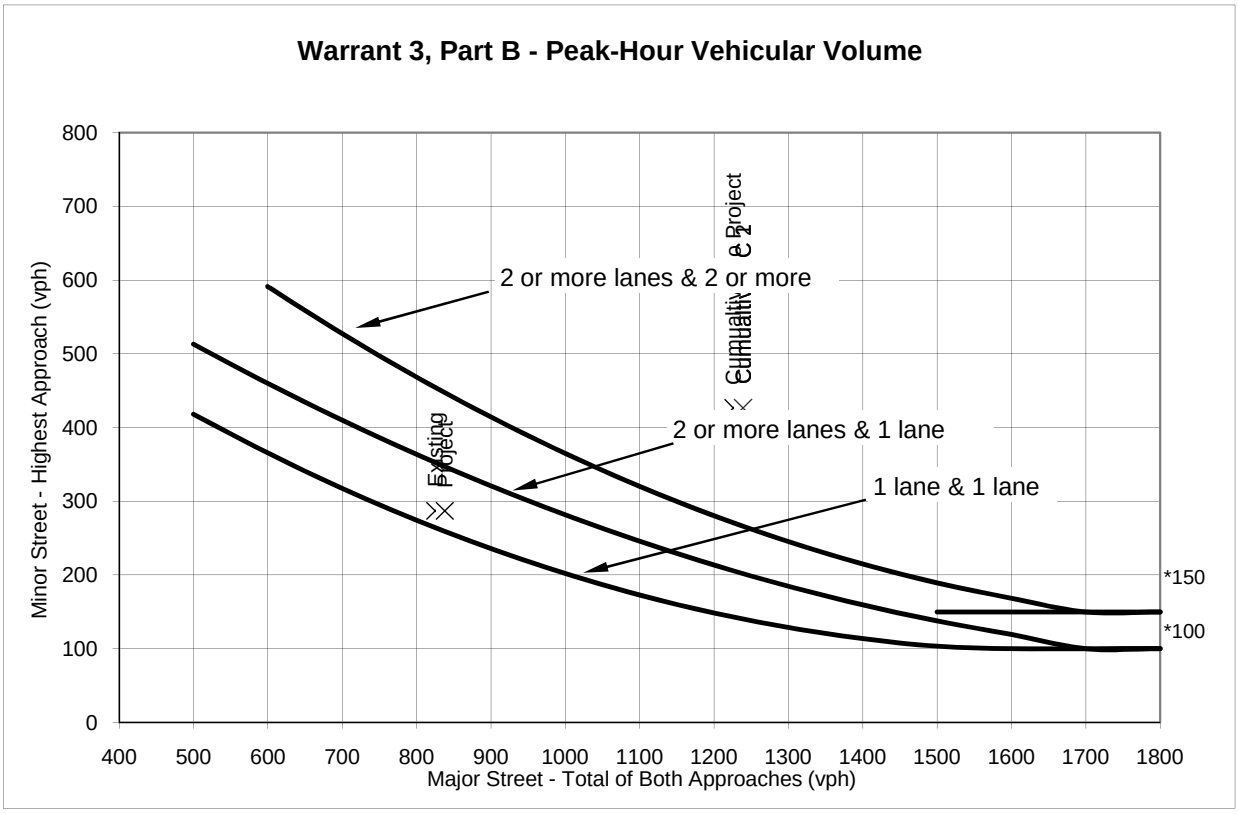
Warrant 3, Part B - Peak-Hour Vehicular Volume

		Approach Lanes		School PM PEAK HOUR							
		One	2 or More	Existing	Project	Cumualtive No Project	Cumualtive SC 1	Cumualtive SC 2	0	Cumualtive SC 3	Cumualtive SC 4
Major Street - Both Approaches	Blackhawk Rd /	X		719	727	1068	1076	1076	0	1076	1076
Minor Street - Highest Approach	Blackhawk Dr/		X	328	328	487	487	487	0	487	487
Signal Warranted Based on Part B - Peak-Hour Volumes?				**No**	**No**	**Yes**	**Yes**	**Yes**		**Yes**	**Yes**

*Warrant is satisfied if plotted points fall above the appropriate curve in graph above.
Note: Right turn volumes removed from minor approaches per typical transportation engineering practices.

Magee Ranch Residential

Project Main Entrance and Blackhawk Rd **PM PEAK HOUR**



Source: Figure 4C-3 *California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California)*.

* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

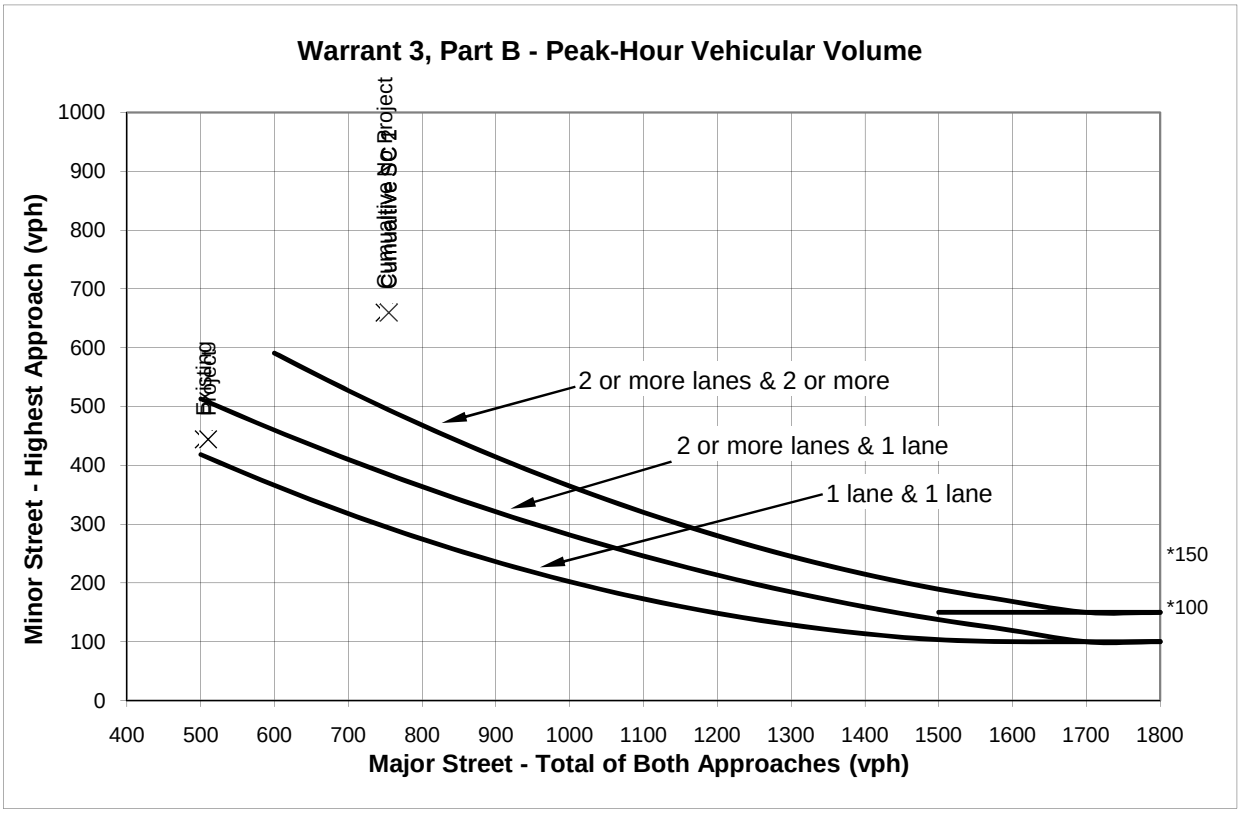
Warrant 3, Part B - Peak-Hour Vehicular Volume

		Approach Lanes		PM PEAK HOUR							
		One	2 or More	Existing	Project	Cumulative No Project	Cumulative SC 1	Cumulative SC 2	0	Cumulative SC 3	Cumulative SC 4
Major Street - Both Approaches	Blackhawk Rd /	X		825	838	1226	1239	1239	0	1239	1239
Minor Street - Highest Approach	Blackhawk Dr/		X	287	287	426	426	426	0	426	426
Signal Warranted Based on Part B - Peak-Hour Volumes?				**No**	**No**	**Yes**	**Yes**	**Yes**		**Yes**	**Yes**

*Warrant is satisfied if plotted points fall above the appropriate curve in graph above.
Note 1: If applicable, right turn volumes removed from minor approaches per typical transportation engineering pra

Magee Ranch Residential

Project Main Entrance and Blackhawk Rd **AM PEAK HOUR**



Source: Figure 4C-3 *California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California)*.

* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

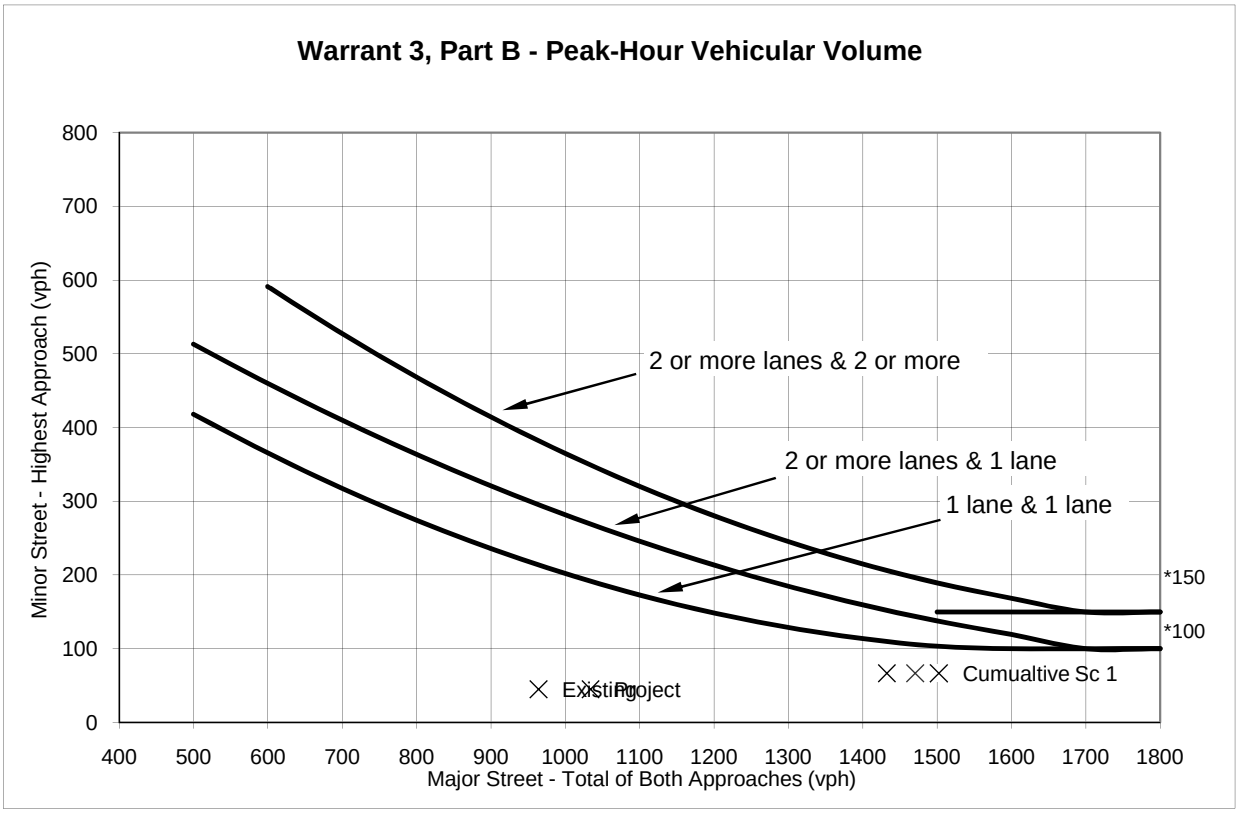
Warrant 3, Part B - Peak-Hour Vehicular Volume

		Approach Lanes		AM PEAK HOUR							
		One	2 or More	Existing	Project	Cumualtive No Project	Cumualtive SC 1	Cumualtive SC 2	0	Cumualtive SC 3	Cumualtive SC 4
Major Street - Both Approaches	Blackhawk Rd /	X		504	510	749	755	755	0	755	755
Minor Street - Highest Approach	Blackhawk Dr/		X	444	444	660	660	660	0	660	660
Signal Warranted Based on Part B - Peak-Hour Volumes?				**No**	**No**	**Yes**	**Yes**	**Yes**		**Yes**	**Yes**

*Warrant is satisfied if plotted points fall above the appropriate curve in graph above.
Note 1: If applicable, right turn volumes removed from minor approaches per typical transportation engineering pra

Magee Ranch Residential

Diablo Road and Mt Diablo Scenic Blvd **School PM PEAK HOUR**



Source: Figure 4C-3 *California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2003 Edition, as amended for use in California)*.

* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

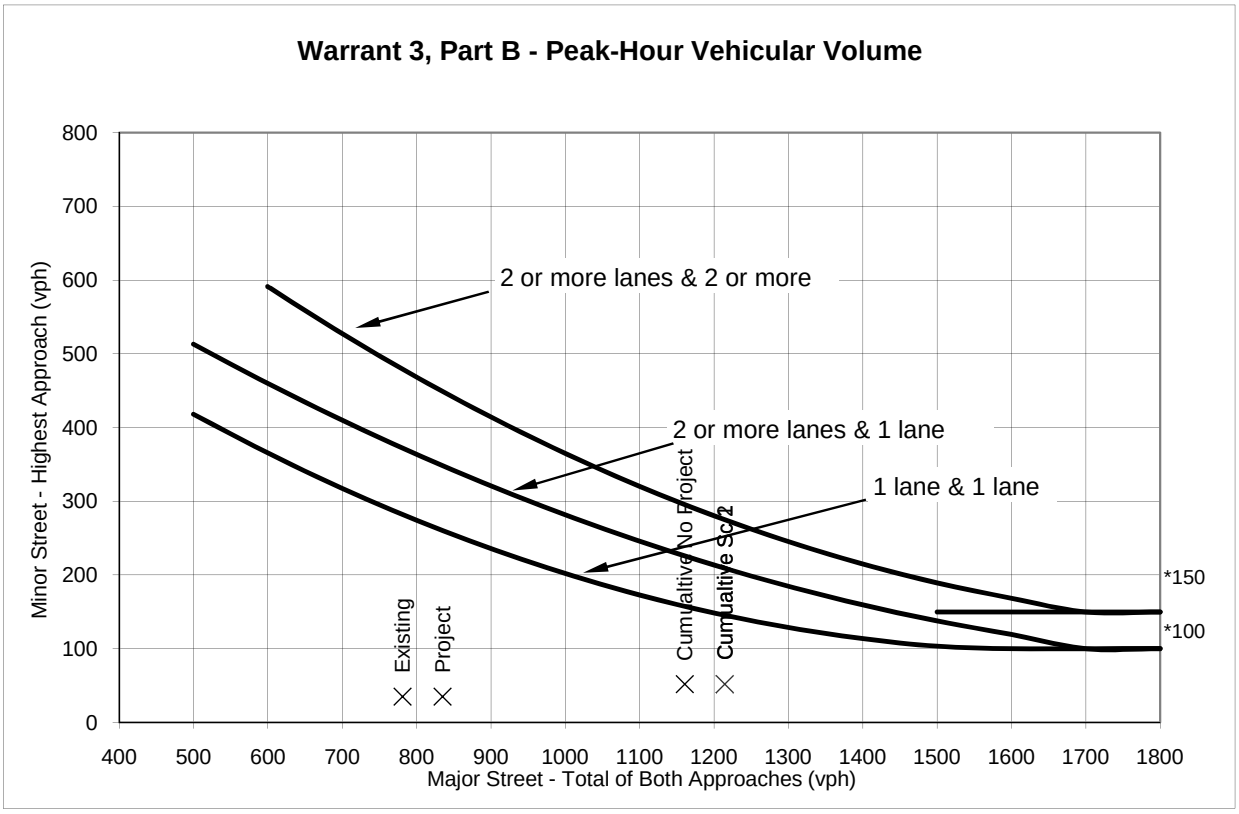
Warrant 3, Part B - Peak-Hour Vehicular Volume

		Approach Lanes		School PM PEAK HOUR							
		One	2 or More	Existing	Project	Cumualtive No Project	Cumualtive Sc 1	Cumualtive Sc 2	0	Cumualtive Sc 3	Cumualtive Sc 4
Major Street - Both Approaches	Diablo Rd /	X		964	1034	1432	1502	1502	0	1470	1470
Minor Street - Highest Approach	Mt Diablo Scenic/	X		45	45	67	67	67	0	67	67
Signal Warranted Based on Part B - Peak-Hour Volumes?				**No**	**No**	**No**	**No**	**No**	**N/A**	**No**	**No**

*Warrant is satisfied if plotted points fall above the appropriate curve in graph above.
Note: Right turn volumes removed from minor approaches per typical transportation engineering practices.

Magee Ranch Residential

Diablo Road and Mt Diablo Scenic Blvd **PM PEAK HOUR**



Source: Figure 4C-3 *California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California)*.

* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

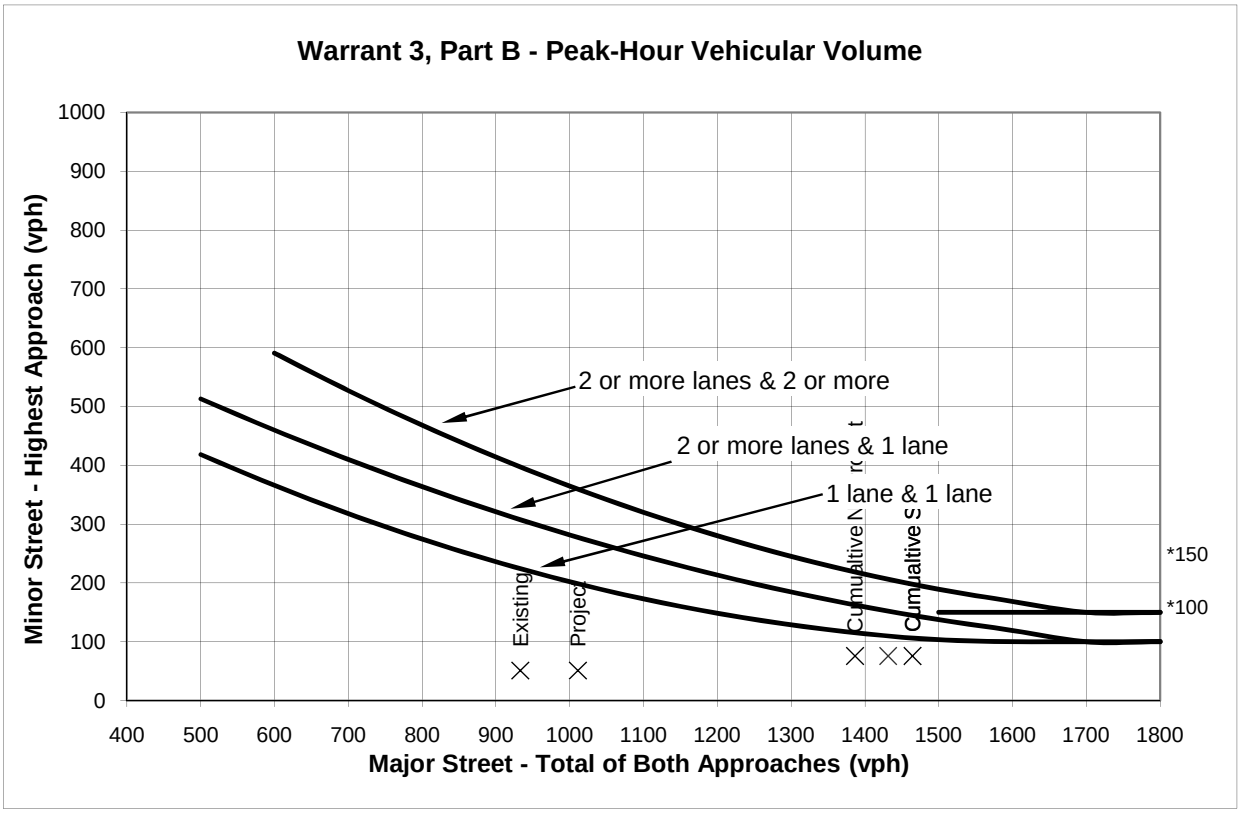
Warrant 3, Part B - Peak-Hour Vehicular Volume

		Approach Lanes		PM PEAK HOUR							
		One	2 or More	Existing	Project	Cumualtive No Project	Cumualtive Sc 1	Cumualtive Sc 2	0	Cumualtive Sc 3	Cumualtive Sc 4
Major Street - Both Approaches	Diablo Rd /	X		781	835	1161	1215	1215	0	1215	1215
Minor Street - Highest Approach	Mt Diablo Scenic/	X		35	35	52	52	52	0	52	52
Signal Warranted Based on Part B - Peak-Hour Volumes?				**No**	**No**	**No**	**No**	**No**	**N/A**	**No**	**No**

*Warrant is satisfied if plotted points fall above the appropriate curve in graph above.
Note 1: If applicable, right turn volumes removed from minor approaches per typical transportation engineering pra

Magee Ranch Residential

Diablo Road and Mt Diablo Scenic Blvd **AM PEAK HOUR**



Source: Figure 4C-3 *California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California)*.

* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

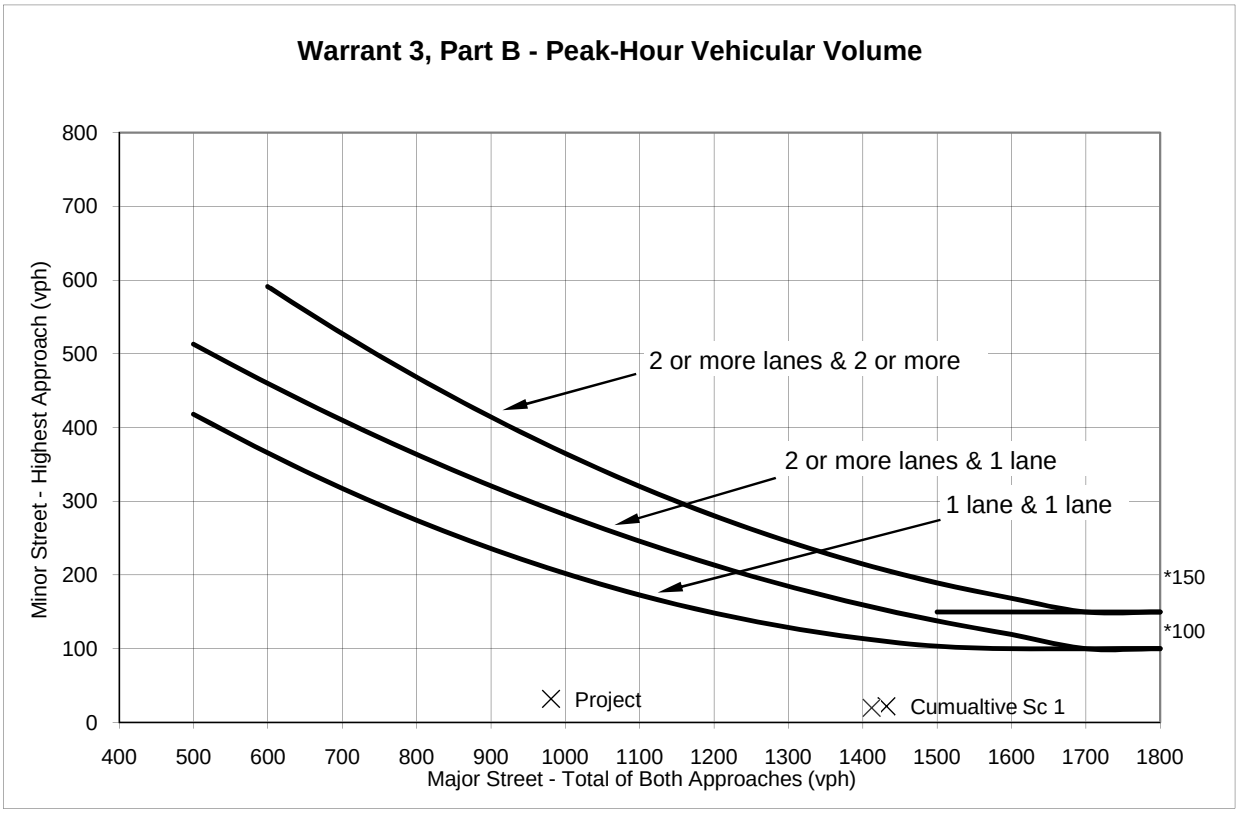
Warrant 3, Part B - Peak-Hour Vehicular Volume

		Approach Lanes		AM PEAK HOUR							
		One	2 or More	Existing	Project	Cumualtive No Project	Cumualtive Sc 1	Cumualtive Sc 2	0	Cumualtive Sc 3	Cumualtive Sc 4
Major Street - Both Approaches	Diablo Rd /	X		933	1011	1386	1464	1464	0	1431	1431
Minor Street - Highest Approach	Mt Diablo Scenic/	X		51	51	76	76	76	0	76	76
Signal Warranted Based on Part B - Peak-Hour Volumes?				**No**	**No**	**No**	**No**	**No**	**N/A**	**No**	**No**

*Warrant is satisfied if plotted points fall above the appropriate curve in graph above.
Note 1: If applicable, right turn volumes removed from minor approaches per typical transportation engineering pra

Magee Ranch Residential

Project Main Entrance and Blackhawk Rd **School PM PEAK HOUR**



Source: Figure 4C-3 *California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2003 Edition, as amended for use in California)*.

* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

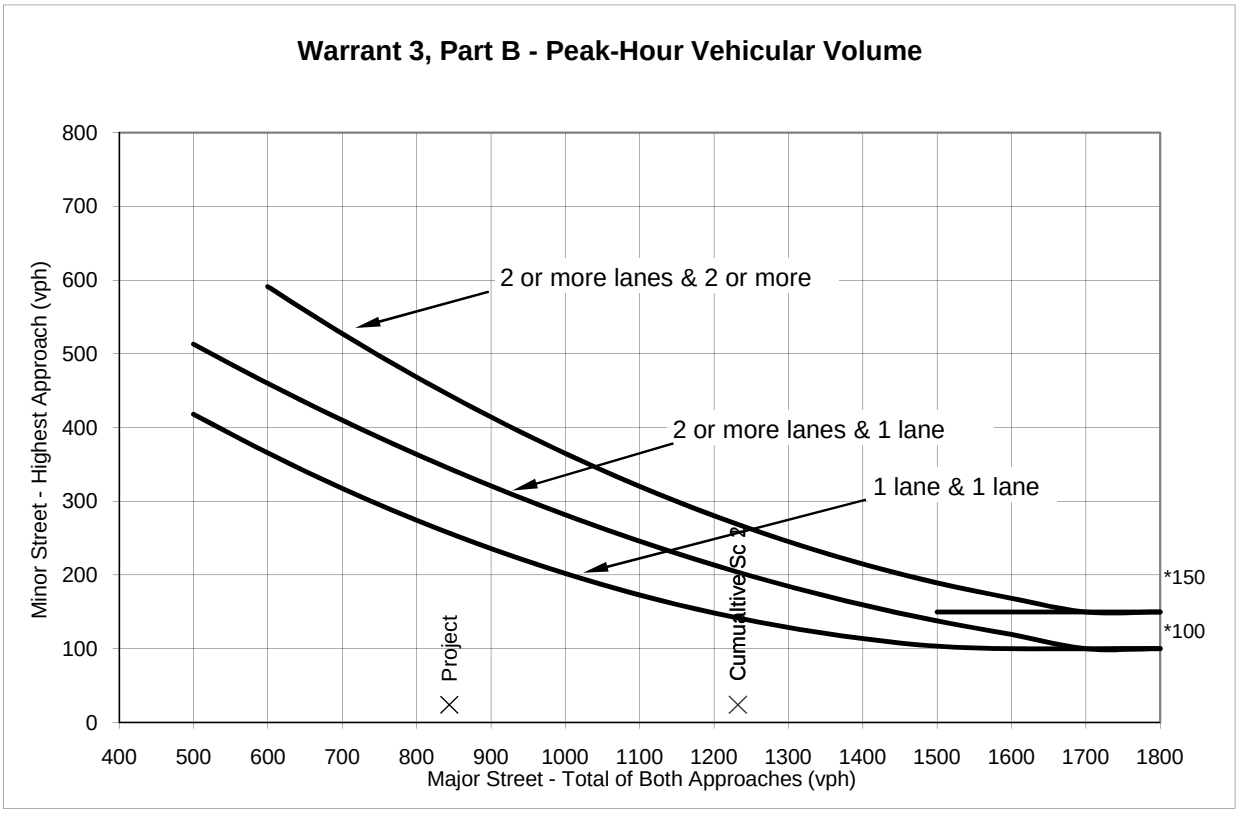
Warrant 3, Part B - Peak-Hour Vehicular Volume

		Approach Lanes		School PM PEAK HOUR							
		One	2 or More	Existing	Project	Cumualtive No Project	Cumualtive Sc 1	Cumualtive Sc 2	0	Cumualtive Sc 3	Cumualtive Sc 4
Major Street - Both Approaches	Blackhawk Rd /	X		0	981	0	1432	1432	0	1412	1412
Minor Street - Highest Approach	Project Main Entrance/		X	0	32	0	22	22	0	20	20
Signal Warranted Based on Part B - Peak-Hour Volumes?				**No**	**No**	**No**	**No**	**No**	**N/A**	**No**	**No**

*Warrant is satisfied if plotted points fall above the appropriate curve in graph above.
Note: Right turn volumes removed from minor approaches per typical transportation engineering practices.

Magee Ranch Residential

Project Main Entrance and Blackhawk Rd **PM PEAK HOUR**



Source: Figure 4C-3 *California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California)*.

* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

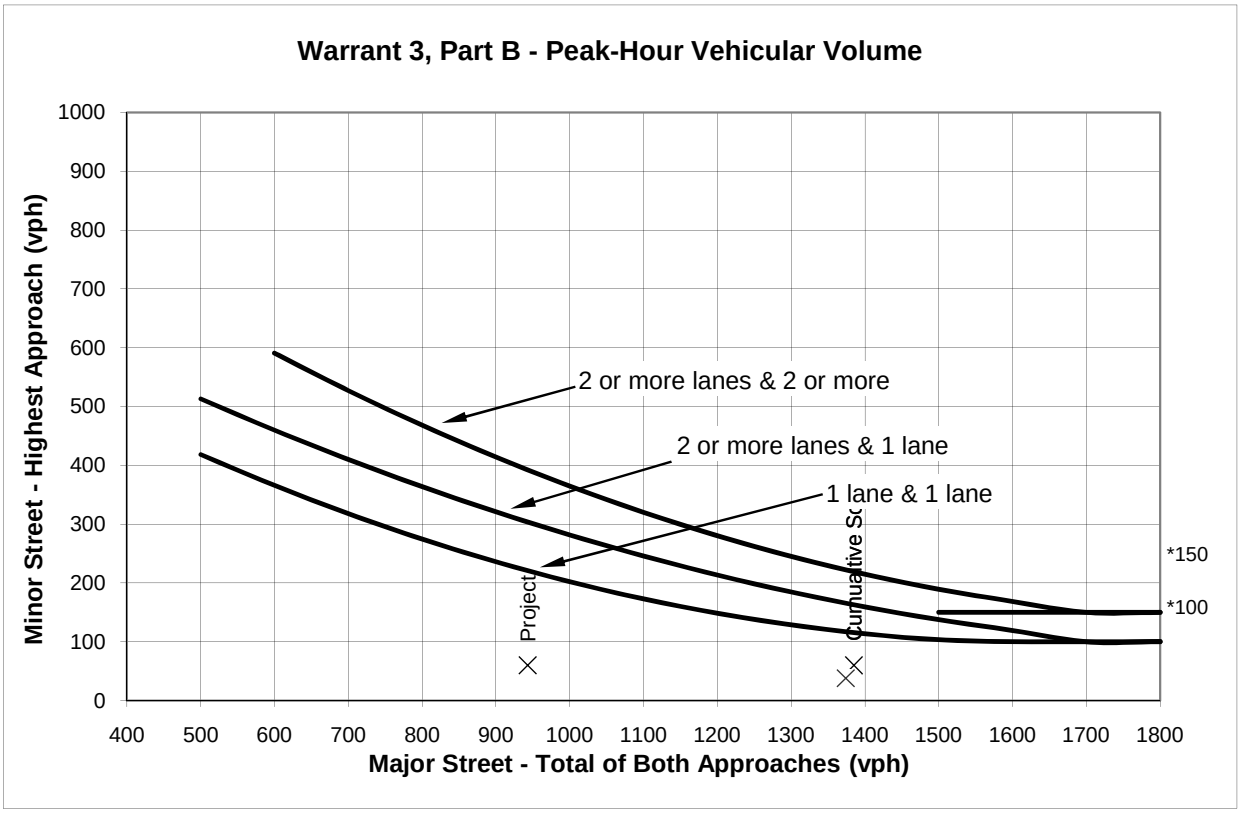
Warrant 3, Part B - Peak-Hour Vehicular Volume

		Approach Lanes		PM PEAK HOUR							
		One	2 or More	Existing	Project	Cumualtive No Project	Cumualtive Sc 1	Cumualtive Sc 2	0	Cumualtive Sc 3	Cumualtive Sc 4
Major Street - Both Approaches	Blackhawk Rd /	X		0	844	0	1232	1232	0	1232	1232
Minor Street - Highest Approach	Project Main Entrance/		X	0	24	0	24	24	0	24	24
Signal Warranted Based on Part B - Peak-Hour Volumes?				**No**	**No**	**No**	**No**	**No**	**N/A**	**No**	**No**

*Warrant is satisfied if plotted points fall above the appropriate curve in graph above.
Note 1: If applicable, right turn volumes removed from minor approaches per typical transportation engineering pra

Magee Ranch Residential

Project Main Entrance and Blackhawk Rd **AM PEAK HOUR**



Source: Figure 4C-3 *California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California)*.

* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Warrant 3, Part B - Peak-Hour Vehicular Volume

		Approach Lanes		AM PEAK HOUR							
		One	2 or More	Existing	Project	Cumualtive No Project	Cumualtive Sc 1	Cumualtive Sc 2	0	Cumualtive Sc 3	Cumualtive Sc 4
Major Street - Both Approaches	Blackhawk Rd /	X		0	943	0	1385	1385	0	1374	1374
Minor Street - Highest Approach	Project Main Entrance/		X	0	60	0	60	60	0	38	38
Signal Warranted Based on Part B - Peak-Hour Volumes?				**No**	**No**	**No**	**No**	**No**	**N/A**	**No**	**No**

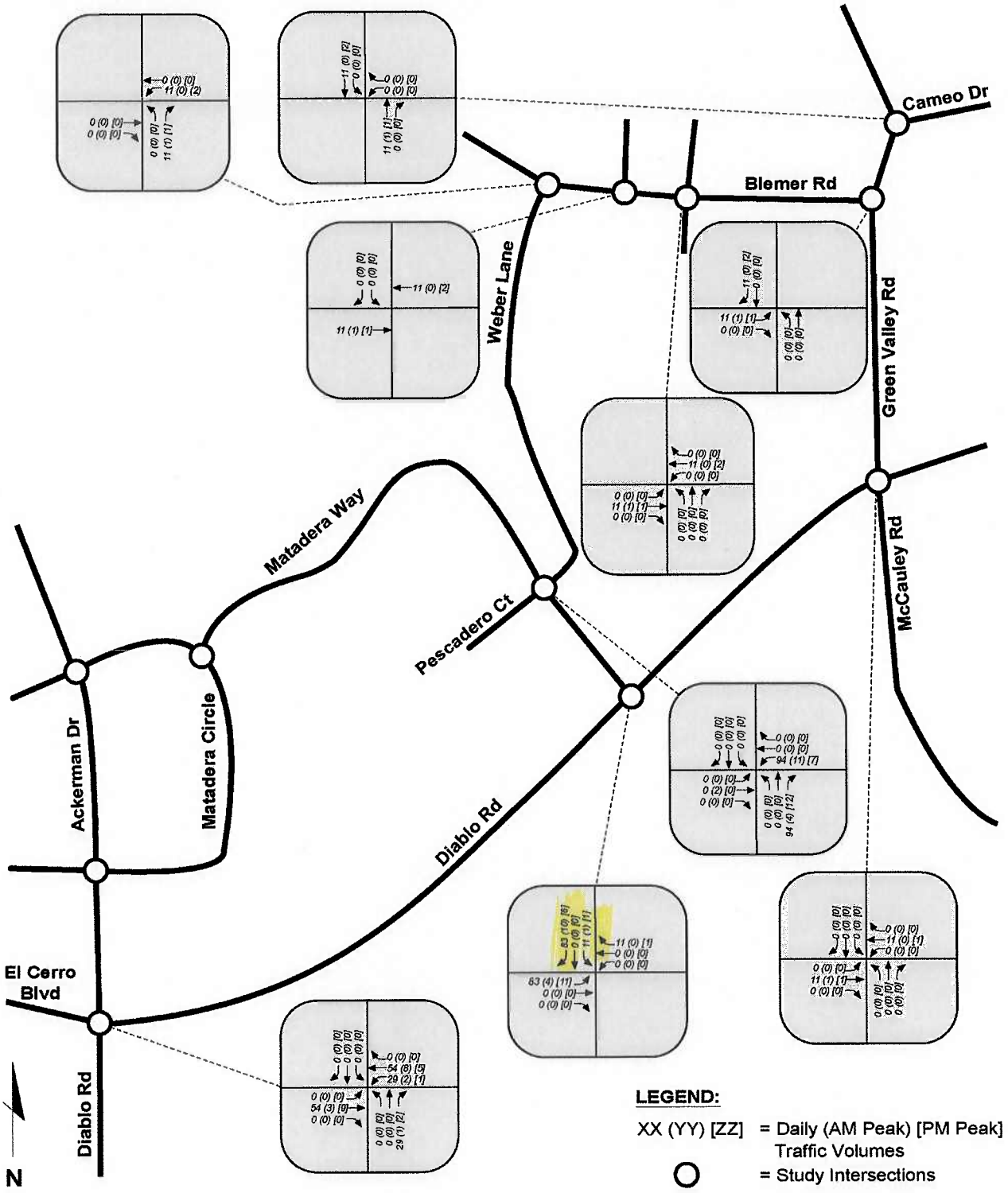
*Warrant is satisfied if plotted points fall above the appropriate curve in graph above.
Note 1: If applicable, right turn volumes removed from minor approaches per typical transportation engineering pra

Appendix D

Pending Trips Inventory

(>>>>>>>>>This Page Intentionally Left Blank<<<<<<<<)

Figure 4. Project Traffic



(>>>>>>>>>This Page Intentionally Left Blank<<<<<<<<)

Appendix E

Cut-Through Survey Data

(>>>>>>>>>This Page Intentionally Left Blank<<<<<<<<)

Diablo Road - Cut Through Study

Prepared by Auto-Census 5-19-11

PM	EASTBOUND	
	ALAMEDA DIABLO	AVENIDA NUEVA
4:01 PM	556	779, 754, ENB, 096
4:02 PM	241	
4:03 PM	991, 157	790
4:04 PM	296, 193, 117, 862	338, 959
4:05 PM		
4:06 PM	944, 372	097, 740
4:07 PM		556, 166
4:08 PM	489	576, 692
4:09 PM	954	434
4:10 PM	236, 347	203, 882, 412
4:11 PM		
4:12 PM	817, OPI	
4:13 PM	666, 159	BLU, 231, 080
4:14 PM		318, DLM, 630, 910
4:15 PM	977	866
4:16 PM		MLR, 325, 905
4:17 PM	821, 594, 471	635, 599
4:18 PM		913, 414
4:19 PM	730, CIO	835, 502, 142
4:20 PM	ONA, 847	344, 368, 304
4:21 PM		316
4:22 PM		205, 853, 277, 807, 930
4:23 PM	285, 500, MLR	
4:24 PM		638, 455
4:25 PM	649, NEW	227
4:26 PM	118	348, 384, 917
4:27 PM	471	
4:28 PM	487, 577	248
4:29 PM	466	766, NEW
4:30 PM	364, 5G0	
4:31 PM		106, 067, 222, 842
4:32 PM		
4:33 PM	689, 273	697
4:34 PM	844	354, 778, NEW
4:35 PM	183, 506	316, 798
4:36 PM		
4:37 PM		177
4:38 PM	348	330
4:39 PM	NEW	
4:40 PM	123	63
4:41 PM		135
4:42 PM	229	132, 285, 902, 118, 293
4:43 PM	2	372

4:44 PM	920	585, 250, 007
4:45 PM		BRT, 643
4:46 PM		352, 807, 344, 899
4:47 PM		823, xx5
4:48 PM	115, 090	232, 464
4:49 PM	82T	782
4:50 PM	231	259
4:51 PM	919, 140	126, 273, 923
4:52 PM	222	
4:53 PM	556, 250, BLA	083, 798, JWL, 953
4:54 PM		
4:55 PM	4B1, 081	639, 599
4:56 PM		431, 667
4:57 PM		882
4:58 PM	222, 102	324
4:59 PM		976, 614, 686
5:00 PM	640, 686, AVE	LAB, 679
5:01 PM		
5:02 PM		241, NEW
5:03 PM	222108	
5:04 PM		CES, 169
5:05 PM	825, 698	484, 807
5:06 PM	AVE, 436	
5:07 PM	164, 842	195, MRO
5:08 PM		
5:09 PM		377, 589, 545
5:10 PM		
5:11 PM		KDS, 636
5:12 PM		
5:13 PM		293, 492, 141, 374
5:14 PM	809, 139, 779	
5:15 PM	392	153, 665
5:16 PM	769	
5:17 PM		638, 909
5:18 PM		
5:19 PM		773, 440
5:20 PM	72	855, 380
5:21 PM		323, 644
5:22 PM	332, TR2	604, 147, 928
5:23 PM	135, NEW	333
5:24 PM	87	ABY, BRY, 793
5:25 PM	418, 914	
5:26 PM	651	891, 181, 081, 666
5:27 PM	893, 090	670, 750
5:28 PM		484, 835
5:29 PM	36	NEW
5:30 PM		SKI
5:31 PM	657, 992	
5:32 PM		NEW
5:33 PM	890	485, 697, 127, 411
5:34 PM	553, 166, 342	

5:35 PM		
5:36 PM		CAN, 917
5:37 PM	971, 340, 806, NEW	491, 880, 376
5:38 PM	G95	890
5:39 PM	377, 224	
5:40 PM		
5:41 PM	622, 410	316, 161
5:42 PM	181, BLA, 211	120
5:43 PM	CAN	959
5:44 PM	TAR	136
5:45 PM	177, 410	
5:46 PM	222	ICC
5:47 PM	HRT, 645	28
5:48 PM	546	
5:49 PM		656
5:50 PM	428	874, 910, 176
5:51 PM		660
5:52 PM		195, 491
5:53 PM		
5:54 PM		046, 093
5:55 PM	807	
5:56 PM		924, 483, 073
5:57 PM	890, 485	
5:58 PM		
5:59 PM	899, 879	
6:00 PM		969

Diablo Road - Cut Through Study

Prepared by Auto-Census 5-19-11

AM	WESTBOUND	
	AVENIDA NUEVA	ALAMEDA DIABLO
7:01 AM	351, 086	
7:02 AM		9HU, 679
7:03 AM		
7:04 AM	780	798
7:05 AM		
7:06 AM		903
7:07 AM		
7:08 AM		890
7:09 AM		798
7:10 AM	471	
7:11 AM		890
7:12 AM	440	
7:13 AM	587	353
7:14 AM		316
7:15 AM		589, 758
7:16 AM		807
7:17 AM		
7:18 AM	818, 619	823, 148
7:19 AM		87
7:20 AM		619
7:21 AM		273
7:22 AM	403, 297	
7:23 AM		296
7:24 AM	729	
7:25 AM		403, 077
7:26 AM	159	108, 534
7:27 AM		283
7:28 AM		
7:29 AM	NEW	666, 914
7:30 AM	449	
7:31 AM		
7:32 AM		
7:33 AM		180, 862
7:34 AM		654
7:35 AM		
7:36 AM		
7:37 AM		316
7:38 AM	369	459, 677, 080, 287
7:39 AM	LVB	893, 629, 083, 890
7:40 AM		
7:41 AM		241, 1CC
7:42 AM	821	747
7:43 AM		338, 140
7:44 AM	977, 178	187
7:45 AM	5A1, 781	
7:46 AM	87	484, 914
7:47 AM	369	816
7:48 AM		198
7:49 AM	852, 526	

7:50 AM	16	866, 9A1
7:51 AM	ROB, 392	666
7:52 AM		499, 959
7:53 AM		529, 695, 502
7:54 AM	666, 338	NEW, 991, 758
7:55 AM	619	ORM, 508, 801
7:56 AM		629, 631, 9L2
7:57 AM	586	296
7:58 AM		986, 188, 951, 623
7:59 AM	577	773, 333
8:00 AM		385
8:01 AM		
8:02 AM		898
8:03 AM		947, 033, 626
8:04 AM	177, SGO	
8:05 AM	926, 556	422, AMA
8:06 AM	L<3R, 631	232, 879, 502
8:07 AM	364, 666 (diff. from 7:54AM)	
8:08 AM		867
8:09 AM	518	882, 350
8:10 AM	183	
8:11 AM	417, 815	909
8:12 AM		
8:13 AM	697, 909	205, 649, 166
8:14 AM	147	721, 747
8:15 AM		IC1
8:16 AM		
8:17 AM	173	
8:18 AM		
8:19 AM		782, 311, 177
8:20 AM		716
8:21 AM	698, 1A1	747, 645
8:22 AM		588, 022
8:23 AM	16	
8:24 AM	888	656
8:25 AM	835	
8:26 AM	428	TCB, 4th, 246
8:27 AM	072, 646	
8:28 AM		289, 379
8:29 AM		059, 888, NEW, 438
8:30 AM	380	748, 614
8:31 AM		515, 238
8:32 AM		142
8:33 AM	417	
8:34 AM	626	414, 046
8:35 AM	285	321
8:36 AM	OPI	111
8:37 AM	657	729, PUT
8:38 AM	890	434, 626
8:39 AM		923, 126
8:40 AM		914, 989
8:41 AM		
8:42 AM	351	
8:43 AM		
8:44 AM		415
8:45 AM		152, 866, 170
8:46 AM	782	

8:47 AM		
8:48 AM	198, 651	101, 344, <3ER, 795
8:49 AM		891
8:50 AM	454, 045	198, 445
8:51 AM	743	201
8:52 AM	632	
8:53 AM		
8:54 AM	200, 009	
8:55 AM	971, 538	666, 621
8:56 AM	331, 782	
8:57 AM	621	
8:58 AM		DPR
8:59 AM		
9:00 AM		975

PM Peak-Hour Volume Count Worksheet

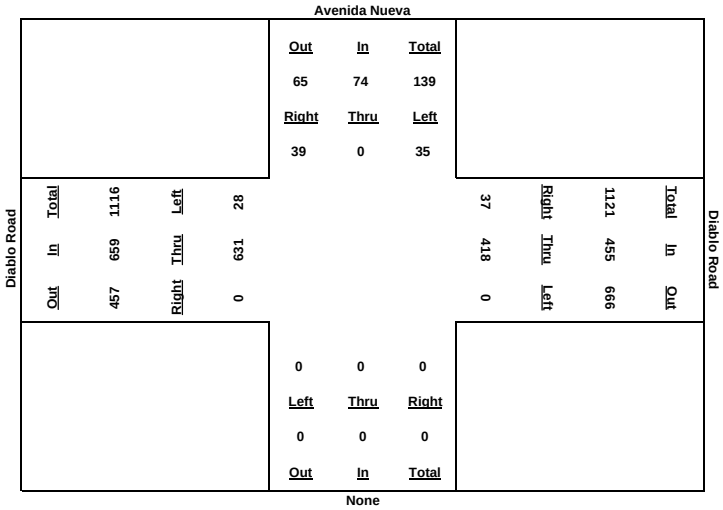
Date: 5/19/11
Counter: Michelle and Joe Bundy
Intersection Name: Diablo Road and Avenida Nueva
Weather: Clear Danville

AUTO-CENSUS
Traffic Monitoring and Analysis
870 Castlewood Dr. #1
Los Gatos, CA 95032
Phone 408-826-9673 Fax 408-877-1625

	Avenida Nueva				Diablo Road				None				Diablo Road			
	North Approach				East Approach				South Approach				West Approach			
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15PM	3	0	11	14	8	64	0	72	0	0	0	0	0	57	5	62
2:30 PM	9	0	18	27	15	137	0	152	0	0	0	0	0	135	16	151
2:45 PM	18	0	25	43	22	225	0	247	0	0	0	0	0	191	24	215
3:00 PM	27	0	34	61	28	325	0	353	0	0	0	0	0	251	28	279
3:15 PM	40	0	41	81	39	435	0	474	0	0	0	0	0	346	35	381
3:30 PM	44	0	48	92	49	531	0	580	0	0	0	0	0	538	45	583
3:45 PM	56	0	61	117	55	651	0	706	0	0	0	0	0	723	54	777
4:00 PM	66	0	69	135	65	743	0	808	0	0	0	0	0	882	56	938

Peak Hour	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	PK Hour
2:00-3:00	27	0	34	61	28	325	0	353	0	0	0	0	0	251	28	279	693
2:15-3:15	37	0	30	67	31	371	0	402	0	0	0	0	0	289	30	319	788
2:30-3:30	35	0	30	65	34	394	0	428	0	0	0	0	0	403	29	432	925
2:45-3:45	38	0	36	74	33	426	0	459	0	0	0	0	0	532	30	562	1,095
3:00-4:00	39	0	35	74	37	418	0	455	0	0	0	0	0	631	28	659	1,188
Peak Volumes:	**39**	**0**	**35**	**74**	**37**	**418**	**0**	**455**	**0**	**0**	**0**	**0**	**0**	**631**	**28**	**659**	**1,188**

Cut and Paste	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
	0	0	0	35	0	39	28	631	0	0	418	37



PM Peak-Hour Volume Count Worksheet

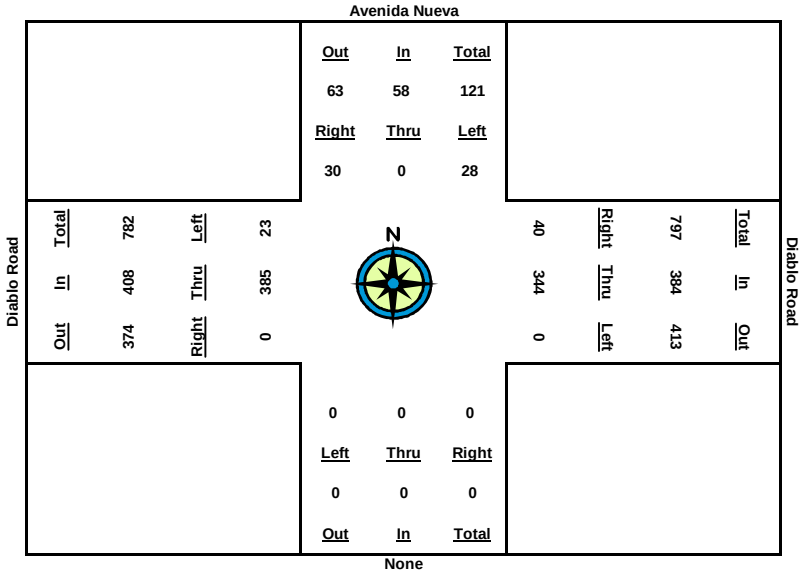
Date: 5/19/11
Counter: Michelle and Joe Bundy
Intersection Name: Diablo Road and Avenida Nueva
Weather: Clear Danville

AUTO-CENSUS
Traffic Monitoring and Analysis
870 Castlewood Dr. #1
Los Gatos, CA 95032
Phone 408-826-9673 Fax 408-877-1625

	Avenida Nueva				Diablo Road				None				Diablo Road			
	North Approach				East Approach				South Approach				West Approach			
Start Time	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	9	0	9	18	4	100	0	104	0	0	0	0	0	125	9	134
4:30 PM	16	0	20	36	12	190	0	202	0	0	0	0	0	224	15	239
4:45 PM	23	0	23	46	22	275	0	297	0	0	0	0	0	307	21	328
5:00 PM	30	0	28	58	40	344	0	384	0	0	0	0	0	385	23	408
5:15 PM	37	0	36	73	50	415	0	465	0	0	0	0	0	465	32	497
5:30 PM	46	0	41	87	60	499	0	559	0	0	0	0	0	550	37	587
5:45 PM	52	0	55	107	67	580	0	647	0	0	0	0	0	638	42	680
6:00 PM	57	0	60	117	76	695	0	771	0	0	0	0	0	736	46	782

Peak Hour	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**PK Hour**
4:00 - 5:00	30	0	28	58	40	344	0	384	0	0	0	0	0	385	23	408	850
4:15 - 5:15	28	0	27	55	46	315	0	361	0	0	0	0	0	340	23	363	779
4:30 - 5:30	30	0	21	51	48	309	0	357	0	0	0	0	0	326	22	348	756
4:45 - 5:45	29	0	32	61	45	305	0	350	0	0	0	0	0	331	21	352	763
5:00 - 6:00	27	0	32	59	36	351	0	387	0	0	0	0	0	351	23	374	820
Peak Volumes:	**30**	**0**	**28**	**58**	**40**	**344**	**0**	**384**	**0**	**0**	**0**	**0**	**0**	**385**	**23**	**408**	**850**

Cut and Paste	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
	0	0	0	28	0	30	23	385	0	0	344	40



AM Peak-Hour Volume Count Worksheet

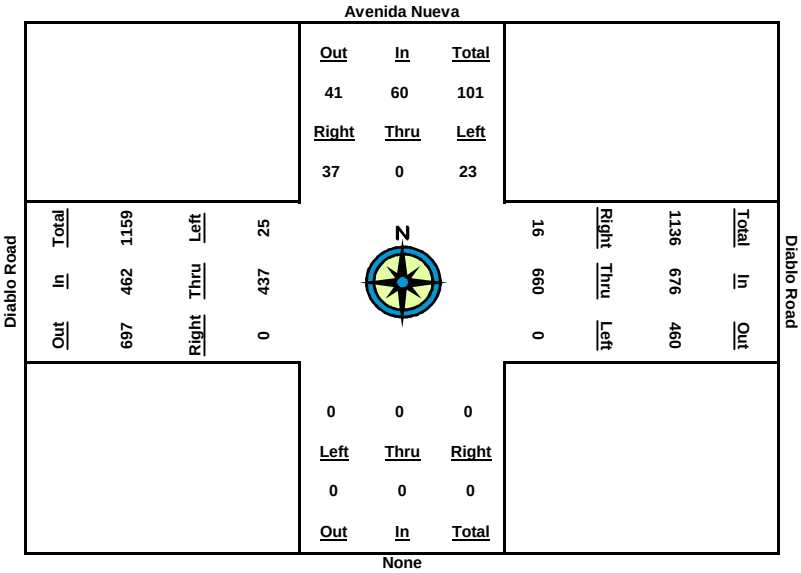
Date: 5/19/11
Counter: Michelle and Joe Bundy
Intersection Name: Diablo Road and Avenida Nueva
Weather: Clear Danville

AUTO-CENSUS
Traffic Monitoring and Analysis
870 Castlewood Dr. #1
Los Gatos, CA 95032
Phone 408-826-9673 Fax 408-877-1625

	Avenida Nueva				Diablo Road				None				Diablo Road			
	North Approach				East Approach				South Approach				West Approach			
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	4	0	3	7	1	183	0	184	0	0	0	0	0	51	5	56
7:30 AM	17	0	7	24	6	353	0	359	0	0	0	0	0	120	8	128
7:45 AM	27	0	13	40	8	504	0	512	0	0	0	0	0	223	13	236
8:00 AM	32	0	17	49	10	658	0	668	0	0	0	0	0	356	22	378
8:15 AM	41	0	26	67	17	843	0	860	0	0	0	0	0	488	30	518
8:30 AM	51	0	31	82	21	1,015	0	1,036	0	0	0	0	0	555	34	589
8:45 AM	59	0	34	93	25	1,107	0	1,132	0	0	0	0	0	649	38	687
9:00 AM	64	0	43	107	31	1,187	0	1,218	0	0	0	0	0	727	46	773

Peak Hour	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	PK Hour
7:00 - 8:00	32	0	17	49	10	658	0	668	0	0	0	0	0	356	22	378	1,095
7:15 - 8:15	37	0	23	60	16	660	0	676	0	0	0	0	0	437	25	462	1,198
7:30 - 8:30	34	0	24	58	15	662	0	677	0	0	0	0	0	435	26	461	1,196
7:45 - 8:45	32	0	21	53	17	603	0	620	0	0	0	0	0	426	25	451	1,124
8:00 - 9:00	32	0	26	58	21	529	0	550	0	0	0	0	0	371	24	395	1,003
Peak Volumes:	**37**	**0**	**23**	**60**	**16**	**660**	**0**	**676**	**0**	**0**	**0**	**0**	**0**	**437**	**25**	**462**	**1,198**

Cut and Paste	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
	0	0	0	23	0	37	25	437	0	0	660	16



PM Peak-Hour Volume Count Worksheet

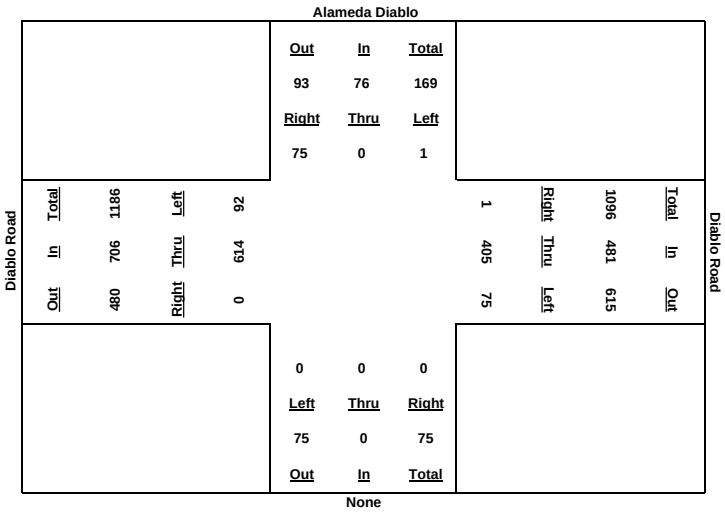
Date: 5/19/11
Counter: Kevin and Jo
Intersection Name: Diablo Road and Alameda Diablo
Weather: Clear Danville

AUTO-CENSUS
Traffic Monitoring and Analysis
870 Castlewood Dr. #1
Los Gatos, CA 95032
Phone 408-826-9673 Fax 408-877-1625

	Alameda Diablo				Diablo Road				None				Diablo Road			
	North Approach				East Approach				South Approach				West Approach			
Start Time	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15PM	31	0	2	33	2	59	31	92	0	0	0	0	0	46	12	58
2:30 PM	61	0	2	63	2	122	61	185	0	0	0	0	0	122	32	154
2:45 PM	96	0	3	99	3	206	96	305	0	0	0	0	0	178	49	227
3:00 PM	123	0	4	127	4	314	123	441	0	0	0	0	0	237	71	308
3:15 PM	145	0	4	149	4	421	145	570	0	0	0	0	0	341	87	428
3:30 PM	158	0	4	162	4	506	158	668	0	0	0	0	0	522	116	638
3:45 PM	175	0	5	180	5	624	175	804	0	0	0	0	0	706	140	846
4:00 PM	198	0	5	203	5	719	198	922	0	0	0	0	0	851	163	1,014

Peak Hour	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	PK Hour
2:00-3:00	123	0	4	127	4	314	123	441	0	0	0	0	0	237	71	308	876
2:15-3:15	114	0	2	116	2	362	114	478	0	0	0	0	0	295	75	370	964
2:30-3:30	97	0	2	99	2	384	97	483	0	0	0	0	0	400	84	484	1,066
2:45-3:45	79	0	2	81	2	418	79	499	0	0	0	0	0	528	91	619	1,199
3:00-4:00	75	0	1	76	1	405	75	481	0	0	0	0	0	614	92	706	1,263
Peak Volumes:	**75**	**0**	**1**	**76**	**1**	**405**	**75**	**481**	**0**	**0**	**0**	**0**	**0**	**614**	**92**	**706**	**1,263**

Cut and Paste	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
	0	0	0	1	0	75	92	614	0	75	405	1



PM Peak-Hour Volume Count Worksheet

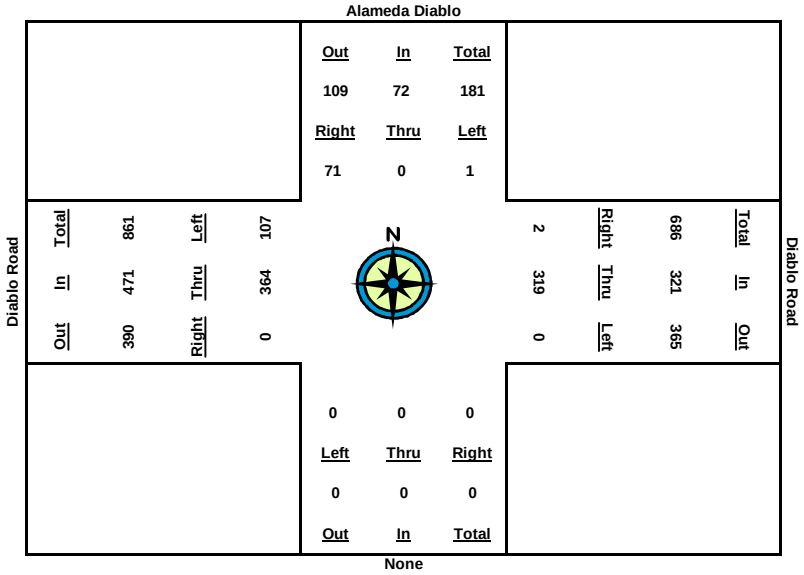
Date: 5/19/11
Counter: Kevin and Jo
Intersection Name: Diablo Road and Alameda Diablo
Weather: Clear Danville

AUTO-CENSUS
Traffic Monitoring and Analysis
870 Castlewood Dr. #1
Los Gatos, CA 95032
Phone 408-826-9673 Fax 408-877-1625

	Alameda Diablo				Diablo Road				None				Diablo Road			
	North Approach				East Approach				South Approach				West Approach			
Start Time	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	20	0	1	21	0	91	0	91	0	0	0	0	0	87	25	112
4:30 PM	32	0	1	33	0	187	0	187	0	0	0	0	0	192	54	246
4:45 PM	57	0	1	58	1	246	0	247	0	0	0	0	0	293	79	372
5:00 PM	71	0	1	72	2	319	0	321	0	0	0	0	0	364	107	471
5:15 PM	93	0	1	94	2	406	0	408	0	0	0	0	0	447	126	573
5:30 PM	103	0	2	105	2	459	0	461	0	0	0	0	0	522	151	673
5:45 PM	122	0	2	124	2	563	0	565	0	0	0	0	0	619	168	787
6:00 PM	135	0	2	137	2	672	0	674	0	0	0	0	0	720	183	903

Peak Hour	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**PK Hour**
4:00 - 5:00	71	0	1	72	2	319	0	321	0	0	0	0	0	364	107	471	864
4:15 - 5:15	73	0	0	73	2	315	0	317	0	0	0	0	0	360	101	461	851
4:30 - 5:30	71	0	1	72	2	272	0	274	0	0	0	0	0	330	97	427	773
4:45 - 5:45	65	0	1	66	1	317	0	318	0	0	0	0	0	326	89	415	799
5:00 - 6:00	64	0	1	65	0	353	0	353	0	0	0	0	0	356	76	432	850
Peak Volumes:	**71**	**0**	**1**	**72**	**2**	**319**	**0**	**321**	**0**	**0**	**0**	**0**	**0**	**364**	**107**	**471**	**864**

Cut and Paste	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
	0	0	0	1	0	71	107	364	0	0	319	2



AM Peak-Hour Volume Count Worksheet

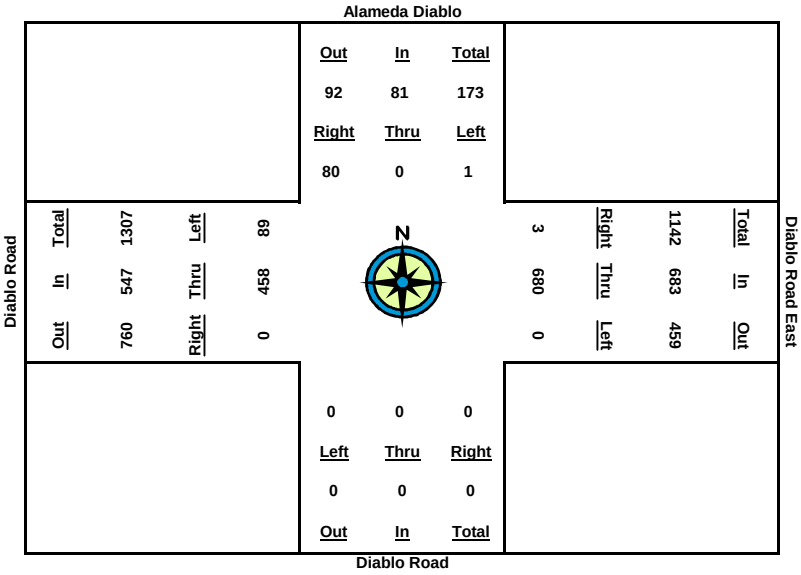
AUTO-CENSUS
Traffic Monitoring and Analysis
870 Castlewood Dr. #1
Los Gatos, CA 95032
Phone 408-826-9673 Fax 408-877-1625

Date: 5/19/11
Counter: Kevin and Jo
Intersection Name: Diablo Road and Alameda Diablo
Weather: Clear Danville

	Alameda Diablo				Diablo Road East				Diablo Road				Diablo Road			
	North Approach				East Approach				South Approach				West Approach			
Start Time	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	11	0	0	11	0	173	0	173	0	0	0	0	0	54	9	63
7:30 AM	22	0	1	23	0	354	0	354	0	0	0	0	0	135	19	154
7:45 AM	41	0	1	42	0	459	0	459	0	0	0	0	0	242	41	283
8:00 AM	67	0	1	68	1	649	0	650	0	0	0	0	0	379	67	446
8:15 AM	85	0	1	86	2	843	0	845	0	0	0	0	0	520	91	611
8:30 AM	102	0	2	104	3	1,034	0	1,037	0	0	0	0	0	593	108	701
8:45 AM	119	0	2	121	3	1,132	0	1,135	0	0	0	0	0	698	124	822
9:00 AM	133	0	2	135	3	1,206	0	1,209	0	0	0	0	0	783	147	930

Peak Hour	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**PK Hour**
7:00 - 8:00	67	0	1	68	1	649	0	650	0	0	0	0	0	379	67	446	1,164
7:15 - 8:15	74	0	1	75	2	670	0	672	0	0	0	0	0	466	82	548	1,295
7:30 - 8:30	80	0	1	81	3	680	0	683	0	0	0	0	0	458	89	547	1,311
7:45 - 8:45	78	0	1	79	3	673	0	676	0	0	0	0	0	456	83	539	1,294
8:00 - 9:00	66	0	1	67	2	557	0	559	0	0	0	0	0	404	80	484	1,110
Peak Volumes:	**80**	**0**	**1**	**81**	**3**	**680**	**0**	**683**	**0**	**0**	**0**	**0**	**0**	**458**	**89**	**547**	**1,311**

Cut and Paste	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
	0	0	0	1	0	80	89	458	0	0	680	3



Diablo Road - Cut Through Study

Prepared by Auto-Census 5-19-11

PM	EASTBOUND	
	Alameda Diablo	Avenida Nueva
2:01 PM	343, 225	424
2:02 PM		82
2:03 PM	980	NEW
2:04 PM		722, 644
2:05 PM	943, 354, 798, 735	
2:06 PM	325	
2:07 PM	173	
2:08 PM	779	280, 798
2:09 PM	EPF	586
2:10 PM		369, 225
2:11 PM		LAB
2:12 PM	117	
2:13 PM		
2:14 PM		
2:15 PM		439
2:16 PM	535, 650	546, 518
2:17 PM	894, 659	VGS
2:18 PM	INO	
2:19 PM	519	779
2:20 PM		
2:21 PM		
2:22 PM	640, 060	847
2:23 PM	393	
2:24 PM		0
2:25 PM	ROB	348, 258
2:26 PM	334, 185, 115	909, 49B
2:27 PM	52	
2:28 PM	108, 801, 164	090, 337
2:29 PM	389	650
2:30 PM	118, EPF	485, 967
2:31 PM	367	
2:32 PM		
2:33 PM		
2:34 PM		535
2:35 PM	779	DXU, 386
2:36 PM	LNG, 992	539, 316
2:37 PM	97	717, 530
2:38 PM	281	827, 817
2:39 PM	466, 586	175, 919
2:40 PM	308	777, 489
2:41 PM		157
2:42 PM	686	
2:43 PM	741	

2:44 PM	125, 867, 876, 504	
2:45 PM	785, 387	
2:46 PM	403, 295, 788	352
2:47 PM	921, 427	
2:48 PM	602	
2:49 PM	679	118
2:50 PM		?
2:51 PM	657, 187, SKE	403, 377, 117, 016
2:52 PM	338, 087, 205	369, 484
2:53 PM	637, 342	
2:54 PM	123	
2:55 PM	924, 629	532, 679, EBAY
2:56 PM		541, IGO, 308, 526, 166
2:57 PM	100	
2:58 PM		
2:59 PM	205	686
3:00 PM	752, 010	815, 125
3:01 PM		807, 004
3:02 PM	289, 639	OKR, 816
3:03 PM	998, 226	307
3:04 PM	84	800, NEW
3:05 PM		
3:06 PM	940	
3:07 PM	269, 784	
3:08 PM		640, 162
3:09 PM	687	
3:10 PM		043, 269
3:11 PM	914	992, 419, 539
3:12 PM	23	884, 470, 109
3:13 PM	677, 884, 016	393
3:14 PM		
3:15 PM	588, 614	917, 926
3:16 PM	520, 699, 348, 879	350
3:17 PM	273, 254	
3:18 PM		045, 2BI
3:19 PM	575	
3:20 PM	NEW, 890	
3:21 PM	8	
3:22 PM	512, 345, 862, 666, 059, 236	
3:23 PM		540
3:24 PM		
3:25 PM	873, 285, 710, 386	888, 925, 512, 914
3:26 PM		
3:27 PM	897, 297, 372, 750	
3:28 PM	626	87
3:29 PM	747	
3:30 PM	362, 764	868
3:31 PM	995	089, 414, 097
3:32 PM	191, 438, 712, 991	441
3:33 PM	NST	085, 377, 779
3:34 PM	867	890

3:35 PM	485, 433	
3:36 PM		890, 501, 127
3:37 PM		
3:38 PM	230, 311, 831	610, 331
3:39 PM		614
3:40 PM	242	615, BMC
3:41 PM	iKR, 758, NEW	L<3R
3:42 PM	46	
3:43 PM	329, 893, 198	
3:44 PM	004, 499	440, 805
3:45 PM	991, 729	NEW
3:46 PM		971
3:47 PM	AZI	
3:48 PM	372, 909, 093, 747	542, 166
3:49 PM	341	
3:50 PM	049, 175	
3:51 PM	730, 549, 129	386
3:52 PM	505, 362, 753	
3:53 PM		AZI, 000
3:54 PM	617	179
3:55 PM	865, 122	
3:56 PM	351, 117	436, 822, 391
3:57 PM		710
3:58 PM	274, DPP, 653	383, 833
3:59 PM	981	485, 125, ROB, 880
4:00 PM		

(>>>>>>>>>This Page Intentionally Left Blank<<<<<<<<)

Appendix F

TRAFFIX Bus Memo

(>>>>>>>>>This Page Intentionally Left Blank<<<<<<<<)

FEHR & PEERS
TRANSPORTATION CONSULTANTS

October 1, 2010

Tai Williams
Transportation Services Manager
Town of Danville
510 La Gonda Way
Danville, CA 94526

Re: Updated Traffic Information Related to the Matadera Project Transportation Impact Analysis

Dear Ms. Williams:

At the request of the Matadera residential project applicant, Davidon Homes, Fehr & Peers is providing the information below to the Town of Danville, for its use in the review of the Matadera Project. We have been asked to check whether any changes in the circumstances surrounding the project would change our prior conclusion that the project would cause no significant traffic impacts and would improve traffic along Diablo Road and Green Valley Road.

Comparison of 2004 Traffic Volumes Used in the MND Traffic Impact Study to More Recent 2009 Traffic Volumes

To assess how traffic has changed since November 2004, when the counts for the MND TIS were conducted, Fehr & Peers compared peak hour volumes from counts conducted in September 2009 provided by the Town of Danville to the peak hour volumes reported in the MND TIS. The September 2009 counts were available for four of the intersections studied in the MND:

1. Diablo Road/Matadera Way
2. Diablo Road/Green Valley Road
3. Green Valley Road/Blemer Road
4. Green Valley Road/Cameo Drive

Figure 1 shows the intersections. The Town's 2009 counts cover the AM commute period and the mid-afternoon period when traffic related to area schools peaks. The later-afternoon peak commute period is not available. However, based on the MND's 2004 counts of both afternoon periods, and Town staff's knowledge of traffic characteristics in the area, the mid-afternoon period produces higher peak hour volumes than the afternoon/evening commute period.

Figure 2 shows the 2004 and 2009 AM peak hour turning movement volumes for the four intersections, and Figure 3 shows the same information for the PM school peak hour. Figures 4 and 5 summarize the net change in the approach volume at each intersection, for the AM and PM peak hours, respectively.

The comparison shows that volumes have dropped significantly, by 75 – 200 vehicles per intersection approach, in both the AM and PM school peak hours, at all four intersections. The overall decrease in volumes in the area is assumed to be related to the institution of school bus service, which was not operating in 2004, and also due to the economic changes since 2004, which have driven down traffic volumes generally in the Bay Area. On Diablo Road, which serves traffic from eastern Danville including the Blackhawk Road corridor, the westbound traffic volume approaching Green Valley Road has dropped by 212 vehicles in the AM peak hour, and 135 vehicles in the PM school peak hour.

Based on the similar trends seen in the AM and PM school peak hours, it is reasonable to conclude that volumes have also dropped in the PM commute peak hour, although the count data is not available to check this.

Comparison of the 2009 counts to the 2010 Forecasts in the MND TIS

The 2010 background traffic forecasts in the MND TIS were based on the 2010 Town of Danville General Plan forecasts, and reflected 14 percent traffic growth in the Green Valley Road corridor and just over one percent growth on the Diablo Road corridor. The forecasts represented the best estimate of traffic growth to 2010 at that time; there were no pending project applications nearby that the Town deemed necessary to specifically account for in the traffic forecasts, above and beyond the General Plan traffic growth estimates.

Comparing the new 2009 traffic volumes to the older 2010 forecasts, we can see that the 2010 forecasts now reflect even higher growth relative to 2009 than they did relative to 2004, due to the general volume drop from 2004 to 2009.

Since there are now two local projects, one under construction and one pending, that would affect traffic volumes in the Weber project study area, we reviewed the MND TIS 2010 forecasts relative to the current 2009 traffic volumes to ensure that the traffic these projects could add is adequately reflected in the MND TIS 2010 forecasts. The projects are the O'Brien 7-unit residential project, being constructed adjacent to the proposed Weber project, with access from Hill Road; and the Magee Ranch 98-unit proposed residential project, located off Blackhawk Road to the east of the study area.

The O'Brien project would generate about 5 AM peak hour trips and 7 PM commute peak hour trips, using the trip generations rates in ITE's *Trip Generation, 8th Edition*[1]. The Magee Ranch project would generate about 74 AM peak hour trips and 99 PM commute peak hour trips. PM school peak hour trip generation rates are not provided in *Trip Generation.* However, these residential projects would be expected to generate the same or lower traffic in the PM school peak hour, than in the PM commute peak hour.

If 100 percent of these project trips were assigned to the four intersections discussed above, the result would be volume increases of no more than 79 AM peak hour trips and 106 PM peak hour trips. These increases are less than the 2004 – 2009 drop in volumes at the intersections, as is clear from Figures 4 and 5. Thus, the 2010 forecasts in the MND TIS would continue to more than account for the traffic volumes generated by all three sources:

- General Plan growth
- O'Brien Project
- Magee Ranch Project

We note that in actuality, less than 100 percent of the traffic from the two projects would be assigned to any one intersection.

Existing Conditions Level of Service Calculations

Using the intersection volumes shown in Figures 2 and 3, the intersection levels of service (LOS) for the four study intersections were re-calculated. Table 1 below shows the original LOS results, and Table 2 shows the results with the updated traffic volumes. As shown below, all levels of

[1] 0.75 trips per unit in the AM peak hour, and 1.01 trips per unit in the PM peak hour

FEHR & PEERS
TRANSPORTATION CONSULTANTS

service improve or do not change, reflecting the decrease in traffic volumes between 2004 and 2009. The decrease in traffic volumes has also eliminated the deficient operations at all but one of the intersections. Only the Green Valley Road / Diablo Road intersection still shows an LOS of F in the PM peak hour, but the delay is much lower than it was using the 2004 traffic volumes.

TABLE 1
EXISTING PEAK HOUR INTERSECTION LEVELS OF SERVICE– CCTALOS, HCM, & SIMTRAFFIC

Location	Peak Hour	CCTALOS		Synchro HCM		SimTraffic	
		V/C	LOS	Delay	LOS	Delay	LOS
Green Valley Road & Cameo Drive	AM	0.53	A	**94**	**F**	N/A	**F**
	PM School	0.45	A	15	B		B
Green Valley Road & Blemer Road	AM	0.80	C	**96**	**F**	N/A	**E**
	PM School	0.46	A	18	B		B
Green Valley Road & Diablo Road	AM	0.65	B	**228**	**F**	N/A	**F**
	PM School	0.61	A	**60**	**E**		**E**
Diablo Road & Matadera Way	AM	0.41	A	7	A	N/A	A
	PM School	0.35	A	7	A		A

Source: Fehr & Peers, 2005.

TABLE 2
UPDATED EXISTING PEAK HOUR INTERSECTION LEVELS OF SERVICE– CCTALOS, HCM, & SIMTRAFFIC

Location	Peak Hour	CCTALOS		Synchro HCM		SimTraffic	
		V/C	LOS	Delay	LOS	Delay	LOS
Green Valley Road & Cameo Drive	AM	0.46	A	22	C	16	B
	PM School	0.36	A	12	B	13	B
Green Valley Road & Blemer Road	AM	0.69	B	27	C	11	B
	PM School	0.39	A	13	B	13	B
Green Valley Road & Diablo Road	AM	0.45	A	**120**	**F**	**127**	**F**
	PM School	0.53	A	40	D	42	D
Diablo Road & Matadera Way	AM	0.28	A	4	A	3	A
	PM School	0.29	A	5	A	3	A

Source: Fehr & Peers, 2010.

FEHR & PEERS
TRANSPORTATION CONSULTANTS

Conclusions

- Based on the 2004/2009 count comparison, volumes have dropped substantially, by 75 – 200 vehicles per intersection approach, in the Weber Project MND TIS study area;
- Traffic from the approved and pending projects in the area – O'Brien and Magee Ranch -- are adequately reflected in the 2010 forecasts
- The key MND TIS study finding continues to be valid, namely that the Weber Project would cause no significant impact at any study area intersection and would improve operations along Green Valley Road and Diablo Road by providing a new neighborhood access route to Los Cerros Middle School on Blemer Road.
- Intersection levels of service have not changed or have improved from 2004 to 2009.

Please call me if you have any questions about this report.

Sincerely,

FEHR & PEERS

Ellen M. Poling, PE
Senior Associate

Attachments (Figures 1 – 5)

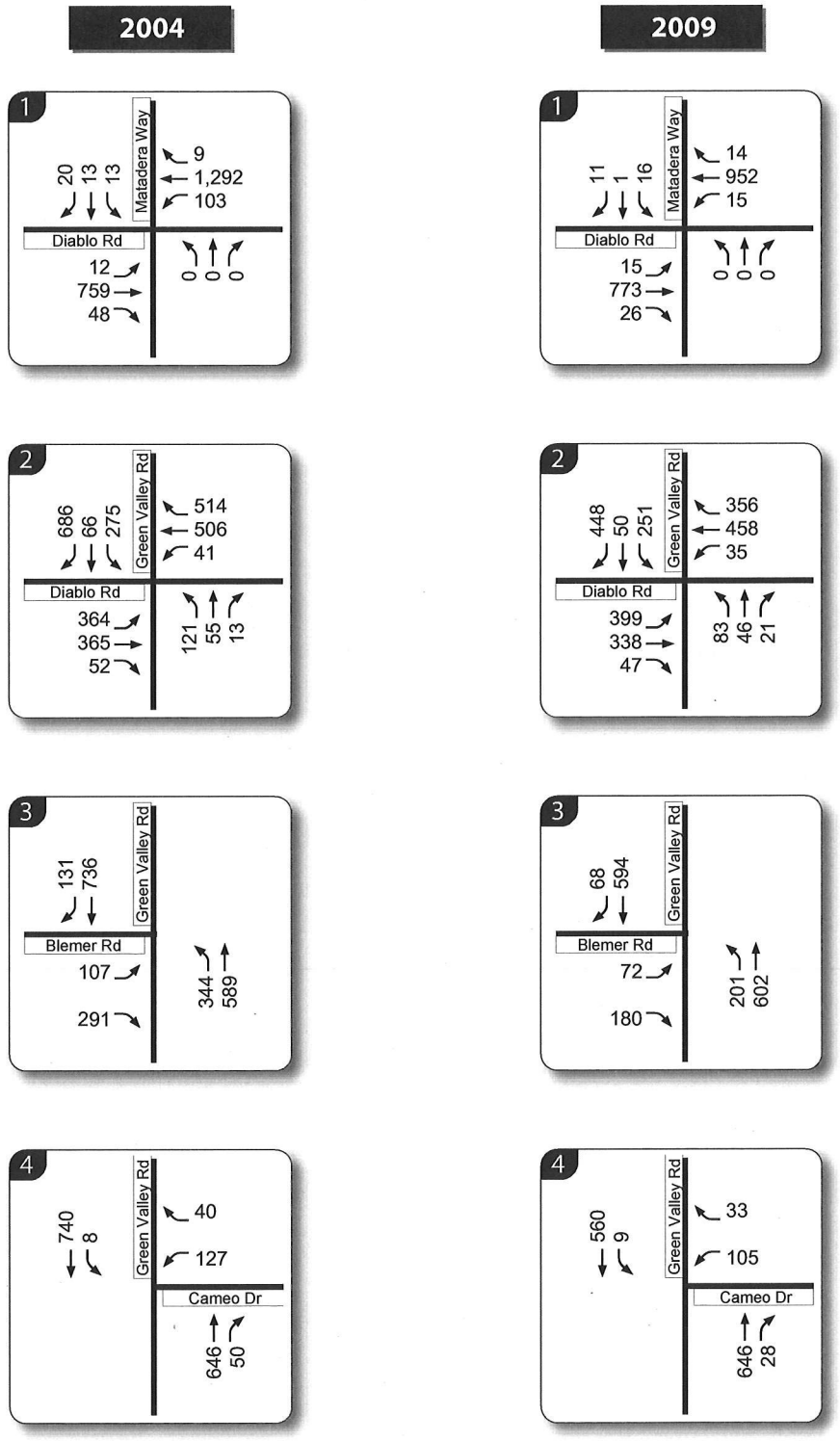
WC10-2754-WC

Weber Residential Supplemental Analysis

FEHR & PEERS
TRANSPORTATION CONSULTANTS

July 2010
WC10-2754_1_StudyArea

STUDY AREA
FIGURE 1



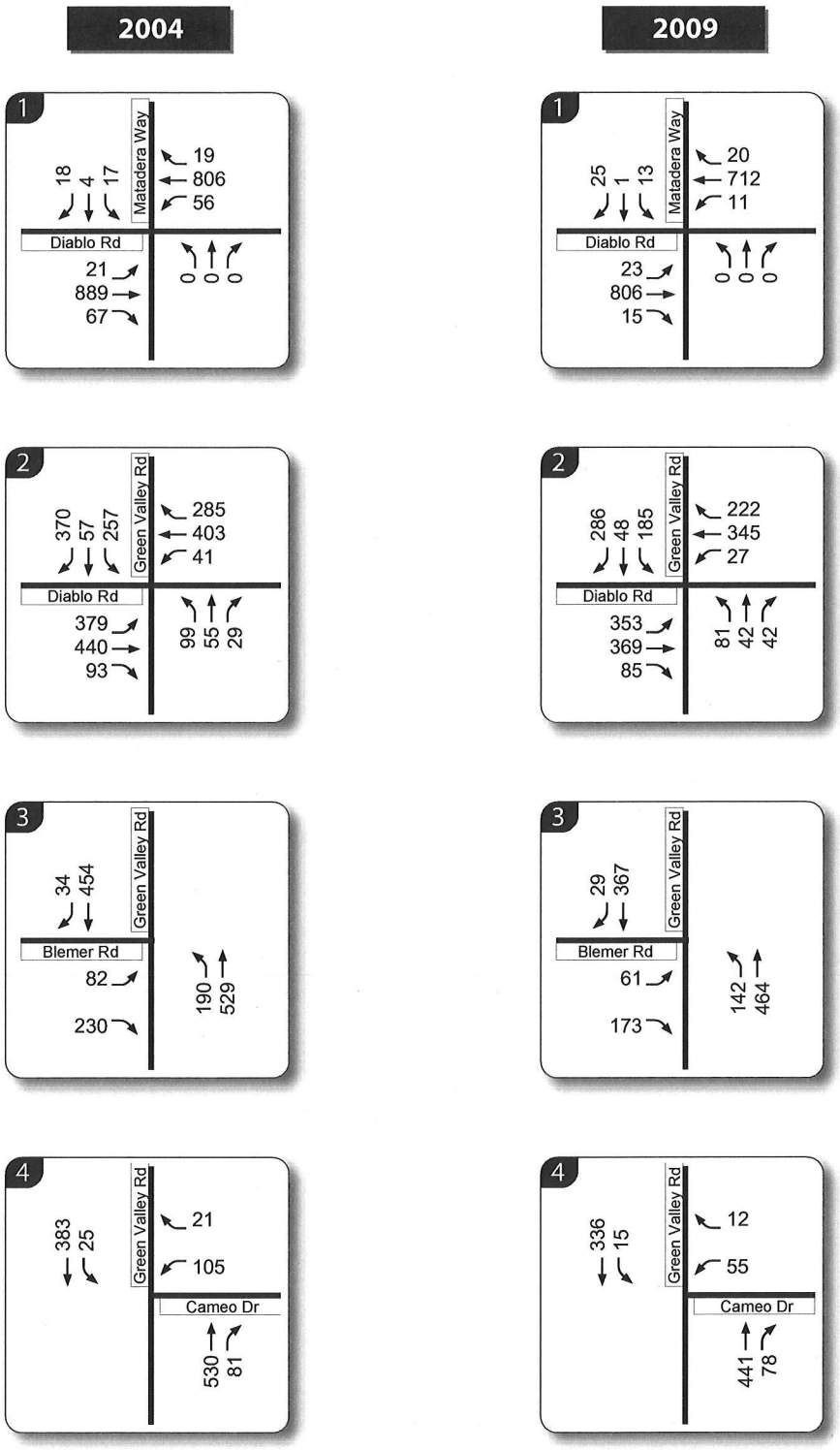
Weber Residential Supplemental Analysis

FEHR & PEERS
TRANSPORTATION CONSULTANTS

September 2010
WC10-2754_2_AM_Vol

AM PEAK HOUR VOLUMES, 2004/2009

FIGURE 2



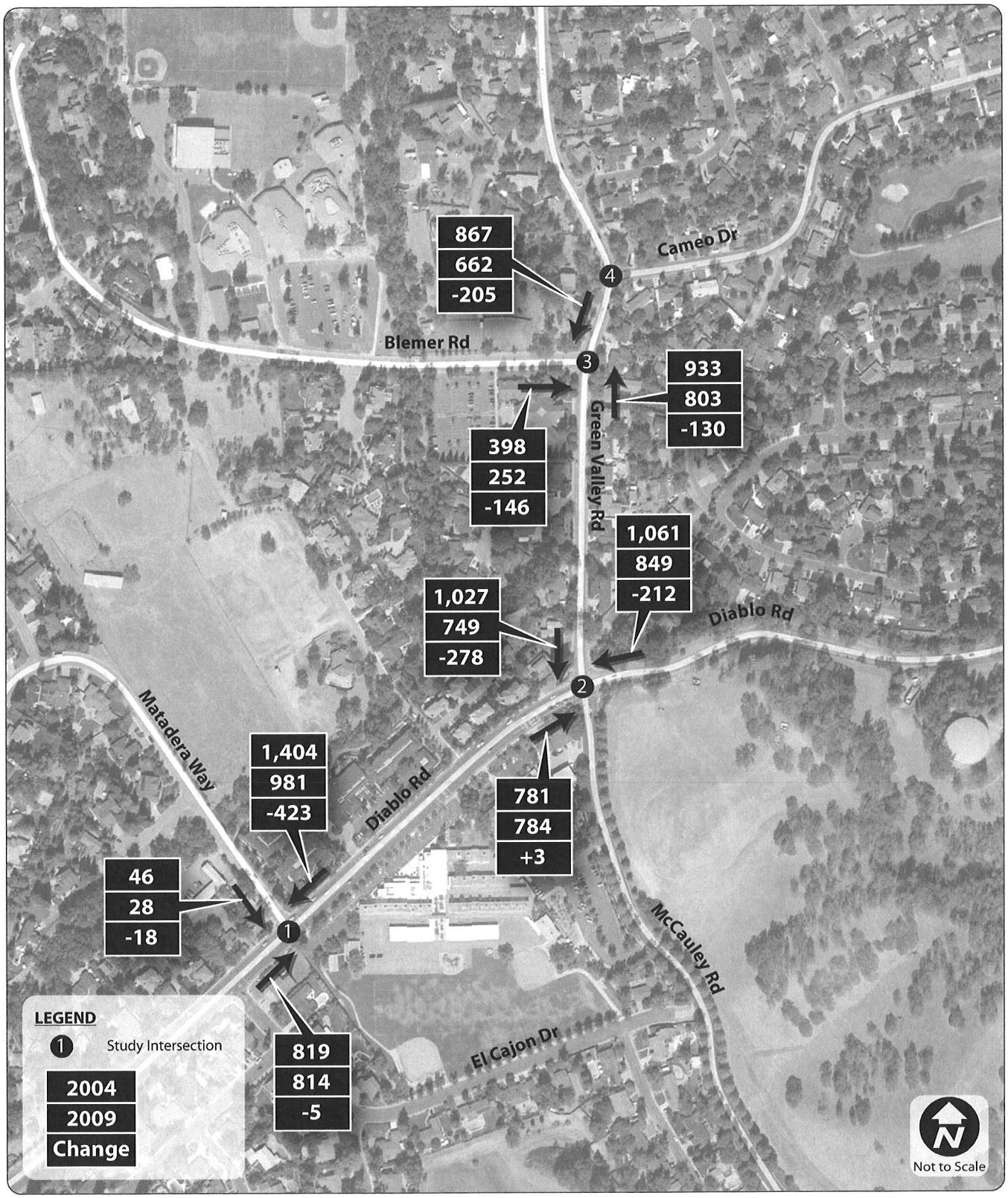
Weber Residential Supplemental Analysis

FEHR & PEERS
TRANSPORTATION CONSULTANTS

September 2010
WC10-2754_3_PM_Vol

PM SCHOOL PEAK HOUR VOLUMES, 2004/2009

FIGURE 3



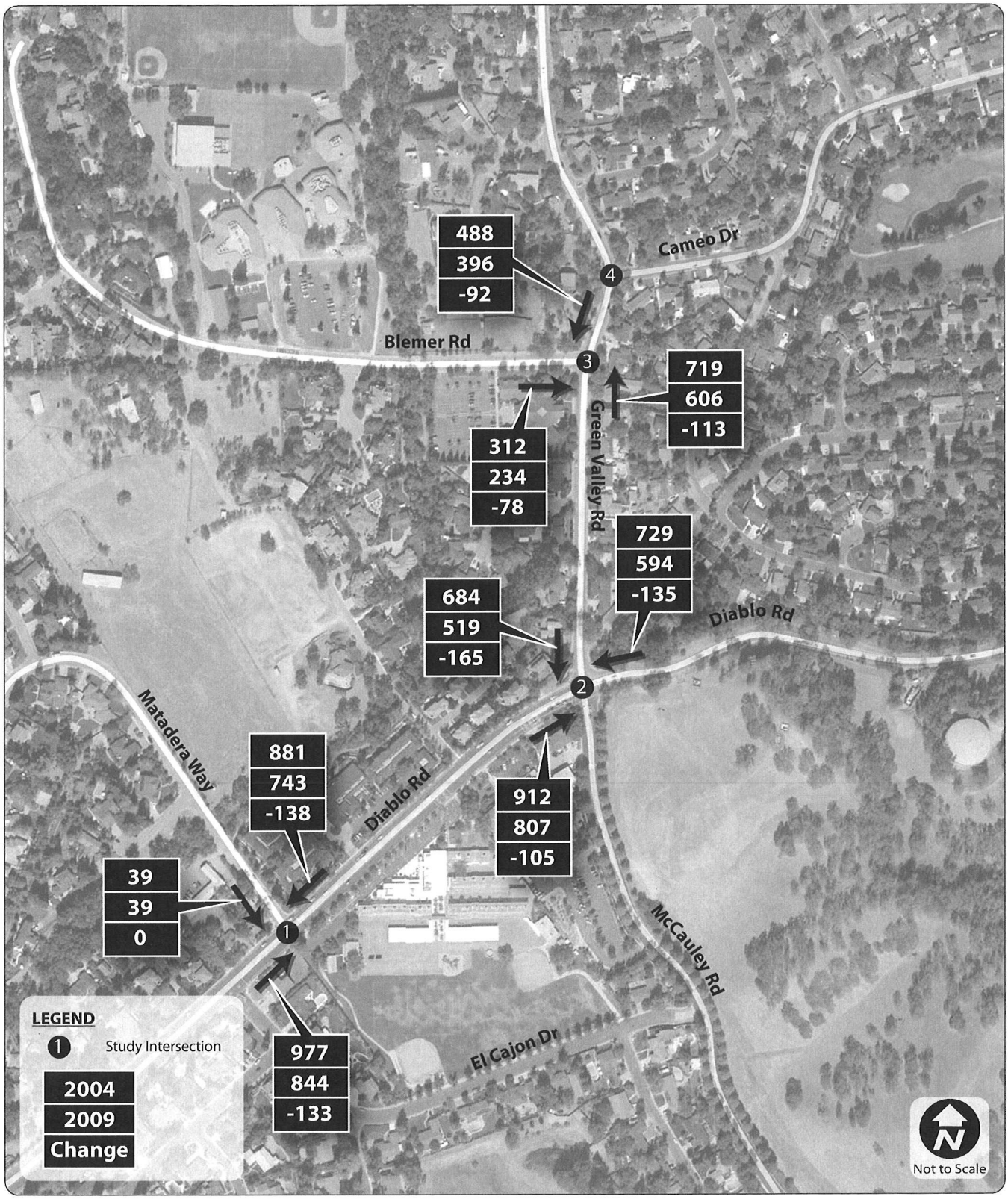
Weber Residential Supplemental Analysis

FEHR & PEERS
TRANSPORTATION CONSULTANTS

September 2010
WC10-2754_4_AM_Changes

AM PEAK HOUR VOLUME CHANGES
2004-2009

FIGURE 4



Weber Residential Supplemental Analysis

FEHR & PEERS
TRANSPORTATION CONSULTANTS

September 2010
WC10-2754_5_PM_Changes

PM SCHOOL PEAK HOUR VOLUME CHANGES
2004-2009

FIGURE 5