Draft
Environmental Impact Report
for
Magee Ranches

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Prepared for:

Town of Danville
510 La Gonda Way
Danville, CA 94526

Prepared by:

Denise Duffy & Associates, Inc.
947 Cass St., Suite 5
Monterey, CA 93940

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1.0 INTRODUCTION

1.1 AUTHORIZATION AND PURPOSE

This document is an Environmental Impact Report (EIR) for the Magee Ranches Residential Project (project), prepared in accordance with the California Environmental Quality Act (CEQA) of 1970 and CEQA Guidelines, as amended. This EIR has been prepared by Denise Duffy and Associates, Inc. (DD&A) for the Town of Danville as the "Lead Agency," in consultation with the appropriate local, regional and state agencies.

The purpose of the EIR is to inform the public generally of the significant environmental effects of the project, identify possible ways to minimize the significant effects, and describe reasonable alternatives that support the objectives of the project. As defined by the CEQA Guidelines, Section 15382, "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 significance."*

The project is the subdivision and ultimate buildout of 70 home sites on 108 acres of an approximately 410-acre property referred to as Magee Ranches. Approximately 302 acres of the project site is proposed as permanent open space. A minimum of 10% of the 70 homes are proposed to incorporate a second dwelling unit ("casita") in accordance with the Town of Danville's inclusionary housing requirements.

1.2 EIR PROCESS

CEQA Guidelines require preparation of an EIR when a Lead Agency determines that there is evidence that a project may have a significant effect on the environment. The need to prepare an EIR for the project was established by the Town of Danville as a result of preliminary evaluation of the likely environmental effects of the project. The Notice of Preparation (NOP) for the project was circulated to interested agencies and organizations for the required 30-day review period from November 17 to December 16, 2010. The responses to the NOP are contained in Appendix A of this EIR.

This Draft EIR will be circulated for agency and public review during a 60-day public review period. Comments received by the Town on the Draft EIR will be reviewed and responses to comments will be provided in the Final EIR. The Town must certify that it has reviewed and considered the information in the Final EIR and that the Final EIR has been completed in conformity with the requirements of CEQA.

Although the EIR does not control the lead agency's ultimate decision on the project, the Town of Danville must consider the information in the EIR and respond to each significant effect identified in the EIR. If significant adverse environmental effects are identified in the EIR, approval of the project must be accompanied by written findings, as follows:

A. Changes or alterations have been required in, or incorporated into, such project that mitigate or avoid the significant environmental effects thereof as identified in the completed EIR.

B. Such changes or alterations are within the responsibility and jurisdictions of another public agency and such changes have been adopted by such other agency, or can and should be adopted by such other agency.

C. Specific economic, social or other considerations make infeasible the mitigation measures or project alternatives identified in the EIR.

State law requires that a public agency adopt a monitoring program for mitigation measures that have been incorporated into the approved project to reduce or avoid significant effects on the environment. The purpose of the monitoring program is to ensure compliance with environmental mitigation during project implementation and operation. A Monitoring Program will be included in the Final EIR.

1.3 RELATION TO 2030 GENERAL PLAN UPDATE

The Town of Danville is currently updating its 2010 General Plan with the 2030 General Plan ("Draft 2030 Plan"). The major changes in the Draft 2030 Plan include 1) an update to the Land Use Map and Land Use designations to reflect additional housing sites as shown in the recently adopted 2007- 2014 Housing Element (located primarily located in the downtown area); 2) factual updates to reflect current conditions and changes that occurred since the 2010 General Plan was adopted; 3) new language relating to sustainability, greenhouse gas reduction, priority development areas, and emergency preparedness; and 4) an expansion of the Town's Sphere of Influence (SOI) to include the portion of the Alamo Creek community lying east of the current SOI and the essentially built out communities north of Alamo Creek and across Camino Tassajara (i.e., the Bettencourt Ranch, Shadow Creek, and the Hansen Lane areas). A Sustainability Action Plan (SAP) has also been prepared by the Town but is not part of the Draft 2030 Plan. The SAP is intended to reduce greenhouse gas emissions and improve other aspects of the Town's sustainability. The SAP will be used in tandem with the Draft 2030 Plan.

The proposed General Plan carries forward the designation of certain parts of Danville as "Special Concern Areas." The 2010 General Plan designated 14 Special Concern Areas. Since the adoption of the 2010 Plan in 1999, four of the 14 areas have been built out or are committed to development. In acknowledgement of this, the Draft 2030 Plan no longer identifies the four areas as Special Concern Areas. One of the Special Concern Areas in the Draft 2030 Plan is the Magee Ranch property. The Special Area of Concern language contained in the 2010 General Plan remains applicable to the project site and was carried forward in the Draft 2030 Plan. The planning goals and polices relating to the proposed project site set forth in the Draft 2030 Plan are either the same or are substantially similar with the goals and policies set forth in the 2010 General Plan.

While the Town is currently in the process of updating its 2010 General Plan, the analysis in this EIR evaluates the project's consistency with the applicable polices and goals in the 2010 General Plan since that plan was in effect at the time of EIR preparation and circulation. However, because the policies and goals in the Draft 2030 Plan are the same or similar to those in the 2010 General Plan as they relate to the proposed project site, the consistency analysis herein applies to both the 2010 General Plan and the Draft 2030 Plan.

The Draft 2030 Plan is tentatively scheduled for adoption in early 2013. A Draft Environmental Impact Report for the Draft 2030 Plan was released for public review and comment on October 15, 2012. The comment period on the DEIR for the Draft 2030 Plan is scheduled to end on December 5, 2012.

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2.0 SUMMARY

2.1 INTRODUCTION

This summary provides a description of the proposed project, project alternatives, significant impacts, and mitigation measures identified during the environmental analysis. Responsibility for implementation of mitigation measures lies with the project applicant unless otherwise noted. This summary is intended as an overview and should be used in conjunction with a thorough reading of the EIR. The text of this report, including figures, tables, and appendices, serves as the basis for this summary.

2.2 SUMMARY OF PROJECT DESCRIPTION

The project consists of development of a 410-acre property referred to as Magee Ranches (Magee West and Magee East). Magee West extends east of McCauley Road just south of the intersection of Diablo/McCauley Road and south of Diablo/Blackhawk Road east of the Diablo McCauley intersection. Magee East lies south of Diablo/Blackhawk Road, roughly between Jillian Way and Creekledge Court.

The project proposes to subdivide the property into 70 single family lots, with six lots on Magee West and 64 lots on Magee East. The project proposes to locate the lots on approximately 108 acres of the flatter portions of the site, avoiding the steeper slopes and ridges. The remaining ± 302 acres of the site would be preserved as permanent open space. A minimum of 10% of the homes would include second dwelling units in accordance with the Town's affordable housing requirements. A full project description is provided in Section 3.0 of this Draft EIR.

2.3 ALTERNATIVES EVALUATED IN THIS EIR

In compliance with CEQA, the EIR evaluates the comparative advantages and disadvantages of a range of project alternatives. The alternatives considered in this EIR are summarized below.

No Project/No Build: This alternative represents the "no development" scenario in which the site is left in its current generally undeveloped condition (per CEQA Guidelines §15126.6(e)(3)) and existing ranching uses continuing to operate. The No Project Alternative would avoid all of the environmental impacts of the proposed project.

No Project/Build Without Subdivision: This alternative consists of eliminating the proposed subdivision and developing the project site with one residential lot per existing parcel. Since the site currently contains seven buildable parcels, this alternative would result in the construction of seven residential homes on the site and would require the provision of infrastructure to each parcel. Overall, this alternative would lessen the environmental impacts of the project by decreasing total unit count by 63.

More Clustered Alternative. This alternative consists of developing 78 lots sized a minimum of 5,000 square feet, within a smaller development footprint than the proposed project. This would eliminate development on approximately ten acres, primarily within the south portion of Magee East. This alternative would lessen some impacts of the proposed development associated with site disturbance since the development footprint would be reduced, including effects on aesthetics, cultural resources, and geology. However, this alternative would increase impacts associated with the increase in lot/unit count in the areas of public services and utilities. For many areas, the impact is relatively unchanged due to the similar magnitude of development.

Non-Clustered Alternative. This alternative consists of developing 78 lots on the project site with predominantly five-acre lots. This alternative comprises 67 five-acre lots on the portions of the site covered by the Town's Residential – Rural Residential or Public and Open Space – Agricultural General Plan land use designations. The five acre portion of the site covered with the Town's Residential – Single Family – Low Density General Plan land use designation (opposite Fairway Drive) would contain 11 lots with a minimum size of 13,000 square feet. This alternative would generally increase all of the environmental impacts of the project by introducing non-clustered development on the entire site. This would result in substantially greater, significant aesthetic impacts due to viewshed alteration. It would result in greater land disturbance impacts by requiring additional grading, an extensive roadway system, and additional project infrastructure to provide service and access to each lot. The overall impacts of this alternative would be substantially greater than the proposed project.

Modified Design Alternative. This alternative consists of developing the project site with approximately 20,000 square foot lot sizes that are generally consistent with the surrounding densities. This alternative would subdivide the property into a total of 66 lots. This alternative includes 11 lots within Magee West opposite Fairway Drive and three lots along Diablo Road, as allowed under the current General Plan and zoning designations. This alternative would increase impacts associated with the addition of 14 lots onto Magee West in the Diablo Road/Fairway Drive area. The overall reduction in lots, from 70 to 64, may reduce some of the project's impacts on resources and services. However, this reduction is considered negligible.

2.4 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA requires that an environmentally superior alternative to the proposed project be specified, if one is identified. In general, the environmentally superior alternative is intended to minimize adverse impacts to the project site and surrounding environment while achieving the basic objectives of the project. Both of the "No Project" alternatives could be considered the environmentally superior alternative because adverse impacts associated with project construction and operation would be avoided. However, CEQA Guidelines §15126.6(e)(2) states that if the environmentally superior alternative is the No Project alternative, "the EIR shall also identify an environmentally superior alternative among the other alternatives."

The 5,000 SF Lot alternative would lessen impacts of the project associated with overall site disturbance by reducing the development footprint and lot sizes. For some areas, the impact is relatively unchanged due to the similar magnitude of development (78 versus 70 lots). However, given its smaller footprint, the 5,000 SF Lot alternative is considered the environmentally superior alternative since it would minimize and/or otherwise reduce the extent of potential physical effects associated with the project, including impacts to aesthetics, cultural resources, and geology.

2.5 SUMMARY OF PROJECT IMPACTS

A summary of significant project impacts and mitigation measures are provided in Table 2-1 on the following pages. Mitigation measures have been identified to either avoid the impact or reduce the level of significance. The significance after mitigation implementation is noted within the table.

TABLE 2-1
SUMMARY OF SIGNIFICANT ENVIRONMENTAL IMPACTS AND MITIGATION

Environmental Impact	Mitigation Measure	Level of Significance After Mitigation
4.1 Aesthetics		
The project would create new sources of light that would adversely affect nighttime views in the area.	4.1-1 All buildings shall be designed so that reflective surfaces are limited and exterior lighting is down-lit and illuminates the intended area only. Building applications for new structures shall include an exterior lighting plan subject to approval by the Town of Danville that includes the following requirements: 1) exterior lighting shall be directional; 2) the source of directional lighting shall not be directly visible; and 3) vegetative screening shall be installed, where appropriate.	Less-than-Significant
4.2 Agricultural Resources		
None	None required	
4.3 Air Quality		
Construction activities, including clearing, excavation and grading operations, would generate diesel exhaust emissions (NOx) that exceed BAAQMD thresholds.	4.3-1 The project proponent shall implement following measures to control diesel exhaust emissions associated with grading and new construction. A plan indicating how compliance will be achieved shall be submitted to the Town of Danville prior to construction. a. 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, b. During the building construction phase, establish on-site electric power to reduce the use of diesel-powered generators; c. Arrange for service to provide on-site meals for construction workers to avoid travel to off-site locations; d. Stage construction equipment at least 200 feet from existing or new habitable residences; e. Properly tune and maintain equipment for low emissions.	Less-than-Significant

TABLE 2-1
SUMMARY OF SIGNIFICANT ENVIRONMENTAL IMPACTS AND MITIGATION

Environmental Impact		Mitigation Measure	Level of Significance After Mitigation
		f. 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. g. 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. h. 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.	
If uncontrolled, dust generated by grading and construction activities represents a significant air quality impact.	4.3-2	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: a. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day. b. All haul trucks transporting soil, sand, or other loose material off-site shall be covered. c. 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. d. All vehicle speeds on unpaved roads shall be limited to 15 mph. e. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as	Less-than-Significant

TABLE 2-1
SUMMARY OF SIGNIFICANT ENVIRONMENTAL IMPACTS AND MITIGATION

Environmental Impact	Mitigation Measure	Level of Significance After Mitigation
	soon as possible after grading unless seeding or soil binders are used. f. 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.	
4.4 Biological Resources		
Construction of the proposed subdivision could result in potential impacts to California red-legged frog.	4.4-1 The project proponent shall implement the following measures during construction activities in or along East Branch Green Valley Creek to avoid take of individual CRLF: a. Prior to the start of construction, the project proponent shall retain a qualified biologist to train all construction personnel regarding habitat sensitivity, identification of special status species, and required practices. b. Prior to the start of construction, the project proponent shall retain a qualified biologist to conduct pre-construction surveys to ensure that CRLF are absent from the construction area. If CRLF are present, a qualified biologist possessing all necessary permits shall relocate them or they shall be allowed to move out of the construction area on their own. c. Immediately following the pre-construction surveys and a determination that CRLF are not present in the construction zone, the construction zone shall be cleared and silt fencing erected and maintained around construction zones to prevent CRLF from moving into these areas. d. The project proponent shall retain a qualified biological monitor to 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. 4.4-2 The project would impact approximately 0.3 acres of moderate-quality riparian habitat resulting from construction of the vehicular	Less-than-Significant

TABLE 2-1
SUMMARY OF SIGNIFICANT ENVIRONMENTAL IMPACTS AND MITIGATION

Environmental Impact	Mitigation Measure	Level of Significance After Mitigation
	bridges across East Branch Green Valley Creek. The project shall replace the lost value of this impact by restoring the impacted riparian habitat at a minimum 1:1 replacement-to-loss ratio. (Final mitigation amounts will be based on actual impacts to be determined during the design phase.) This shall be accomplished by restoring riparian habitat at the four following locations: a. The existing wet crossing and asphalt near the panhandle (i.e., where the new bridge is to be constructed) shall be removed. The silt and sediment buildup behind and adjacent to the wet crossing and asphalt shall also be removed and the creek bed shall be lowered to restore the natural flow of this portion of the creek. b. The existing crossing from San Andreas Drive shall be removed and the creek restored in this area. c. The two existing cattle grates on Magee West near the existing culverts shall be removed. One of these is causing sediment build up and adversely impacting the creek. The natural flow of this channel shall be restored back to its original condition prior to the original installation of the grates. d. The riparian corridor along the East Branch of Green Valley Creek will be enhanced with suitable planting and placement of riparian vegetation along the proposed trail on Magee East. Approximately 2 acres along East Branch Green Valley Creek between the creek and the trail is available to accommodate the minimum 0.3 acres of riparian enhancement plantings. The enhancement area shall be planted with native species appropriate for the corridor.	
	4.4-3. 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 shall replace the lost functions and value of this impact to aquatic habitats at a minimum of 1:1 replacement-to-loss acreage ratio. The final mitigation amounts will be based on actual impacts to be determined during the design phase. Habitat replacement via creation of and/or enhancements to existing waters	

TABLE 2-1
SUMMARY OF SIGNIFICANT ENVIRONMENTAL IMPACTS AND MITIGATION

Environmental Impact	Mitigation Measure	Level of Significance After Mitigation
	shall 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. Compensation for impacts to jurisdictional waters to benefit the CRLF will include all of the aforementioned components 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. (Refer also to mitigation measures 4.4-13 and 4.4-14 below for impacts to jurisdictional waters.) 4.4-4 The project proposes to preserve approximately 302 acres of the project site as open space. Areas to be preserved would be placed under a conservation easement or deed restriction to prohibit construction and preserve conservation value. The project proposes to create a geologic hazard abatement district (GHAD) to provide suitable funding for management and long-term maintenance of the site. Upland habitats shall be managed via a long-term management plan to maintain the quality of the habitat for the movement and dispersal of CRLF. Prior to construction, the project proponent shall retain a qualified biologist to prepare an open space management plan for the explicit purpose of managing and monitoring the proposed open space area. This plan shall be submitted to the Town of Danville for review and approval prior to issuance of grading permits. At a minimum this plan shall include the following components: a. 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. b. 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 sufficient water budget exist for any proposed enhancement. c. Identify a suitable planting regime for restoring wetland and riparian habitats. d. Identify success criteria for monitoring both the wetland and	

TABLE 2-1
SUMMARY OF SIGNIFICANT ENVIRONMENTAL IMPACTS AND MITIGATION

Environmental Impact	Mitigation Measure	Level of Significance After Mitigation
	riparian habitats that are consistent with similar habitats regionally. e. Monitor restored wetland habitats for at least five years and restored riparian habitats for 10 years. f. Define and identify the GHAD 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, and removal of trash. g. Define the financial mechanism for the GHAD to manage the open space into perpetuity.	
Construction of the proposed subdivision could result in potential impacts to western pond turtle.	Implementation of the avoidance, minimization, and compensation measures for the CRLF (see discussion above) would address impacts to western pond turtles. The project proponent shall also implement the following measures. 4.4-5 Prior to the start of construction, the project proponent shall retain a qualified biologist to train construction personnel regarding habitat sensitivity, identification of special status species, and required practices. 4.4-6 Prior to the start of construction within the East Branch Green Valley Creek riparian area, the project proponent shall retain a qualified biologist to conduct pre-construction surveys to ensure that western pond turtles are absent from the construction area. If western pond turtles are present, a qualified biologist possessing all necessary permits shall be retained to relocate them. 4.4-7 If western pond turtles are found to be absent from the construction zone, immediately following the pre-construction surveys the project proponent shall clear the construction zone and install/maintain silt fencing around the construction zone to prevent western pond turtles from entering these areas.	Less-than-Significant

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SUMMARY OF SIGNIFICANT ENVIRONMENTAL IMPACTS AND MITIGATION

Environmental Impact	Mitigation Measure		Level of Significance After Mitigation
	4.4-8	During construction within the East Branch Green Valley Creek riparian area, the project proponent shall retain a biological monitor to be present onsite during times of construction to ensure that turtles are not harmed, injured, or killed.	
Construction of the proposed subdivision could result in potential impacts to nesting raptors and migratory birds	4.4-9	To the maximum extent practicable, the project proponent shall remove trees during the non-breeding season (September 1 through January 31). If it is not possible to avoid tree removal and associated disturbances during the breeding season (February 1 through August 31), the project proponent shall retain a qualified biologist to 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 250 feet of the footprint, if such disturbance would occur during the breeding season. This survey shall 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 shall be established around all active nests. The precise dimension of the buffer (a minimum of 150 feet up to a maximum of 250 feet) shall be determined at that time and may vary depending on location and species. Buffers shall 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.	Less-than-Significant
Construction of the proposed subdivision could result in potential impacts to burrowing owls.	4.4-10	In order to avoid impacts to active burrowing owl nests, the project proponent shall retain a qualified biologist to conduct pre-construction surveys for burrowing owls within the construction footprint and within 250 feet of the footprint no more than 30 days prior to the onset of ground disturbance. These surveys shall 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-	Less-than-Significant

TABLE 2-1
SUMMARY OF SIGNIFICANT ENVIRONMENTAL IMPACTS AND MITIGATION

Environmental Impact	Mitigation Measure		Level of Significance After Mitigation
		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 used 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 feet of the footprint) during the breeding season (February 1 through August 31), a construction-free buffer of 250 feet shall be established around all active owl nests. The buffer area should be enclosed with temporary fencing, and construction equipment and workers may not enter the enclosed setback areas. Buffers must 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.	
Construction of the proposed subdivision could result in potential impacts to American badgers.	4.4-11	Pre-construction surveys conducted for burrowing owls shall 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, the project contractor shall establish a construction-free buffer around the den of up to 300 feet or a distance specified by the resource agencies (i.e., CDFG). Because badgers are known to use multiple burrows in a breeding burrow complex, the project contractor shall retain a biological monitor during construction activities to ensure the buffer is adequate to avoid direct impacts to individuals or nest abandonment. The monitor shall be present 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.	Less-than-Significant
Development of the proposed subdivision would impact wetlands (0.5 acres) and riparian habitat (0.3 acres).	4.4-12	The project proponent shall replace wetland and riparian habitat at a 1:1 replacement-to-loss ratio. It is expected that all compensation measures can be accommodated within the 287 acres of the site proposed as open space. Prior to issuance of a grading permit, the	Less-than-Significant

TABLE 2-1
SUMMARY OF SIGNIFICANT ENVIRONMENTAL IMPACTS AND MITIGATION

Environmental Impact	Mitigation Measure	Level of Significance After Mitigation
	project proponent shall retain a qualified biologist to prepare an onsite habitat mitigation and monitoring plan (HMMP) that includes both an aquatic habitat restoration plan and a riparian habitat restoration plan. The HMMP would specifically address the wetland and riparian habitats and is separate from the Open Space Management Plan identified in Mitigation 4.4-4, although there may be some overlap. The HMMP shall include the following components, at a minimum: a. Define the location of all restoration/creation activities; b. Provide evidence of a suitable water budget to support any created wetland and riparian habitats; c. Identify the species, amount, and location of plants to be installed; d. Identify the time of year for planting and method for supplemental watering during the establishment period; e. Identify the monitoring period, which should be not less than 5 years for wetland restoration and not less than 10 years for riparian restoration, defines success criteria that will be required for the wetland restoration to be deemed a success; f. Identify adaptive management procedures that include (but are not limited to) measures to address colonization by invasive species, unexpected lack of water, excessive foraging of installed wetland plants by native wildlife, and similar; g. Define management and maintenance activities (weeding of invasives, providing for supplemental water, repair of water delivery systems) of the proposed GHAD; and h. Provide for assurance in funding the monitoring and ensuring that the created wetland and riparian habitats fall within lands to be preserved and managed into perpetuity. Confirm that the proposed GHAD will meet these responsibilities.	
	4.4-13 The project proponent shall comply with all state and federal regulations related to construction work that will impact aquatic habitats occurring on the site. Prior to construction, the project proponent shall 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	

TABLE 2-1
SUMMARY OF SIGNIFICANT ENVIRONMENTAL IMPACTS AND MITIGATION

Environmental Impact	Mitigation Measure		Level of Significance After Mitigation
		CDFG, and submit proof of such documentation to the Town of Danville.	
The project would result in the removal of 38 trees on the site, which represents a potentially significant impact.	4.4-14	Prior to issuance of a grading permit, a tree preservation plan shall be prepared for all trees to be retained that identifies all protection and mitigation measures to be taken and includes the tree preservation guidelines by HortScience in their tree report(s). These measures shall remain in place for the duration of construction activities at the project site.	Less-than-Significant
	4.4-15	Upon completion of construction, the project proponent shall replace all 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" in accordance with the Town's tree ordinance. Tree removal shall be conducted in accordance with the Town's requirements, including planting a mixture of small and large box trees to meet the cumulative diameter number of the removed trees. The project proponent shall replace all 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) at a replacement-to-removal ratio of 1:1. To the maximum extent practicable, all native trees that are removed shall be replaced with like species. All non-native trees that are removed shall be replaced with species that are known to occur naturally within similar habitats in the region.	
	4.4-16	Prior to construction, the project proponent retain a qualified arborist to develop a monitoring plan for replacement trees (outside the riparian habitat) and submit it to the Town of Danville during the permit process. The basic components of the monitoring plan shall include final success criteria, specific performance criteria, monitoring methods, data analysis, monitoring schedule, contingency/remedial measures, and reporting requirements.	
The improvements to the Diablo Road/Green Valley Road intersection would require the removal of 18 trees within the Town right-of-way, which represents a significant impact.	4.4-17	If the Town determines that the improvements to the Diablo Road/Green Valley Road intersection are required, the project shall implement Mitigation Measures 4.4-14 through 4.4-16 as applicable.	Less-than-Significant

TABLE 2-1
SUMMARY OF SIGNIFICANT ENVIRONMENTAL IMPACTS AND MITIGATION

Environmental Impact	Mitigation Measure		Level of Significance After Mitigation
4.5 Cultural Resources			
Construction of the project may result in the discovery and disturbance of unknown archaeological resources and/or human remains.	4.5-1	If during the course of project construction, archaeological resources or human remains are accidentally discovered during construction, work shall be halted within 20 feet of the find until a qualified professional archaeologist can evaluate it. Work shall not recommence until the project archaeologist has submitted documentation to the Town indicating that discovered resources have been adequately salvaged and no further resources have been identified within the area of disturbance.	Less-than-Significant
	4.5-2	Pursuant to Section 7050.5 of the Health and Safety Code and Section 5097.94 of the Public Resources Code of the State of California, in the event of the discovery of human remains during construction, no further excavation or disturbance shall be conducted on the site or any nearby area reasonably suspected to overlie adjacent remains. The Contra Costa County Coroner shall be notified and make a determination as to whether the remains are Native American. If the Coroner determines that the remains are not subject to his authority, he shall notify the Native American Heritage Commission who shall attempt to identify descendants of the deceased Native American. If no satisfactory agreement can be reached as to the disposition of the remains pursuant to this State law, then the land owner shall re-inter the human remains and items associated with Native American burials on the property in a location not subject to further subsurface disturbance.	
Construction of the project may result in the discovery and disturbance of unknown paleontological resources.	4.5-3	If during the course of project construction, paleontological resources are accidentally discovered during construction, work shall be halted within 20 feet of the find until a qualified professional paleontologist can evaluate it. Work shall not recommence until the project paleontologist has submitted documentation to the Town indicating that discovered resources have been adequately salvaged and no further resources have been identified within the area of disturbance.	Less-than-Significant

TABLE 2-1
SUMMARY OF SIGNIFICANT ENVIRONMENTAL IMPACTS AND MITIGATION

Environmental Impact		Mitigation Measure	Level of Significance After Mitigation
4.5 Geotechnical			
Construction of the project could result in temporary soil erosion and loss of topsoil.	4.6-1	In order to reduce wind and water erosion on the project site, an erosion control plan and Storm Water Pollution Prevention Plan (SWPPP) shall be prepared for the site preparation, construction, and post-construction periods (see mitigation measure 4.8-1 in 4.8 Hydrology and Water Quality). The project shall prepare an erosion control plan in accordance with the Town's Erosion Control Ordinance. The project proponent shall implement the following measures, where appropriate, to control erosion: 1) keep construction machinery off of established vegetation as much as possible, especially the vegetation on the upwind side of the construction site; 2) establish specific access routes at the planning phase of the project, and limits of grading prior to development, which should be strictly observed; 3) utilize mechanical measures (i.e., walls from sand bags and/or wooden slat or fabric fences) to reduce sand movement; 4) immediate re-vegetation (plus the use of temporary stabilizing sprays), to keep sand movement to a minimum; and 5) for larger-scale construction, fabric or wooden slat fences should be placed around the construction location to reduce sand movement. This erosion control plan shall be submitted to the Town of Danville for review and approval prior to issuance of a grading permit.	Less-than-Significant
The project would be exposed to potential adverse effects from the seven existing landslides on the project site located near the areas of proposed development.	4.6-2	In order to minimize potential impacts from landslides, final project design plans shall incorporate the recommendations in the preliminary geotechnical report (Appendix E), which includes the following corrective measures: a. Landslide avoidance b. Construction of catchment areas between landslides and proposed improvements c. Partial landslide debris removal and buttressing with engineered fill d. Complete landslide debris removal and replacement as engineered fill	Less-than-Significant

TABLE 2-1
SUMMARY OF SIGNIFICANT ENVIRONMENTAL IMPACTS AND MITIGATION

<table>
<tr><th>Environmental Impact</th><th>Mitigation Measure</th><th>Level of Significance After Mitigation</th></tr>
<tr><td></td><td></td><td>The table below sets forth the required mitigation measures by landslide area (shown in Figure 4.6-2).

<table><tr><th>Landslide</th><th>Mitigation</th></tr><tr><td>1</td><td>Partial landslide removal and buttressing with engineered fill</td></tr><tr><td>2</td><td>Construction of catchment areas between landslides and proposed improvements</td></tr><tr><td>3</td><td>Partial landslide removal and buttressing with engineered fill</td></tr><tr><td>4</td><td>Construction of catchment areas between landslides and proposed improvements</td></tr><tr><td>5</td><td>Complete landslide removal and replacement as engineered fill</td></tr><tr><td>6</td><td>Complete landslide removal and replacement as engineered fill</td></tr><tr><td>7</td><td>Complete landslide removal and replacement as engineered fill</td></tr><tr><td>8-16</td><td>Landslide avoidance</td></tr></table>
Corrective grading for custom lot areas outside the proposed grading envelopes shall be evaluated when more detailed plans are available. Detailed 40-scale corrective grading plans for the entire project shall be prepared when project grading plans have been finalized. Final plans showing the identified recommendations shall be submitted to the Town of Danville for review and approval prior to issuance of a building permit.</td><td></td></tr>
<tr><td>The project site contains expansive soils that could damage proposed residential development, infrastructure, and associated structures.</td><td>4.6-3</td><td>In order to minimize potential impacts from expansive soils, final project design shall incorporate the recommendations in the preliminary geotechnical report (see Appendix E) that include special measures for mitigating adverse impacts from expansive soils, as follows:
a. Conditioning the expansive soils to higher moisture content during site preparation and grading.
b. Supporting the houses on structural slab foundations designed to withstand potential movements of expansive soils.
c. Presoaking the near-surface expansive soils prior to concrete</td><td>Less-than-Significant</td></tr>
</table>

TABLE 2-1
SUMMARY OF SIGNIFICANT ENVIRONMENTAL IMPACTS AND MITIGATION

Environmental Impact	Mitigation Measure	Level of Significance After Mitigation
	placement for the slab foundations. d. Conditioning the expansive subgrade soils in exterior concrete flatwork area to higher moisture content prior to the placement of baserock or concrete (if the flatwork is supported directly on the subgrade). e. Providing surface drainage away from the house foundations and draining the rainwater collected on the roof through pipes connecting to the adjacent storm drains. The final project plans incorporating all the finalized geotechnical recommendations shall be submitted to the Town of Danville for review and approval prior to issuance of a building permit.	
4.7 Hazards & Hazardous Materials		
Development of the proposed project, including excavation and other land disturbance, could result in the release of hazardous materials that may be present on portions of the project site, exposing construction personnel and the environment to potential health and safety risks.	4.7-1 In order to minimize potential human health hazards associated with the historical use of hazardous materials on portions of the project site, the project proponent shall retain a trained professional to prepare a Site Management Plan to maintain the safety of construction workers and assure proper management of any contaminated soils on the site in accordance with federal, state and local regulatory requirements. This plan shall be subject to review and approval by Contra Costa County Health Services, and evidence of approval provided to the Town of Danville, prior to the issuance of any grading permit, demonstrating that all necessary remedial actions have been completed pursuant to the approved Site Management Plan. At a minimum, the Site Management Plan shall include 1) the collection and chemical analysis of soil samples from the former UST location and 2) excavation and soils characterization to confirm that sufficient soils removal has occurred for OCPs and elevated 4, 4-DDE at location SB-3, and 3) proper removal and disposal of all hazardous materials on the site, including contaminated soils, chemical containers observed in the storage shed, and herbicides spray bottles at an approved disposal facility. 4.7-2 The diesel generator enclosure and surrounding area at the western edge of the Magee West site shall be periodically monitored for	Less-than-Significant

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Environmental Impact	Mitigation Measure		Level of Significance After Mitigation
		evidence of a diesel release. An annual report on the status of the enclosure shall be submitted to the Town of Danville.	
4.8 Hydrology & Water Quality			
Construction and operation of the project could impact surface water quality.	4.8-1	In order to avoid water quality impacts, a Storm Water Pollution Prevention Plan (SWPPP) shall be prepared for the site preparation, construction, and post-construction periods. The SWPPP shall incorporate best management practices consistent with the requirements of the National Pollution Discharge Elimination System (NPDES) Municipal Stormwater permit (No. CAS612008). The project proponent shall obtain a NPDES General Construction Permit and prepare the SWPPP in accordance with all legal requirements, prior to the issuance of a grading permit. Additional requirements for erosion control are detailed in mitigation measure 4.6-1 in 4.6 Geotechnical and Geologic Hazards.	Less-than-Significant
4.9 Land Use & Planning			
None	None required		
4.10 Noise			
The noise environment would exceed the City's noise level goal for normally acceptable exterior noise (55 dBA) Ldn at residential building sites for custom lots 69 and 70 near Diablo Road, which represents a potentially significant noise impact.	4.10-1	In order to avoid noise impacts at proposed residential lots located near Diablo Road, the project proponent shall prepare site-specific acoustical analyses where proposed homes are located in noise environments that exceed 55 dBA L_{dn} (i.e., custom lots 69 and 70). Exterior and interior noise levels at these residences shall be maintained in accordance with the standards presented in the General Plan and Municipal Code.[1] The specific determination of necessary treatments, such as forced-air mechanical ventilation or sound-rated windows shall be conducted on a unit-by-unit basis for affected lots based on the results of the site-specific acoustical studies. Evidence shall be provided to the Town of Danville, prior to the issuance of the building permit for the affected lots, demonstrating that all acoustical recommendations have been incorporated into final design.	Less-than-Significant

[1] The Town of Danville 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}.

TABLE 2-1
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Environmental Impact		Mitigation Measure	Level of Significance After Mitigation
		Site planning may be adequate to minimize noise in outdoor activity areas, i.e., locating the outdoor activity areas behind homes or in courtyards. If site planning cannot bring noise levels to acceptable levels, then solid noise barriers shall be incorporated into final design plans to interrupt the sound transmission path between roadway traffic and private outdoor use areas of lots 69 and 70, which may be exposed to an L_{dn} greater than 55 dBA. The type and height of such barriers shall be determined through the site-specific acoustical analyses described above to reduce the L_{dn} at the primary outdoor areas of these lots to an L_{dn} of 55 dBA or less. Barriers should be airtight over the surface and at the base, with a minimum surface weight of 3.0 pounds per square foot. Evidence shall be provided to the Town of Danville, prior to the issuance of the building permit for the affected lots, demonstrating that noise barriers have been incorporated into final design.	
Construction of the project would result in significant short-term noise impacts on nearby sensitive receptors.	4.10-2	Prior to any grading or other construction activities, the applicant shall develop a construction mitigation plan in close coordination with the Town of Danville staff to assure that construction activities are scheduled to minimize noise disturbance. The following conditions shall be incorporated into the building contractor specifications. 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	Less-than-Significant

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Environmental Impact	Mitigation Measure	Level of Significance After Mitigation
	8:00 a.m. and 5:00 p.m., Monday through Friday. 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 outdoor construction or construction-related activities at the project site on weekends and holidays. Indoor construction activities may be allowed based on review/approval of the Town. 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 conduct the following: receive and act on complaints about construction disturbances during infrastructure installation, landslide repair, road building, residential construction, and other construction activities; determine the cause(s) and implement remedial measures as necessary to alleviate significant problems; clearly post his/her name and phone number(s) on a sign at each clustered development and home building site; and, notify area residents of construction activities, schedules, and impacts.	

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Environmental Impact	Mitigation Measure		Level of Significance After Mitigation
4.11 Public Services			
The project would result in an incremental increase in the student population in the SRVUSD.	4.11-1	The applicant shall pay a school impact fee pursuant to the criteria set forth within California Government Code Section 65995. Prior to the issuance of building permits, the applicant shall pay required school mitigation fees, subject to the review and approval of the Town of Danville and San Ramon Valley Unified School District. The fees set forth in Government Code Section 65996 constitute the exclusive means of both "considering" and "mitigating" school facilities impacts of projects [Government Code Section 65996(a)]. They are "deemed to provide full and complete school facilities mitigation" [Government Code Section 65996(b)].	Less-than-Significant
4.12 Traffic & Circulation			
The project trips added to the intersection of Hidden Oaks Drive/Magee Ranch Road and Blackhawk Road during the cumulative plus project AM peak hour would increase the v/c ratio by 0.13, which constitutes a significant impact based on the thresholds of significance.	4.12-1	Per the Town of Danville, signalize the intersection of Hidden Oaks Drive/Magee Ranch Road and Blackhawk Road. 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 project applicant shall make a fair share contribution toward signalization at this intersection. With signalization, the intersection would operate at LOS B or better under all scenarios.	Less-than-Significant
The project trips added to the intersection of Mt. Diablo Scenic Boulevard and Diablo Road during the cumulative plus project school PM peak hour would increase the v/c ratio by 0.076, which constitutes a significant impact based on the thresholds of significance.	4.12-2	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 shall be the project applicant's 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.	Less-than-Significant
Access to Driveway D (southbound left) during the AM and school PM peak periods has the potential to cause unsafe conditions and vehicle queuing.	4.12-3	The project proponent shall modify the roadway striping along McCauley Road between the intersection and approximately 350 feet south of the Diablo Road/Green Valley Road. The modified roadway	Less-than-Significant

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Environmental Impact	Mitigation Measure		Level of Significance After Mitigation
		striping shall 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 in body of EIR.	
The project main entrance (Driveway A) has the potential to provide an unsafe condition for pedestrian crossings of Blackhawk Road.	4.12-4	The project proponent shall install a new pedestrian crossing, with in-pavement lighting or other equivalent pedestrian safety improvement, at the project main entrance on Blackhawk Road. The crossing shall physically connect the project's pedestrian traffic to the existing paved pathway located along the north side of Blackhawk Road.	Less-than-Significant
4.13 Utilities			
Development of the proposed project would require the construction of new water infrastructure in order to serve the project. EBMUD has identified that specific improvements may be necessary to serve new uses located above the 650 foot elevation contour. These improvements are necessary to mitigate potential water supply infrastructure impacts.	4.13-1	Prior to final map recordation, the applicant shall enter into a Low Pressure Service Agreement with East Bay Municipal Utility District for each residential parcel located entirely or partially above the 650 elevation contour. All appropriate water supply infrastructure, including pumping and storage facilities, shall be provided in accordance with the Low Pressure Service Agreement. For new residential parcels that are partially located above the 650 foot contour residential building envelopes may be delineated below the 650' contour to avoid the need for additional site-specific infrastructure, subject to approval by the Town of Danville. New building envelopes, if identified, shall be coordinated directly with East Bay Municipal Utility District. These facilities shall be incorporated into the final design-level infrastructure drawing for the project. The applicant shall sign and execute a Low Pressure Service Agreement prior to final map recordation. All infrastructure improvements shall be incorporated into design-level drawings.	Less-than-Significant
	4.13-2	Prior to the recordation of the final map for each phase of development, the applicant shall submit detailed design-level	

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Environmental Impact		Mitigation Measure	Level of Significance After Mitigation
		infrastructure drawings to the East Bay Municipal Utility District and the Town of Danville for review and approval. All new water supply infrastructure shall be designed in accordance with all applicable East Bay Municipal Utility District specifications. All water supply infrastructure plans shall be reviewed and approved prior to final map recordation.	
	4.13-3	The East Bay Municipal Utility District maintains a right-of-way (R/W 1581) through the project site, which provides access to the Green Valley Reservoir. In order to avoid potential effects to East Bay Municipal Utility District's existing operations, the final map shall clearly delineate all known easements, including East Bay Municipal Utility District's right-of-way (R/W 1581). Any and all activities proposed within the right-of-way shall be coordinated with East Bay Municipal Utility District. This easement shall be reflected in all final design-level improvement plans and appropriate notes shall also be included, subject to the review and approval of the East Bay Municipal Utility District and the Town of Danville.	
Development of the proposed project would increase demands for electricity and natural gas consumption.	4.13-4	In order to ensure that energy demand is reduced to avoid the wasteful or inefficient use of energy, the project proponent shall submit detailed design-level plans to the Town of Danville identifying that energy conservation measures have been incorporated into design and operation of the project, prior to the issuance of any building permit. The proponent shall implement the following or comparable energy conservation measures including, but not limited to, the following: a. Final-design that takes advantage of shade, prevailing winds, landscaping and sun screens to reduce energy use. Project shall meet and/or exceed the requirements of Title 20 and Title 24. b. Install efficient lighting and lighting control systems. Use daylight as an integral part of lighting systems in buildings. c. Install light-colored cool pavements, and strategically placed shade trees. d. Install energy efficient heating and cooling systems, appliances and equipment, and control systems. Including: o smart meters and programmable thermostats. o Heating, Ventilation, and Air Condition (HVAC) ducts	Less-than-Significant

TABLE 2-1 SUMMARY OF SIGNIFICANT ENVIRONMENTAL IMPACTS AND MITIGATION		
Environmental Impact	**Mitigation Measure**	**Level of Significance After Mitigation**
	sealing. e. Install light emitting diodes (LEDs) for outdoor lighting. f. Provide outdoor electrical outlets. The project applicant may proposed substitute measures provide they achieve comparable energy use reductions as the measures proposed above. If alternative measures are proposed, the applicant shall provide detailed evidence demonstrating the measures efficacy at reducing energy demand.	

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3.0 PROJECT DESCRIPTION

This section presents the project description as required by CEQA Guidelines Section 15124. The project consists of the development of the remaining portion of the Magee Ranches property as described in the project application. The application requests approval of a Preliminary Development Plan – Rezoning and a Final Development Plan – Major Subdivision. This would rezone the approximately 410 acre property from A-4 (Agricultural Preserve District), A-2 (General Agricultural District), and P-1 (Planned Unit Development District) to a new P-1 (Planned Unit Development District). In addition, a Vesting Tentative Map is proposed to create 70 single family lots on the site. The lots would be clustered and located primarily on the flatter portions of the property. The project location maps are provided in Figures 3-1 and 3-2. The project plans are on-file and available for review at the Town of Danville Planning Division. The project applicant is SummerHill Homes.

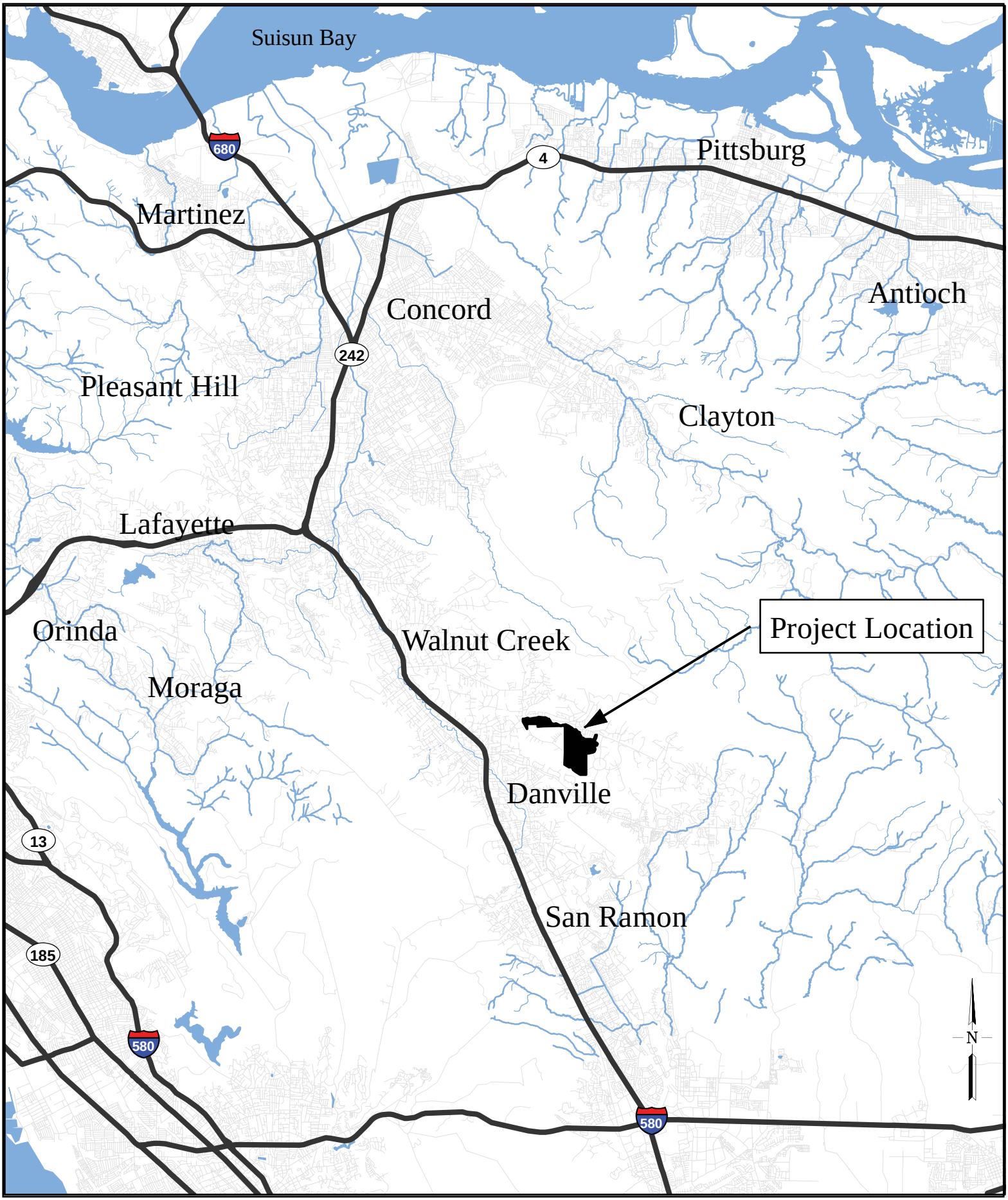
3.1 PROJECT LOCATION AND AREA

The project is located in the Town of Danville, approximately 20 miles east of San Francisco in Northern California (refer to Figure 3-1). The site is bounded by Diablo Road and Blackhawk Road to the north and McCauley Road to the west. The project site is comprised of 11 parcels totaling approximately 410 acres (refer to Figure 3-2). The project site is generally characterized by open grass-covered hills with scattered trees. The elevation of the property ranges from approximately 425 feet along the project's frontage at Diablo Road near McCauley Road to about 860 feet at its highest point.

The project site is located on a portion of a historically larger ranch that has been subdivided several times over the last 60 years. The east portion of the larger original ranch property was developed as the existing Magee Ranch subdivision, located to the south and east of the proposed project site. The site is currently used for beef cattle operations and horse ranching. The property is surrounded by single-family residential neighborhoods, including the Belgian Drive/Clydesdale Drive/Fairway Drive neighborhoods, the unincorporated community of Diablo, and single family homes located between Green Valley Creek and Diablo Road/Blackhawk Road to the north, the Hidden Valley development to the west, the existing Magee Ranch subdivision to the east, and residential uses located on the south side of Short Ridge to the south. Public and private open space areas are also located in the project vicinity, including Sycamore Valley Regional Open Space Preserve and Mt. Diablo State Park.

3.2 PROJECT BACKGROUND

The project site has been in the Magee family since 1949. The original Magee Ranch comprised about 1,200 acres, which were used for orchards and beef cattle operations. The original ranch area extended south of Diablo Road from the current location of the Green Valley/McCauley/Diablo Road intersection, east to the current Magee Ranch Road and neighborhood.



Regional Map

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Monterey | San Jose

Denise Duffy and Associates, Inc.

Environmental Consultants Resource Planners

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Monterey, CA 93940
(831) 373-4341

Figure

3-1



Source: Ruggeri-Jensen-Azar, 2012

Aerial Photograph

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Denise Duffy and Associates, Inc.
Environmental Consultants Resource Planners
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Monterey, CA 93940
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Figure
3-2

In the 1950s, a portion of the Magee Ranch was sold and eventually subdivided into the existing residential neighborhood south of Diablo Road and north of the existing project boundary, known today as the Diablo Creek neighborhood consisting of approximately 150 homes. Thereafter, another portion of the property was sold and later developed into what is now the Magee Ranch subdivision with 257 homes. In 1985, the Magee family acquired approximately 132 acres to the south of the original ranch boundary. In 2001, approximately 100 acres of the overall property were sold and developed as a single family residence. Overall, about 800 acres of the original Magee Ranch have been developed. Today, the size of the remaining Magee Ranch property is approximately 410 acres and used primarily for beef cattle operations.

In October 2010, SummerHill Homes submitted an application for a Preliminary Development Plan – Rezoning and Final Development Plan – Vesting Tentative Map/Major Subdivision to allow for development of 85 residential lots on the property. In March 2011, SummerHill Homes resubmitted the project plans to the Town, which included revisions to the site, grading, utility, and storm water treatment plans. The major change to the proposal was the reduction in the number of residential lots from 85 to 78. The plans were resubmitted again to remove eight lots from the site plan to minimize new access points along Diablo/Blackhawk Road. The current site plan proposes a total of 70 residential lots.

3.3 PROJECT OBJECTIVES

The objectives of the project proponent are listed below:

- Develop a residential project that is consistent with the Town of Danville Agricultural, General Open Space, Rural Residential, and Rural Residential/Single Family-Low Density General Plan Land Use designations for the site as well as the General Plan's Magee Ranch Special Concern Area language.

- Provide 70 residential lots, including 64 home sites at the east end of site south of Blackhawk Road, three custom home sites on the central portion of the site along Diablo Road, and three home sites near the southeast corner of the Diablo Road/McCauley Road intersection.

- Design the project to cluster development on the lower portions of the site to minimize visual impacts and limit disturbance on the property.

- Provide for a minimum of 10% of the 70 lots to include a second dwelling unit ("casita") to satisfy the Town's affordable housing requirements.

- Preserve approximately 302 acres of the project site as permanent open space.

- Preserve significant features of scenic hillsides and major ridgeline areas.

3.4 PROJECT CHARACTERISTICS

3.4.1 SITE PLAN

The project consists of development of two portions of the site, referred to as Magee East (± 335 acres) and Magee West (± 75 acres). Please refer to the maps in Figures 3-3 and 3-4. Magee West development extends east of McCauley Road just south of the intersection of Diablo/McCauley Roads, and on the south side of Diablo/Blackhawk Road east of the Diablo/Blackhawk/McCauley intersection. Six lots are proposed on the Magee West portion of the project site, with three lots on McCauley Road opposite the Green Valley Elementary parking lot, and three custom home lots along Diablo/Blackhawk Road. The majority of development is proposed on the Magee East portion of the site, which lies south of Diablo/Blackhawk Road, roughly between Jillian Way and Creekledge Court. A total of 64 lots are proposed on the Magee East portion of the site consisting of 58 clustered lots and six custom lots.

SummerHill Homes is under contract to purchase the 410-acre project site. The landowner is retaining several access easements on the project site, as shown in Figures 3-4 through 3-7. The project proposes to subdivide the approximately 410-acre site into 70 single-family lots. Within Magee East, 64 lots are proposed ranging in size from approximately 10,000 to 220,000 square feet. Within Magee West, six lots are proposed ranging in size from approximately 29,000 square feet to over 45 acres. Please refer to Table 3-1 below. The project proposes to locate the 70 lots on approximately 108 acres on the flatter portions of the site, avoiding steeper slopes and ridgelines. Street right-of-way encompasses approximately 7.9 acres. The majority of site disturbance activities connected with the project would be concentrated on the approximately 20 acres where clustered development and street right-of-way are proposed.

The remaining portion of the project site (approximately 302 acres) would be preserved as permanent open space. A minimum of 10% of the homes would include second dwelling units, referred to as "casitas," in order to meet the Town's affordable housing requirements. Please refer to the site plans presented in Figures 3-4 through 3-7.

Table 3-1
Magee Ranches Lot Summary

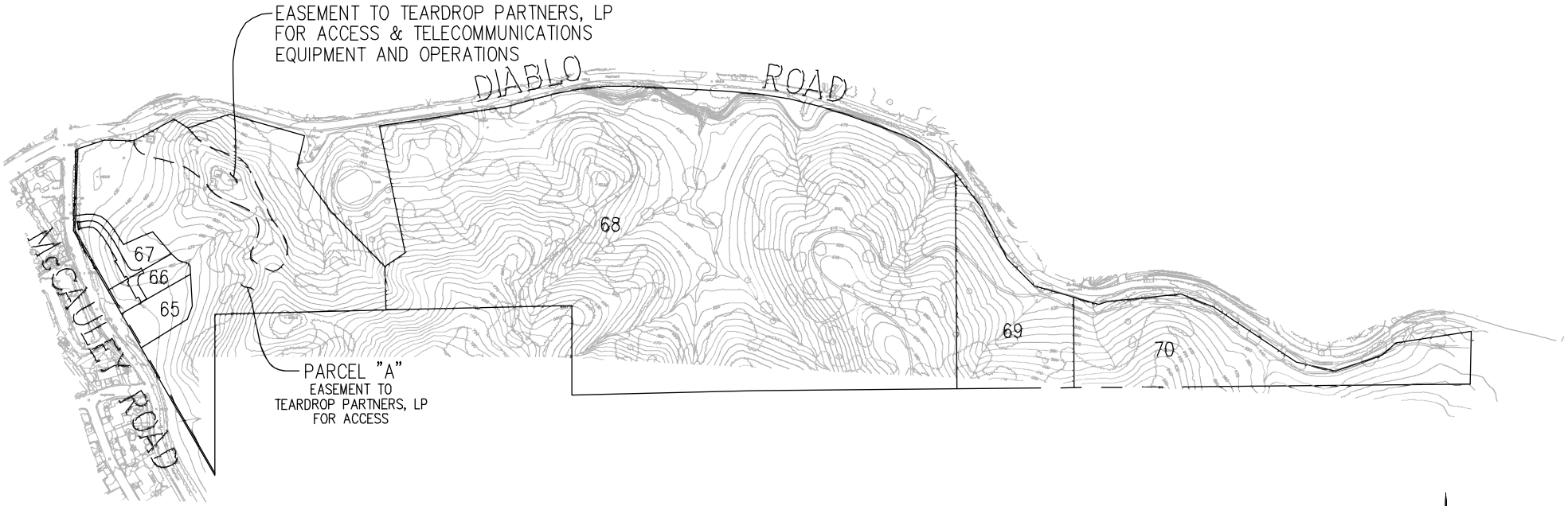
Lot	Area (s.f.)	Lot	Area (s.f.)
1	13,948	36	12,510
2	13,522	37	15,920
3	13,031	38	12,681
4	12,680	39	12,465
5	11,955	40	10,820
6	16,098	41	16,692
7	18,128	42	14,433
8	12,640	43	11,803
9	11,756	44	10,755
10	10,459	45	10,983
11	11,296	46	12,042
12	12,070	47	11,544
13	11,169	48	14,594
14	12,894	49	19,352
15	13,971	50	11,281
16	16,748	51	15,494

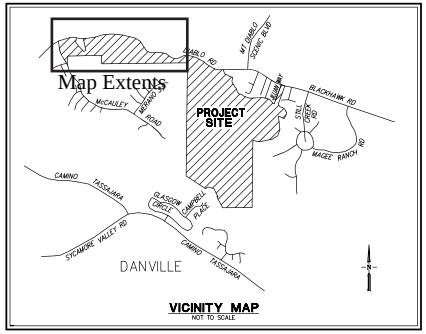
Table 3-1 Magee Ranches Lot Summary			
Lot	**Area (s.f.)**	**Lot**	**Area (s.f.)**
17	11,284	52	13,300
18	11,597	53	12,837
19	10,681	54	19,431
20	14,123	55	13,820
21	17,656	56	12,972
22	15,096	57	13,135
23	10,929	58	15,922
24	11,168	**59**	**10,188**
25	11,746	**60**	**10,048**
26	11,064	**61**	**301,647**
27	11,645	**62**	**218,516**
28	13,630	**63**	**219,942**
29	14,545	**64**	**219,727**
30	12,628	65	36,382
31	14,130	66	29,143
32	15,347	67	50,374
33	13,555	**68**	**1,990,562**
34	14,251	**69**	**217,972**
35	11,471	**70**	**304,482**
Lots 1-64 on Magee East Lots 65-70 on Magee West **Bold** indicates custom lots			

Land Use Entitlements

The applicant is seeking approval of a Preliminary Development Plan – Rezoning and Final Development Plan – Rezoning application and a Vesting Tentative Map. The majority of the project site has a General Plan Land Use Designation of Agricultural and Rural Residential, which allow a minimum residential development density of one unit per five acres. An approximately five acre portion of the site, located adjacent to Diablo Road across from Fairway Drive, has a General Plan Land Use Designation of Residential Single Family- Low Density, which allows a range of 1 to 3 units per acre. Approximately six acres of the site have a General Plan Land Use Designation of General Open Space that precludes development.

In order to cluster development, portions of the site would need to be rezoned. The project would rezone portions of the project site that are currently zoned A-4 (Agricultural Preserve District) and A-2 (General Agricultural District) to P-1 (Planned Unit Development District). In addition, a portion of the site currently zoned P-1 (Planned Unit Development District) would be rezoned to a new P-1 (Planned Unit Development District). The proposed rezoning would allow for residential uses at densities consistent with the General Plan Land Use Designations. The project would also require a Tree Removal Permit.



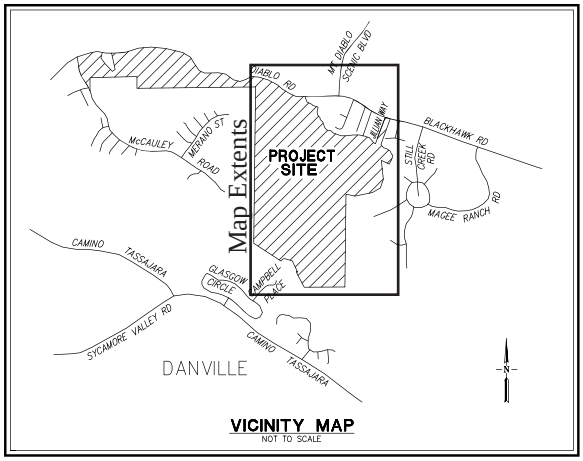


Source: Ruggeri-Jensen-Azar, August 2012

Magee West

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Environmental Consultants Resource Planners
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Monterey, CA 93940
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Figure
3-3



EASEMENT TO TEARDROP PARTNERS, LP FOR ACCESS & TELECOMMUNICATIONS EQUIPMENT AND OPERATIONS

EBMUD (NOT A PART)

BLACKHAWK ROAD

CL FUTURE 10' WIDE EBRPD TRAIL EASEMENT & 25' WIDE ACCESS EASEMENT

ACCESS EASEMENT TO TEARDROP PARTNERS, LP

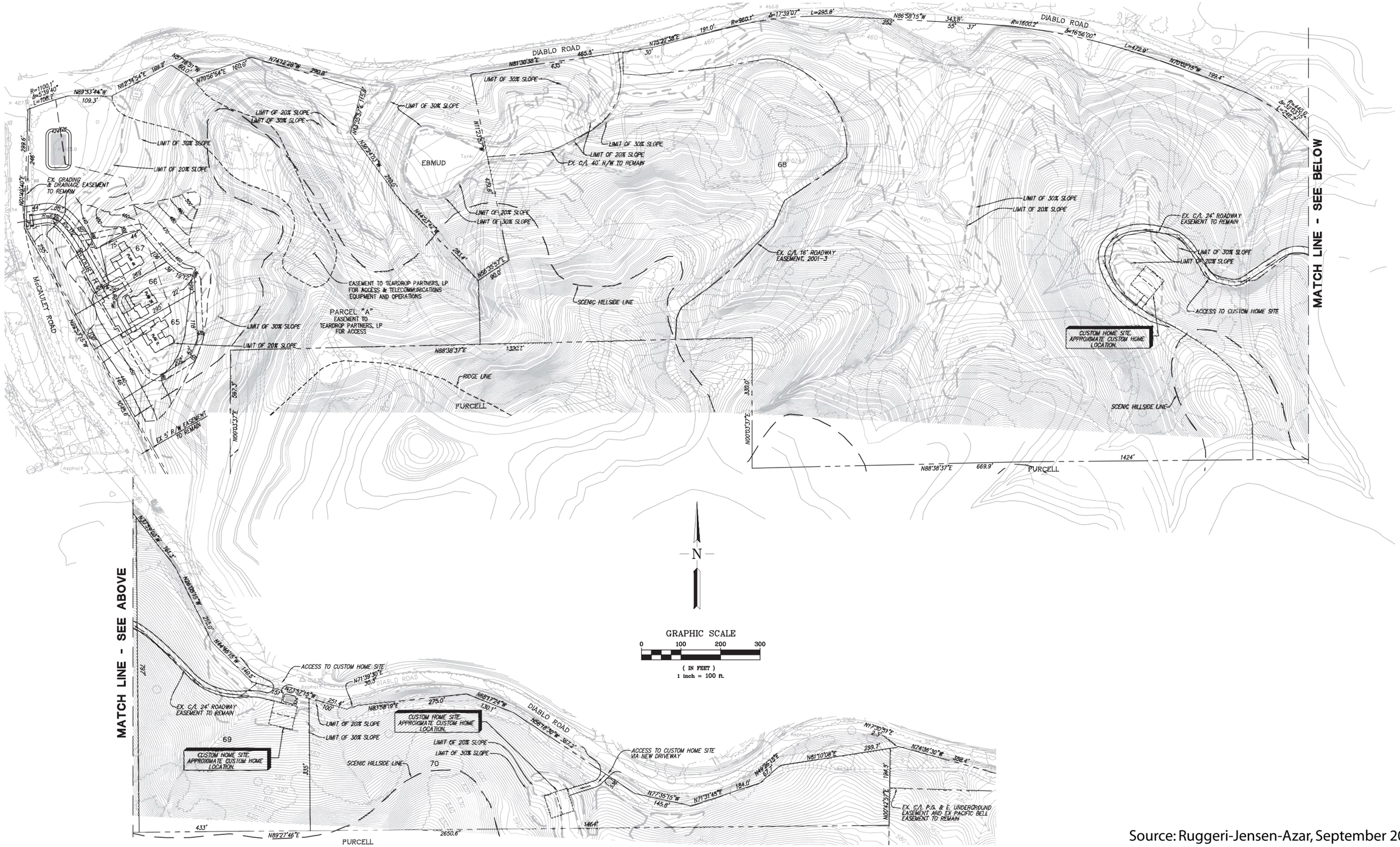
CL FUTURE 10' WIDE EBRPD TRAIL EASEMENT

Source: Ruggeri-Jensen-Azar, August 2012

Magee East

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Figure 3-4

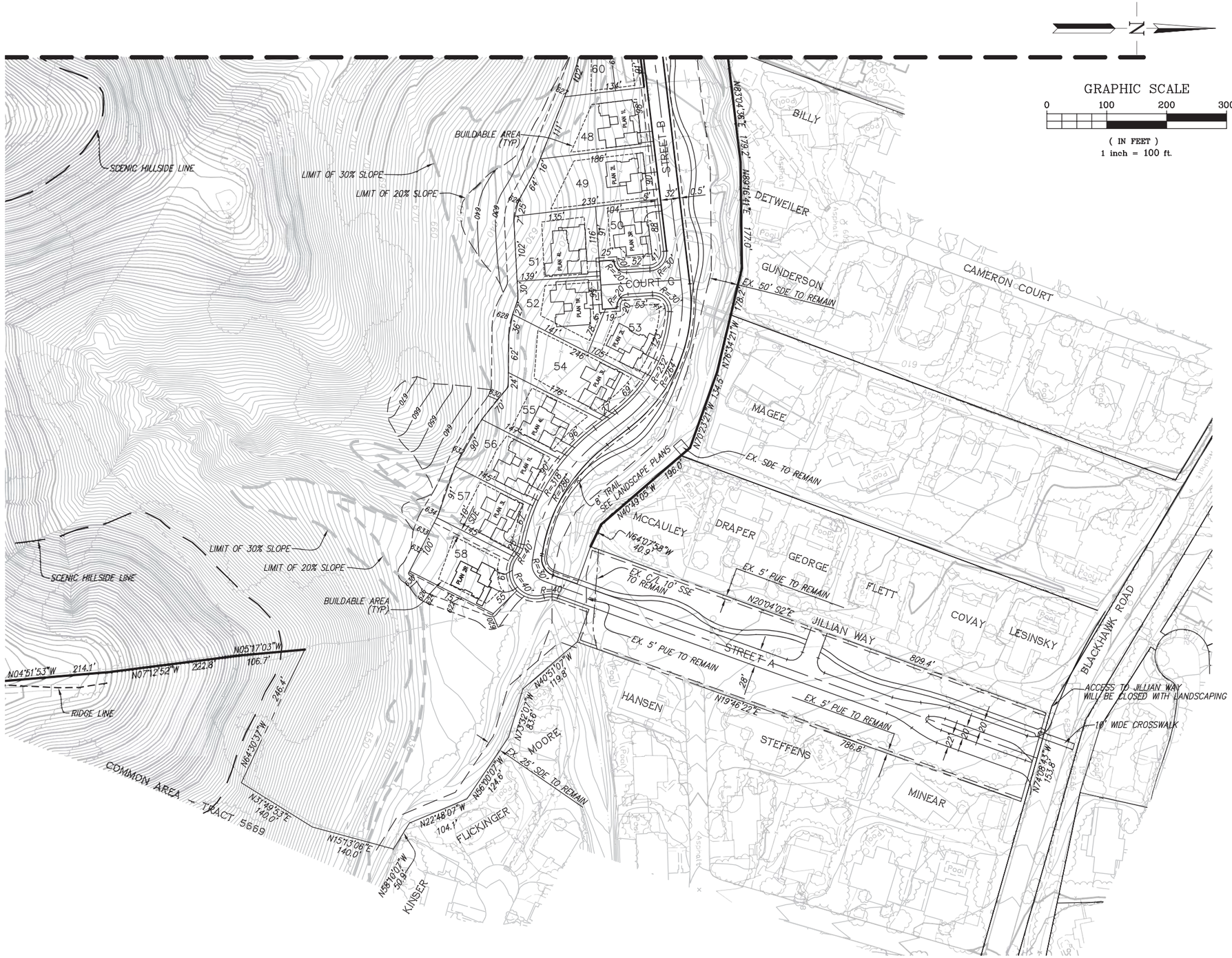


Source: Ruggeri-Jensen-Azar, September 2012

Magee West Site Plan

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Monterey, CA 93940
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Figure
3-5



Source: Ruggeri-Jensen-Azar, September 2012

Magee East Site Plan

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Monterey, CA 93940
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Figure
3-6



Source: Ruggeri-Jensen-Azar, August 2012

Magee East Site Plan

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Figure 3-7

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Consistent with the Magee Ranch General Plan Special Concern Area language, the purpose for the P-1 (Planned Unit Development District) rezoning request is to allow clustering of residential units on the flatter portions of the site while maintaining the same overall density allowed under the current General Plan Land Use Designations. This allows the portions of the site that contain steeper slopes and visible ridgelines to be retained as open space. Table 3-2 below summarizes the existing and proposed zoning by parcel. Maps showing the existing zoning and General Plan designations for the project site are provided in 4.9 Land Use and Planning of this EIR.

Table 3-2
Existing and Proposed Zoning/General Plan Designations

APN	General Plan Designations	Existing Zoning	Proposed Zoning	Acres
202-050-071	Public and Open Space -Agricultural	A-4	P-1	36.4
202-050-073	Public and Open Space - General Open Space	P-1	P-1	3.4
202-050-078	Public and Open Space -Agricultural	A-4	P-1	159.1
202-050-079	Residential - Rural Residential	A-2	P-1	17.2
202-050-080	Residential - Rural Residential	A-2	P-1	52.7
	Residential - Single Family - Low Density	A-2	P-1	5.0
202-100-017	Residential - Rural Residential	A-2	P-1	40.8
202-100-019	Residential - Rural Residential	A-2	P-1	38.9
202-100-038	Residential - Rural Residential	A-2	P-1	51.1
202-100-040	Public and Open Space – General Open Space	P-1	P-1	2.5
215-040-002	Public and Open Space -Agricultural	A-4	P-1	3.2
			Total Acres	**410.3**

A-2; General Agricultural District
A-4; Agricultural Preserve District
P-1; Planned Unit District
Sources: Town of Danville 2010 Land Use Map; Town of Danville Zoning Map

Pedestrian/Bicycle Trail

The project proposes an eight-foot wide pedestrian/bicycle trail in the Magee East portion of the project site. This trail provides access from Blackhawk Road through the panhandle and to the proposed residential portion of Magee East along Green Valley Creek. The trail terminates at the emergency vehicle access road (EVA). The trail, including the EVA portion, is approximately 3,085 linear feet in length. The trail is proposed to be built with decomposed granite (refer to Figure 3-4).

Open Space/Hiking Trails

The project proposes to preserve approximately 302 acres of the 410-acre site as permanent open space, including roughly 287 acres on Magee East and 15 acres on Magee West. As shown in Figure 3-7, portions of existing fire trails are proposed to be granted to the EBRPD for use as public trails. Other existing fire trails within the open space area could be used as private or public hiking trails. The applicant proposes to form a geologic hazard abatement district (GHAD) to own and manage the open space. These trails can be managed by either the GHAD or another public or private entity (such as a park district or the project's homeowners association), provided the applicable resource agencies (e.g., California Department of Fish & Game) do not prohibit public access into the open space.

Landscaping

Landscaping will be incorporated into the project design within the cluster lots, along proposed streets, adjacent to the proposed trail and EVA, and along the main project entrance road. Landscape plans are proposed for Magee East and lots 65-67 on Magee West.

3.4.2 INFRASTRUCTURE

The proposed project would require the construction and installation of infrastructure, including roads, water supply, sanitary sewer, and storm water detention facilities.

Access

Access to the project would be provided by four new residential roadways, as described below.

- Magee East Access. The main access for Magee East would be located on Blackhawk Road in the vacant panhandle property just east of Jillian Way. The entrance would consist of one 28 foot inbound lane, two 14 foot outbound lanes, and a 20 foot landscaped median. The project proposes to close Jillian Way and provide access to the existing Jillian neighborhood through the new panhandle access. This main access road would consist of a two-lane facility with a bridge crossing East Branch Green Valley Creek into the proposed subdivision. The access road would serve 64 proposed residential lots through a network of streets and cul-de-sacs, as shown in Figure 3-4. In addition, an emergency vehicle access road (EVA) for the Magee East portion of the site is proposed from the southern portion of the site to Diablo Road.

- Magee West Access. The access for Magee West would be provided from three points. A road is proposed on the east side of McCauley Road approximately 300 feet south of the Green Valley Road/Diablo Road intersection to provide access to three lots. In addition, two driveways are proposed along Diablo Road to provide access to custom lots 68-70. The driveway to lot 70 would be located on Diablo Road approximately 2,400 feet east of Fairway Drive. A shared driveway is proposed for lots 68 and 69 on Diablo Road approximately 1,510 feet east of Fairway Drive.

Water System

East Bay Municipal Utility District (EBMUD) would be responsible for providing water supply to the project. Water lines are proposed within the roadway right-of-ways for the proposed new access roads. Magee East will connect to existing 8-inch and 16-inch water mains in Blackhawk Road. Magee West will connect to existing water mains in Diablo/Blackhawk Road and McCauley Road. The project will also require annexation of portions of the project site into EBMUD.

Sanitary Sewer System

Sanitary sewer service would be provided by Central Contra Costa Sanitary District. Sanitary sewer lines are proposed within the roadway right-of-ways for the proposed new access roads. Magee East will connect to the existing 8-inch sanitary sewer line in Blackhawk Road. The lots along Diablo Road within Magee West will connect to an existing 15-inch sanitary sewer main in Diablo Road; the lots along McCauley Road will connect to an existing 8-inch sanitary sewer

main in McCauley Road. The project will also require annexation of portions of the project site into the Central Contra Costa Sanitary Sewer District.

Storm Drainage System

The project would provide a drainage system to accommodate the proposed residential subdivision. The project would provide structural controls to mitigate downstream increases in storm water flows for the 10-year flood, in accordance with the Contra Costa County Flood Control Standards. In addition, the project has been designed to mitigate downstream increases in storm water flows for the 100-year flood. The project proposes to install the following drainage facilities for the project:

- biofiltration swales along the entrance road to Magee East,
- bioretention/flow control basin for the McCauley development area in Magee West,
- water quality basin located on the northwest portion of Magee East, and
- individual on-site storm water treatment facilities for custom home-sites.

3.4.3 CONSTRUCTION AND GRADING

Grading

The project would require grading on the site to facilitate construction of the proposed subdivision and associated infrastructure. Proposed grading would be focused mainly on the Magee East portion of the site. Total grading is estimated at approximately 150,000 cubic yards of cut and 150,000 cubic yards of fill. Grading on the site is proposed to balance with no import or export of soil material.

Building Construction/Design

SummerHill Homes is offering various floor plans for homes within the Magee East development and lots 65-67 of Magee West. These designs are referred to as California Ranch, Craftsman, and Mediterranean. Base floor plans range from approximately ± 3,000 square feet to ± 4,000 square feet with three-car garages and a variety of elevations, limited to two-stories. At least 10% of the units will include attached second dwelling units ("casitas") in order to comply with the Town's Inclusionary Housing Ordinance. All structures would be of wood-frame construction.

Development on custom home lots would be of varying design for both Magee East and West. The applicant has provided conceptual building locations for the custom home lots for the purposes of tentative map review; the final building locations, architectural design, grading, and landscape design would be subject to review and approval by the Town under separate Development Plan applications.

Sustainable Design Features

The project would provide the following sustainable design features for new homes on Magee East and lots 65-67 on Magee West, as follows:

- Solar Compatibility
- Designed to be GreenPoint rated
- Tankless hot water heaters

- 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 filters
- High efficiency air conditioner with environmentally responsible refrigerants

Optional sustainable design features offered would include the following measures:

- Solar upgrades
- Whole house fan
- Blown-in insulation
- Electricity monitor

Project Schedule/Phasing

The tentative schedule for proposed development of the 64 lots on the Magee East portion of the project site is summarized below:

Initiate Site Work (grading, roads, utilities):	April 2014
End Initial Site Work:	March 2015
Begin Construction of Model Homes:	June 2014
End Construction of Model Homes:	January 2015
Begin Construction of Homes (Phase I):	October 2015

The schedule for development of the nine proposed custom lots is not known at this time. In the interim, that property will remain in cattle grazing/operations.

Jurisdictional Waters (Wetlands)

A formal wetland delineation was prepared for the project site. Preliminary field verification by the U.S. Army Corps of Engineers determined that East Branch Green Valley Creek, an unnamed seasonal drainage on the south portion of the site, smaller ephemeral drainages, and various impoundments including the borrow pit and stock pond constitute Waters of the United States and are subject to the Corps' regulatory authority. The California Department of Fish and Game also has jurisdiction over the bed and bank of natural drainages. Approximately 0.4 acres of jurisdictional waters would be filled to accommodate the proposed development, with replacement wetland provided as mitigation in accordance with all regulatory agency requirements.

Tree Removal

The project would require the removal of some existing trees on the project site. The arborist report for the site identified the removal of 38 trees primarily to provide access to the site. An additional 18 trees may be removed to provide for improvements at the intersection of Diablo Road/ Green Valley Road if required by the Town. All trees to be removed will be replaced in accordance with the Town's requirements and recommendations in this EIR.

3.5 REQUIRED PERMITS AND APPROVALS

The EIR is an informational document for both agency decision-makers and the public. The Town of Danville is the lead agency responsible for certification of the EIR and approval of potential future project permits. A summary of the anticipated entitlement and processing actions required to implement the project are as follows:

- Certification of the EIR
- Preliminary Development Plan -Rezoning (P-1; Planned Unit Development District) (LEG10-0004)
- Final Development Plan – Vesting Tentative Map/Major Subdivision (DEV10-0071 and SD 9291)
- Final Development Plan (DEV10-0072)
- Tree Removal Permit (TR10-0028)
- Grading and Building Permits

The EIR is also available for the use of responsible, trustee, and other agencies that have jurisdiction or approval authority for the project. These agencies may include:

- U.S. Fish and Wildlife
- U.S. Army Corps of Engineers
- California Department of Fish & Game
- San Francisco Bay Regional Water Quality Control Board
- East Bay Municipal Utility District
- Central Contra Costa Sanitary Sewer District
- Contra Costa County Flood Control and Water Conservation District
- Contra Costa County Public Works Department
- Contra Costa Local Agency Formation Commission

3.6 INTENDED USE OF EIR

It is the intent of this EIR to provide the Town of Danville, decision makers, and the general public with the relevant environmental information to use in considering the project. The Town of Danville will use the EIR for discretionary approvals of the various entitlements required to develop the project. This EIR will be used by other agencies requested to provide permits or other discretionary approvals for implementation of the project (i.e., resource agencies and other agencies listed above).

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4.0 ENVIRONMENTAL SETTING, IMPACTS AND MITIGATION MEASURES

This section describes each of the environmental categories affected by the proposed project. Each category consists of three parts: Introduction, Environmental Setting, and Impacts and Mitigation Measures. Environmental impacts can be described as follows: less-than- significant, potentially significant, significant adverse, and significant unavoidable. The specific criteria for determining the significance of a particular impact are identified prior to the impact discussion in each issue section, and are consistent with significance criteria set forth in CEQA Guidelines and local, regional, state or federal standards.

A separate Mitigation Monitoring Program (as required by PRC §21081.6) will be developed in conjunction with the Final EIR, that outlines the mitigation measures and the monitoring and reporting methods that would be employed. The Mitigation Monitoring Program will be considered for adoption by the City Council at the time the Final EIR is certified.

Under CEQA, a significant impact is defined as a substantial, or potentially substantial, adverse change in the environment (Public Resources Code 21068). The guidelines implementing CEQA direct that this determination be based on scientific and factual data. The specific criteria for determining the significance of a particular impact are identified prior to the impact discussion in each section, and are consistent with significance criteria set forth in the guidelines implementing CEQA.

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4.1 AESTHETICS

Introduction

This section assesses the existing visual quality of the project site and potential changes to the visual and aesthetic environment that would result from the proposed development. In assessing the visual quality of a site, it is important to consider that visual quality is not determined solely by the physical attributes of a project, but also by the relationship between the project and the total visual environment.

The visual analysis for the project was performed based on field surveys conducted by the EIR consultant, photos of the project site, and visual simulations of the site prepared by Digital Imaging Studio (2012). The visual simulations were created based on a modeled environment using digital photography and computer graphic programming. Nine vantage points were selected for this analysis to represent public views from both public right-of-way and publicly accessible areas located within the project vicinity. The simulations show views of the site pre-development, with development, and with development and landscaping. The simulations are presented later in this analysis.

The EIR consultant conducted a field survey and documented views of the project site from various public views from public right-of-way and publicly accessible areas within the project vicinity. These photos are presented in Figure 4.1-1. As part of the visual reconnaissance, aerial photographs, project plans, and visual simulations were studied and areas of special interest or potential scenic value were noted for assessment during field review.

Setting

The project site comprises approximately 410 acres. The property consists predominantly of open range land and hillsides used for cattle operations. Oak woodland is scattered throughout the property. The site varies in elevation from approximately 430 feet in the northwestern corner to approximately 955 feet in the southern portion of the site. The East Branch Green Valley Creek extends in a northwesterly direction along portions of the north boundary of the project site. Existing structures on the property include water storage facilities, cell tower sites, storage buildings, horse corrals, parking areas, and access roads associated with the existing ranching use.

The project site is bounded by single-family residences, Blackhawk Road, and Diablo Road to the north, open range land and McCauley Road to the west, and single family residences and open space or range land to the south and east. Mt. Diablo State Park is located approximately one mile northeast of the site.

The visual character of the project site combines open grazing lands, oak-covered hillsides, and creeks. The site's flatter portions are located along sections south of Diablo Road and east of McCauley Road, with hilly terrain and ridges in the southern and central portions. The East Branch Green Valley Creek creates a dense riparian canopy along portions of the site's north boundary. The majority of existing ranching development on the site is located in the northern part of the site near the creek. Photos of the existing site are presented in Figure 4.1-1.



Photo 1. View of Magee West from McCauley Road.



Photo 2. View of site at location of proposed entrance road to Magee East.



Photo 3. View of Magee East looking west from the east access road.



Photo 4. View of Magee East showing existing ranching structures.

Site Photographs

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Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure
4.1-1A



Photo 5. View of East Branch Green Valley Creek corridor within Magee East.



Photo 6. View of central portion of Magee East looking north.



Photo 7. View of central portion of Magee East looking south.

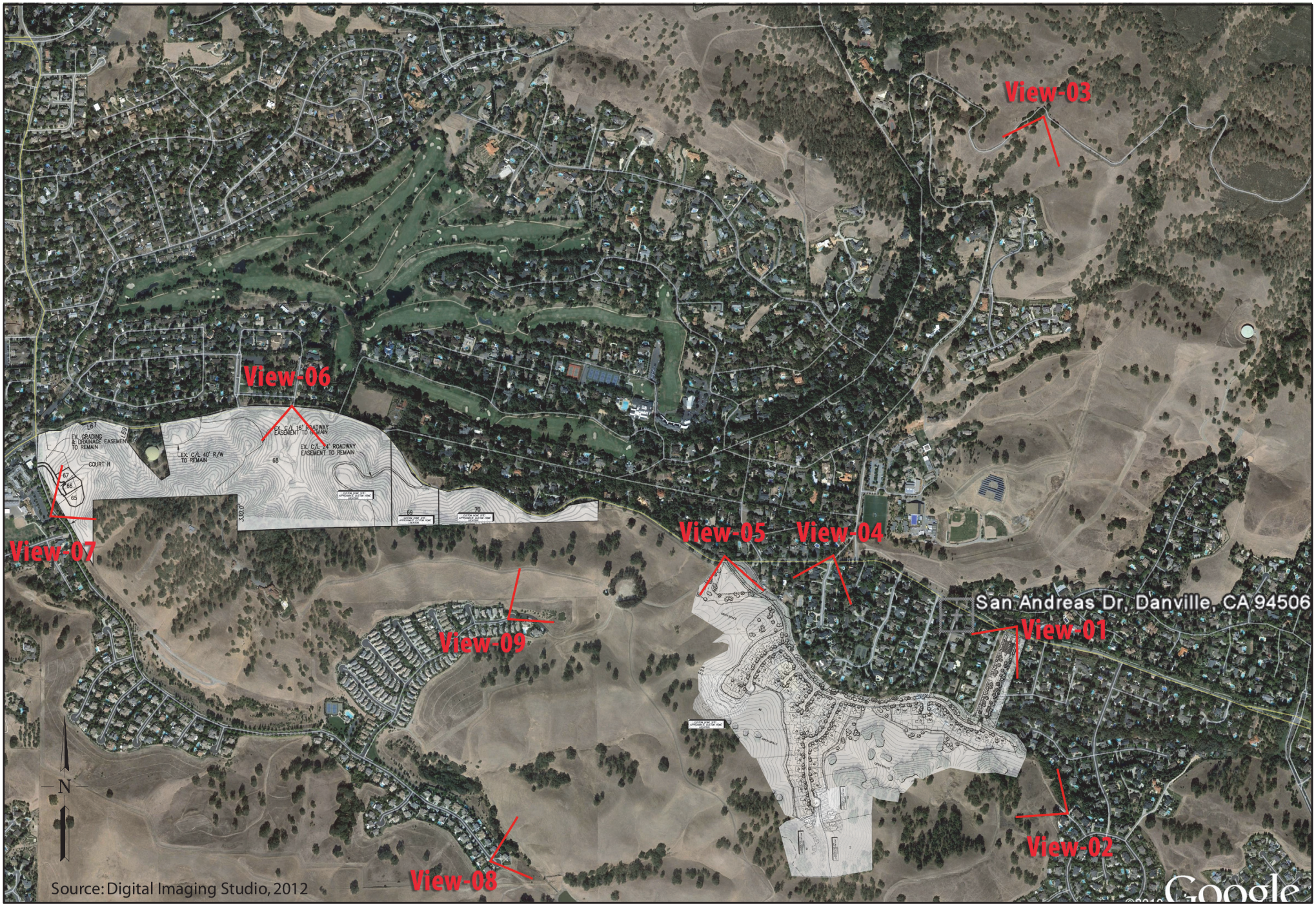


Photo 8. View of approximate location of proposed detention basin.

Site Photographs

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Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure
4.1-1B



Visual Simulations - Map Locator

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Denise Duffy and Associates, Inc.
Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure
4.1-2

Regulatory Environment

Town of Danville General Plan. The Town of Danville General Plan contains policies related to the preservation and enhancement of the visual character of the Town and surrounding areas. Please refer to Table 4.9-2 of Land Use and Planning for a detailed analysis of the project's consistency with the relevant provisions of the General Plan.

The General Plan identifies the Diablo Road corridor in the project area as "an important scenic corridor." The Town strongly supports retaining the character and views from the road. Recognizing the visually sensitive character of the area, the Town has designated the Magee Ranch property as a Special Concern Area. The General Plan encourages the transfer of allowable densities to the least sensitive and least obstructive portions of the site to preserve the openness of the undeveloped property.

Town of Danville Municipal Code. The Town of Danville Municipal Code contains additional regulations related to the preservation of the existing visual characteristics of the Town. These requirements are codified in the Scenic Hillside and Major Ridgeline Development Ordinance (Municipal Code §32-69). As described in Municipal Code §32-69.1.b, the purpose of the Scenic Hillside and Major Ridgeline Development Ordinance is to preserve significant features of scenic hillsides and major ridgeline areas. Scenic and major ridgelines are identified in Figure 10 of the Danville 2010General Plan. Portions of the project site are identified as a scenic hillside and/or major ridgeline according to the 2010 General Plan. In accordance with Municipal Code §32-69.4.d, all new lots created as part of the project shall not result in the creation of a building site within 100 feet below the centerline of a major ridgeline. New building sites shall be identified in accordance with the requirements of this policy.

Overview of Project Design

The applicant, SummerHill Homes, is offering a variety of floor plans for the proposed homes. These designs are referred to as California Ranch, Craftsman, and Mediterranean. Base floor plans range from ± 3,000 to ± 4,000 square feet in size, with three-car garages, and a variety of elevations limited to two-stories. At least 10% of the units would include attached second dwelling units.

Development on custom home lots would be of varying design. The applicant has provided conceptual building locations for the custom home lots for the purposes of tentative map review, as shown in the site plans in Figures 3-6 and 3-7. The final building locations, architectural design, grading, and landscape design would be subject to review and approval by the Town under separate Development Plan applications.

Approximately 150,000 cubic yards of cut/fill will occur to develop the proposed project. The project proposes to balance the cut and fill on site. In addition, the project will require vegetation and tree removal. A total of 38 trees will be removed based on the proposed site plan and tree surveys completed for the project by HortScience (2012). Additional trees may require removal for intersection improvements at Diablo Road/Green Valley Road within the Town's right-of-way. All trees will be replaced and a landscaping plan implemented as part of the project to help minimize the visual effects of vegetation removal and provide landscape screening.

Results of the Visual Simulations

The project site currently consists predominantly of undeveloped grasslands and oak woodland, with hilly terrain and ridgelines in the southern and central portions of the property (refer to Site Photos in Figure 4.1-1). The project would introduce 70 new residences onto the project site, which would potentially affect existing views of undeveloped ranch lands and open space on the site from certain vantage points.

The visual simulations of the project considered nine vantage points to represent public views from both public right-of-way and publicly accessible areas located within the project vicinity, as listed below. The proposed development would not be visible from the Sycamore Valley Open Space Preserve area.

1. Blackhawk Road and adjacent trail at main project entrance
2. Brightwood Lane at terminus
3. Mt. Diablo Scenic Boulevard and surrounding area within Mt. Diablo State Park
4. Diablo Road at Creekledge Court
5. Diablo Road at the existing access gate
6. Diablo Road at Fairway Drive
7. McCauley Road across from Green Valley Elementary
8. McCauley Road at terminus
9. Merano Street at terminus

The locations of the nine viewpoints are presented in Figure 4.1-2. The viewpoints included in the simulations were determined by field and map review to identify surrounding public street locations from which the project site may be visible. The visual simulations show a series of still images taken from these viewpoints. The simulations were developed by Digital Imaging Studio through a series of steps. Digital photographs were taken using a 50mm lens on a 35mm camera, with a viewing angle of approximately 40 degrees. Computer-generated photo composites were created to simulate views of the proposed Magee Ranches development. The simulations were created using a combination of existing site photography and computer-generated models as follows:

- Site photographs taken using a 35mm single lens reflex (SLR) lens with a digital camera
- Input of computer-generated site, both existing and proposed conditions from the civil engineer's drawings (Autodesk AutoCAD 2010 software)
- Camera matching of existing photo to existing site, using grading model for reference (Autodesk 3D Studio MAX 2011 software)
- Input of computer-generated houses using Dahlin Group architectural models from equivalent lots (Autodesk 3D Studio MAX 2011 software)
- Creation of computer-generated landscaping based on typical Bay Area species (Autodesk 3D Studio MAX 2011 software)
- Photo editing of computer-simulated view overlaid onto real site photographs (Adobe Photoshop CS4 software)



Existing View

Source: Digital Imaging Studio, 2012

Visual Simulations View 1 - Blackhawk Road

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Denise Duffy and Associates, Inc.
Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure
4.1-3A



Proposed View Without Landscaping

Source: Digital Imaging Studio, 2012

Visual Simulations View 1 - Blackhawk Road

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Denise Duffy and Associates, Inc.
Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure
4.1-3B



Proposed View With Landscaping

Source: Digital Imaging Studio, 2012

Visual Simulations View 1 - Blackhawk Road

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Denise Duffy and Associates, Inc.
Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure
4.1-3C



Existing View - No Visual Impact

Source: Digital Imaging Studio, 2012

Visual Simulations View 2 - Brightwood Lane

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Denise Duffy and Associates, Inc.
Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure
4.1-4



Existing View

Source: Digital Imaging Studio, 2012

Visual Simulations View 3 - Mt. Diablo Scenic Blvd

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Denise Duffy and Associates, Inc.
Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure
4.1-5A



Proposed View Without Landscaping

Source: Digital Imaging Studio, 2012

Visual Simulations View 3 - Mt. Diablo Scenic Blvd

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Denise Duffy and Associates, Inc.
Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure
4.1-5B



Proposed View With Landscaping

Source: Digital Imaging Studio, 2012

Visual Simulations View 3 - Mt. Diablo Scenic Blvd

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Denise Duffy and Associates, Inc.
Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure
4.1-5C



Existing View - No Visual Impact

Source: Digital Imaging Studio, 2012

Visual Simulations View 4 - Diablo Rd. at Creekledge Ct.

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Denise Duffy and Associates, Inc.
Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure
4.1-6



Existing View

Source: Digital Imaging Studio, 2012

Visual Simulations View 5 - Diablo Rd. at Ranch Gate Access

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Denise Duffy and Associates, Inc.
Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure
4.1-7A



Proposed View With Landscaping

Source: Digital Imaging Studio, 2012

Visual Simulations View 5 - Diablo Rd. at Ranch Gate Access

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Denise Duffy and Associates, Inc.
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947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure
4.1-7B



Existing View - No Visual Impact

Source: Digital Imaging Studio, 2012

Visual Simulations View 6 - Diablo Rd. at Fairway Rd.

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Denise Duffy and Associates, Inc.
Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure
4.1-8



Existing View

Source: Digital Imaging Studio, 2012

Visual Simulations View 7 - McCauley Rd.

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Denise Duffy and Associates, Inc.
Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure
4.1-9A



Proposed View Without Landscaping

Source: Digital Imaging Studio, 2012

Visual Simulations View 7 - McCauley Rd.

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Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure
4.1-9B



Proposed View With Landscaping

Source: Digital Imaging Studio, 2012

Visual Simulations View 7 - McCauley Rd.

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Denise Duffy and Associates, Inc.
Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure
4.1-9C



Existing View - No Visual Impact

Source: Digital Imaging Studio, 2012

Visual Simulations View 8 - South End McCauley Rd.

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Denise Duffy and Associates, Inc.
Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure
4.1-10



Existing View - No Visual Impact

Source: Digital Imaging Studio, 2012

Visual Simulations View 9 - East End Merano St.

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947 Cass Street, Suite 5
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(831) 373-4341

Figure
4.1-11

As shown in the visual simulations, the project would alter views from three of the studied public viewpoints: 1, 3, and 7. The visual effects at these locations are described in the discussion below.

Viewpoint 1: Blackhawk Road at Project Entrance. As shown in Figures 4.1-3A - C, the view from Blackhawk Road would be altered by development of the new project entrance near Jillian Way. The project would require vegetation and tree removal and introduce a two-lane entrance road, walkway, landscape median, decorative arbor, signage, and other built elements. Removal of existing trees and vegetation would change the existing visual character of the site as perceived from this location by creating new views of the site, including rolling hillsides, and views of some new homes.

The location of the project entrance currently consists of disturbed grasslands that have been used as access into the Magee Ranch. This area has also been used for storage of various ranch debris/material. Introduction of the project entrance/road and vegetation removal at this location would modify the existing visual character at from Blackhawk Road and the adjacent trail from this viewpoint; however, this is not considered significant given the disturbed nature of the area (with a dirt road and materials storage), the project's inclusion of landscaping and other decorative features, and the consistency of the proposed residential uses with adjacent residential properties.

Viewpoint 2: Terminus Brightwood Lane. As shown in Figure 4.1-4, the view from the terminus of Brightwood Lane would not be affected by proposed development. Visibility into the proposed development would be blocked by the hilly terrain and existing vegetation, which would not be altered by project development in this area based on the proposed project plans.

Viewpoint 3: Mt. Diablo Scenic Boulevard. This viewpoint is located along Mt. Diablo Scenic Boulevard within Mt. Diablo State Park. As shown in the existing view in Figure 4.1-5A, this location offers a sweeping vista south of the Diablo Mountain Range, Short Ridge above the project site, and the valley along the Diablo/Blackhawk corridor. The view of the project site after development is presented in Figures 4.1-5B and C. As illustrated in these figures, the project would introduce new residential development in a previously undeveloped area. While the project would result in the introduction of new built elements on a previously undeveloped site and visually transform a portion of the site, the introduction of new development is not anticipated to significantly alter the existing visual character of the site as perceived from this location. From this distance, the subdivision would appear as an extension of existing residential development and landscaping located immediately north of the site. Although the proposed development would be visible, it would be largely screened by existing trees and vegetation within the valley below and along East Branch Green Valley Creek. To the casual observer, it is unlikely that the change in view would be noticeable. To the trained eye, the new development would appear as an extension of the urban landscape with a small decrease in open space. Given the vastness of the viewshed from Mt. Diablo Scenic Boulevard, the change in visual character from the project is considered less-than-significant based on the following: 1) distance between the viewpoint and site, 2) large scale of the overall viewshed from this elevation, 3) relatively minor scale of proposed residential development, and 4) avoidance of hillside or ridgeline development consistent with the Town's General Plan.

Viewpoint 4: Diablo Road at Creekledge Court. As shown in Figure 4.1-6, the view from Diablo Road at Creekledge Court would not be affected by proposed development. Views of the proposed project at this location would be blocked by existing residential structures and trees.

Viewpoint 5: Diablo Road at Access Gate. As shown in Figures 4.1-7A and B, the view from Diablo Road at the access gate would not be affected by proposed development. The view from this location shows the back of the proposed detention basin, a portion of the proposed emergency vehicle access road, and proposed landscaping.

Viewpoint 6: Diablo Road at Fairway Drive. As shown in Figure 4.1-8, the view from Diablo Road at Fairway Drive would not be affected by proposed development. Only one custom home lot is proposed in this general area, which would not be visible at this viewpoint due to obstructing vegetation.

Viewpoint 7: McCauley Road across from Green Valley Elementary. This viewpoint is located along McCauley Road adjacent to the parking lot of Green Valley Elementary. As shown in the existing view in Figure 4.1-9A, the existing viewshed consists of large oaks, open grassland, and planted trees. The views of the project site after development are presented in Figures 4.1-9B and C. As illustrated in this figure, the project would convert this relatively flat, open area into a small three-unit residential area. Although clearly visible from McCauley Road, the introduction of three homes into this relatively urban area adjacent to a parking lot and school would not have a significant adverse impact on views from this vantage point.

Viewpoint 8: Terminus of McCauley Road. As shown in Figure 4.1-10, the view from the end of McCauley Road would not be affected by proposed development. Views of proposed development within Magee East and West would be obstructed by intervening terrain.

Viewpoint 9: Terminus of Merano Street. As shown in Figure 4.1-11, the view from the end of Merano Street would not be affected by proposed development. Views of proposed development would be obstructed by intervening terrain.

Thresholds of Significance

In accordance with the California Environmental Quality Act (CEQA) Guidelines, a project impact would be considered significant if the project would:

- have a substantial adverse effect on a scenic vista;
- substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within view from a state scenic highway;
- substantially degrade the existing visual character or quality of the site and its surroundings; or
- create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

Impacts and Mitigation

Scenic Vista Impacts

Development would primarily be concentrated within the flatter portions of the site in order to minimize potential visual effects and changes in topography. In addition, development activities have been clustered in these areas in order to achieve consistency with Town of Danville requirements related to the preservation of scenic hillsides and major ridgelines. As a result, views are largely obstructed by existing vegetation and terrain. As described above, the project would be visible from three public viewing locations, including Mt. Diablo Scenic Boulevard. Viewer sensitivity and the extent of visual impacts is contingent upon a variety of factors, such as

duration of view, distance of viewshed, etc., and may be subjective. The project would be visible from one public location that may be considered representative of a scenic vista: Mt. Diablo State Park, specifically from Mt. Diablo Scenic Boulevard. The existing viewshed would be altered due to the introduction of new built elements associated with the project. However, as described above, these distant views of the site would not be significant or otherwise have an adverse effect on the scenic vistas from this location. The project would not have a substantial adverse impact on scenic vistas.

State Scenic Highway Impacts

The project site does not lie adjacent to or near any designated state scenic highway. The Town of Danville General Plan identifies the Diablo Road corridor in the project area as "an important scenic corridor," and the Town strongly supports retaining the character and views from the road. As shown in the visual simulations of the project, the majority of the site is not visible from Diablo/Blackhawk Roads due to the presence of mature trees and vegetation. The portions of the site that will visible from Diablo Road are described previously and addressed under "Visual Character" below. The project would not result in an impact to a state designated scenic corridor.

Degradation of Visual Character

Development of the proposed project would alter the existing visual character of the site, transforming mostly undeveloped grazing land into a residential community. The project proposes to locate 70 residential lots on approximately 108 acres on the flatter portions of the site, avoiding steeper slopes and ridgelines. The property is currently surrounded by residential uses to the north and east. Proposed development would also be visible from locations along public facilities at three studied locations:

- Viewpoint 1 (Blackhawk at Main Project Entrance)
- Viewpoint 3 (Mt. Diablo Scenic Boulevard in Mt. Diablo State Park)
- Viewpoint 7 (McCauley Road)

The siting, scale, and appearance of the proposed development help determine the viewer's perception of the altered landscape. The project has been designed to avoid ridgelines and steeper terrain to minimize visibility and adverse visual effects. Other design measures of the project include height limitations (maximum two-stories), landscape screening, varied architectural styles (consistent with nearby residential communities), and appropriate color schemes. Proposed development near existing residential uses (i.e., within the north portion of Magee East), is buffered by the existing East Branch Green Valley Creek channel and vegetation, a proposed trail, and a proposed road. The existing mature trees and vegetation along East Branch Green Valley Creek will also help screen views of the proposed development at the nearest setbacks on Magee East. In addition, the existing trees along McCauley Road would help obstruct views of proposed development at this location.

Grading of approximately 150,000 cubic yards of cut/fill is required to develop the project. This will permanently alter the terrain in portions of the site. Grading is necessary in order to re-contour portions of the site to accommodate building pads, roads, and related infrastructure. These activities will result in temporary construction-related impacts as well as permanent changes in the visual character of the site. Areas of major grading are limited to isolated areas and visual effects would primarily be contained within the boundaries of the site. In some instances, grading would result in lowering of the existing grade elevation. These grading and ground

disturbance activities, while visually altering the existing visual character within the boundaries of the site, would not constitute a significant effect for the purposes of CEQA.

In order to assess project impacts to the existing visual character of the site, field surveys were conducted and photographs taken of the site from key vantage points. In addition, the project engineer prepared visual simulations of the proposed project. The visual simulations were determined to be accurate by the Town for purposes of the EIR analysis and were used to help assess the project's visual effects. Below is a description of the project's primary development components and uses and their resulting visual effects.

The rezoning of the residential portion the site to P-1 in order to cluster development to the least sensitive of the project site is consistent with the General Plan Magee Ranch Special Concern Area language and with §32-69 of the Municipal Code. The Danville 2010 General Plan identifies that the hillsides and ridgelines on the project site are considered visually sensitive; these portions of the site are designated as scenic hillsides and major ridgeline areas in the General Plan (see Figure 10 of the Danville 2010 General Plan). Municipal Code §32-69 regulates development activities within these areas. According to §32-69.1(b)(7), the purpose of these requirements is to "preserve the predominant views of the scenic hillsides and major ridgelines in order to retain the sense of identity and image that these areas now impart to the Town and its environs." The proposed project, by concentrating development on the flatter and least visually sensitive areas of the site, would avoid significant ridgeline development, including the construction of new residences, grading, and installation of project infrastructure, that could otherwise potentially occur under the site's existing zoning designation.

As part of the project design, the project is proposing landscape screening appropriate to the surrounding area in order to integrate the development into the existing natural landscape. In addition, future homes would be designed with colors and materials that seek to blend the structures with the surrounding landscape to the extent possible. Building applications for new structures would be subject to review and approval by the Town of Danville.

The project would permanently alter the existing visual character of the site due to grading activities, vegetation and tree removal, and the introduction of up to 70 new residential units and associated roads and infrastructure. Project-specific design measures are intended to minimize visual impacts and enhance overall attractiveness of the proposed development. The project is not anticipated to significantly degrade the existing visual character or quality of the site and its surroundings given the following: 1) results of the visual simulations that show limited visual intrusion and modification from public viewpoints, 2) design that is sensitive to the visual character of the area, consistent with neighboring residential development and with the Town's General Plan policies, and 3) obstruction of much of the site from public view due to intervening terrain and vegetation. The project would not significantly degrade the existing visual character or quality of the site and its surroundings based on the above discussion.

Light/Glare Impacts

The project site is currently unlit. Existing sources of nighttime lighting and glare in the project area are from street/security lighting and various sources from residential development. The project would introduce a new source of light from development. The proposed project would require night lighting in parking areas and along streets for access and safety. The Town's subdivision ordinance requires that new developments located within one mile of a school install street lights. The Athenian school, a private grade 6-12 school, is located within one mile from the project site near the intersection of Diablo Road/Mt. Diablo Scenic Boulevard. Typical

required street lighting would consist of 17-foot high lights spaced 150-200 feet apart, unless otherwise approved by the Town.

The proposed project would increase the intensity of development within an existing undeveloped area and the amount of artificial light produced on the site. Artificial lighting within the project site would somewhat affect nighttime views by altering the natural landscape and adding new sources. In addition, the additional lighting within the project site, especially unshielded light, could result in spillover light that could impact surrounding land uses.

Impact **The project would create new sources of light that would adversely affect nighttime views in the area.** ***This would represent a potentially significant impact that can be reduced to a less-than-significant level with implementation of the following mitigation measures.***

Mitigation Measures

4.1-1 All buildings shall be designed so that reflective surfaces are limited and exterior lighting is down-lit and illuminates the intended area only. Building applications for new structures shall include an exterior lighting plan subject to approval by the Town of Danville that includes the following requirements: 1) exterior lighting shall be directional; 2) the source of directional lighting shall not be directly visible; and 3) vegetative screening shall be installed, where appropriate.

Cumulative Impacts

Section 15130 of the CEQA Guidelines requires an EIR to discuss cumulative impacts of a proposed project when the project's incremental effect may be cumulatively considerable. This EIR relies on a list approach, as described in Section 5.2 of this EIR. The geographic scope is the Town of Danville. Proposed development considered in the cumulative analysis is identified in Table 5-1 (see Section 5.0 CEQA Considerations).

The project would permanently alter the existing visual character of the site due to grading activities, vegetation and tree removal, and the introduction of up to 70 new residential units and associated infrastructure. Project-specific design measures, including landscaping to screen proposed development, would help minimize visual impacts. As described in the analysis above, the project would not significantly degrade the existing visual character or quality of the site and its surroundings.

The other cumulative developments identified in Table 5-1 are distributed throughout the Town and none are located in the immediate project vicinity. The cumulative projects are generally of a smaller scale and are subject to the Town's design requirements, which would minimize adverse aesthetic effects. The project's incremental effect on aesthetics, when combined with the effects of other projects would not result in a cumulatively considerable significant impact.

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4.2 AGRICULTURAL AND FOREST RESOURCES

Introduction

Agricultural resources are afforded protection under various federal and state acts (such as the Williamson Act), programs, and local governance (General Plans, specific and other types of plans, zoning ordinance, etc.). Some of the agencies involved with stewardship of agricultural resources include the U.S. Department of Agriculture (USDA), the Natural Resources Conservation Service (NRCS), and the California Department of Conservation, Division of Land Resource Protection. In California, agricultural land is also given consideration under CEQA. According to Public Resources Code §21060.1, "agricultural land" means prime farmland, farmland of statewide importance, or unique farmland, as defined by the USDA land inventory and monitoring criteria, as modified for California.

The Farmland Mapping and Monitoring Program (FMMP) produces maps and statistical data that are used for analyzing impacts on California's agricultural resources. The FMMP was established in 1982 in response to a critical need for assessing the location, quality, and quantity of agricultural lands and conversion of these lands over time. The FMMP is a non-regulatory program and provides a consistent and impartial analysis of agricultural land use and land use changes throughout California. The goal of the FMMP is to provide consistent and impartial data to decision makers for use in assessing present status, reviewing trends, and planning for the future of California's agricultural land resources. Under the FMMP, agricultural land is rated according to irrigation status and soil quality; the best quality land is called Prime Farmland. The FMMP produces Important Farmland Maps, which are a hybrid of resource quality (soils) and land use information. (http://www.consrv.ca.gov/DLRP/fmmp/index.htm)

CEQA requires the evaluation of forest and timber resources where they are present. Forest and timber resources are evaluated based on the definitions in the following regulations: forest land as defined in Public Resources Code Section 12220(g); timberland as defined by Public Resources Code Section 4526; or property zoned for Timberland Production as defined by Government Code Section 51104(g).

Setting

Agricultural Resources

According to the most recent Contra Costa County Important Farmlands Map (ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2010/con10.pdf), the project site contains lands classified as "Grazing Land." The project site has historically been used and continues to be used for beef cattle operations. Existing structures on the site include water storage facilities, cell tower sites, storage buildings, horse corrals, parking areas, and access roads associated with the existing ranch. The approximately 410 acre site is bounded by single-family residences, Blackhawk Road and Diablo Road to the north, McCauley Road to the west, and single family residences, and the Sycamore Valley Open Space Preserve to the south and east.

According to the California Department of Conservation Division of Land Resource Protection, "Grazing Land" land is defined as land that is not included in any of the other mapping categories (i.e., Prime Farmland, Farmland of Statewide Importance, etc.). This land typically consists of land on which the existing vegetation is suitable for the grazing of livestock and does not include land previously designated as Prime Farmland, Farmland of Statewide Importance, Unique Farmland, or Farmland of Local Importance.

Forest Resources

The project proposes to subdivide the approximately 410-acre site into 70 single-family lots. The project proposes to locate the lots on approximately 108 acres on the flatter portions of the site, avoiding steeper slopes and ridgelines. The remaining portion of the project site (approximately 302 acres) would be preserved as permanent open space.

CEQA requires the evaluation of forest and timber resources where they are present. The project site is located on property that has been historically used for beef cattle operations. The only forest resources on the site consist of existing trees associated primarily with the riparian corridor along East Branch Green Valley Creek and the oak woodland areas. The site does not contain any forest land as defined in Public Resources Code Section 12220(g), timberland as defined by Public Resources Code Section 4526, or property zoned for Timberland Production as defined by Government Code Section 51104(g).

Regulatory Environment

Danville General Plan. The project would not conflict with any agricultural or timber harvesting policies in the Town's General Plan, since the project site does not contain these resources as defined by CEQA. The density proposed by the project is consistent with the land use density set forth in the General Plan. The Town enforces a Tree Preservation ordinance that will apply to the removal/management of trees on the project site, as described in detail in Section 4.4 Biological Resources of this EIR.

Thresholds of Significance

In accordance with CEQA Guidelines, a project impact would be considered significant if the project would:

- convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use;
- conflict with existing zoning for agricultural use, or a Williamson Act contract;
- conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g));
- result in the loss of forest land or conversion of forest land to non-forest uses; or
- involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use.

Impacts and Mitigation

Impacts to Agricultural Resources

The project site has historically and is currently used for beef cattle operations. No Prime Farmland, Unique Farmland, or Farmland of Statewide Importance are located on the project site. Implementation of the project, therefore, would not result in the conversion of Prime, Unique, or Farmland of Statewide Importance to non-agricultural use. Furthermore, the project site does not

border Prime, Unique, or Farmland of Statewide Importance and would have no impact on lands with these designations. The project is the development of a residential community on grazing lands and would have no effect on the conversion of Prime, Unique, or Farmland of Statewide Importance to non-agricultural uses.

The project proposes to rezone portions of the project site that are currently zoned A-4 (Agricultural Preserve District) and A-2 (General Agricultural District) to P-1 (Planned Unit Development District). The A-4 (Agricultural Preserve District) is a zoning category associated with the property's previous Williamson Act Contract. According to the General Plan, 78 new residential units could be approved on the property. The project does not propose any amendments to the General Plan and the project is consistent with the General Plan's land use policies. Implementation of the project, therefore, would not conflict with existing land use designations and zoning for agricultural use.

Four of the ten parcels on the project site were formally under Williamson Act contract (APNs 202-050-071, 202-050-073, 202-050-078, and 215-040-002). A Notice of Non-Renewal was submitted by the property owner to the Town in November 2000 and recorded with Contra Costa County in September 2002. The Williamson Act Contract on the property was cancelled in November, 2010. Thus, implementation of the project would not impact any parcels under Williamson Act contract.

Impacts to Forest Resources

The project site is located on a site that has been historically used for ranching. Existing trees on the site include Valley oaks, Willows, Siberian elms, Blue oaks, and California buckeyes. The project would result in the removal of 38 existing trees on the project site; however, the site does not contain any forest land as defined in Public Resources Code Section 12220(g), timberland as defined by Public Resources Code Section 4526, or property zoned for Timberland Production as defined by Government Code Section 51104(g).

The project site contains no areas designated as forest land, timberland, or timberland zoned for Timberland Production and the project would not cause rezoning or conflict with zoning for such designated lands. Implementation of the project would not result in a loss of forest land or the conversion of designated forest land to non-forest uses. Therefore, the project would not impact forest resources.

Cumulative Impacts

Section 15130 of the CEQA Guidelines requires an EIR to discuss cumulative impacts of a proposed project when the project's incremental effect may be cumulatively considerable. This EIR relies on a list approach, as described in Section 5.2 of this EIR. The geographic scope is the Town of Danville. Proposed development considered in the cumulative analysis is identified in Table 5-1 (see Section 5.0 CEQA Considerations).

Given the absence of agricultural and forest resources on the project site or in the vicinity of the project site, development of the project would not contribute to cumulative impacts to these resources. The project would not, therefore, have a cumulatively considerable effect on agricultural and forest resources, and the cumulative impact is less-than-significant.

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4.3 AIR QUALITY AND GREENHOUSE GAS

Introduction

This section is based on an air quality analysis prepared for the project by Illingworth & Rodkin, Inc. (November 2011), contained in Appendix B. This analysis included an evaluation of regional emissions, local emissions, construction effects, greenhouse gas (GHG) emissions, and climate change.[1] The air quality evaluation was performed based on guidance provided by the Bay Area Air Quality Management District (BAAQMD)[2]. 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. An analysis of operational GHG emissions was completed by for the project to evaluate GHG emissions using the most current methodology recommended by the BAAQMD, the California Emissions Estimator Model (Illingworth & Rodkin, November 2012).

Setting

The project site is located in the San Francisco Bay Area Air Basin, which is comprised of the nine counties in the Bay Area: Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma. 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, meteorology, and existing air pollution sources.

The Bay Area is characterized by the 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 sub-region referred to as the Diablo and San Ramon Valleys. The San Ramon Valley is surrounded on all sides by high hills or mountains.

The terrain of the project area influences both the climate and air pollution potential. The project area generally has lighter winds and calmer conditions compared to the greater Bay Area, due to its location in an inland, protected valley. Thus, the project area is not as affected by marine airflow as many other portions of the Bay Area.

[1] The 2011 air quality analysis was based on the original 78-lot plan and, thus, represents a conservative assessment of air quality impacts compared to the currently proposed 70-lot plan. An updated analysis of operational GHG emissions was completed for the proposed 70-lot plan and is incorporated into this EIR analysis and attached to Appendix B.

[2] On March 5, 2012, the Alameda County Superior Court issued a decision in *California Building Industry Association v. Bay Area Air Quality Management District* (Superior Court Case No. RG10548693). The Court determined that the adoption of BAAQMD's CEQA Guidelines was a "project" requiring CEQA review. Because no CEQA review was conducted, the Court set aside the Guidelines. The Court ordered BAAQMD not to disseminate the Guidelines and the threshold standards set forth therein until CEQA review was conducted. Although adoption of the Guidelines has been set aside, the significance criteria contained in the Guidelines is supported by extensive studies and analysis (see www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Tools-and-Methodology.aspx). Pursuant to the Town's discretion under CEQA Guidelines Section 15064 (b) and the recent holding in *Citizen for Responsible Equitable Environmental Development v. City of Chula Vista* (2011) 197 Cal.App.4th 327, 335-336, ("[t]he determination of whether a project may have a significant effect on the environment calls for careful judgment on the part of the public agency involved, based to the extent possible on scientific and factual data."), the Town has decided to utilize the air quality threshold standards in the Guidelines to analyze such potential impacts from the project.

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. Inversions are created by warm stable air aloft that severely limits the vertical dispersion of air pollutants.

Regulatory Environment

Federal

The Federal Clean Air Act (CAA) authorized the establishment of federal air quality standards and set deadlines for their attainment. The CAA identifies specific emission reduction goals, requires both a demonstration of reasonable further progress and attainment, and incorporates more stringent sanctions for failure to meet interim milestones. The U.S. EPA is the federal agency charged with administering CAA and other air quality-related legislation.

The CAA of 1970, as amended, establishes air quality standards for several pollutants. The National Ambient Air Quality Standards (NAAQS) have been established for seven major air pollutants: carbon monoxide (CO), nitrogen oxides (NO_x), ozone (O_3), respirable particulate matter (PM_{10}), fine particulate matter ($PM_{2.5}$), sulfur oxides and lead. Table 4.3-1 identifies the characteristics, health effects and typical sources of these major air pollutants. The federal standards are presented in Table 4.3-2. These standards are designed to protect public health and welfare. 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 soils, water, visibility, materials, vegetation and other aspects of general welfare.

In addition to major pollutants, the U.S. Environmental Protection Agency regulates Hazardous Air Pollutants (HAPs). One means by which the U.S. EPA addresses HAP exposure is through the National Emission Standards for Hazardous Air Pollutants (NESHAPS)[3], which include source-specific regulations that limit allowable emissions of such pollutants.

State

The California Air Resources Board (CARB) coordinates and oversees both state and federal air pollution control programs in California. As part of this responsibility, CARB monitors existing air quality, establishes state air quality standards, and limits allowable emissions from vehicular sources. Regulatory authority within established air basins is provided by Air Pollution Control and Management Districts, which control stationary-source and most categories of area-source emissions and develop regional air quality plans. The project is located within the jurisdiction of the Bay Area Air Quality Management District (BAAQMD).

California has established its own set of ambient air quality standards (the California Ambient Air Quality Standards or CAAQS) for the seven pollutants with federal standards. In addition, California has standards for sulfates, hydrogen sulfide, vinyl chloride and visibility reducing particles. The state standards are also presented in Table 4.3-2. The California Clean Air Act, effective January 1, 1989, provides a planning framework for attaining the state standards. Nonattainment areas in the state were required to prepare plans for attaining these standards. Attainment plans are required to demonstrate a five percent per year reduction in the emissions of nonattainment pollutants or their precursors, unless all feasible measures are being employed. The attainment status of the NCCAB is described under the section titled: "Air Pollutant Concentrations, Standards Violations and Risk Levels" below.

[3] The NESHAPS are promulgated under Title 40 of the Code of Federal Regulations (CFR), Parts 61 & 63.

Table 4.3-1
Criteria Pollutants

Pollutant	Characteristics	Health Effects	Major Sources
Ozone (O_3)	A highly reactive photochemical pollutant created by the action of sunshine on ozone precursors (primarily reactive hydrocarbons and oxides of nitrogen). Often called photochemical smog. Highest concentrations of ozone are found downwind of urban areas.	▪ Respiratory function impairment.	Sources of ozone precursors (nitrogen oxides and reactive hydrocarbons) are combustion sources, such as factories and automobiles, and evaporation of solvents and fuels.
Carbon Monoxide (CO)	Carbon monoxide is an odorless, colorless gas that is highly toxic. It is formed by the incomplete combustion of fuels. CO concentrations are highest in the winter, when radiation inversions over large areas can limit vertical dispersion.	▪ Impairment of oxygen transport in the bloodstream. ▪ Aggravation of cardiovascular disease. ▪ Fatigue, headache, confusion, dizziness. ▪ Can be fatal in the case of very high concentrations.	Automobile exhaust, combustion of fuels, combustion of wood in woodstoves and fireplaces.
Nitrogen Dioxide (NO_2)	Reddish-brown gas that discolors the air, formed during combustion. Nitrogen dioxide levels in California have decreased in recent years due to improved automobile emissions. Ambient standards are typically not exceeded in NCCAB.	▪ Increased risk of acute and chronic respiratory disease.	Automobile and diesel truck exhaust, industrial processes, fossil-fuel powered plants. Also formed via atmospheric reactions.
Sulfur Dioxide (SO_2)	Sulfur dioxide is a colorless gas with a pungent, irritating odor. Ambient standards for sulfur dioxide are rarely exceeded in the NCCAB.	▪ Aggravation of chronic obstruction lung disease. ▪ Increased risk of acute and chronic respiratory disease.	Diesel vehicle exhaust, oil-powered power plants, industrial processes.
PM_{10} & $PM_{2.5}$	Solid and liquid particles of dust, soot, aerosols and other matter which are small enough to remain suspended in the air for a long period of time. PM_{10} is particulate matter with diameter less than 10 microns. $PM_{2.5}$ is particulate matter with diameter less than 2.5 microns. $PM_{2.5}$ has been found to be more harmful to humans.	▪ Aggravation of chronic disease and heart/lung disease symptoms.	Combustion, automobiles, field burning, factories and unpaved roads. Also, formed secondarily by photochemical processes of combustion emissions. $PM_{2.5}$ is primarily a secondary pollutant.

Table 4.3-2
Federal and State Ambient Air Quality Standards

Pollutant	Averaging Time	State Standard	Federal Standard	
			Primary	Secondary
Ozone	1-Hour 8-Hour	0.09 ppm (180 µg/m^3) 0.07 ppm (137 µg/m^3)	- - 0.075 ppm (147 µg/m^3)	- - 0.075 ppm (147 µg/m^3)
Carbon Monoxide	8-Hour 1-Hour	9.0 ppm (10 mg/m^3) 20 ppm (23 mg/m^3)	9.0 ppm (10 mg/m^3) 35.0 ppm (40 mg/m^3)	- - - -
Nitrogen Dioxide	Annual 1-Hour	0.030 ppm (57 µg/m^3) 0.18 ppm (339 µg/m^3)	0.053 ppm (100 µg/m^3) - -	0.053 ppm (100 µg/m^3) - -
Sulfur Dioxide	Annual 24-Hour 3-Hour 1-Hour	- - 0.04 ppm (105 µg/m^3) - - 0.25 ppm (655 µg/m^3)	0.03 ppm (80 µg/m^3) 0.14 ppm (365 µg/m^3) - - - -	- - - - 0.5 ppm (1,300 µg/m^3) - -
PM_{10}	Annual 24-Hour	20 µg/m^3 50 µg/m^3	- - 150 µg/m^3	- - 150 µg/m^3
$PM_{2.5}$	Annual 24-Hour	12 µg/m^3 no separate state standard	15 µg/m^3 35 µg/m^3	15 µg/m^3 35 µg/m^3
Lead	Calendar quarter	- -	1.5 µg/m^3	1.5 µg/m^3
	30-day	1.5 µg/m^3	- -	- -
Sulfate	24-Hour	25 µg/m^3	- -	- -
Hydrogen Sulfide	1-Hour	0.03 ppm (42 µg/m^3)	- -	- -
Vinyl Chloride	24-Hour	0.010 ppm (26 µg/m^3)	- -	- -
Visibility Reducing Particles	8-hours (10 am - 6 pm)	Extinction coefficient of 0.23 per km - visibility of ≥ 10 miles due to particles when relative humidity is < 70%.	- -	- -

mg/m^3 = milligrams per Cubic Meter
µg/m^3 = micrograms per Cubic Meter
Annual = annual arithmetic mean
ppm = parts per million

Source: http://www.arb.ca.gov/research/aaqs/aaqs2.pdf

The state also regulates Toxic Air Contaminants (TACs) separately from those pollutants with CAAQS primarily through the Tanner Air Toxics Act (AB 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588). The Tanner Act institutes a formal procedure for designating substances as TACs. The procedure includes research, public participation, and scientific peer review before CARB designates a substance as a TAC. CARB adopts an Airborne Toxics Control Measure for sources that emit designated TACs. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure below the threshold. If there is no safe threshold, the measure must incorporate Best Available Control Technology (BACT) to minimize emissions. For source categories under the regulatory jurisdiction of the individual air districts (as previously described), those air districts adopt and enforce the control measure locally.

Regional

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

The Bay Area 2010 CAP proposes expanded implementation of transportation control measures (TCMs) and includes 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_{10} and $PM_{2.5}$.

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.

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. 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.

Local Air Pollution Conditions

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 (NH3). 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 - 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_{10} and $PM_{2.5}$, 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 eight miles to the northwest. Summarized air pollutant data for this station is provided in Table 4.3-3. This table shows the highest air pollutant concentrations measured at the station from 2005-2009.

Table 4.3-3
Highest Measured Air Pollutant Concentrations (Concord)

Pollutant	Average Time	Measured Air Pollutant Levels				
		2005	2006	2007	2008	2009
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

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_{10}, 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 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

Sensitive receptors or populations are more susceptible to the effects of air pollution than are the general population. Sensitive receptors include residences, schools, playgrounds, childcare centers, athletic facilities, long-term health care facilities, rehabilitation centers, and convalescent and retirement homes. The property is surrounded by single family residential neighborhoods, including the Belgian/Clydesdale /Fairway Drive neighborhoods north of Diablo Road near the Green Valley Road/Diablo Road intersection; 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 to the south.

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 between Green Valley Creek and Blackhawk Road. The closest school is about 450 feet west of the project site (Green Valley Elementary).

Greenhouse Gas and Global Climate Change

Various gases in the Earth's atmosphere, classified as atmospheric greenhouse gases (GHGs), play a critical role in determining the Earth's surface temperature. Solar radiation enters Earth's atmosphere from space and a portion of the radiation is absorbed by the Earth's surface. The Earth emits this radiation back toward space, but the properties of the radiation change from high-frequency solar radiation to lower-frequency infrared radiation. Greenhouse gases, which are transparent to solar radiation, are effective in absorbing infrared radiation. As a result, this radiation that otherwise would have escaped back into space is now retained, resulting in a warming of the atmosphere. This phenomenon is known as the greenhouse effect.

Among the prominent GHGs contributing to the greenhouse effect are carbon dioxide (CO_2), methane (CH_4), ozone (O_3), water vapor, nitrous oxide (N_2O), and chlorofluorocarbons (CFCs). Human-caused emissions of these GHGs in excess of natural ambient concentrations are responsible for enhancing the greenhouse effect (Ahrens 2003). Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors (California Energy Commission 2006a). In California, the transportation sector is the largest emitter of GHGs, followed by electricity generation (California Energy Commission 2006a). A byproduct of fossil fuel combustion is CO_2. Methane, a highly potent GHG, results from off-gassing associated with agricultural practices and landfills. Processes that absorb and accumulate CO_2, often called CO_2 "sinks," include uptake by vegetation and dissolution into the ocean.

Climate change is a global problem. GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants, which are of regional and local concern, respectively. California is the 12th to 16th largest emitter of CO_2 in the world and produced 492 million gross metric tons of carbon dioxide equivalents in 2004 (California Energy Commission 2006a). Carbon dioxide equivalents (CO_2e) is a measurement used to account for the fact that various GHGs have different potential to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. This potential, known as the global warming potential of a GHG, is also dependent on the lifetime, or persistence, of the gas molecule in the atmosphere.

Climate Change Regulatory Framework

This section describes recent state regulations that specifically address greenhouse gas emissions and global climate change. At the time of writing, there are no regulations setting ambient air quality standards or emission limits for greenhouse gases except overall California emission limits set by Assembly Bill 32 (AB32) as described below, and there are no adopted thresholds of significance for greenhouse gas emissions.

Assembly Bill 1493. In 2002, Assembly Bill (AB) 1493 was passed requiring that the California Air Resources Board (ARB) develop and adopt, by January 1, 2005, regulations that achieve "the maximum feasible reduction of greenhouse gases emitted by passenger vehicles and light-duty truck and other vehicles determined by the ARB to be vehicles whose primary use is noncommercial personal transportation in the state."

Executive Order S-3-05. Executive Order S-3-05, signed by Governor Schwarzenegger in 2005, proclaims that California is vulnerable to the impacts of climate change. It declares that increased temperatures could reduce the Sierra's snow pack, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To combat those concerns, the Executive Order established total greenhouse gas emission targets. Specifically, emissions are to be reduced to the 2000 level by 2010, the 1990 level by 2020, and to 80% below the 1990 level by 2050. The Executive Order directed the Secretary of the California Environmental Protection Agency (CalEPA) to coordinate a multi-agency effort to reduce greenhouse gas emissions to the target levels. The Secretary must also submit biannual reports to the governor and state legislature describing: 1) progress made toward reaching the emission targets; 2) impacts of global warming on California's resources; and 3) mitigation and adaptation plans to combat these impacts. To comply with the Executive Order, the Secretary of the CalEPA created a Climate Act Team (CAT) made up of members from various state agencies and commission. CAT released its first report in March 2006. The report proposed to achieve the targets by building on voluntary actions of California businesses, local government and community actions, as well as through state incentive and regulatory programs.

Assembly Bill 32, the California Climate Solutions Act of 2006. In September 2006, Governor Schwarzenegger signed AB 32, the California Climate Solutions Act of 2006. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by the year 2020. This reduction will be accomplished through an enforceable statewide cap on GHG emissions that will be phased in starting in 2012. To effectively implement the cap, AB 32 directs ARB to develop and implement regulations to reduce statewide GHG emissions from stationary sources. AB 32 specifies that regulations adopted in response to AB 1493 should be used to address GHG emissions from vehicles. However, AB 32 also includes language stating that if the AB 1493 regulations cannot be implemented, then ARB should develop new regulations to control vehicle GHG emissions under the authorization of AB 32. AB 32 requires that ARB adopt a quantified cap on GHG emissions representing 1990 emissions levels and disclose how it arrives at the cap; institute a schedule to meet the emissions cap; and develop tracking,

reporting, and enforcement mechanisms to ensure that the state achieves reductions in GHG emissions necessary to meet the cap. AB 32 also includes guidance to institute emissions reductions in an economically efficient manner and conditions to ensure that businesses and consumers are not unfairly affected by the reductions.

Senate Bill 1368. SB 1368 is the companion bill of AB 32 and was signed by Governor Schwarzenegger in September 2006. SB 1368 required the California Public Utilities Commission (PUC) to establish a greenhouse gas emission performance standard. Therefore, on January 25, 2007, the PUC adopted an interim GHG Emissions Performance Standard in an effort to help mitigate climate change. The Emissions Performance Standard is a facility-based emissions standard requiring that all new long-term commitments for baseload generation to serve California consumers be with power plants that have emissions no greater than a combined cycle gas turbine plant. That level is established at 1,100 pounds of CO_2 per megawatt-hour. "New long-term commitment" refers to new plant investments (new construction), new or renewal contracts with a term of five years or more, or major investments by the utility in its existing baseload power plants. In addition, the California Energy Commission (CEC) established a similar standard for local publicly owned utilities that cannot exceed the greenhouse gas emission rate from a baseload combined-cycle natural gas fired plant. On July 29, 2007, the Office of Administrative Law disapproved the Energy Commission's proposed Greenhouse Gases Emission Performance Standard rulemaking action and subsequently, the CEC revised the proposed regulations. Those regulations can be found at http://www.energy.ca.gov/ghgstandards/documents/index.html. SB 1368 further requires that all electricity provided to California, including imported electricity, must be generated from plants that meet the standards set by the PUC and CEC.

Town of Danville Sustainability Action Plan. The Town of Danville is currently updating its 2010 General Plan with the 2030 General Plan ("Draft 2030 Plan"). A Sustainability Action Plan (SAP) has also been prepared as an independent plan that is not part of the Draft 2030 Plan. The SAP is intended to reduce greenhouse gas emissions and improve other aspects of the Town's sustainability.

Thresholds of Significance

In accordance with CEQA Guidelines, a project impact would be considered significant if the project would:

- conflict with or obstruct implementation of the applicable air quality plan;
- violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);
- expose sensitive receptors to substantial pollutant concentrations; or
- create objectionable odors affecting a substantial number of people; or
- 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.

Impacts and Mitigation

The results of the air quality and greenhouse gas evaluation are presented in this section. The 2011 assessment was based on the original 78-lot project. The analysis of air quality emissions represents a conservative assessment compared to the current 70-lot plan.[4] An updated analysis of operational GHG emissions was completed by for the proposed 70-lot plan to evaluate GHG emissions using the most current methodology recommended by the BAAQMD, the California Emissions Estimator Model or CalEEMod (Illingworth & Rodkin, November 2012).

The air quality and greenhouse gas analysis for the project applied the BAAQMD thresholds of significance for air quality impacts, based on the May 2011 version of the BAAQMD CEQA Air Quality Guidelines (May 2011 Guidelines). The Town has elected to utilize the May 2011 Guidelines even though, as explained in footnote 2 earlier in this section, the Alameda County Superior Court invalidated the Guidelines because they did not undergo adequate environmental review. The Town chose to utilize the May 2011 Guidelines because they are supported by extensive studies and analysis and are more conservative then the BAAQMD's 1999 Air Quality Thresholds of Significance (1999 Thresholds). The thresholds applied are identified in the analysis below.

Construction Impacts

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 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.

[4] Since the project size was reduced (from 78 to 70 lots), predicted construction emissions would remain the same or decrease. The predicted operational air pollutant emissions from the original larger project were found to be substantially lower than the BAAQMD thresholds applied; therefore, the revised project would be expected to have similar less-than-significant impacts from operational emissions.

Detailed construction plans are not available for the project at this stage of planning, therefore, the URBEMIS2007 modeling relied upon model defaults for the proposed project. 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 conservatively assumed in the URBEMIS2007 modeling:

- Grading lasting almost one year that would occur in 2014.[5] In this phase, the model defaults were used with the addition of two 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 2015 that would last one month. The model default values were assumed.

- Paving was assumed in 2015 and would last one month.[6]

- Building construction was assumed to occur in 2015. 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.

- Architectural coating, or painting, was assumed to last over a six month period in 2015. 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 4.3-4. These estimates represent the average daily emissions associated with the phase of the project that had the highest emissions in that year.

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 a significant impact.

[5]Actual grading is expected to take approximately three months; modeling defaults represent a conservative estimate of emissions.
[6]Actual paving is expected to take two weeks; modeling represents a conservative estimate of emissions.

Table 4.3-4 **Project Construction Emissions (pounds per day)**				
Scenario	**ROG**	**NOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**
Year 2014 Construction Emissions	7	**56**	3	2
Year 2015 Building and Coating Emissions	33	13	1	1
BAAQMD Threshold	*54*	*54*	*82*	*54*
Emissions shown in **bold** represent significant impacts.				

Impact **Construction activities, including clearing, excavation and grading operations, would generate diesel exhaust emissions (NOx) that exceed BAAQMD thresholds.** ***This is a significant impact that can be reduced to a less-than-significant level with the following mitigation measures.***

Mitigation Measures

4.3-1 The project proponent shall implement following measures to control diesel exhaust emissions associated with grading and new construction. A plan indicating how compliance will be achieved shall be submitted to the Town of Danville prior to construction.

a. 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,

b. 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;

c. 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;

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

e. 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.

f. 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.

g. Encourage use of alternative fuels for construction equipment.

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

i. 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.

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 reduced to 51 pounds per day or less. This would be below the BAAQMD emissions threshold for average daily NOx emissions.

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. However, implementation of Mitigation Measure 4.3-1 would reduce this impact to a less-than-significant level.

Construction period diesel particulate matter emissions would be reduced by 35 to 45 percent with Mitigation 4.3-1. 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.

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, PM10 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.

Impact **If uncontrolled, dust generated by grading and construction activities represents a significant air quality impact.** ***This is a significant impact that can be reduced to a less-than-significant level with the following mitigation measures.***

Mitigation Measures

4.3-2 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:

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

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

c. 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.

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

e. 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.

f. 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.

The mitigation measures above 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.

Operational Impacts

Regional Pollutants

Emission sources associated with the proposed project would mostly be from vehicle travel. There would also be emissions from area 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 were used to calculate emissions. The air quality assessment was based on the original 78-lot plan and, thus, represents a conservative assessment compared to the current 70-lot plan. Although the project would include sidewalks, trails and bike paths/lanes, no adjustments to the number of daily trips were made for these features. Given the project setting, pedestrian and bike trips would likely make up less than one 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 the following:

- 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 4.3-5. 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 4.3-5
Project Operational Emissions (lbs/day)

Scenario	ROG	NOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust
Area Source	6	2	<1	<1
Operational Source	4	5	6	1
Total	**10**	**7**	**7**	**2**
BAAQMD Threshold	*54*	*54*	*82*	*54*

Local Carbon Monoxide Concentrations

Emission thresholds established for carbon monoxide apply to direct or stationary sources. Emissions of carbon monoxide (CO) emitted from traffic generated by the project are first evaluated by assessing the impacts of project-generated traffic on existing and future traffic conditions. The highest CO concentrations typically occur during the winter months and where traffic congestion is the heaviest.

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 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.

Odor Impacts

Typical sources of objectionable odors include chemical plants, sewage treatment plants, large composting facilities, rendering plants, and other large industrial facilities that emit odorous compounds. 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 odor impacts is less-than-significant.

Conflict with Air Quality Plan

The 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. The project, therefore, would not conflict with the clean air planning efforts.

The proposed project would have a less-than-significant impact on clean air planning efforts.

Greenhouse Gas Evaluation

Methodology and GHG Calculations

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 (May 2011) provide guidance for calculating project emissions. 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. GHG operational emissions from the project were calculated using the California Emissions Estimator Model Version 2011.1.1 (CalEEMod), as recommended by the BAAQMD.

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. 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 provided best available control measures are implemented as identified in Mitigation Measure 4.3-1.

Operation Period Greenhouse Gas Emissions. The California Emissions Estimator Model Version 2011.1.1 (CalEEMod) was used to predict GHG emissions from operation of the site in 2020 (Illingworth & Rodkin, November 2012). CalEEMod is the current emissions model recommended by the BAAQMD. The model predicts emissions of GHGs in the form of CO_2e (carbon dioxide equivalency). 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.[7]

Table 4.3-6 presents the results of the CalEEMod model analysis in terms of annual metric tons of equivalent CO_2 emissions (MT of CO2e/yr). As indicated in Table 4.3-6, the GHG emissions from operation of the proposed project would not exceed the BAAQMD's threshold of 1,100 MT of CO_2e/yr. Inputs and assumptions for the project are contained in the CalEEMod modeling data provided in Appendix B.

[7] 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 4.3-6 **Greenhouse Gas Annual Emissions in Metric Tons (CO_2e)**	
Source Category	**2025 Emissions**
Area	0
Energy	206
Mobile	689
Solid Waste	37
Water	9
Total	**941**
BAAQMD threshold	*1,100*

Although the project would not result in significant emissions of GHGs, the project would include features that increase energy efficiency and reduce the annual energy consumption of the project either directly or indirectly to reduce GHG emissions. These features include:

- Solar Compatibility
- Design for GreenPoint rating
- 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

In summary, based on the GHG analysis utilizing the current CalEEMod model, the project would not result in a significant increase in GHG emissions.

Consistency with GHG Plans

A GHG analysis was prepared for the project. As described above, the project would have a less-than-significant impact on GHG levels and, therefore, would not conflict with plan adopted for purposes of minimizing GHG emissions.

Impacts of Global Climate Change on the Project

The discussion below is provided for informational purposes only and is not required by CEQA. CEQA only requires the analysis of GHG emissions resulting from implementation of proposed projects, which in this case is provided in the analysis above. Recent case law has held that an EIR need not evaluate the potential effects of global climate change on a proposed project. (*South Orange County Wastewater Authority v. City of Dana Point (2011) 196 Cal.App.4th 1604, 1614-1618; City of Long Beach v. Los Angeles Unified School Dist. (2009) 176 Cal.App.4th 889, 905)*

Global climate change may influence many interconnected phenomena that could in turn affect the rate of climate change itself. Below are general global climate change issues that may adversely impact the project in the future.

- 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 adverse impacts may occur. For this EIR, a quantitative determination of how the above indirect effects of climate change would affect the project occupants is considered speculative and, therefore, not required by CEQA as described above.

Cumulative Impacts

Section 15130 of the CEQA Guidelines requires an EIR to discuss cumulative impacts of a proposed project when the project's incremental effect may be cumulatively considerable. This EIR relies on a list approach, as described in Section 5.2 of this EIR. The geographic scope is for the cumulative air quality analysis is the San Francisco Bay Area Air Basin.

The 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. In addition, the GHG emissions from the project would not exceed the BAAQMD thresholds of significance. The project would not result in a cumulatively considerable incremental increase air pollutant or greenhouse gas emissions with mitigation; therefore, the cumulative impact is less-than-significant.

4.4 BIOLOGICAL RESOURCES

Introduction

A biological evaluation of the project site was prepared by Live Oak Associates (September 2012). This assessment is contained in Appendix C. The biological evaluation and associated studies for the site included the following tasks:

- Perform field reviews of the project site, including protocol-level surveys for California red-legged frogs (2011), larval surveys for California tiger salamanders (2011), and focused rare plant surveys (2011).
- Supplemental protocol-level surveys for California red-legged frogs (2012)
- Conduct a formal wetland delineation of the site in spring and summer 2010.
- Determine biological resources that could occur onsite based on habitat suitability and the proximity of the site to a species' known range.
- Summarize state and federal natural resource protection laws relevant to future site development.
- Assess project impacts to biological resources as per CEQA and state and federal laws.
- Identify avoidance and mitigation measures to reduce impacts to a less-than-significant level.

An arborist report was also prepared for the project by HortScience (October 2011); this report is contained in Appendix D. The purpose of the arborist report was to document existing trees located within and near the areas of proposed development, determine tree conditions and health, and provide recommendations for protection, transplantation, or removal.

Setting

The approximately 410 acre site is bounded by single-family residences, Blackhawk Road and Diablo Road to the north, open range land and McCauley Road to the west, and open space or range land to the south and east. The site varies in elevation from approximately 430 feet in the northwestern corner to approximately 955 feet in the southern portion of the site. Mt. Diablo State Park is located approximately one mile northeast of the site. The project site currently consists of mostly open range land used for beef cattle operations. Existing structures on the site include water storage facilities, cell tower sites, and storage building, horse corrals, parking areas, and access roads associated with the existing ranching use.

Survey Methodology

The information presented in this section of the EIR summarizes the results of the biological evaluation prepared for the project by Live Oak Associates (LOA). Sources of information used for the biological investigation included the following: 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 project site was conducted on January 6, 2010 and April 7, 2010 by LOA ecologists in order to identify the biotic habitats and associated plants and animals.

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 surveys were completed from February - June 2011; additional red-legged frog surveys were completed from March – June 2012.

Habitat Types

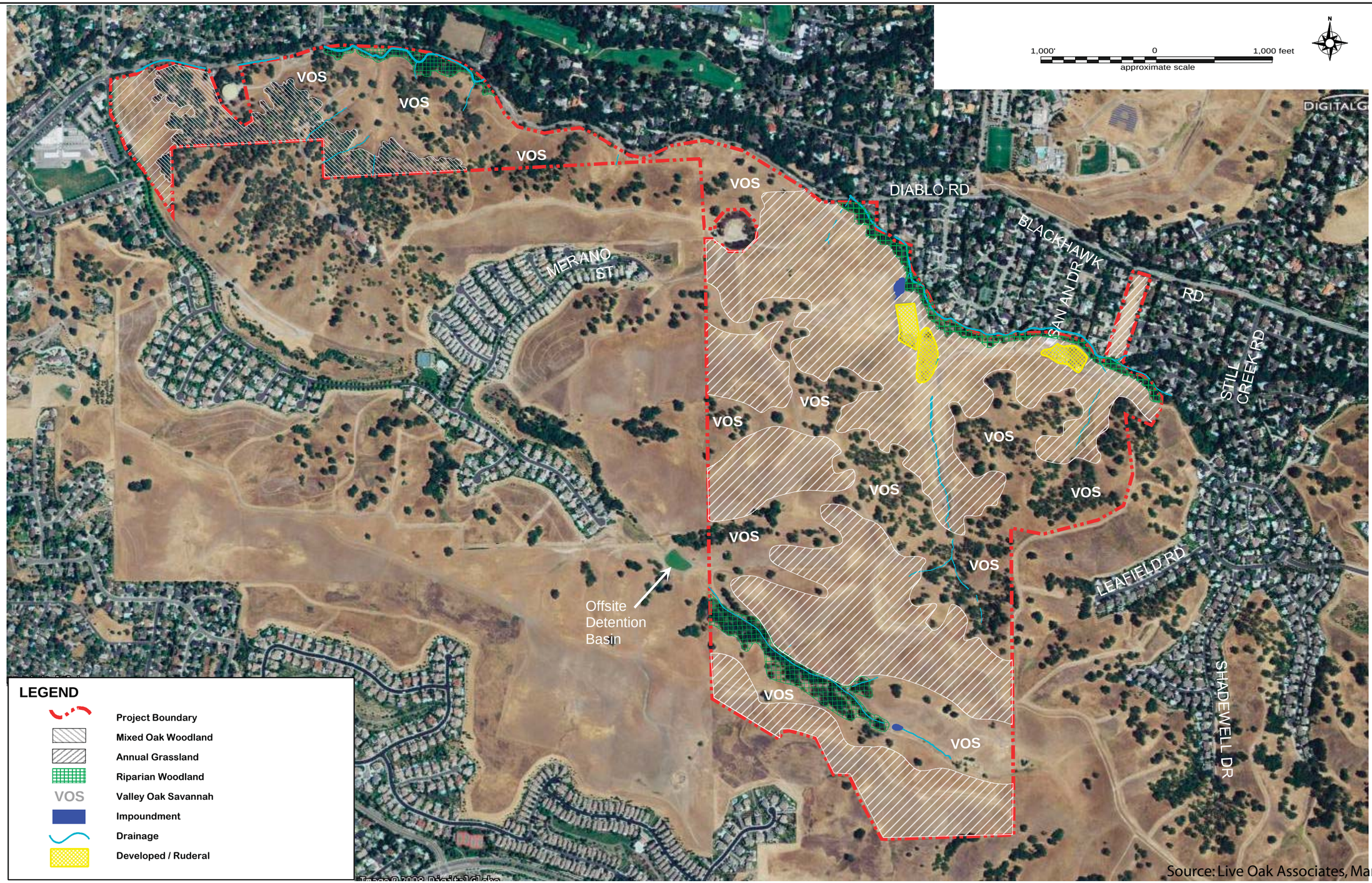
Five biotic habitats were identified during the biological investigations of the project site, as presented in Figure 4.4-1. The five biotic habitats were classified as 1) valley oak savannah, 2) annual grassland, 3) mixed oak woodland, 4) riparian woodland/seasonal drainage, and 5) wetland/stock pond. In addition, there is disturbed area containing horse corrals and a small equipment storage building in the northern part of the site that is identified as developed or disturbed habitat. A list of the vascular plant species observed on the project site and the terrestrial vertebrates using or potentially using the site is provided in Appendix C.

Valley Oak Savannah

The project site primarily consists of valley oak savannah and annual grassland. 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*) are the dominant tree with coast live oaks interspersed. 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 habitat to many terrestrial vertebrates. The presence of oaks scattered within the grassland habitat support a high diversity of wildlife. A number of these species are expected to utilize grasslands occurring in the valley oak savannah habitat on the site during 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 common to this habitat include California ground squirrels (*Spermophilus beecheyi*), Botta's pocket gopher (*Thomonys bottae*), western harvest mouse (*Reithrodontomys megalotis*), and California meadow vole (*Microtus californicus*). Small mammals attract predators, including reptiles and birds, as well as larger mammals such as coyotes (*Canis latrans*), gray foxes (*Urocyon cinereoargenteus*), and bobcats (*Lynx rufus*). Black-tailed deer (*Odocoileus hemionus columbianus*) are also present on the site. Bat species such as the Mexican free-tailed bat (*Tadarida brasiliensis*) may forage over this habitat for insects.



Source: Live Oak Associates, March 2012

Habitat Map

Monterey | San Jose
Denise Duffy and Associates, Inc.
Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure 4.4-1

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Annual Grassland

Annual grassland habitat is prevalent throughout the project site and is dominated by the same grass and forb species as the grasslands within the valley oak savannah habitat. As with floral species, amphibians, reptiles, birds, and mammals found utilizing the grassland understory of the valley oak savannah habitat are expected to occur in this habitat. Particularly dense areas of ground squirrel burrow complexes are present on the hillsides near the wetland borrow pit along East Branch Green Valley Creek and near the stock pond at the southern end of the site.

Mixed Oak Woodland

Vegetation in the western portion of the site is dominated by a fairly dense, naturally occurring canopy of mature oak trees consisting of coast live oak (*Quercus agrifolia*), blue oak (*Quercus douglasii*), valley oak, and some California buckeye (*Aesculus californicus*) trees. Within this habitat, 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 on the project 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 are also expected to occur within this habitat.

Riparian Woodland and Seasonal Drainage

East Branch Green Valley Creek generally flows in a northwesterly direction along portions of the north boundary of the project 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. The drainages on the project site were demarcated during a wetlands delineation prepared for the project site, as shown in Figures 4.4-2A and B.

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LEGEND

Approximate Project Boundary

Areas Not Meeting the Technical Criteria of Jurisdictional Wetlands

- Other Waters (1.34 ac.; 58,575 sq. ft.)
- Impoundment (0.37 ac.; 15,925 sq. ft.)
- Concrete ditch (0.03 ac.; 1,374 sq. ft.)
- Unlined ditch (0.002 ac.; 94 sq. ft.)
- Culvert (0.017 ac.; 733 sq. ft.)

Areas Meeting the Technical Criteria of Jurisdictional Wetlands

- Wetland (0.014 ac.; 625 sq. ft.)

Other Features

- sp1 Sample point

Other Waters 1
300 s.f.
0.007 Ac.
300 L.F.

Culvert 1
70 s.f.
0.002 ac.
32 L.F.

Other Waters 3
461 s.f.
0.011 Ac.
100 L.F.

Other Waters 2
88 s.f.
0.002 Ac.
58 L.F.

Culvert 2
275 s.f.
0.006 ac.
85 L.F.

Conc. Ditch
1,374 s.f.
0.032 Ac.
455 L.F.

sp5
sp4
sp3

Borrow Pit 1
12,077 s.f.
0.277 Ac.

Unlined Ditch 1
72 s.f.
0.002 ac.
72 L.F.

Other Waters 8
570 s.f.
0.013 ac.
95 L.F.

Other Waters 4
33,371 s.f.
0.766 ac.
1,015 L.F.

Culvert 3
27 s.f.
0.001 Ac.
27 L.F.

Culvert 5
67 s.f.
0.002 ac.
35 L.F.

Erosional Pit 1
94 s.f.
0.02 Ac.

Other Waters 5
256 s.f.
0.006 Ac.
70 L.F.

Unlined Ditch 2
22 s.f.
0.001 ac.
22 L.F.

Culvert 4
28 s.f.
0.001 Ac.
8 L.F.

Other Waters 6
320 s.f.
0.007 Ac.
75 L.F.

Other Waters 7
3,144 s.f.
0.072 ac.
524 L.F.

Other Waters 10
8,527 s.f.
0.196 Ac.
1,250 L.F.

Other Waters 9
930 s.f.
0.021 Ac.
930 L.F.

sp1
sp2

Other Waters 11
414 s.f.
0.009 Ac.
160 L.F.

Other Waters 12
579 s.f.
0.013 Ac.
421 L.F.

Other Waters 13
398 s.f.
0.009 Ac.
320 L.F.

Other Waters 14
85 s.f.
0.002 Ac.
56 L.F.

Other Waters 15
209 s.f.
0.004 Ac.
125 L.F.

Culvert 6
95 s.f.
0.002 Ac.
30 L.F.

Culvert 7
95 s.f.
0.002 Ac.
30 L.F.

Other Waters 17
718 s.f.
0.016 Ac.
235 L.F.

Other Waters 16
6,269 s.f.
0.144 Ac.
1,960 L.F.

Culvert 8
80 s.f.
0.002 Ac.
40 L.F.

Wetland
625 s.f.
0.0143 Ac.
125 L.F.

Stock pond 1
3,754 s.f.
0.086 Ac.

Other Waters 18
1,863 s.f.
0.043 Ac.
370 L.F.

N

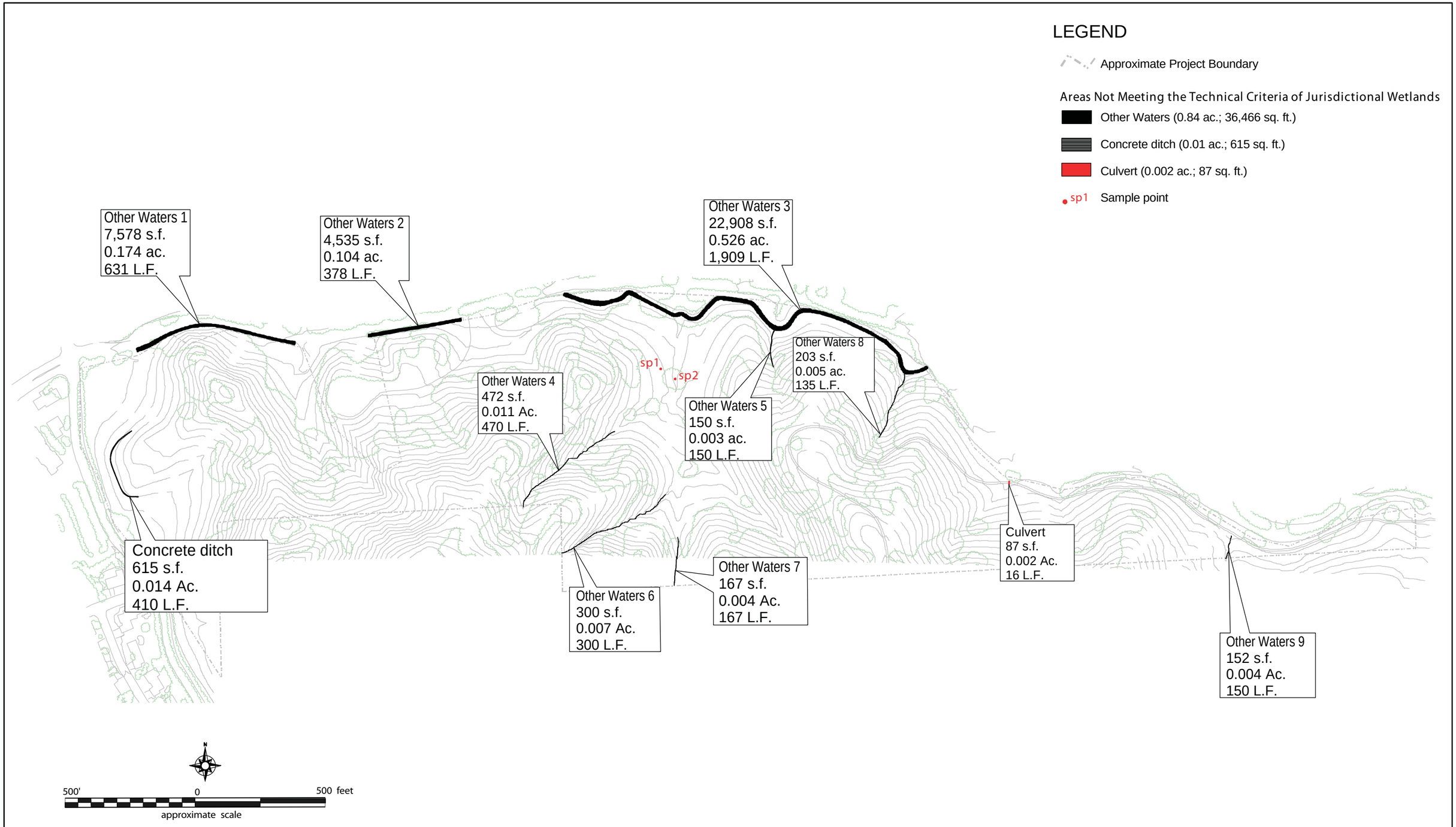
500' 0 500 feet

approximate scale

Wetland Delineation - Magee East

Monterey | San Jose
Denise Duffy and Associates, Inc.
Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure
4.4-2A



Source: Live Oak Associates, March 2012

Wetland Delineation - Magee West

Monterey | San Jose
Denise Duffy and Associates, Inc.
Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure
4.4-2B

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 (refer to Figure 4.4-1). 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 species including 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*). Cattails (*Typha* sp.) and watercress (*Nasturtium officinale*) were observed in the channel within East Branch Green Valley Creek. The seasonal drainage channels lacking associated riparian habitat supported upland herbaceous species similar to that of the surrounding upland habitat.

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. Leaf litter and decaying logs provide a moist microclimate suitable for amphibians. Reptiles that may utilize the riparian habitat on the project site 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 rubycrowned kinglet (*Regulus calendula*). Summer migrants may include the ash-throated flycatcher (*Myiarchus cinerascens*) and yellow warbler (*Dendroica petechia*).

The structural and animal diversity of riparian zones provide an abundant food sources for and attract a variety of mammalian species including deer mouse (*Peromyscus maniculatus*), muskrat (*Ondatra zibethicus*), brush rabbit (*Sylvilagus bachmani*), western gray squirrel (*Sciurus griseus*), and raccoon (*Procyon lotor*).

Wetland/Stockpond (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. A stock pond is located along the unnamed drainage in the southern portion of the site. The southern stock pond is typically inundated most 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.

Developed

A handful of small structures, including horse corrals and a small equipment storage building, are located in the northern part of the site near the East Branch Green Valley Creek. This area

consists of ruderal vegetation. "Ruderal" refers to habitats that have been highly disturbed by human activity and support vegetation adapted to disturbed conditions. Vegetation observed in ruderal areas of the site include non-native forbs including 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 the disturbed habitat area.

Movement Corridors

Many terrestrial animals need more than one biotic habitat to conduct their biological activities. With the increasing encroachment of people and development on wildlife habitats, it is critical to establish and maintain linkages or movement corridors for animals to enable access to 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 and its consistent use patterns. Animal movements can generally be divided into three behavioral categories: 1) movements within a home range or territory, 2) movements during migration, and 3) movements during dispersal. While no detailed study of animal movements has been conducted for the project area, the biological investigation made predictions about the kinds of movements occurring in the region based on knowledge of the site, its habitats, and the ecology of the species that potentially occur.

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 to the north, east, and south. The East Branch Green Valley Creek and various seasonal drainages on the project site are considered regionally important in facilitating the movement of amphibians, reptiles, birds, and mammals through the site to adjacent, more open lands. Within the project site there are a number of reptiles, birds, and mammals that may use the upland habitats of the property as part of their home range and for dispersal movements.

Special-Status Species

Several species of plants and animals within the state of California have low populations and/or limited distributions and are considered "rare" and vulnerable to extirpation.[1] 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 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 are designated "species of special concern" by the CDFG. In addition, the CDFG and California Native Plant Society (CNPS) have developed their own set of native plant lists considered rare, threatened, or endangered. 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. These species and their potential to occur in the study area are presented in Appendix C. Sources of information for this table include California's Wildlife, Volumes I, II, and III (Zeiner et. al 1988), California Natural

[1] Extirpation is the loss of a local or regional population; although the species continues to survive elsewhere.

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 determine the potential for special status plant and animal species that could occur on the project site.

A search of published accounts for all relevant special status plant and animal species was conducted for the Diablo USGS 7.5" quadrangle where the project site is located, 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.

According to the biological study, most of the special status plant and animal species that have been documented in the region may occur rarely or occasionally on the site (refer to Appendix C). For these species, sufficient information exists to evaluate the potential impacts from future project development. A few of the state- or federally-listed species require additional evaluation regarding the suitability of the project site to support them, including California tiger salamander, California red-legged frog, and Western pond turtle, as discussed further below.

Special Status Plants

Focused surveys for special status plants potentially occurring within the project development footprint detected two species, northern California black walnut and Congdon's tarplant. 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.

Northern California Black Walnut (*Juglans hindsii*). CRPR 1B List Species. Northern California black walnut is a CRPR 1B list species, defined as "plants rare, threatened or endangered in California and elsewhere." The project site contains 16 northern California black walnuts that occur naturally along the East Branch Green Valley Creek riparian corridor and have been planted in the panhandle fronting Blackhawk Road (HortScience 2011).

Congdon's Tarplant (*Centromadia parryi ssp. Congdonii*). CRPR 1B List Species. The focused rare plant surveys detected a population of thirty individuals of Congdon's tarplant (refer to Figure 4.4-3). This species does not have federal or state listing status. The population of Congdon's tarplant on the project site is found at the existing entrance to the Magee East portion of the site from San Andreas Drive, in an area that is highly disturbed by parking, foot traffic, and other activities. The Congdon's tarplant population consists of approximately 30 individuals.

Two California Natural Diversity Database (CNNDB) occurrences of Congdon's tarplant are located within three miles of the Magee Ranches property. 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. To date, 16 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.

Special Status Wildlife

California Tiger Salamander (*Ambystoma californiense*). Federal Listing Status: Threatened; State Listing Status: Threatened. Potentially suitable breeding habitat is present for California Tiger Salamander (CTS) on the project site in the form of the onsite stock pond, and offsite in the form of a detention reservoir adjacent to the project site (refer to Figure 4.4-1). Suitable aestivation[2] habitat in the form of small burrows is present near both of these features. Larval surveys for CTS performed in spring 2011 did not find any 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 unlikely to be present in the area.

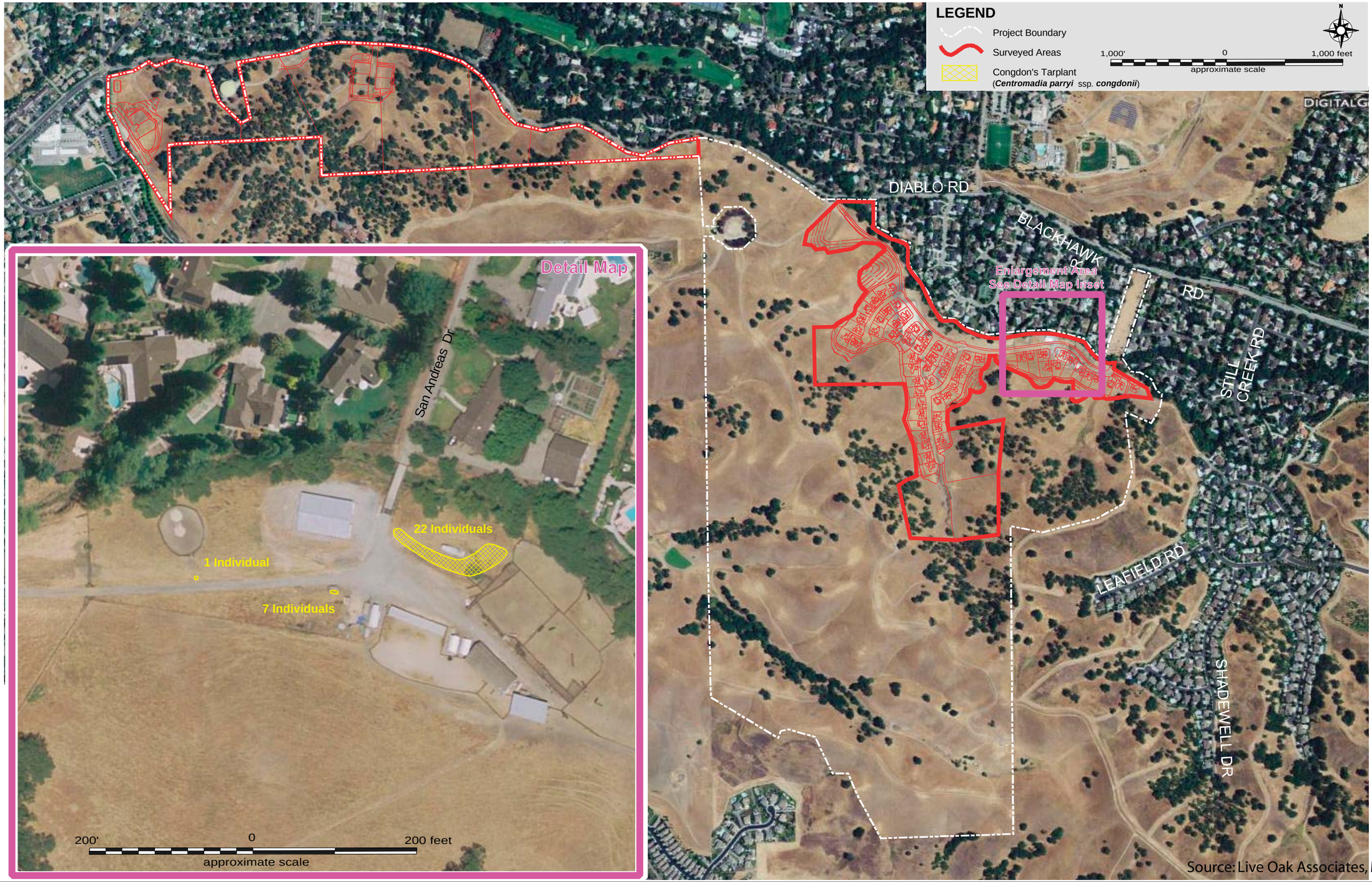
The closest known CNDDB record for CTS is approximately two miles west of the project site. The records consist of two museum specimens that were collected on July 8, 1952. No specific location information is available and it appears that this population is now extinct due to extensive urban development of the San Ramon Valley within the Town of Danville during the past 60 years. The next closest records are more than five miles to the southeast in Dougherty Valley. Substantial urban development lies between the Dougherty Valley sites and the project site; therefore, it is not possible that CTS could colonize the project site from these locations.

Although potentially suitable breeding and aestivation habitat is present on the project site, it is unlikely that CTS are present and breeding in the area based on the negative findings of the larval surveys.

California Red-Legged Frog (*Rana draytonii*). Federal Listing Status: Threatened; State Listing Status: Species of Special Concern. 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 for the following locations: 1) along the East Branch of Green Valley Creek (along the northern border of the ranch), 2) the offsite detention reservoir at the end of McCauley Road, 3) the onsite small stock pond, and 4) 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 (refer to Figure 4.4-1).

[2] State of dormancy similar to hibernation.



Congdon's Tarplant Locations

Monterey | San Jose
Denise Duffy and Associates, Inc.
Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure
4.4-3

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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 eliminated the understory vegetation. The absence of plunge pools along this feature also make 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 on the property due to trash cans and other food sources in the surrounding residential areas north, south, east, and west of the project site. Raccoon footprints have been 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 three feet in depth along this portion of the East Branch Green Valley Creek, as well as regular livestock grazing that eliminates most or all of the riparian vegetation, makes any CRLF using the area vulnerable to predation by raccoons.

Western Pond Turtle (*Actinemys marmorata*). Federal Listing Status: None; State Listing Status: Species of Special Concern. 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 larger project area and within Mt. Diablo State Park. The aquatic areas and adjacent uplands on the project site provide suitable breeding, feeding, nesting, and aestivation habitats for this species. This includes the East Branch of Green Valley Creek riparian corridor and the stock pond.

Jurisdictional Wetlands

Jurisdictional waters include rivers, creeks, and drainages with a defined bed and bank that 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), CDFG, and the California Regional Water Quality Control Board (RWQCB). A formal wetland delineation and waters of the U.S. analysis was completed for the site by LOA (2011). A preliminary field verification by the USACE has 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. The jurisdictional waters are presented in Figures 4.4-2A and 4.4-2B.

East Branch Green Valley Creek is a perennial drainage. The creek and the unnamed seasonal drainage in the south half of the site are characterized by a defined bed/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 minor amounts of water during storm events but are dry 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 found to be jurisdictional waters is ordinary high water mark. These drainages are also likely to be subject to the jurisdiction of the CDFG to the top of bank or the edge of associated

riparian vegetation, whichever is greater. A stock pond is located 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 U.S.[3] Since both of these impoundments have an apparent hydrologic connection to other waters of the U.S., they are regulated by the USACE and the RWQCB.

Trees

HortScience, Inc. prepared a Preliminary Tree Report for the proposed project. This investigation of trees on the project site included the following tasks: 1) survey of trees within and immediately adjacent to the proposed project development area, 2) assessment of the suitability for preservation of each tree, 3) evaluation of project plans and recommendations, and 4) preliminary guidelines for tree preservation during the design, construction, and maintenance phases of proposed development.

Tree Survey Results

HortScience performed a tree survey on the project site in January 2010 and February 2011 for areas of the site affected by proposed project development. The survey evaluated trees greater than 6 inches in diameter. The survey procedure consisted of the following methodology:

- Identifying the tree species.
- Tagging each tree with a numerically coded metal tag.
- Recording the tree locations on a map. Trees were mapped on a topographic plan prepared by the project engineer. This map is presented in Appendix D.
- Measuring the trunk diameter at a point 54 inches above grade.
- Evaluating the health and structural condition of each tree (using a scale of 1 – 5, where 1 is poor and 5 is excellent).
- 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 in the future.

A total of 300 trees were evaluated in the areas of proposed development and associated site disturbance. These consisted of 13 species. Descriptions and locations of individual trees are found in the Preliminary Tree Report provided in Appendix D. Trees were not evenly distributed across the site but concentrated in two areas: 1) along the existing creek, and 2) 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 of the creek with Diablo Road. In contrast, the hills are 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 was the most frequently encountered species, present in both the creek corridor and on the hillsides (137 trees). These valley oaks were a mix of young and mature individuals with 14 trees smaller than 10 inches in diameter and seven trees greater than 50 inches in diameter. The largest valley oak has a trunk diameter of 59 inches; this is located in the northwest corner of the project site near

[3] 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).

the intersection of McCauley/Diablo. The condition of the valley oaks ranged from poor (seven trees) to excellent (17 trees), with just over half in fair condition. Trees within the proposed development area that appeared in poor condition were either suppressed in development or had failed at the base of the trunk. Trees within the proposed development area in fair condition were characterized by asymmetric crowns, multiple attachments, leaning trunks or partial failure (for trees located near the creek banks, where soil movement may be the cause of failure).

Willows (73 trees) were confined to the creek corridor, with many located within the active channel. Single trees and dense thickets were present. The willows were generally in poor condition due to extensive decay, trunk failure, and poor structure. One willow was in excellent condition.

Siberian elm trees (20 trees) were located near the existing gate at Diablo Road. The elm trees were a mix of diameters, with tree condition generally fair. Coast live oak trees were present along the creek corridor, generally on the west side of the site (18 trees). A mix of young, semi-mature and mature individuals were present. Most of the elms were in either good or excellent condition. Elm trees in fair and poor condition had failed at the base of the trunk.

Blue oaks were present on the west side of the project site (12 trees). Condition ranged from fair to good and excellent. These blue oaks were generally mature in development. London plane trees have been planted as street trees along McCauley Road (11 trees). These London plane trees were young and semi-mature in development with trunk diameters between 7 – 19 inches. All were in excellent condition.

Four California buckeyes were mature in development. All had multiple stems with forms typical of the species. Also present were 16 California black walnuts, several of which were located in the proposed road access. Walnuts ranged in condition from poor to fair to good. Trunk diameters ranged from 7 – 26 inches. Four Coulter pines were present on the west side of the project, near Diablo Road. Two mature Monterey pines and an Aleppo pine were located just south of the creek area.

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. (See additional discussion below under “Regulatory Environment.” 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.

Suitability for Preservation

The Preliminary Tree Report evaluated the trees on the site with the best potential for preservation. 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. Where development encroaches into existing tree locations, structural stability is a concern as is the potential to grow and thrive in a new environment. In undeveloped areas, the normal life cycles of decline, structural failure, and death should be allowed to continue. Evaluation of suitability for preservation considered the following factors: 1) tree health, 2) structural integrity, 3) species response to preservation efforts, 4) tree age and longevity, and 5) species invasiveness. Retention of trees with low suitability for preservation is not recommended in areas where people or property are present. Retention of trees with moderate suitability for preservation depends upon the intensity of proposed site changes.

Regulatory Environment

Federal

Provisions of the federal Endangered Species Act (ESA) of 1973 (16 USC 1532 *et seq.*, as amended) protects federally listed threatened or endangered species and their habitats from unlawful take. Listed species include those for which proposed and final rules have been published in the Federal Register by the U.S. Fish and Wildlife Service or NOAA Fisheries (formerly known as the National Marine Fisheries Service). The ESA is administered by the USFWS and NOAA Fisheries. In general, NOAA Fisheries is responsible for the protection of ESA-listed marine species and anadromous fish, whereas other listed species are under USFWS jurisdiction.

Federal Candidate species are "taxa for which (USFWS) has on file sufficient information on biological vulnerability and threats to support issuance of a proposed rule to list, but issuance of the proposed rule is precluded." Federal Candidate species are not afforded formal protection, although USFWS encourages other federal agencies to give consideration to Candidate species in environmental planning. In 1996, the USFWS discontinued the Category 3 and 4 classifications for federal Candidate species (USFWS, 1996). Species either are identified as Candidate species with a listing priority classification, designated as federal "species of concern," or are no longer given any federal status.

Section 9 of ESA prohibits the take of any fish or wildlife species listed under ESA as endangered. Take, as defined by ESA, is "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." Harm is defined as "any act that kills or injures the species, including significant habitat modification." In addition, Section 9 prohibits removing, digging up, and maliciously damaging or destroying federally listed plants on sites under federal jurisdiction. Section 9 does not prohibit take of federally listed plants on sites not under federal jurisdiction. If there is the potential for take of a federally listed species, a Section 7 (federal agency) or Section 10 (private land owner) USFWS Incidental Take Permit may be required to authorize the "incidental take" of that species. Federal agency actions include activities that are on federal land, conducted by a federal agency, funded by a federal agency, or authorized by a federal agency (including issuance of federal permits).

The Migratory Bird Treaty Act (MBTA) of 1918 prohibits killing, possessing, or trading migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. Most actions that result in taking or in permanent or temporary possession of a protected species constitute violations of the MBTA. The USFWS is responsible for overseeing compliance with the MBTA.

State

The California Endangered Species Act (CESA) was enacted in 1984. The California Code of Regulations (Title 14, Section 670.5) lists animal species considered endangered or threatened by the state. Section 2090 of CESA requires state agencies to comply with endangered species protection and recovery and to promote conservation of these species. Section 2080 of the Fish and Game Code prohibits "take" of any species that the commission determines to be an endangered species or a threatened species. "Take" is defined in Section 86 of the Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." It does not include habitat destruction in the definition of take. A Section 2081 Incidental Take Permit from the CDFG is required to "take" any state listed species.

The California Native Plant Protection Act (NPPA) of 1977 directed the CDFG to carry out the legislature's intent to "preserve, protect and enhance rare and endangered plants in the state." The Act prohibits importing rare and endangered plants into California, taking rare and endangered plants, and selling rare and endangered plants. The CESA and NPPA authorized the California Fish and Game Commission to designate endangered, threatened and rare species and to regulate the taking of these species (§2050-2098, Fish and Game Code). Plants listed as rare under the NPPA are not protected under CESA.

Raptors (e.g., eagles, hawks, and owls) and their nests are protected under both federal and state laws and regulations. Section 3503 of the Fish and Game Code prohibits the killing, possession, or destruction of bird eggs or bird nests. Section 3503.5 and 3513 prohibit the killing, possession, or destruction of all nesting birds (including raptors and passerines). Section 3503.5 states that it is "unlawful to take, possess, or destroy the nest or eggs of any such bird except otherwise provided by this code or any regulation adopted pursuant thereto." Section 3513 prohibits the take or possession of any migratory nongame birds designated under the federal MBTA. Section 3800 prohibits take of nongame birds.

The classification of Fully Protected was the state's initial effort in the 1960's to identify and provide additional protection to those animals that were rare or faced possible extinction. Lists were created for fish (Section 5515), mammals (Section 4700), amphibians and reptiles (Section 5050), and birds (Section 3511). Most Fully Protected species have also been listed as threatened or endangered species under the more recent endangered species laws and regulations. Fully Protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock.

CDFG also maintains a list of animal "species of special concern," most of which are species whose breeding populations in California may face extirpation if current population trends continue. Although these species have no legal status, the CDFG recommends considering these species during analysis of project impacts to protect declining populations and avoid the need to list them as endangered in the future.

The Natural Heritage Division of the CDFG administers the state Rare Species Program. CDFG maintains lists of designated endangered, threatened, and rare plant and animal species. Listed species either were designated under the NPPA or designated by the Fish and Game Commission. In addition to recognizing three levels of endangerment, the CDFG can afford interim protection to Candidate species while they are being reviewed by the CDFG Commission.

Under provisions of Section 15380(d) of CEQA, the project lead agency and CDFG, in making a determination of significance, must treat non-listed plant and animal species as equivalent to listed species if such species satisfy the minimum biological criteria for listing. In general, the CDFG considers plant species on List 1 or 2 of the California Native Plant Society's (CNPS) *Inventory of Rare and Endangered Vascular Plants of California* (Tibor 2001) as qualifying for legal protection under this CEQA provision. Species on CNPS List 3 or 4 may, but generally do not, qualify for protection under this provision.

Local

The Town of Danville has adopted the following two ordinances relating to biological resources:

Tree Preservation. 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 a list of native trees "having a trunk or main stem which measures 10 inches or greater in diameter measured 4½ feet above natural grade or, for a multiple trunked tree, a combination of trunks totaling 20 inches or greater in diameter measured 4½ feet above natural grade;" heritage trees that have a single 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 Setbacks. 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 distance based on the channel depth plus an additional distance 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 feet.

Thresholds of Significance

In accordance with CEQA Guidelines, a project impact would be considered significant if the project 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 US Fish and Wildlife Service; or
- 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 US Fish and Wildlife Service; or
- 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; or
- 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; or
- conflict with any local policies or ordinances protecting biological resources, such as 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; or
- impede the use of native wildlife nursery sites or directly harm nesting species protected under the provisions of the Migratory Bird Treaty Act.

Impacts and Mitigation

Impacts to Special-Status Plant Species

Focused surveys for special status plants with the potential to occur within the proposed development footprint detected two species, northern California black walnut and Congdon's tarplant. No other special status plant species were detected during any of the surveys; therefore, these species are presumed to be absent.

Sixteen northern California black walnut trees, a CNPS 1B list species, are occurring naturally along the East Branch Green Valley Creek riparian corridor and have been planted in the panhandle fronting Blackhawk Road. Some of these trees would likely be removed as part of project buildout. Impacts to this species, including tree removal, would be considered significant under CEQA (see detailed discussion below under "Impacts to Trees").

The focused rare plant surveys detected a population of 30 individuals of Congdon's tarplant, also a CNPS 1B species (refer to Figure 4.4-3); this species does not have federal or state listing status. The population of Congdon's tarplant occurring on the project site 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. The Congdon's tarplant population mapped onsite occurs in the proposed footprint of the access road and a cul-de-sac; therefore, proposed development of the site would result in the loss of approximately 30 individuals occurring within this footprint.

To date, 16 occurrences of Congdon's tarplant have been reported to the CNDDB within 10 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 the project site would be considered less than significant.

Impacts to Special-Status Wildlife Species

A total of 23 special status animal species occur, or once occurred, in the region. The following species have the potential to occur on the project site: 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 other species would be absent from or are unlikely to occur on the site due to unsuitable habitat conditions. Proposed development activities would have no effect on these species since 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 (see further discussion below).

White-tailed kites and northern harriers have been observed foraging over the project site. The golden eagle, yellow warbler, Townsend's big-eared bat, pallid bat, western red bat, and western

mastiff bat may also occur as regular foragers or 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 they may forage on the site year-round or during migration. Project development would have a minimal effect on the breeding success of these species and would result in a relatively small reduction of foraging and/or roosting habitat, which is abundantly available in the region based on the conclusions in the biological evaluation. Therefore, the loss of habitat for these species is 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. The potential impacts to these species are discussed below.

Impacts to California Red-Legged Frog (CRLF)

Four adults and two juvenile CRLF were detected along East Branch Green Valley Creek during the focused surveys. 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 creek crossing access road 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 crossing would also result in temporary and permanent impacts to approximately 0.3 acres of 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 are considered significant.

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 since they don't 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 most of the year). Nonetheless, it is possible that these features could facilitate CRLF movements during the wet season.

The cluster homes, custom lots, and street rights-of-way would result in the loss of up to 108 acres of upland habitat that could be used by CRLF during the wet season. These impacts to CRLF habitat would be considered significant. In addition to evaluating the potential of the project to affect the CRLF under CEQA, the proponent 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 process through the Army Corps of Engineers.

The project proposes to preserve approximately 302 acres of the site as open space. This amount of open space would compensate for loss of CRLF upland habitat. This open space area would be permanently preserved and managed in perpetuity for CRLF and other suitable species. Areas proposed for preservation include upland habitats adjacent to the offsite detention basin and onsite stock pond. This open space provides opportunities to enhance some of the existing aquatic features to 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. Specifically, proposed enhancements include enlarging and deepening the stock pond to retain water for more of the year and planting 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), aquatic features that are created or enhanced within this area would have sufficient associated uplands.

The project has been designed to avoid impacts to riparian and aquatic resources to the maximum extent practicable. The approach to mitigating for CRLF is based on the following approach: 1) implementing minimization measures, 2) compensating for impacts to riparian habitats and other waters and upland habitat, 3) preserving open space lands that contain suitable upland characteristics adjacent to the offsite breeding pond, and 4) enhancing onsite aquatic features. Implementation of the mitigation measures below will reduce impacts to CRLF to a less-than-significant level.

Impact **Construction of the proposed subdivision could result in potential impacts to California red-legged frog.** ***This is a potentially significant impact that would be reduced to a less-than-significant level with implementation of the following mitigation.***

Mitigation Measures

4.4-1 The project proponent shall implement the following measures during construction activities in or along East Branch Green Valley Creek to avoid take of individual CRLF:

a. Prior to the start of construction, the project proponent shall retain a qualified biologist to train all construction personnel regarding habitat sensitivity, identification of special status species, and required practices.

b. Prior to the start of construction, the project proponent shall retain a qualified biologist to conduct pre-construction surveys to ensure that CRLF are absent from the construction area. If CRLF are present, a qualified biologist possessing all necessary permits shall relocate them or they shall be allowed to move out of the construction area on their own.

c. Immediately following the pre-construction surveys and a determination that CRLF are not present in the construction zone, the construction zone shall be cleared and silt fencing erected and maintained around construction zones to prevent CRLF from moving into these areas.

d. The project proponent shall retain a qualified biological monitor to 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.

4.4-2 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. The project shall replace the lost value of this impact by restoring the impacted riparian habitat at a minimum 1:1 replacement-to-loss ratio. (Final mitigation amounts will be based on actual impacts to be determined during the design phase.) This shall be accomplished by restoring riparian habitat at the four following locations:

a. The existing wet crossing and asphalt near the panhandle (i.e., where the new bridge is to be constructed) shall be removed. The silt and sediment buildup behind and adjacent to the wet crossing and asphalt shall also be removed and the creek bed shall be lowered to restore the natural flow of this portion of the creek.

b. The existing crossing from San Andreas Drive shall be removed and the creek restored in this area.

c. The two existing cattle grates on Magee West near the existing culverts shall be removed. One of these is causing sediment build up and adversely impacting the creek. The natural flow of this channel shall be restored back to its original condition prior to the original installation of the grates.

d. The riparian corridor along the East Branch of Green Valley Creek will be enhanced with suitable planting and placement of riparian vegetation along the proposed trail on Magee East. Approximately 2 acres along East Branch Green Valley Creek between the creek and the trail is available to accommodate the minimum 0.3 acres of riparian enhancement plantings. The enhancement area shall be planted with native species appropriate for the corridor.

4.4-3 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 shall replace the lost functions and value of this impact to aquatic habitats at a minimum of 1:1 replacement-to-loss acreage ratio. The final mitigation amounts will be based on actual impacts to be determined during the design phase. Habitat replacement via creation of and/or enhancements to existing waters shall 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.[4] 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. (Refer also to mitigation measures 4.4-13 and 4.4-14 below for impacts to jurisdictional waters.)

[4] Compensation for impacts to jurisdictional waters to benefit the CRLF will include the compensation: riparian restoration measures as well as improvements to the wetland character of the onsite stock pond and enhancement of the associated riparian habitat between the stock pond and the detention basin.

4.4-4 The project proposes to preserve approximately 302 acres of the project site as open space. Areas to be preserved would be placed under a conservation easement or deed restriction to prohibit construction and preserve conservation value. The project proposes to create a geologic hazard abatement district (GHAD) to provide suitable funding for management and long-term maintenance of the site. Upland habitats shall be managed via a long-term management plan to maintain the quality of the habitat for the movement and dispersal of CRLF. Prior to construction, the project proponent shall retain a qualified biologist to prepare an open space management plan for the explicit purpose of managing and monitoring the proposed open space area. This plan shall be submitted to the Town of Danville for review and approval prior to issuance of grading permits. At a minimum this plan shall include the following components:

a. 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.

b. 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 sufficient water budget exist for any proposed enhancement.

c. Identify a suitable planting regime for restoring wetland and riparian habitats.

d. Identify success criteria for monitoring both the wetland and riparian habitats that are consistent with similar habitats regionally.

e. Monitor restored wetland habitats for at least five years and restored riparian habitats for 10 years.

f. Define and identify the GHAD 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, and removal of trash.

g. Define the financial mechanism for the GHAD to manage the open space into perpetuity.

Impacts to California Tiger Salamander (CTS)

Protocol level surveys as defined by the USFWS and CDFG (e.g., pitfall trapping arrays during the winter rains) were not conducted for CTS; however, larval surveys were conducted in the spring of 2011, a year of over 150% of normal rainfall. These surveys did not detect any breeding activity in the only potential habitat onsite and offsite - the detention pond. Other potential breeding habitat does not occur within 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. Given the absence of any other potential breeding habitat in the vicinity, CTS are not

expected to occur in adjacent upland habitats on the project site. The project would, thus, have a less-than-significant impact on CTS.

Impacts to Western Pond Turtle

The project would result in minor encroachment into habitat that likely supports western pond turtle (0.3 acres impact to riparian habitat). The loss of this habitat is considered less-than-significant, as the amount of habitat affected is small. However, construction activities, particularly construction of the access road creek crossing within the East Branch Green Valley Creek riparian corridor, could result in mortality to individual western pond turtles. A loss of individual turtles would represent a significant impact.

Impact **Construction of the proposed subdivision could result in potential impacts to western pond turtle.** ***This is a potentially significant impact that would be reduced to a less-than-significant level with implementation of the following mitigation.***

Mitigation Measures

Implementation of the avoidance, minimization, and compensation measures for the CRLF (see discussion above) would address impacts to western pond turtles. The project proponent shall also implement the following additional construction-related measures.

4.4-5 Prior to the start of construction, the project proponent shall retain a qualified biologist to train construction personnel regarding habitat sensitivity, identification of special status species, and required practices.

4.4-6 Prior to the start of construction within the East Branch Green Valley Creek riparian area, the project proponent shall retain a qualified biologist to conduct pre-construction surveys to ensure that western pond turtles are absent from the construction area. If western pond turtles are present, a qualified biologist possessing all necessary permits shall be retained to relocate them.

4.4-7 If western pond turtles are found to be absent from the construction zone, immediately following the pre-construction surveys the project proponent shall clear the construction zone and install/maintain silt fencing around the construction zone to prevent western pond turtles from entering these areas.

4.4-8 During construction within the East Branch Green Valley Creek riparian area, the project proponent shall retain a biological monitor to be present onsite during times of construction to ensure that turtles are not harmed, injured, or killed.

Disturbance to Nesting Raptors and Migratory Birds

The loss of habitat, particularly when taken into context with the 302 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 on the project 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 and would be considered a significant impact.

Impact **Construction of the proposed subdivision could result in potential impacts to nesting raptors and migratory birds.** ***This is a potentially significant impact that would be reduced to a less-than-significant level with implementation of the following mitigation.***

Mitigation Measures

4.4-9 To the maximum extent practicable, the project proponent shall remove trees during the non-breeding season (September 1 through January 31). If it is not possible to avoid tree removal and associated disturbances during the breeding season (February 1 through August 31), the project proponent shall retain a qualified biologist to 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 250 feet of the footprint, if such disturbance would occur during the breeding season. This survey shall 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 shall be established around all active nests. The precise dimension of the buffer (a minimum of 150 feet up to a maximum of 250 feet) shall be determined at that time and may vary depending on location and species. Buffers shall 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.

Impacts to Burrowing Owl

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, such 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 and would be considered a significant impact. However, the loss of potential foraging habitat for burrowing owls is less-than-significant due to the onsite preservation of 302 acres of suitable foraging habitat. This preserved land would sufficiently accommodate any potential loss of habitat for this species.

Impact **Construction of the proposed subdivision could result in potential impacts to burrowing owls.** ***This is a potentially significant impact that would be reduced to a less-than-significant level with implementation of the following mitigation.***

Mitigation Measures

4.4-10 In order to avoid impacts to active burrowing owl nests, the project proponent shall retain a qualified biologist to conduct pre-construction surveys for burrowing owls within the construction footprint and within 250 feet of the footprint no more than 30 days prior to the onset of ground disturbance. These surveys shall 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 used 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 feet of the footprint) during the breeding season (February 1 through August 31), a construction-free buffer of 250 feet shall be established around all active owl nests. The buffer area should be enclosed with temporary fencing, and construction equipment and workers may not enter the enclosed setback areas. Buffers must 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.

Impacts to American Badger

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. However, the loss of potential habitat for badgers is considered less-than-significant, since the onsite preservation of 302 acres of suitable habitat would more than sufficiently accommodate any potential loss of habitat for this species.

Impact **Construction of the proposed subdivision could result in potential impacts to American badgers.** ***This is a potentially significant impact that would be reduced to a less-than-significant level with implementation of the following mitigation.***

Mitigation Measures

4.4-11 Pre-construction surveys conducted for burrowing owls shall 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, the project contractor shall establish a construction-free buffer around the den of up to 300 feet or a distance specified by the resource agencies (i.e., CDFG). Because badgers are known to use multiple burrows in a breeding burrow complex, the project contractor shall retain a biological monitor during construction activities to ensure the buffer is adequate to avoid direct impacts to individuals or nest abandonment. The monitor shall be present 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.

Impacts to Golden Eagle

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 302 acres of suitable foraging habitat; therefore, no mitigation is required.

Impacts to Jurisdictional Waters and Riparian Habitat

A formal wetland delineation of the project site was conducted as part of the biological investigation 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 RWQCB will take jurisdiction over these features and the CDFG will exert jurisdiction over the drainages. Except for the proposed 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 to preserve sensitive riparian habitats and maintain watershed health. The proposed 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 feet 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 crossing 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 crossing will also result in permanent and temporary impacts to approximately 0.3 acres the East Branch Green Valley Creek riparian corridor. The placement of fill within these features and the loss or degradation of associated riparian habitat value would constitute a significant impact.

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.

The loss of approximately 0.5 acres of jurisdictional waters and 0.3 acres of riparian habitat constitutes a significant impact to these sensitive habitats. The mitigation identified for CRLF provides a detailed discussion of enhancements and restoration measures for the wetland and riparian habitats, including 1) replacing the old bridge and removing the sediment build up and restore the creek at that location to its natural grade; 2) removing the old bridge and restoring the creek; 3) removing cattle grates and sediment build-up; 4) enhancing and restoring riparian

woodland along East Branch Green Valley Creek; and 5) enhancing and increasing the capacity of the onsite stock pond. These measures will minimize impacts to riparian and wetland habitats. Below are additional measures required to reduce impacts to a less-than-significant level.

Impact **Development of the proposed subdivision would impact wetlands (0.5 acres) and riparian habitat (0.3 acres).** ***This is a potentially significant impact that would be reduced to a less-than-significant level with implementation of the following mitigation.***

Mitigation Measures

4.4-12 The project proponent shall replace wetland and riparian habitat at a 1:1 replacement-to-loss ratio. It is expected that all compensation measures can be accommodated within the 302 acres of the site proposed as open space. Prior to issuance of a grading permit, the project proponent shall retain a qualified biologist to prepare an onsite habitat mitigation and monitoring plan (HMMP) that includes both an aquatic habitat restoration plan and a riparian habitat restoration plan. The HMMP would specifically address the wetland and riparian habitats and is separate from the Open Space Management Plan identified in Mitigation 4.4-4, although there may be some overlap. The HMMP shall include the following components, at a minimum:

a. Define the location of all restoration/creation activities;

b. Provide evidence of a suitable water budget to support any created wetland and riparian habitats;

c. Identify the species, amount, and location of plants to be installed;

d. Identify the time of year for planting and method for supplemental watering during the establishment period;

e. Identify the monitoring period, which should be not less than 5 years for wetland restoration and not less than 10 years for riparian restoration, defines success criteria that will be required for the wetland restoration to be deemed a success;

f. Identify adaptive management procedures that include (but are not limited to) measures to address colonization by invasive species, unexpected lack of water, excessive foraging of installed wetland plants by native wildlife, and similar;

g. Define management and maintenance activities (weeding of invasives, providing for supplemental water, repair of water delivery systems) of the proposed GHAD; and

h. Provide for assurance in funding the monitoring and ensuring that the created wetland and riparian habitats fall within lands to be preserved and managed into perpetuity. Confirm that the proposed GHAD will meet these responsibilities.

4.4-13 The project proponent shall comply with all state and federal regulations related to construction work that will impact aquatic habitats occurring on the site. Prior to construction, the project proponent shall 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, and submit proof of such documentation to the Town of Danville.

Loss of Habitat for Native Wildlife

The habitats on the project 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 108 acres of the project site, nearly all of which can currently be used by native wildlife. Future development would primarily result in the loss of non-native grassland habitats. 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.

The 108 acres to be developed are concentrated in the flatter areas near Diablo and Blackhawk Roads at the north end of the property near existing development. Even after this area is developed, large portions 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 to adequately offset grassland and aquatic habitat losses. In particular, the project proposes to preserve 302 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.

Impacts to Wildlife Movement and Nursery Sites

The properties surrounding the project site have been developed with some roads and residences that 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 majority of proposed development footprint occurs in the northern part of the site near existing roads and residences. The project proposes to maintain the majority of the site in open space, facilitating wildlife use as home range and dispersal movement. 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 proposed 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 currently 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 are considered less-than-significant.

Degradation of Water Quality in Seasonal Drainages, Stock Ponds, and Downstream Waters

Proposed grading and construction activities will result in exposed soil conditions in areas of development. These soils are vulnerable to sheet, rill, and gully erosion. During operation of the project, stormwater runoff can contain pollutants such as grease, oil, pesticide/herbicide residues,

and heavy metals that can be carried into sensitive wetland habitats used by native wildlife. Project compliance with the provisions of the grading permit, including standard erosion control measures that employ best management practices, would minimize water quality impacts in downstream waters. The project would be required to comply with the provisions of a General Construction permit (NPDES permit) administered by the RWQCB. Compliance with regulatory requirements would avoid impacts to water quality in seasonal creeks, reservoirs, and downstream waters from the project including deposition of pollutants and sediments in sensitive riparian and wetland habitats. This is a less-than-significant impact. Refer also to Section 4.8 Hydrology and Water Quality of this DEIR.

Consistency with Local Policies/Ordinances Protecting Biological Resources

With the exception of local ordinances previously discussed, no local ordinances, HCPs, or NCCPs are known to be in effect for the project area. Therefore, the proposed project would not be impacted by any local policies related to biological resources.

Conflict with the Provisions of an Adopted Habitat Conservation Plan

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. The project, therefore, would not conflict with the provisions of any adopted habitat conservation plans.

Impacts to Trees

Impacts to trees may occur in several ways. Although demolition is limited, any demolition activity would potentially injure tree roots. Excavation and construction may damage both tree roots and crowns. Trees also require removal to allow for proposed development and associated improvements.

Impacts to Trees for Proposed Residential Development
Based on the proposed plans, impacts to surveyed trees were evaluated in the Preliminary Tree Report prepared by HortScience (October 2011). In general, proposed development is located in open areas away from the creek or hillsides. The project would preserve 262 trees, remove 38 trees, and relocate one tree. All Town-designated heritage trees surveyed would be preserved. Of the 38 trees to be removed, 13 are Town-designated protected trees.

The tree survey provided the following specific recommendations for preservation assuming that no intrusions into the creek area other than to construct the project access road would occur:

1. Siberian elms (trees #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 is tentative at this time.

2. Coast live oak (tree #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.

3. Valley oak (tree #161) is located in the existing right-of-way corridor. It has poor suitability for preservation but should be considered for retention.

4. Coast live oak (tree #232) and valley oaks (trees #236 and 239) are located along Diablo Road, opposite Fairway Drive. Both trees should be considered for preservation.

5. Several oaks located adjacent to proposed building sites for custom lots. Other trees recommended as "possibly preserve" are located near areas proposed for grading including that for roadway access. Preservation of these trees would be determined during final design.

Impacts to Trees for Diablo Road/Green Valley Road Improvements

The Town requested evaluation of traffic improvements at the intersection of Diablo Road/Green Valley Road, including the extension of the westbound right-turn and through lanes at this location. This would require the removal of trees outside of the project boundaries.

HortScience conducted a survey of trees that would be potentially impacted by the intersection improvements at Diablo Road/Green Valley Road (April 2012). This evaluation identified 21 trees in the improvement area, consisting of California black walnut, English walnut, Purpleleaf plum, Almond Valley oak, and Siberian elm. Of the 21 trees evaluated, 11 are Town-designated Protected trees.

The tree survey determined that the traffic improvements at this location would result in the removal of 18 trees. Eight of these are Town-designated Protected trees. The survey also recommended preservation of three trees. Preservation of these trees would be determined during final design.

Conclusion

The project would preserve 262 trees, remove 38 trees, and relocate one tree. All Town-designated heritage trees surveyed would be preserved. Of the 38 trees to be removed, 13 are Town-designated protected trees.

Up to 18 trees within the Town's right-of-way may require removal to allow improvements to the intersection of Diablo Road/Green Valley Road, if required by the Town. Eleven of these trees are Town-designated protected trees and none are heritage trees.

Trees removed from the riparian corridor would require replacement at a 5:1 ratio and with like species or with species known to occur naturally within riparian habitats in the region. These trees would need to be planted within the East Branch Green Valley Creek riparian corridor or in other areas designated for riparian restoration. The HMMP identified in mitigation measure 4.4-13 provides for a suitable tree replacement plan for any trees removed in the riparian corridor. Trees that are removed outside the riparian corridor would require replacement with like species.

The Town of Danville recommends replacing 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." All trees to be removed, regardless of their size, shall be mitigated for according to the Town's tree ordinance.

Impact **The project would result in the removal of 38 trees on the site, which represents a potentially significant impact.** ***This is a significant impact that can be reduced to a less-than-significant level with the following mitigation.***

Mitigation Measures

Mitigation measures associated with the removal of trees within the riparian habitat of East Branch Green Valley Creek are identified in mitigation measures 4.4-13 and 4.4-14. The following measures are recommended for trees occurring outside of the riparian habitat.

4.4-14 Prior to issuance of a grading permit, a tree preservation plan shall be prepared for all trees to be retained that identifies all protection and mitigation measures to be taken and includes the tree preservation guidelines by HortScience in their tree report(s). These measures shall remain in place for the duration of construction activities at the project site.

4.4-15 Upon completion of construction, the project proponent shall replace all 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" in accordance with the Town's tree ordinance. Tree removal shall be conducted in accordance with the Town's requirements, including planting a mixture of small and large box trees to meet the cumulative diameter number of the removed trees. The project proponent shall replace all 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) at a replacement-to-removal ratio of 1:1. To the maximum extent practicable, all native trees that are removed shall be replaced with like species. All non-native trees that are removed shall be replaced with species that are known to occur naturally within similar habitats in the region.

4.4-16 Prior to construction, the project proponent retain a qualified arborist to develop a monitoring plan for replacement trees (outside the riparian habitat) and submit it to the Town of Danville during the permit process. The basic components of the monitoring plan shall include final success criteria, specific performance criteria, monitoring methods, data analysis, monitoring schedule, contingency/remedial measures, and reporting requirements.

Impact **The improvements to the Diablo Road/Green Valley Road intersection would require the removal of 18 trees within the Town right-of-way.** ***This is a significant impact that can be reduced to a less-than-significant level with the following mitigation.***

Mitigation Measures

4.4-17 If the Town determines that the improvements to the Diablo Road/Green Valley Road intersection are required, the project shall implement Mitigation Measures 4.4-14 through 4.4-16 above, as applicable.

Cumulative Impacts

Section 15130 of the CEQA Guidelines requires an EIR to discuss cumulative impacts of a proposed project when the project's incremental effect may be cumulatively considerable. This EIR relies on a list approach, as described in Section 5.2 of this EIR. The geographic scope is the Town of Danville. Proposed development considered in the cumulative analysis is identified in Table 5-1 (see Section 5.0 CEQA Considerations).

The project site hosts a number of sensitive habitats and special-status species. The project could potentially impact several special-status wildlife species as well as riparian habitat and wetlands. Mitigation is identified in this EIR to reduce all of the project's impacts on biological resources to a less-than-significant level.

Some of the cumulative projects may contain sensitive species and/or habitat that could be impacted by cumulative development. These projects would be required to provide mitigation for potentially significant impacts consistent with regulatory agency requirements. The proposed project combined with cumulative development could contribute incrementally to cumulative impacts to special-status plant and wildlife species and sensitive habitats. However, with the mitigation required for this project including the preservation/management of biological resources, these cumulative impacts would be less-than-significant. The project's incremental impacts are not cumulatively considerable and the cumulative impacts to biological resources are, therefore, less-than-significant.

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4.5 CULTURAL RESOURCES

Introduction

This section assesses the cultural resources including historical, archaeological, paleontological, unique geologic features, and human remains known to occur at the project site, and identifies potential impacts to those resources from construction of the proposed development. This discussion is based in part on an Archaeological Survey and Subsurface Testing Report prepared for the project by Holman & Associates (July 2011). This report is on file with the Town of Danville.

Setting

Prehistoric Setting

The project area is situated within the territory of the Bay Miwok. The Bay Miwok were a cultural and linguistic group of Miwok, a Native American people of northern California. Ethnographic data on the Bay Miwok is generally scarce, in part due to the displacement of this group from their home land by the Spanish. The Bay Miwok inhabited the area surrounding Mt Diablo northward to Suisun Bay and eastward to the confluence of the Sacramento and San Joaquin rivers. The Tatcan tribe of the Bay Miwok controlled San Ramon Creek just west of Mt Diablo and their central village area may have been located near or within the present town of Danville or Walnut Creek.

The Bay Miwok were hunter-gatherers adapted to varied ecological landscapes. The natural resources of the East Bay provided for nearly all the needs of aboriginal human populations, consequently in some places villages were continuously occupied for thousands of years. Bay Miwok territory encompassed grassland, oak woodland, chaparral, littoral, riparian, estuarine, and marshland environments. The dating of archaeological sites, linguistic diversity, and ancient trade patterns indicate that the Bay Miwok maintained demographic and social stability in which the same family groups occupied the same locations continuously for hundreds or more years. This long term stability is reflected in the homogeneity of archaeological sites spanning wide geographic ranges over long periods of time.

Historical Setting

Spanish exploration in Contra Costa County dates to the late 1700s. Spanish Mission records indicate that local Native Americans were brought to the Mission San Francisco between 1795 and 1806. During this time, Native American populations declined significantly in response to the introduction and rapid spread of disease.

The Mexican revolt against Spain in 1822 and subsequent secularization of the missions in 1834 changed land ownership in California. The Spanish system was directed at land ownership by the Crown, while Mexican policy stressed individual land ownership. Following independence from Spain the vast mission lands were granted to private citizens. The last of the mission holdings were relinquished in 1845, making way for the large ranchos common in California in the mid-1800s. The San Ramon Valley contained three large ranchos: San Ramon (Amador); San Ramon (Carpentier); and San Ramon (Norris). The project area is located within the San Ramon Carpentier rancho. Following the end of the Mexican-American War in 1847 and ratification of

the Treaty of Guadalupe in Hidalgo in 1848, California became a U.S. territory. In 1850 California was formally admitted into the Union, ushering in the American period of history.

Contra Costa County was one of the original 27 counties created by the California legislature at the time of statehood. The county was originally named Mt Diablo but later changed to Contra Costa ("opposite coast") reflecting its geographical relationship to San Francisco. The Gold Rush of 1848 brought an enormous influx of immigrants to California increasing the County's population. The large ranchos were divided and sold for agricultural uses, with irrigated farming made possible in parts of the County by the development of irrigation canals. Orchards dominated lowland valleys where sufficient water was available, while drier areas were used for dry farming and cattle ranching.

The end of the Gold Rush generally corresponded with early industrialization in California, focused in San Francisco. The discovery of deposits of soft coal in the foothills of Mt Diablo heightened this industrial development. Although the project was on the fringes of the mining district, by the 1860s small towns materialized adjacent to the coal deposits. These small towns flourished for a couple of decades and then completely disappeared.

The 1880 census contains a page of Chinese laborers living in Green Valley, possibly employed by farmer John Griffin (U.S. Census Bureau 1880). From the late 1870s to 1912 John Boyd operated the Oakwood Park Stock Farm, a horse and cattle breeding farm. The farm included the Town of Diablo and the southern slopes of Mt Diablo. The farm was bought by Robert N. Burgess in 1912 and turned into a country club. In 1949, Harry H. Magee moved his beef cattle operation from Nevada to Danville. The upper Green Valley ranch property, previously used to grow walnuts and raise sheep, encompassed approximately 1,200 acres. Today, the remaining 410 acre Magee Ranches property is operated and maintained by EMJAY Co. LP and Teardrop Partners, businesses of the Magee family.

Cultural Resources Investigation

Holman & Associates (Holman) has performed a series of archaeological studies for the project site. In 2009, Holman conducted an archival records search at the Northwest Information Center (NWIC) of the California Historical Resources Information System (CHRIS) and did a pedestrian site survey of the Magee Ranches property. In 2011, Holman supplemented this work with a more systematic pedestrian survey of the upland portions of the project site. Subsurface mechanical testing was also performed on the project site to 1) test for the presence/absence of subsurface prehistoric archaeological resources within the site, and 2) search for archaeologically-sensitive buried land surfaces in order to acquire predictive information on the potential for archaeological resources in those portions of the project area not tested due to topographical or other constraints.

Archival Records Search

An archival records search for the project area was conducted by Holman at the NWIC on December 14, 2009 to identify prior archaeological studies and known cultural resources within a ½-mile radius of the property. The records search (File No. 09-0752) included a review of the following archives, registers, and lists:

- Site records for previously recorded sites
- Reports of previous studies
- Listing of California Historical Landmarks

- The National Register of Historic Places (NRHP)
- The California Register of Historical Resources (CRHR)
- The California Office of Historic Preservation (OHP) Historic Properties Directory

Additional background research was conducted to obtain a general understanding of the history of the Magee Ranches property. Research was undertaken at the Contra Costa Historical Society and UC Berkeley Map Library. Property-specific research was conducted online at the Library of Congress American Memory Collection/Maps; Contra Costa County Historical Society's online list of maps and photographs; David Rumsey historical map collection; Calisphere/OAC collections online; Mount Diablo Interpretive Association; and the Museum of the San Ramon Valley. Various sources, including area histories, newspaper indices, and maps.

The NWIC records search found no listings for any prehistoric or historic cultural resources within the project area or within a ½ mile radius. The nearest prehistoric sites are recorded near the peak of Mt Diablo, north of the project site. The records search also did not find any record of previous cultural resources studies within the project site. One archaeological pedestrian survey was previously completed east of the project for the Blackhawk Unit 3 development; no resources were identified. An expanded search of the NWIC files beyond the ½-mile radius buffer indicated no prehistoric sites recorded along the ridgeline that passes through the project area or during surveys of the larger Blackhawk residential development north and east of the project site. Research suggests that the general region was utilized by different tribal groups that maintained permanent habitat sites along San Ramon Creek to the west.

In addition to assessing previous prehistoric archaeological studies in the project area, standard sources of information that list known and potential historical resources were examined to determine whether any buildings, structures, objects, districts, or sites had been previously recorded or evaluated in or near the project site. Holman reviewed the Office of Historic Preservation Determinations of Eligibility for the NRHP, California Inventory of Historic Resources, California Historic Landmarks, and California Points of Historical Interest. None of these identified built resources in the area. Historic maps and census data were also examined to establish past land ownership and identify potential historic archaeological resources.

Pedestrian Survey

In 2009, Holman conducted a preliminary study of the project property, which included the NWIC literature review and field inspection of the potential development envelope adjacent to the East Branch of Green Valley Creek (2009). No evidence of historic or prehistoric archaeological materials was observed. Remnants of fences and livestock enclosures, and several recent structures were noted but no Ranch buildings or structures potentially eligible for inclusion in the California Register of Historical Resources (CRHR) or National Register of Historic Places (NRHP) were identified. The study recommended further pedestrian survey of upland areas that would be left in open space and mechanical subsurface testing for presence/absence of buried prehistoric deposits along the edge of the creek.

Subsurface Testing

Exploratory trenches were excavated at 13 locations along the south bank of the East Branch Green Valley Creek where the majority of the proposed development would be located. Testing used a tractor mounted backhoe fitted with a 24-inch bucket provided by C&C Excavating, Inc. Each trench was designated according to the numerical order in which it was excavated. The exact location of each trench was determined in the field based on existing conditions, physical

constraints, and the results of ongoing trenching. On average, trenches were 70 centimeters in width, 3 meters in length, and approximately 3 meters in depth. In total, about 80 cubic yards of material were excavated from the 13 trenches. Excavated soils were hand-raked to identify any archaeological materials, with samples periodically screened through a cloth shaker screen to detect smaller cultural materials. In addition, trench sidewalls were examined when possible, though personnel did not enter a trench that was more than five feet in depth in accordance with the California Occupational Safety and Health Administration (CAL-OSHA) guidelines.

The entire project site was examined for cultural resources during the pedestrian survey, although some areas were not systematically surveyed due to steep slopes or dense vegetation that obscured the ground surface. The native ground surface was observed to the extent possible, including inspection of rodent burrows, cut banks, areas of disturbance, and vegetation clearing in selected areas that appeared sensitive for archaeological resources. Except for steeper slopes, the upland portions of the project site on the ridgeline through the property was surveyed using 25 - 30 meter transects. The alluvial fans at the mouth of the drainages and the crest of the ridge were specifically surveyed.

Ground visibility within the site ranged from good, in places highly eroded due to cattle grazing, to poor, due to ground cover. No prehistoric cultural resources were identified and no buildings or structures were observed at locations where historic maps indicated structures may once have stood.

Regulatory Environment

State

According to California Public Resources Code §5024.1, a historical resource is a resource that is listed in, or determined to be eligible for listing in the California Register of Historical Resources; included in a local register of historical resources; or is identified as significant in an historic resource survey if that survey meets specified criteria. CEQA Public Resources Code §21084.1 provides that any project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment. The project site does not contain any known significant historical resources.

Local

Town of Danville General Plan. The Danville 2010 General Plan contains policies to ensure preservation of historical, archaeological, and other cultural resources within the Town. Please refer to Table 4.9-2 of the Land Use section for a detailed analysis of the project's consistency with the relevant provisions of the General Plan.

Thresholds of Significance

In accordance with CEQA Guidelines, a project impact would be considered significant if the project would:

- cause a substantial adverse change in the significance of a historical resource as defined in §15064.5;
- cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5;

- directly or indirectly destroy a unique paleontological resource or site or unique geologic feature; or
- disturb any human remains, including those interred outside of formal cemeteries.

Impacts and Mitigation

Impacts to Archaeological Resources

Neither the archaeological pedestrian survey nor the subsurface mechanical testing performed for the project site by Holman identified any evidence of archaeological resources; therefore, it is unlikely a significant cultural resource is present within the project site. Given this finding, no further archaeological study is recommended unless the project was modified to include areas not investigated during this study.

It is always possible that undetected small, discrete, or isolated archaeological materials or deposits could be encountered during project construction. In the event that prehistoric or historic-era cultural resources and/or human remains are discovered, there shall be no further excavation or disturbance until a professional archaeologist evaluates the find. Upon completion of the examination, the archaeologist shall submit a report describing the significance of the discovery. Mitigation measures would be required prior to recommencement of construction activity as identified below.

If human remains of Native American origin are encountered during project construction, the project must comply with state laws concerning the discovery and disposition of Native American remains, which fall within the jurisdiction of the Native American Heritage Commission (NAHC).

Impact **Construction of the project may result in the discovery and disturbance of unknown archaeological resources and/or human remains.** ***This represents a potentially significant impact that can be reduced to a less-than-significant level with implementation of the following mitigation measures.***

Mitigation Measures

4.5-1 If during the course of project construction, archaeological resources or human remains are accidentally discovered during construction, work shall be halted within 20 feet of the find until a qualified professional archaeologist can evaluate it. Work shall not recommence until the project archaeologist has submitted documentation to the Town indicating that discovered resources have been adequately salvaged and no further resources have been identified within the area of disturbance.

4.5-2 Pursuant to Section 7050.5 of the Health and Safety Code and Section 5097.94 of the Public Resources Code of the State of California, in the event of the discovery of human remains during construction, no further excavation or disturbance shall be conducted on the site or any nearby area reasonably suspected to overlie adjacent remains. The Contra Costa County Coroner shall be notified and make a determination as to whether the remains are Native American. If the Coroner determines that the remains are not subject to his authority, he shall notify the Native American Heritage Commission who shall attempt to identify descendants of the deceased Native American. If no satisfactory agreement can be reached as to the disposition of the remains pursuant to this State law, then the land owner shall re-inter the human remains and items associated with Native

American burials on the property in a location not subject to further subsurface disturbance.

Historical Resources

The project site does not contain any significant historical resources. Based on the archaeological work conducted on the project site, no ranch buildings or structures were identified that are potentially eligible for inclusion in the California Register of Historical Resources or National Register of Historic Places. Any buried historical archaeological resources encountered would be mitigated through implementation of Mitigation Measures 4.5-1 and 4.5-2 above.

Paleontological Resources

The project is located near the Blackhawk Ranch Fossil Quarry, located on the southern foothills of Mt Diablo and owned by the University of California. Only a small part of the quarry has been excavated, and the depth of the fossil deposits is unknown. To date, over 3,400 specimens of animals and plants have been found at the quarry. Most of these fossils were collected in the mid 1930s and later in 1994-1995.

There are no known significant fossil resources at the project site. However, excavation required for construction of the project could penetrate undisturbed Qal (alluvium) sediments, which could contain fossil resources. Mitigation is identified below to minimize potential impacts to paleontological resources.

Impact **Construction of the project may result in the discovery and disturbance of unknown paleontological resources.** ***This represents a potentially significant impact that can be reduced to a less-than-significant level with implementation of the following mitigation measures.***

Mitigation Measures

4.5-3 If during the course of project construction, paleontological resources are accidentally discovered during construction, work shall be halted within 20 feet of the find until a qualified professional paleontologist can evaluate it. Work shall not recommence until the project paleontologist has submitted documentation to the Town indicating that discovered resources have been adequately salvaged and no further resources have been identified within the area of disturbance.

Cumulative Impacts

Section 15130 of the CEQA Guidelines requires an EIR to discuss cumulative impacts of a proposed project when the project's incremental effect may be cumulatively considerable. This EIR relies on a list approach, as described in Section 5.2 of this EIR. The geographic scope is the Town of Danville. Proposed development considered in the cumulative analysis is identified in Table 5-1 (see Section 5.0 CEQA Considerations).

The project could potentially impact archaeological resources by disturbing unknown buried resources. Mitigation has been identified for the project to reduce impacts to cultural resources to a less-than-significant level. Survey and archaeological archival search of the site indicate that the property does not appear to contain any significant cultural resources; thus, the project would not contribute to significant cumulative impacts to cultural resources. In addition, the incorporation of appropriate management measures to avoid existing resources, protect resources, and/or

document resources by cumulative development in the area, as required by the Town and CEQA, would minimize impacts to cultural resources. The project would have less-than-significant cumulative impacts on cultural resources.

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4.6 GEOTECHNICAL AND GEOLOGICAL HAZARDS

Introduction

This section describes the geologic and seismic setting for the project and evaluates its potential to cause geologic impacts such as construction-related erosion or geologic hazards such as earthquakes. This section summarizes the results of a preliminary geotechnical analysis prepared for the project by ENGEO, contained in Appendix E of this EIR. This analysis was performed for the previously proposed 78-lot project; the current project proposes 70 units on a smaller portion of the overall site.

The preliminary geotechnical investigation was conducted by ENGEO and included the following tasks: 1) excavation of 29 test pits; 2) drilling of seven test borings with auger drilling equipment to evaluate the subsurface characteristics of alluvium and colluvium deposits in valley areas; 3) drilling of four large-diameter borings in landslides around the project perimeter; and 4) geologic field mapping. The location of subsurface exploration points are presented in Figure 4.6-1.

The large-diameter borings on the project site were drilled using a 24-inch-diameter bucket auger. Large-diameter borings (DHB-1 through DHB-4) were drilled to depths ranging from 59 to 94 feet below the ground surface. The seven auger borings were drilled at the locations shown on Figure 4.6-1. The borings were advanced to depths ranging from approximately 30 to 51 feet below the ground surface. Soil samples were retrieved at various intervals in the borings using standard penetration tests, excavation of 29 test pits at the approximate locations shown on Figures 4.6-1A and B. 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. As part of the geotechnical investigation, observed surface conditions and visible geologic features at the site were recorded and mapped.

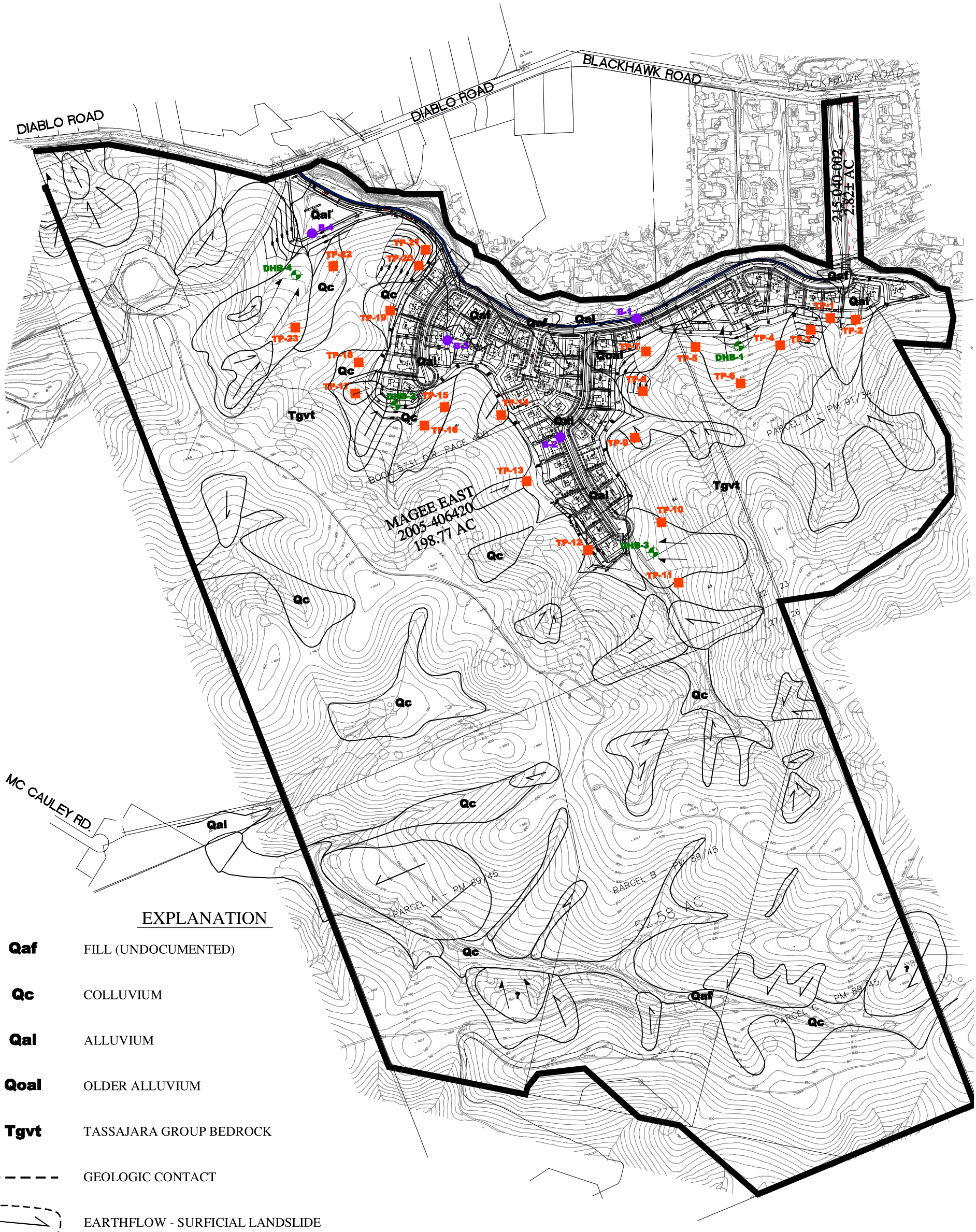
Setting

Overview

The project is located at the headwaters of San Ramon Creek in Danville, California, at the southern periphery of East Branch 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 project property encompasses roughly 410 acres. The proposed development is concentrated on the Magee East portion of the project site (64 lots), with an additional six lots proposed on the Magee West portion of the site. The East Branch Green Valley Creek extends along the northern boundary of the property. The project site is and has historically been used for beef cattle operations. The property is generally characterized by open, 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 near the center of the property, to a low of about 425 feet above msl, at the intersection of Diablo and McCauley Roads. Within the Magee East portion of the site, the surface drainage is generally to the north into East Branch Green Valley Creek. The low point on Magee West lies at the northwest corner where the creek crosses beneath Diablo Road via a concrete box culvert at an elevation of 425 feet.

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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

Source: ENGEO, May 2012

Site Geologic Map - Magee East

Monterey | San Jose
Denise Duffy and Associates, Inc.
Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure
4.6-1A



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

Source: ENGEO, May 2012

Site Geologic Map - Magee West

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Denise Duffy and Associates, Inc.
Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure
4.6-1B

Existing ranch development and structures are generally located at the end of San Andreas Drive on the Magee East portion of the project site. This includes a hay barn and stable buildings. In addition, a riding arena is located west of the ranch buildings opposite Creekledge Court.

The 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. Studies in 1997 suggest that the Mount Diablo core may be underlain by an active blind thrust fault system[1] responsible for the uplift of the mountain and folding of rocks in the vicinity (Unruh and Sawyer). Unruh and Sawyer speculate that the surface effects of the deep blind thrust fault system have been relatively slow, diffused and distributed vertical movements associated with the development of folds. They did not identify any active surface faults in the site vicinity.

Site Characteristics

The surface of the site is generally covered by dark gray-brown, silty clay created by weathering of the underlying parent material. The surficial soil in the upland areas has accumulated in swales and hollows by downslope movement including creep, slopewash, and shallow sloughing. These deposits are identified on the site geologic map on Figure 4.6-1 as colluviums (Qc). Test pits excavated on slopes and in swale areas on the project site typically encountered 3 to 10 feet of dark gray brown silty to sandy clay overlying weathered bedrock. Surficial soils and colluvium on the project site typically contain relatively large shrinkage cracks. Laboratory tests conducted for soil samples on the site showed plasticity index results ranging from 30 to 58, indicating that these soils are highly to critically expansive.

Soils deposited by stream flow and sheetwash have accumulated on the floors of larger valleys on site and adjacent to East Branch 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 ground surface.

Relatively minor deposits of fill associated with some of the previous ranch improvements are present in the Magee East portion of the site (refer to Figure 4.6-1). It is unlikely that these fill deposits were rigorously compacted. The most extensive existing fill deposit is located at the riding arena.

According to Graymer (1994), bedrock at the site consists of Pliocene non-marine sedimentary rock of the Tassajara-Green Valley Formation (Tgvt). Bedrock of the Tgvt typically consists of weakly indurated sandstone siltstone claystone with thin beds of pebble conglomerate. In project area, 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. A volcanic ash deposit is mapped within the Green Valley Formation passing through the north part of the Magee East portion of the project site (Crane, 1988).

[1]A blind thrust fault does not extend to the surface.

Figure 4.6-1 presents the landslides identified on the project site based on ENGEO's geologic mapping and subsurface exploration. Landslides on the site are categorized as relatively shallow surficial earth flows, and deeper-seated earth flows and rotational slumps. Earth flows on the project 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 drilled in deep-seated rotational slumps at the margins of development on the Magee East portion of the site (DHB-1, DHB-3 and DHB-4), encountered landslide slip surfaces in the claystone bedrock at depths of 50 to 80 feet below ground surface. One boring (DHB-2) drilled into a landslide mapped as an earthflow encountered silty to sandy clay to a depth of about 12 feet, interpreted by ENGEO to be landslide debris.

Groundwater depths in the site borings ranged from approximately 10 feet adjacent to East Branch Green Valley Creek to greater than 40 feet in borings within the 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 drilled within landslides. Groundwater was not encountered in test pits made in upland slope areas. Groundwater elevations typically vary seasonally.

As part of the geotechnical investigation, bulk samples and relatively undisturbed samples of the soils and bedrock encountered in the borings and test pits were tested to determine gradation, plasticity index, dry density and moisture content.

Events and Processes

Erosion

Ground disturbing activities, such as grading and tree removal, would increase potential erosion on the project site. Severe erosion can undermine stability of natural and man-made slopes, foundations, and roadways. The soil types on the project site are not considered highly erodible.

Existing Fills

Existing fill materials are present on the project site; areas of existing fill were created during former ranch improvements. Fills located within the proposed development footprint would require removal and replacement with compacted engineered fill.

Expansive Soils

A portion of the proposed development area contains highly to critically expansive soil and bedrock. Expansive soils shrink and swell as a result of seasonal fluctuations in moisture levels. This can cause heaving and cracking of slabs-on-grade, pavements, and structures founded on shallow foundations.

EXPLANATION

K-12 — APPROXIMATE LOCATION OF KEYWAY

S-2 — APPROXIMATE LOCATION OF KEYWAY WITH SWALE DRAIN

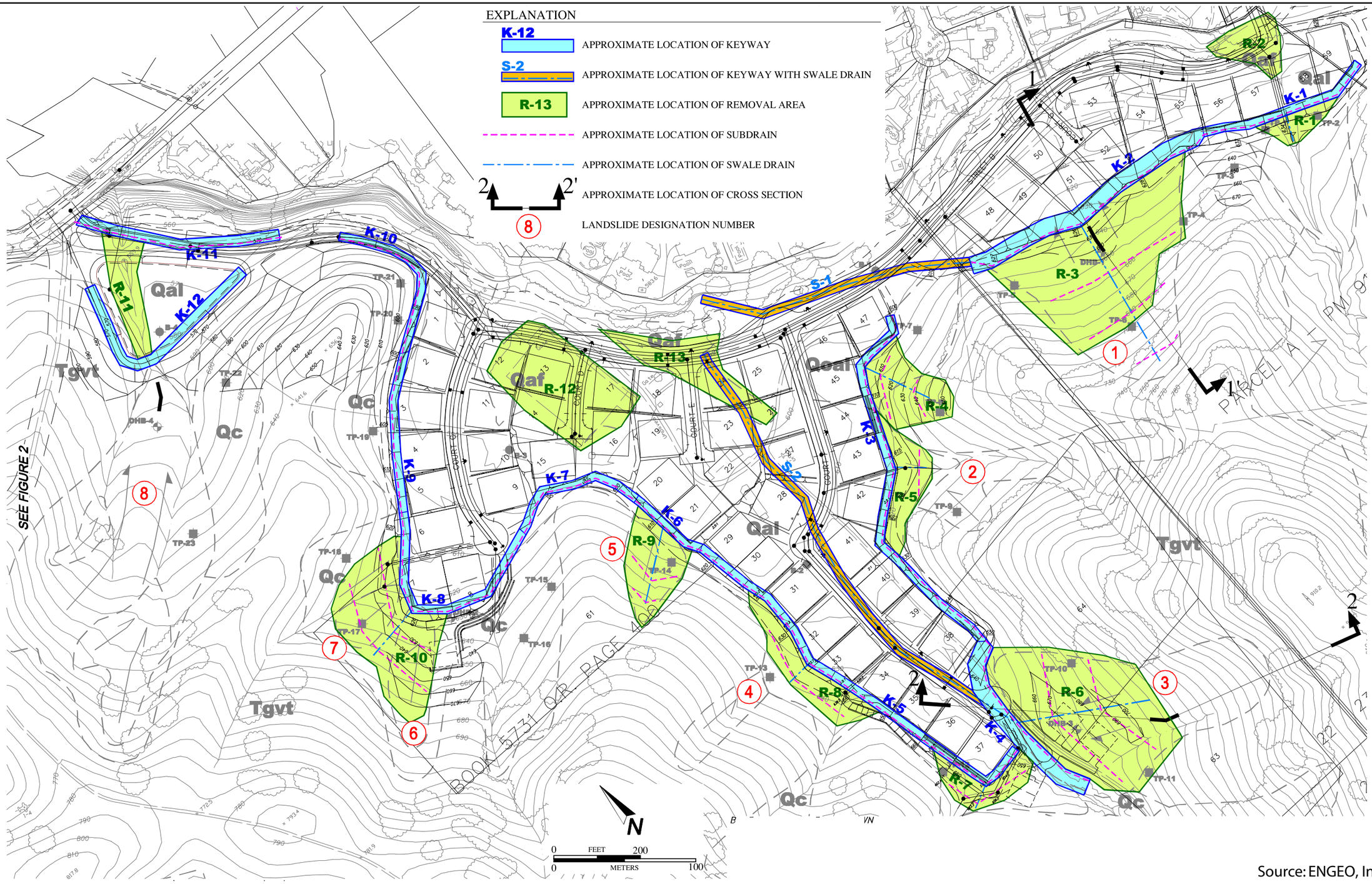
R-13 — APPROXIMATE LOCATION OF REMOVAL AREA

APPROXIMATE LOCATION OF SUBDRAIN

APPROXIMATE LOCATION OF SWALE DRAIN

2 2' — APPROXIMATE LOCATION OF CROSS SECTION

8 — LANDSLIDE DESIGNATION NUMBER



Source: ENGEO, Inc., 2012

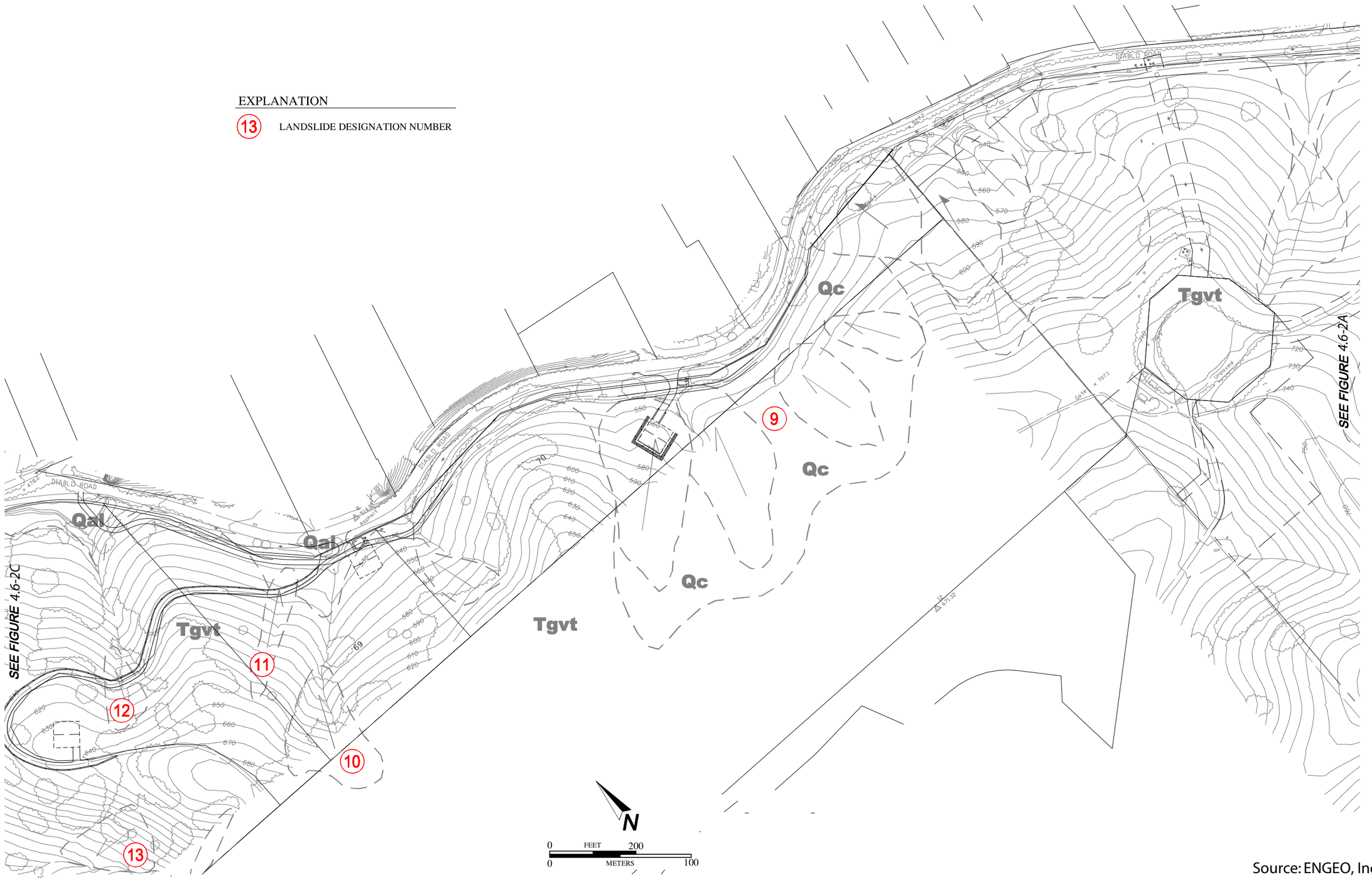
Remedial Grading Plan

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Denise Duffy and Associates, Inc.
Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure
4.6-2A

EXPLANATION

13 LANDSLIDE DESIGNATION NUMBER

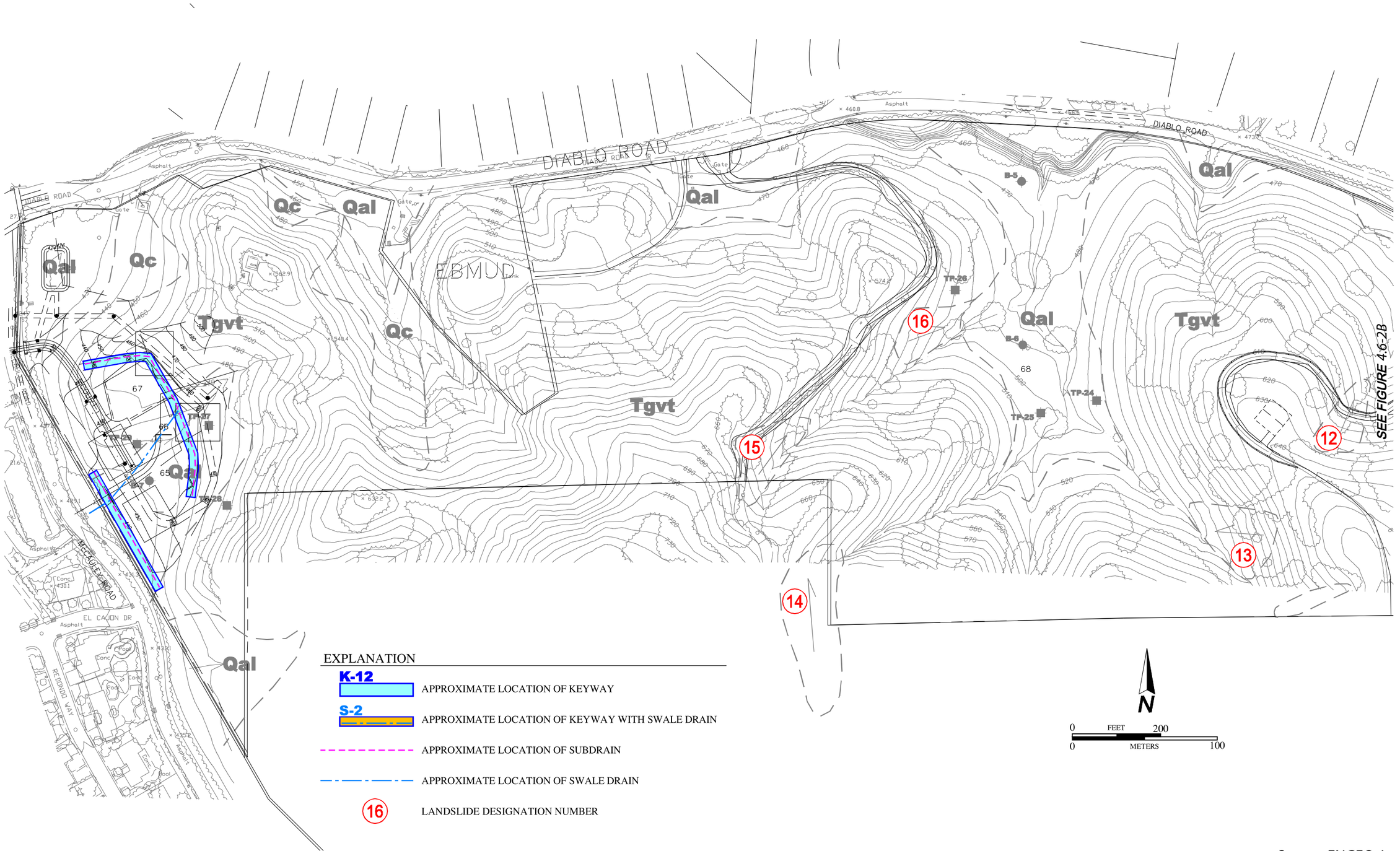


Source: ENGEO, Inc., 2012

Remedial Grading Plan

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Denise Duffy and Associates, Inc.
Environmental Consultants Resource Planners
947 Cass Street, Suite 5
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(831) 373-4341

Figure
4.6-2B



Source: ENGEO, Inc., 2012

Remedial Grading Plan

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Denise Duffy and Associates, Inc.
Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure
4.6-2C

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Landslides

As illustrated in Figures 4.6-1 and 4.6-2, there are 16 landslides identified on the project site. Seven of the 16 landslides are located near or adjacent to proposed development areas (see Figures 4.62A, B, and C). As described earlier, landslides on the project site were typified in the geotechnical investigation as relatively shallow surficial flows, and deeper-seated flows and rotational slumps. 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.

Lateral Spreading, Liquefaction, and Ground Lurching

Liquefaction is the transformation of soil from a solid to a liquid state as a consequence of increased pore-water pressures, usually in response to strong ground shaking, such as those generated during a seismic event. 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 on-site borings on the project site consist mostly 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, the site may experience vertical settlement that could damage proposed structures.

Seismicity

The project site is located within a generally active seismic area. The active and potentially active faults and significant historic earthquakes within the San Francisco Bay Region are presented in Appendix E. The blind thrust fault system associated with Mount Diablo is thought to exist at depths of approximately 5 to 7 kilometers below the site (Unruh and Sawyer, 1997). The location of a possible earthquake on a buried blind thrust cannot be easily predicted but could possibly occur relatively close to the proposed project. No known historic seismicity has been directly associated with the postulated blind thrust fault; an estimated maximum magnitude (Mw) quake of 6.25 to 6.75 is possible (Unruh and Sawyer, 1997).

The Working Group on California Earthquake Probabilities (WGEP, 2007) evaluated the 30-year probability of a 6.7 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 one percent for the Mount Diablo thrust fault.

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. Seismically induced slope movement potential on the project site is associated with existing landslide areas identified on the property.

Regulatory Environment

State

California Alquist-Priolo Earthquake Fault Zoning Act and Seismic Hazard Mapping Act. The Alquist-Priolo Earthquake Fault Zoning Act was enacted in 1972 to minimize hazards from fault rupture by prohibiting structures for human occupancy across the trace of an active fault (within 50 feet). The Act requires delineation of "Earthquake Fault Zones," in which cities and counties cannot issue development permits until geologic investigation shows that development within such zones is not threatened by future faulting. The Seismic Hazards Mapping Act was adopted in 1990 to protect the public from earthquake hazards including ground shaking, liquefaction, seismically induced landslides, and other related ground failure. Maps showing seismic hazard zones, prepared by the California Geological Survey, identify areas susceptible to seismic hazards that may have special requirements, including additional geotechnical analysis.

California Building Code (CBC). The CBC identifies standards for the design and construction of commercial structures, including excavations, foundations, building frames, retaining walls, and other elements to mitigate the effects of seismic shaking and adverse soil conditions.

Local

Erosion Control Programs. The incorporation of Best Management Practices (BMPs) to avoid or minimize soil erosion from construction sites is required under various regulations of the Clean Water Act, Contra Costa County Flood Control District, and Town of Danville. The Town's Grading Ordinance requires the implementation of an erosion control plan for all major grading activities. The Town's Municipal Code (Chapter 20) requires that all construction conform to the requirements of the California Stormwater Quality Association's Stormwater Best Management Practices Handbooks for Construction Activities and New Development and Redevelopment, the ABAG Manual of Standards for Erosion and Sediment Control Measures, the Town's grading and erosion control ordinance, and other generally accepted engineering practices for erosion control.

Town of Danville General Plan. The Danville General Plan contains policies to avoid impacts from geologic and seismic hazards on new development. Please refer to Table 4.9-2 of the Land Use section for a detailed analysis of the project's consistency with the relevant provisions of the General Plan.

Thresholds of Significance

In accordance with the CEQA Guidelines, a project impact would be considered significant if the project would:

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
  - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault,
  - Strong seismic ground shaking,
  - Seismic-related ground failure, including liquefaction,
  - Landslides;
- Result in substantial soil erosion or the loss of topsoil;

- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse; or
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.

Impacts and Mitigation

Seismic Hazards

The site is not located in a State of California Earthquake Fault Zone, and there are no known active faults passing through the property. The project, therefore, is not considered subject to seismic surface rupture hazards.

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 2010 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 would not collapse or cause loss of life in a major earthquake.

Final project design would incorporate sound engineering judgment and conform to the 2010 California Building Code requirements at a minimum, which would minimize potential safety risks associated with seismic hazards to an acceptable level. Proposed 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.

Grading and Soil Erosion

The project would require grading on the site to facilitate construction of the proposed subdivision and associated infrastructure. Proposed grading would be focused mainly on the Magee East portion of the site. Total grading is estimated at approximately 150,000 cubic yards of cut and 150,000 cubic yards of fill. Grading is proposed to balance with no import or export of soil material.

Site preparation, grading, and construction activities would disturb soil and increase its susceptibility to erosion. Removal of soils by wind or water can undermine buildings, roads, and other developments and contribute siltation of local streams or water bodies. Erosion impacts can result from both short-term construction activities and long-term project conditions where vegetative cover is not re-established following development. Erosion control plans would be required in accordance with Town's Grading Ordinance.

Impact **Construction of the project could result in temporary soil erosion and loss of topsoil.** ***This is a potentially significant impact that can be reduced to a less-than-significant level with implementation of the following mitigation measures.***

Mitigation Measures

4.6-1 In order to reduce wind and water erosion on the project site, an erosion control plan and Storm Water Pollution Prevention Plan (SWPPP) shall be prepared for the site preparation, construction, and post-construction periods (see mitigation measure 4.8-1 in 4.8 Hydrology and Water Quality).

The project shall prepare an erosion control plan in accordance with the Town's Erosion Control Ordinance. The project proponent shall implement the following measures, where appropriate, to control erosion: 1) keep construction machinery off of established vegetation as much as possible, especially the vegetation on the upwind side of the construction site; 2) establish specific access routes at the planning phase of the project, and limits of grading prior to development, which should be strictly observed; 3) utilize mechanical measures (i.e., walls from sand bags and/or wooden slat or fabric fences) to reduce sand movement; 4) immediate re-vegetation (plus the use of temporary stabilizing sprays), to keep sand movement to a minimum; and 5) for larger-scale construction, fabric or wooden slat fences should be placed around the construction location to reduce sand movement. This erosion control plan shall be submitted to the Town of Danville for review and approval prior to issuance of a grading permit.

Landslides

A total of 16 landslides have been identified on the project site. 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.

The project has been planned to avoid landslide hazards where possible. Landslides that are partially or completely within the proposed grading envelope would require direct mitigation such as corrective earthwork. Debris catchment areas have been provided for landslide areas outside the grading envelope if required. A landslide remediation plan prepared by ENGEO for the geotechnical investigation for the project is presented in Figures 4.6-2A, B, and C.

ENGEO performed slope stability analyses for Landslides 1 and 3 on the project site, since these landslides include some of the highest proposed graded slopes and are within the two largest proposed landslide repairs. As such, these sections are a conservative representation of critical slope stability conditions within the project. These analyses estimated residual shear strength of the basal landslide slip surfaces. 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. ENGEO also 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 these analyses, it was determined that the calculated static factor of

safety and estimated seismic slope deformations would be acceptable for the proposed development. Refer also to details of the geotechnical investigation in Appendix E.

Corrective grading measures for the project would include keyway and landslide repair excavation to remove 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 in Figures 4.6-2A, B, and C. Landslides at the project site would be mitigated by the corrective measures identified below. Refer also to Figure 4.6-2.

Impact **The project would be exposed to potential adverse effects from the seven existing landslides on the project site located near the areas of proposed development.** ***This represents a potentially significant impact that can be reduced to a less-than-significant level with implementation of the following mitigation measures.***

Mitigation Measures

4.6-2 In order to minimize potential impacts from landslides, final project design plans shall incorporate the recommendations in the preliminary geotechnical report (Appendix E), which includes the following corrective measures:

a. Landslide avoidance
b. Construction of catchment areas between landslides and proposed improvements
c. Partial landslide debris removal and buttressing with engineered fill
d. Complete landslide debris removal and replacement as engineered fill

The table below sets forth the required mitigation measures by landslide area (shown in Figures 4.6-2A, B and C).

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
8-16	Landslide avoidance

Corrective grading for custom lot areas outside the proposed grading envelopes shall 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. Final plans showing the identified recommendations shall be submitted to the Town of Danville for review and approval prior to issuance of a building permit.

Seismically Induced Slope Movement

Seismically induced slope movement risks at the site are associated with existing landslide areas identified on Figure 4.6-1. The risk of seismic slope movement will be minimized 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.

Liquefaction, Lateral Spreading, and Ground Lurching

Liquefaction is a phenomenon in which saturated, cohesion-less soils are subject to a temporary loss of shear strength during 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 onsite borings consists primarily 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 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 results of the geotechnical investigation, 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 low. Based on the observed blow counts and layer thickness, the potential liquefaction induced vertical settlement is estimated to be less than 2 inches.

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 to proposed development.

Soils

Expansive Soils

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. Expansive soils shrink and swell as a result of seasonal fluctuation in moisture content that 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. Exposed soils should be kept moist by watering for several days before placement of concrete. It is extremely difficult to re-moisturize clayey soils without excavation, moisture conditioning, and re-compaction.

Existing Fills

Existing fills are located on the project as a result of existing ranch improvements. Existing engineered fills within the development footprint would be removed and replaced with compacted engineered fill to avoid impacts.

Impact **The project site contains expansive soils that could damage proposed residential development, infrastructure, and associated structures. *This would represent a potentially significant impact that can be reduced to a less-than-significant level with implementation of the following mitigation measures.***

Mitigation

4.6-3 In order to minimize potential impacts from expansive soils, final project design shall incorporate the recommendations in the preliminary geotechnical report (see Appendix E) that include special measures for mitigating adverse impacts from expansive soils, as follows:

a. Conditioning the expansive soils to higher moisture content during site preparation and grading.

b. Supporting the houses on structural slab foundations designed to withstand potential movements of expansive soils.

c. Presoaking the near-surface expansive soils prior to concrete placement for the slab foundations.

d. Conditioning the expansive subgrade soils in exterior concrete flatwork area to higher moisture content prior to the placement of baserock or concrete (if the flatwork is supported directly on the subgrade).

e. Providing surface drainage away from the house foundations and draining the rainwater collected on the roof through pipes connecting to the adjacent storm drains.

The final project plans incorporating all the finalized geotechnical recommendations shall be submitted to the Town of Danville for review and approval prior to issuance of a building permit.

Cumulative Impacts

Section 15130 of the CEQA Guidelines requires an EIR to discuss cumulative impacts of a proposed project when the project's incremental effect may be cumulatively considerable. This EIR relies on a list approach, as described in Section 5.2 of this EIR. The geographic scope is generally the Town of Danville. Proposed development considered in the cumulative analysis is identified in Table 5-1 (see Section 5.0 CEQA Considerations).

The proposed project would be developed in accordance with the recommendations of a design-level geotechnical investigation. Implementation of these recommendations would avoid potential geotechnical hazards associated with the proposed development, reducing potential hazards to a less-than-significant level.

Since all development within the Town of Danville would be subject to Uniform and California Building Code standards, including requirements for site-specific engineering design, on-site inspections and testing, the cumulative impact from seismic hazards would be considered less-than-significant. In addition, the project would not significantly contribute to cumulative impacts associated with erosion or other soil hazards. Mitigation identified in this EIR, including development and implementation of an erosion control plan and SWPPP, would be required in accordance with Town standards for the project and all new development in the area, thereby avoiding cumulative impacts from erosion. The project would have a less-than-significant cumulative impact on geology/soils.

4.7 HAZARDS AND HAZARDOUS MATERIALS

Introduction

This section assesses the potential public health and safety impacts associated with the project, including the past use and/or storage of chemicals and other hazardous materials. Flooding, seismic/geologic, and public service hazards (such as fire and emergency response) are discussed within their respective sections of this EIR.

A Phase I Environmental Site Assessment (ESA) and Limited Phase II Subsurface Investigation was prepared for the Magee East site by ARCADIS (January 2010). A Phase I Environmental Site Assessment was also prepared for the Magee West site by ARCADIS (December 2011). The two reports are provided in Appendix F. A Phase II was not conducted for Magee West because 1) a limited amount of activity has historically occurred on this portion of the site, and 2) the Phase I for Magee West did not identify any evidence that would trigger additional Phase II work.[1]

These studies were completed in conformance with ASTM Practice E 1527-05 for Phase I ESAs and included the following tasks:

- reconnaissance-level site visits to observe any visual evidence of hazardous materials release and/or petroleum product release and 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 property;
- review of regulatory agency files;
- review of historical documents;
- a limited Phase II subsurface investigation for the Magee East site, consisting of soil sampling at various locations on the project site and chemical analysis of the samples; and
- recommendations for site management.

The purpose of the Phase I analyses was to identify Recognized Environmental Conditions (RECs) in connection with the site and past uses. RECs are typically defined as an existing release, prior release, or the threat of a release of any hazardous substances and/or petroleum product on a site, including release into ground, groundwater, or surface water. 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.

Setting

The project site is approximately 410 acres and is characterized by open grassy hills with scattered trees. The east branch of Green Valley Creek generally extends along the north boundary of the site. The property has historically been used for beef cattle operations. Proposed development will be concentrated on approximately 123 acres of the flatter portions of the site.

[1] For the purposes of this EIR, any potential impacts found on Magee East related to former pesticide use would require site management in accordance with mitigation measures provided later in this section.

Groundwater depths in borings taken as part of the preliminary geological investigation (ENGEO, 2011) 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. Groundwater flow is generally in a northerly direction.

Site History

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 the property owner, Jed Magee, the project site has been used as a ranch since about 1950. Based on historical data available, the site appeared vacant with no agricultural land use prior to that time. Orchards were apparently present in areas immediately north of the site dating back to 1939 and earlier.

Initial Environmental Review

The purpose of ESA and Limited Phase II studies was to determine the potential for hazardous materials contamination on the project site and immediately surrounding area that may affect future site occupants and workers. Below is a summary of the results of the Phase I and II work.

Site Survey

A site reconnaissance of the project Magee East site was conducted by ARCADIS on December 8, 2009 and January 6, 2010 to review on-site activities and conditions. The project property currently consists primarily of undeveloped grasslands with scattered trees and other non-cultivated vegetation. Manmade structures on the site include horse barns and stables, storage sheds, fences, and concrete animal feeding troughs. A storm water sump and animal scale was observed in the eastern portion of the site. Two empty 55-gallon drums were stored in the storage shed on the eastern portion of the site. According to the property owner, the drums have not been utilized for over 10 years, but may have been previously used to store diesel fuel for ranch equipment. At least two, approximately 3-gallon plastic containers of diesel fuel for tractors were observed within the existing storage shed. The property owner indicated that Roundup™ and Tordon were used for weed control on the site.

ARCADIS observed a 500-gallon gasoline above ground storage tank (AST) next to the storage shed in the eastern portion of the Magee East site. According to the property owner, the AST was previously used to store gasoline, and abandoned in 1992. Minor oil staining was observed on the surface soil beneath the AST. A 2,000-gallon diesel underground storage tank (UST) was removed from its location in the eastern portion of the Magee East property in 1992 (Timmerman Engineering Construction, 1992). According to the laboratory report, soil confirmation samples were collected at the pump end and the fill end of the UST as well as from the UST sidewall or base of the 10 foot UST pit after the tank was removed (McCampbell Analytical Inc., 1992). None of the analyzed soil samples showed concentrations of hazardous substances above laboratory method detection limits (LMDLs), with the exception of the sample collected from the pump end sample. This sample identified benzene, toluene, ethylbenzene and xylene (BTEX) compound concentrations above corresponding LMDL values but below current Environmental Screening Level (ESL) values for residential uses.[2]

[2] ESL values from "Direct Exposure Soil Screening Levels – Residential Exposure Scenario" (Table K-1, San Francisco Bay RWQCB, 2008).

A riding arena is located in the west portion of the project site. According to the property owner, fill material was used to create the arena that was imported from home construction on a neighborhood property. The arena is composed of fill material that is approximately 140 feet wide, 250 feet long, and four feet high; however, no documentation was provided for the source of the fill material.

A site reconnaissance of the Magee West portion of the project site was conducted by ARCADIS on November 15, 2011. Structures observed on the site included concrete animal watering troughs, metal water pipes, and a wireless equipment storage area. Verizon, Pacific Bell, and Metro PCS equipment and antennae are located in the west portion of the site. A backup diesel generator enclosure was observed at the western edge of the site. This enclosure was not accessible; however, it is assumed that an above ground storage tank for diesel is located near the generator. No oil staining was observed near the enclosure.

A conduit for PG&E and wireless company underground cables extends along the north boundary of the Magee West portion of the site within an easement. According to the property owner no pipelines for transportation liquid are located within the easement. The outlet of Green Valley Creek is located in the northwest portion of the site. A concrete structure and two metal pipes were observed extending beneath Diablo Road and terminating at the creek. According to the property owner, the concrete structure is a remnant of a former diversion dam from the 1920s and is no longer operational. The property owner indicated that no pesticides or weed control were used on the Magee West portion of the project site. No discharges, leachate, migration, or runoff of potential contaminants from offsite sources were observed on the Magee West portion. The property owner stated that the two underground pipes located in the west portion of the site at Green Valley Creek could possibly be connected to the nearby Diablo Country Club. In addition, a water tank belonging to East Bay Municipal Utilities District (EBMUD) is located northwest of the project site.

Database Search

A regulatory environmental database search was conducted as part of the ESA by EDR for local, state, and federal listings of properties surrounding the project site. The 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 full database search is attached to Appendix F. The databases included in the search are listed below:

- 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 List
- 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 project site was not included on any of the local, state, or federal databases reviewed. Based upon the provided data, no off-site facility appears to pose a potential negative environmental impact to the project property.

According to the U.S. EPA, the project 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 database search, radon levels have been reported at four locations in Contra Costa County, and only one of the four sites was reported to have a radon level above 4.0 pCi/L.

Limited Phase II Subsurface Investigation

Due to the historical and current use of the project site as a ranch, a Limited Phase II Subsurface Investigation was conducted on the Magee East property on January 6, 2010 by ARCADIS to assess the potential presence of hazardous substances in on-site soils. The Limited Phase II Investigation consisted of 11 hand auger borings across the proposed developed areas of the project site, including the former UST and AST locations, to collect and analyze surface soils (SB-1 through SB-7, SB-9 through SB-12 – refer to Figure 4.7-1). Samples were taken at 0 to 0.5 feet below ground surface (bgs). Soil samples were also collected at 2.5 to 3.0 feet bgs to assess the vertical extent of chemicals present in the soils if needed. 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 where fill material was deposited.

Based upon the historic agricultural and rural use of the project area, selected soil samples were analyzed for the presence of organochlorine pesticides (OCPs), herbicides, and metals. Four soil samples were also submitted for analysis of asbestos, since naturally-occurring asbestos is found nearby at Mt. Diablo, north of the project site.

ARCADIS also collected a shallow soil sample from the area formerly occupied by the former UST and submitted the sample for analysis of total petroleum hydrocarbons as diesel (TPHd), total petroleum hydrocarbons as motor oil (TPHmo), and BTEX compounds and fuel oxygenates. The former AST vicinity soil sample was analyzed for TPHg, BTEX compounds, and fuel oxygenates.

A debris sample was also collected in the sump and analyzed for volatile organic compounds (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.



EXPLANATION:

- Soil Sampling Locations
- Sump Sampling Locations

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

Source: Arcadis, February 2011

Soil Sampling Locations

Monterey | San Jose
Denise Duffy and Associates, Inc.
Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure
4.7-1

The analytical results for the analyzed soil samples are provided in Appendix F. The analysis did not find elevated metals concentrations with the exception of arsenic and vanadium. The reported arsenic concentrations ranged from 1.2 to 4.8 mg/kg, which is above the corresponding ESL value of 0.39 mg/kg but well below the anticipated 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, soils in the project area are expected to have background metals concentrations higher than the corresponding ESL values, due primarily to the metals-rich nature of the source rocks.

The sample collected from the AST location yielded TPHd at 35 mg/kg, below the 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 contained 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 of 1.7 mg/kg (ESL). Given the concentrations that exceeded corresponding ESL values in the samples collected from the former AST location and soil boring SB-3-D0.5, ARCADIS conducted deeper soil samples at 2.5 feet to 3.0 feet bgs to assess if the detected constituents were present at greater depth. The deeper samples from the AST and SB-3 locations did not yield concentrations at or above the corresponding LMDLs.

Regulatory Environment

The generation, storage and handling of hazardous materials and wastes are regulated by various federal, state, and local requirements aimed at the protection of public health and the environment. A summary of relevant regulations is provided below.

Federal

The U.S. EPA is responsible for enforcing regulations at the federal level pertaining to hazardous materials and wastes. The primary federal hazardous materials and wastes laws are contained in the Resources Conservation and Recovery Act (RCRA) of 1976 and in CERCLA of 1980. CERCLA (Superfund) established the National Priorities List for identifying and obtaining funding for remediation of severely contaminated sites. Federal regulations pertaining to hazardous materials and wastes are contained in Code of Federal Regulations (40 CFR). The regulations contain specific guidelines for determining whether a waste is hazardous, based on either the source of generation or the characteristics of the waste.

Transportation of hazardous materials by truck and rail is regulated by the U.S. Department of Transportation (DOT). DOT regulations establish criteria for safe handling procedures. Federal safety standards are also included in the California Administrative Code.

State

The U.S. EPA has delegated much of its regulatory authority to individual states whenever adequate state regulatory programs exist. The Department of Toxic Substance Control Division (DTSC) of CalEPA is the agency empowered to enforce federal hazardous materials and waste regulations in California in conjunction with the U.S. EPA.

California hazardous materials and waste laws incorporate federal standards, but in many respects are stricter. For example, the California Hazardous Waste Control Law, the state equivalent of RCRA, contains a much broader definition of hazardous materials and waste. State hazardous

materials and waste laws are contained in the California Code of Regulations (CCR), Titles 22 and 26. Regulations implementing the California Hazardous Waste Control Law list 791 hazardous chemicals and 20 to 30 more common materials that may be hazardous; establish criteria for identifying, packaging and labeling hazardous wastes; prescribe management of hazardous wastes; establish permit requirements for hazardous waste treatment, storage, disposal and transportation; and identify hazardous wastes that cannot be disposed of in landfills.

Under RCRA, a facility is classified as a generator of hazardous waste if it generates and stores hazardous waste on site for less than 90 days; such a facility is required to obtain an EPA generator's identification number from the EPA or DTSC. If, however, hazardous waste is stored on site for longer than 90 days, the facility is classified as a Transfer, Storage, or Disposal facility and is required to obtain a RCRA Part B Storage Permit which can take as much as two years to obtain. Transportation and disposal of hazardous materials are also regulated; hazardous waste must be characterized to determine methods of disposal and site disposal (i.e., class of landfill).

Under both RCRA and the California Hazardous Waste Control Law, hazardous waste manifests must be retained by the generator for a minimum of three years. A hazardous waste manifest lists a description of the waste, its intended destination, and regulatory information about the waste. A copy of each manifest must be filed with DTSC. The generator must match copies of hazardous waste manifests with receipts from the treatment/disposal/recycling facility to confirm that the wastes were properly handled.

Local

The San Francisco Bay Regional Water Quality Control Board (RWQCB) is the lead agency responsible for identifying, monitoring and remediating leaking underground storage tanks in the Bay Area including Danville. Local jurisdictions may take the lead agency role as a Local Oversight Program (LOP) entity, implementing State as well as local policies. Contra Costa County also implements a Hazardous Materials Program that responds to emergencies and monitors hazardous materials use.

Thresholds of Significance

In accordance with CEQA Guidelines, a project impact would be considered significant if the project would:

- create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
- emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within on-quarter mile of an existing or proposed school;
- be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment;
- 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, the project would result in a safety hazard for people residing or working in the project area; or
- for a project within the vicinity of a private airstrip, the project would result in a safety hazard for people residing or working in the project area.

Impacts and Mitigation

Hazardous Material Use

Development and operation of the proposed residential subdivision would not entail the routine use and/or transport of significant amounts of hazardous materials. Household amounts of chemicals such as pesticides, chlorine, and cleaning materials may be used and stored on the site. Future use of household hazardous materials associated with the proposed residential project would be minor in nature and subject to existing regulatory requirements pertaining to the use and disposal of hazardous materials. This is considered a less-than-significant impact.

Exposure to Existing Hazards

Due to the historical and current site use of the site as a ranch, ARCADIS collected soil samples in the proposed development areas on Magee East. 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 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 concentrations at or above the corresponding LMDLs.

The presence of TPHmo and 4, 4-DDE in select soil samples may require removal and appropriate disposal. The soils affected by 4, 4-DDE, as identified in sample SB-3, may require disposal as hazardous waste. Further soil sampling will be required to confirm that sufficient soil removal has occurred as described further in the mitigation below.

In addition, ARCADIS recommended further assessment of soils near the former UST due to the lack of documentation of closure of the former tank to confirm that no contaminated soils are present at this location.

No nearby or upgradient properties were identified in the environmental database search that presented a potential threat to soil and/or groundwater quality at the project site.

Impact **Development of the proposed project, including excavation and other land disturbance could result in the release of hazardous materials that may be present on portions of the project site, exposing construction personnel and the environment to potential health and safety risks.** ***This represents a significant impact that would be reduced to a less-than-significant level with the following mitigation measures.***

Mitigation Measures

4.7-1 In order to minimize potential human health hazards associated with the historical use of hazardous materials on portions of the project site, the project proponent shall retain a trained professional to prepare a Site Management Plan to maintain the safety of construction workers and assure proper management of any contaminated soils on the site

in accordance with federal, state and local regulatory requirements. This plan shall be subject to review and approval by Contra Costa County Health Services, and evidence of approval provided to the Town of Danville, prior to the issuance of any grading permit, demonstrating that all necessary remedial actions have been completed pursuant to the approved Site Management Plan. At a minimum, the Site Management Plan shall include 1) the collection and chemical analysis of soil samples from the former UST location and 2) excavation and soils characterization to confirm that sufficient soils removal has occurred for OCPs and elevated 4, 4-DDE at location SB-3, and 3) proper removal and disposal of all hazardous materials on the site, including contaminated soils, chemical containers observed in the storage shed, and herbicides spray bottles at an approved disposal facility.

4.7-2 The diesel generator enclosure and surrounding area at the western edge of the Magee West site shall be periodically monitored for evidence of a diesel release. An annual report on the status of the enclosure shall be submitted to the Town of Danville.

Airport Hazards

The project site is not located within an airport land use plan. The project site is not located within two miles of any private or public airports or airstrips. The proposed residential uses would not create any safety or other hazards associated with airport operations.

Cumulative Impacts

Section 15130 of the CEQA Guidelines requires an EIR to discuss cumulative impacts of a proposed project when the project's incremental effect may be cumulatively considerable. This EIR relies on a list approach, as described in Section 5.2 of this EIR. The geographic scope is the Town of Danville. Proposed development considered in the cumulative analysis is identified in Table 5-1 (see Section 5.0 CEQA Considerations).

Development of the proposed project combined with development in the area could increase the use of hazardous substances in the region; however, the incremental increase in hazardous material use from the project would be insignificant. The project site may contain hazardous materials, including residual pesticides and hydrocarbons, that could be released during construction activities. Implementation of mitigation measures would assure that any contamination on the site is reduced to acceptable levels, thereby avoiding cumulative effects. The potential for cumulative impacts associated with hazardous materials would be minimized by implementation of federal, state, and local requirements regulating the use, storage, and transportation of hazardous materials. Project-specific mitigation measures have been incorporated to ensure that the exposure of the public to environmental hazards is avoided. The project would not result in a cumulatively considerable incremental effect upon hazards or hazardous materials; therefore, the cumulative impact is less-than-significant.

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4.8 HYDROLOGY AND WATER QUALITY

Introduction

This section evaluates the potential impacts of the project associated with hydrology and water quality, based primarily on information provided in the Regional Hydrologic Analysis prepared by ENGEO, Inc. (April 2012) and the Baseline Hydrology & Geomorphic Analysis prepared by ENGEO, Inc. (May 2011). These reports were prepared in close coordination with the Contra Costa Flood Control and Water Conservation District and the Town of Danville. Both studies are contained in Appendix G.[1]

The Baseline Hydrology & Geomorphic Analysis was prepared to evaluate the overall geomorphology and hydrology of the project area and identify potential flooding and erosion hazards. The purpose of the Regional Hydrologic Analysis was to evaluate the peak flow hydrology in the subwatersheds where development is proposed and to determine if discharge into East Branch Green Valley Creek from the project would 1) coincide with the timing of the existing peak of the flood hydrograph in East Branch Green Valley Creek, or 2) otherwise result in the raising of peak flow rates downstream of the project.

Setting

Hydrogeologic Setting

The project site lies at the headwaters of San Ramon Creek in Danville, at the southern periphery of the East Branch Green Valley Creek watershed (refer to Figure 3-2). San Ramon Creek is part of the Walnut Creek watershed and eventually drains northerly through the cities of Walnut Creek and Concord and then into San Francisco Bay.

The project is located on about 410 acres south of Diablo Road and east of McCauley Road. The project site lies on a portion of a historically larger ranch that has been subdivided several times over the last 60 years. The east portion of the original ranch property was developed as the existing Magee Ranch subdivision, located east of the project site. The property is surrounded by single-family residential neighborhoods, including 1) the Belgian Drive/Clydesdale Drive/Fairway Drive neighborhoods, 2) the unincorporated community of Diablo, 3) single family homes located between East Branch Green Valley Creek and Diablo Road/Blackhawk Road to the north, 4) the Hidden Valley development to the west, and 5) the existing Magee Ranch subdivision to the east. The Blackhawk subdivision lies upstream of the project site further to the north and east.

The proposed project consists of 70 single family units on two portions of the site, referred to as Magee East and Magee West (refer to Figures 3-3 and 3-4). Magee East consists of 64 units concentrated in the area upstream of the Diablo Road overcrossing of the East Branch Green Valley Creek. Magee West consists of the remaining six lots, which are located further downstream of the Diablo Road overcrossing near Mt. Diablo Scenic Boulevard; three of these six lots are clustered near the southeast corner of Diablo Road and McCauley Road. Given the distance between the development proposed on Magee East and Magee West, the hydrologic considerations for each area were evaluated separately in the regional hydrologic analysis prepared by ENGEO.

[1] Please note that the hydrology reports were based on the larger previous 78-lot plan.

The project site is generally characterized by undeveloped grassy hills with scattered trees. Existing ranch improvements on the project site include a hay barn, stable buildings, and related ranch structures. Elevations on the site range from a high of about 860 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. For Magee East, surface drainage is generally toward the north into East Branch Green Valley Creek. The low point on Magee East lies at the northwest corner of the site where the creek crosses under Diablo Road via a concrete box culvert. For Magee West, surface drainage is generally toward the northeast for the development area along McCauley Road and toward the north for the area south of Diablo Road.

The project site lies in Green Valley within the Mount Diablo fold-and-thrust belt on the south flank of the Mt. Diablo (tectonic) uplift. The bedrock formations in the area south of Mt Diablo and north of the Livermore Valley have been folded and cut by thrust faults that typically dip toward the north. The property 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 indicates that surficial soils consist primarily of clay soils with a hydrologic group rating of D. Group D soils are defined as having a very slow infiltration rate when thoroughly saturated. The watershed, therefore, is characterized by rapid storm water runoff upon saturation.

The geology of Green Valley is characterized by fine-grained clay soils and numerous landslides that periodically deposit fine-grained slope material into active creek channels in the various sub-watersheds. In the project area, 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 Green Valley, the headwater creeks located on the project site can be generally characterized as ephemeral channels dominated by wash load sediment processes and brief, high volume winter flows. The historically intermittent stream flows have become perennial with low flows throughout summer.

Surface Hydrology

In the vicinity of the project site, the East Branch Green Valley Creek consists of a combination of natural channels, underground storm drains, and artificial open channels. The creek flows through a number of road under-crossings including bridges, concrete box culverts, and corrugated metal culverts. In the project area, the base and sides of the East Branch Green Valley Creek channel typically consist of cohesive alluvium or colluviums soil, with local exposures of bedrock in the channel base. The nature of existing channel conditions are represented in photos provided in Appendix G.

Magee East

Within Magee East, the channel of East Branch Green Valley Creek is slightly to moderately incised, with the channel flow line approximately 5 - 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. 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. The existing concrete box culvert at Diablo Road provides grade control for the segment of the creek channel that crosses the Magee East site. The creek channel just upstream from the culvert appears to be in a relatively stable condition with little evidence of recent incision and stable banks.

Magee West

The East Branch Green Valley Creek flows in a natural channel adjacent to residential lots in Diablo Country Club west of Magee East. 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.

Just east of the intersection of Diablo Road and La Cadena Road, the creek crosses under Diablo Road through a large-diameter corrugated metal culvert and extends into the project site. At the culvert outfall, the channel has eroded to the bedrock and deepened the channel by approximately 3 - 4 feet based on the vertical drop at the culvert outfall and exposed tree root systems. The upper reaches of the channel segment west of the culvert crossing at Diablo Road and La Cadena Road are generally degraded with many areas of shallow bank instability and extensive exposure of adjacent tree root systems.

Opposite Fairway Drive is a partially washed-out concrete structure that was reportedly constructed as a water supply dam for the original Diablo Country Club. Two corrugated metal culverts enter the creek at this location. A concrete slab from the old structure remains 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. The creek exits the project site and crosses under Diablo Road at the Clydesdale Road box culvert and enters an artificial channel.

A portion of Magee West is located within the 100-year flood plain (Zone A) as delineated in the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps. The floodplain appears to extend along a narrow portion of the project site within Magee East, along the south side of Diablo Road roughly between Alameda Diablo and Avenida Nueva.

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 within Contra Costa County based on records collected between 1879 and 1973. The total watershed area that drains into local creek segments upstream of the box culvert at Diablo Road is approximately 2.27 square miles. Based on the USGS Diablo Quadrangle, the headwater channel of East Branch Green Valley Creek terminates about two miles upstream within Mt Diablo State Park.

Groundwater Resources

Groundwater was encountered in borings drilled as part of the preliminary geologic investigation for the project (ENGEO, 2011). Groundwater was found at depths ranging from approximately 10 feet below ground surface (bgs) adjacent to East Branch Green Valley Creek to greater than 40 feet bgs in borings drilled in upstream valleys. Zones of water seepage were encountered at depths ranging from 17 to 58 feet bgs within the onsite landslides. Groundwater was not encountered in test pits excavated in upland slope areas. Groundwater elevations are expected to vary seasonally on the site.

The East Branch Green Valley Creek 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. During field visits in January and September of 2009, ENGEO did not observe any evidence of groundwater springs or seeps adjacent to the creek or in the sub-watersheds onsite. It is concluded, therefore, that onsite groundwater is unlikely to significantly contribute to dry-season flows.

Regulatory Environment

Federal

Federal Clean Water Act. The Federal Clean Water Act is the primary federal law in the U. S. governing water pollution. The following sections of the Clean Water Act are relevant to the proposed project.

Sections 303 and 304 provide water quality standards, criteria, and guidelines, including the requirements under the National Pollutant Discharge Elimination System (see below). Section 404 regulates activities that result in the discharge of dredged or fill material into waters of the U.S., including wetlands. The U.S Army Corps of Engineers (USACE) administers a permit program for any discharges of dredged or fill material into waters of the U.S., such waters can 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.

National Pollution Discharge Elimination System (NPDES). The quality of water runoff is regulated by the federal National Pollution Discharge Elimination System (NPDES) program, established by the Clean Water Act. The objective of the NPDES program is to control and reduce pollutants entering water bodies from non-point discharges. The program is administered by Regional Water Quality Control Boards (RWQCBs) throughout California. The San Francisco Bay Area 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 for municipalities and other local government entities. The project area is currently covered by the Contra Costa County NPDES Municipal Permit, as discussed further below.

State

Porter-Cologne Water Quality Act. The basis for the water quality regulation in California is the Porter-Cologne Water Quality Control Act (California Water Code, Section 13000 et seq.). This Act requires a "Report of Waste Discharge" for any discharge (liquid, solid, or otherwise) to land or surface waters that may impair a beneficial use of the state's surface or groundwater. Based on the reports, the local RWQCB issues waste discharge requirements to minimize the effect of the discharges.

The Porter-Cologne Act delegates authority to the State Water Resources Control Board to establish regional water quality control boards. The San Francisco Bay Area RWQCB has authority to use planning, permitting, and enforcement to protect beneficial uses of water resources in the project region. 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, all hydrologic issues related to a project must be addressed, including the following:

- Wetlands
- Watershed hydrograph modification
- Proposed creek or riverine related modifications
- Long-term post-construction water quality

California Fish and Game Code. The California Fish and Game Code (Sections 1600-1607) authorizes the Department of Fish and Game to enter into streambed alteration agreements with applicants to develop mitigation measures for projects that would obstruct the flow or alter the bed, channel, or bank of a river or stream in which there are fish or wildlife resources, including intermittent and ephemeral streams. 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
- Use material from a streambed

The CDFG takes jurisdiction along a river, stream or creek, 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.

Local

Contra Costa County. To comply with the Municipal Stormwater NPDES permit, Contra Costa County, all 19 of its incorporated cities, and the Contra Costa County Flood Control & Water Conservation District joined together to form the Contra Costa Clean Water Program. Both the Contra Costa Clean Water Program and the County Watershed Program (CWP) are responsible for ensuring compliance with the Municipal Stormwater NPDES Permit.

Contra Costa County has the authority to uphold its Municipal Stormwater NPDES permit and exercises this authority in its adopted Provision C.3 requirements. Provision C.3 regulations require the installation of post-construction BMPs for new development and include standards for their implementation. The intent of these regulations is to regulate the quality and quantity of storm water runoff from proposals consisting of new impervious surfaces 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 storm water runoff BMPs that filter or treat rainfall runoff 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. In addition, BMPs are required so that post-project runoff does not exceed pre-project rates or durations, if such an increase could contribute to erosion in receiving waters downstream from a proposed project.

Town of Danville General Plan. The Town of Danville General Plan provides policies to protect water resources and control drainage. Please refer to Table 4.9-2 of Land Use and Planning for a detailed analysis of the project's consistency with the relevant provisions of the General Plan.

Thresholds of Significance

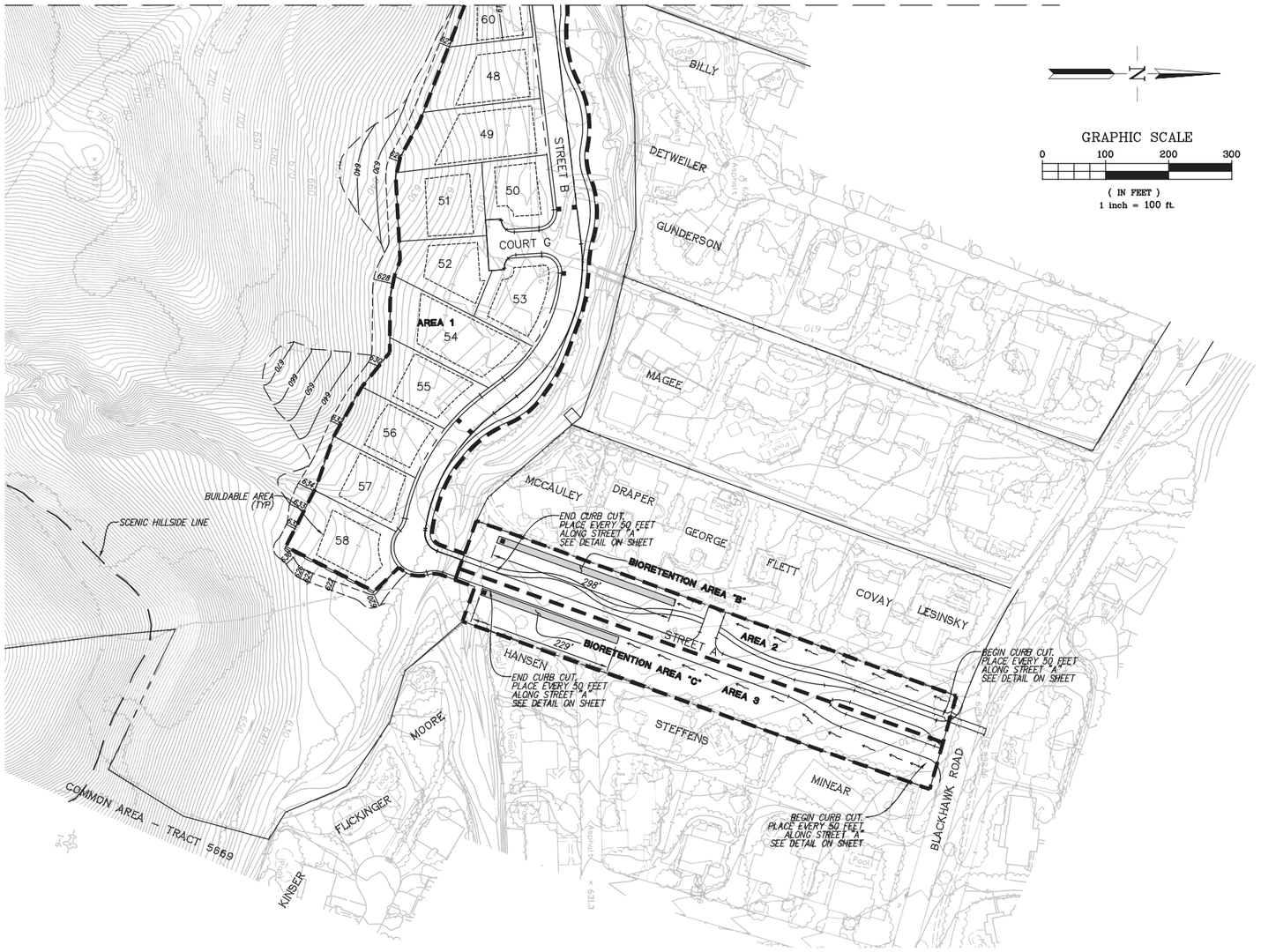
In accordance with CEQA Guidelines, a project impact would be considered significant if the project would:

- violate any water quality standards or waste discharge requirements;
- substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted);
- substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site;
- substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;
- create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;
- otherwise substantially degrade water quality;
- place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map;
- place within a 100-year flood hazard area structures which would impede or redirect flood flows; or
- expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.

Impacts and Mitigation

The following discussion addresses the potential impacts of the project associated with hydrology and water quality. As identified in Section 3.0 Project Description, the project proposes a storm drainage plan that incorporates a detention basin, a biofiltration basin, and biofiltration swales. These features are presented in Figures 4.8-1A through 4.8-1C.

In response to concerns of the Contra Costa Flood Control and Water Conservation District and the community, a regional hydrologic analysis was prepared for the project to address the effects of project development on peak flows and flooding conditions of the East Branch Green Valley Creek.



LEGEND

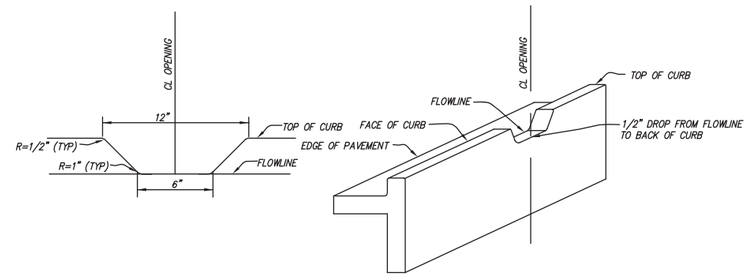
- STORM WATER TREATMENT AREA
- TRACT BOUNDARY
- FLOW DIRECTION
- BIORETENTION

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:

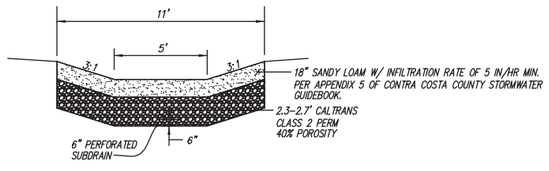
1. THE VOLUMES ARE BASED ON THE CONTRA COSTA COUNTY CLEAN WATER PROGRAM, C.3 STORMWATER TECHNICAL GUIDANCE, 5TH EDITION, DATED OCTOBER 2010 FOR TREATMENT+FLOW CONTROL.
2. ASSUME EACH LOT = 4,000 SF IMPERVIOUS SURFACE
3. CUSTOM LOTS #61-64, 68-70 SHALL HAVE INDIVIDUAL ON LOT STORM WATER TREATMENT. SEE 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



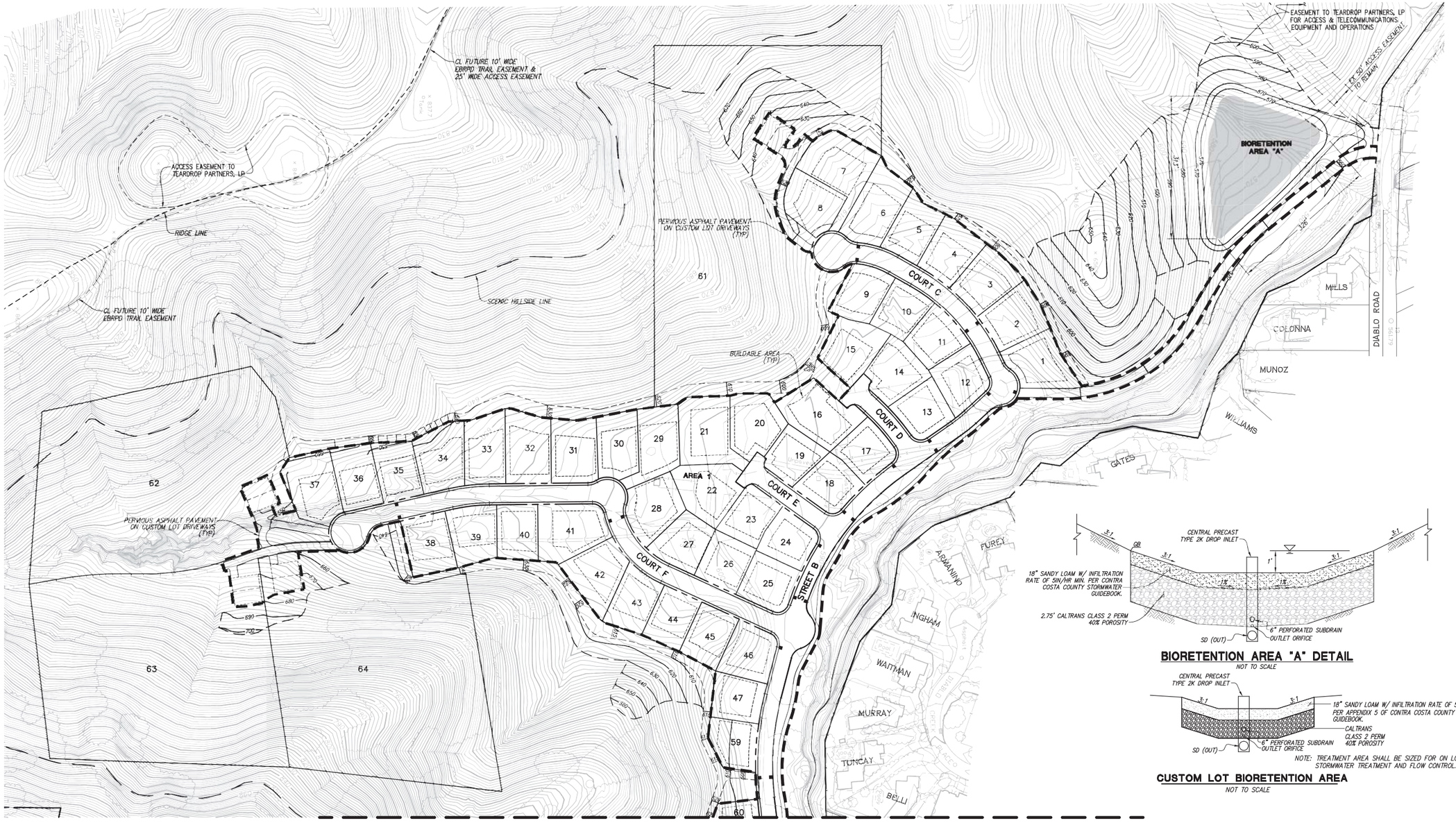
BIORETENTION AREAS "B" & "C"
NOT TO SCALE

Source: Ruggeri-Jensen-Azar, September 2012

Stormwater Treatment Plan - Magee East

Monterey | San Jose
Denise Duffy and Associates, Inc.
Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure
4.8-1A



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

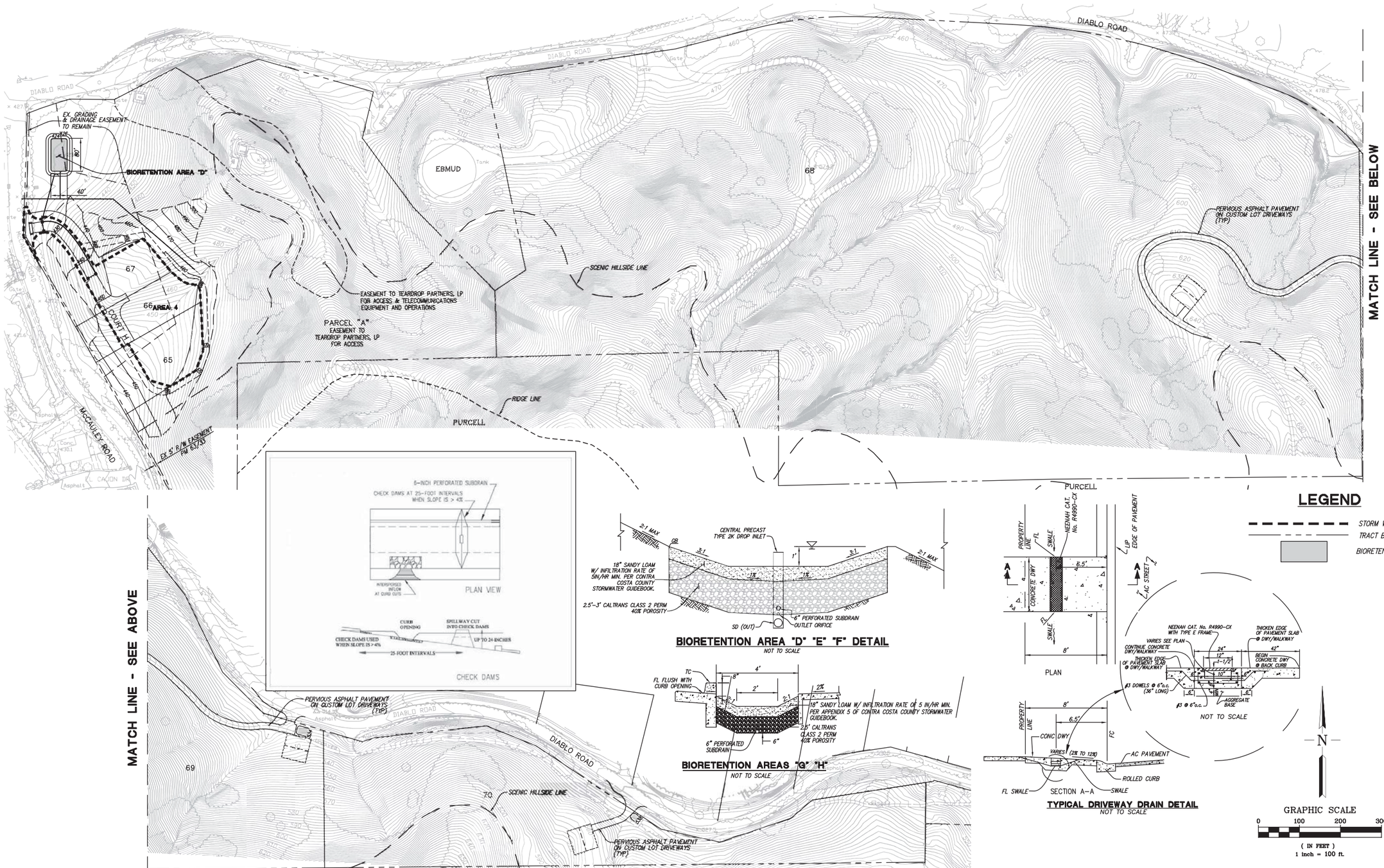
- STORM WATER TREATMENT AREA
- TRACT BOUNDARY
- BIORETENTION

Source: Ruggeri-Jensen-Azar, September 2012

Stormwater Treatment Plan - Magee East

Monterey | San Jose
Denise Duffy and Associates, Inc.
Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure
4.8-1B



Source: Ruggeri-Jensen-Azar, September 2012

Stormwater Treatment Plan - Magee West

Monterey | San Jose
Denise Duffy and Associates, Inc.
Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure
4.8-1C

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Regional Hydrology Impacts

Methodology

The potential regional hydrologic effects of the proposed project were evaluated in the Regional Hydrologic Analysis prepared by ENGEO (April 2012). The hydrologic method used to develop peak flow hydrographs within the watersheds of the East Branch Green Valley Creek were based on the "HEC-HMS Guidance for the Contra Costa County Flood Control and Water Conservation District Unit Hydrograph Method" (April 13, 2010). This document calls for the use of the Contra Costa County HYDRO6 synthetic hydrograph methodology input files within the framework of the Hydrologic Engineer Center-Hydrologic Modeling System program (HEC-HMS). The HYDRO6 synthetic hydrograph method is based on 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.

The delineation of subbasins for the regional study of the East Branch Green Valley Creek was developed based the project's civil engineering site plans, and input from the Contra Costa County Geographic Information System Metadata (May 2000 aerial photographs). Specific technical information on the watershed in terms of land use type, infiltration rates, and infiltration calculations for each hydrologic subwatershed are provided in Appendix G.

Two developments upstream of the proposed project contain detention basins that affect the timing of peak flows concentrating in East Branch Green Valley Creek near the project outfall. The Blackhawk subdivision contains three debris catchment basins 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. 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 in September 2011 by ENGEO, the three basins appear to be well maintained. These basins were included in the HEC-HMS model.

The Magee Ranch subdivision (a separate, existing development) to the east of the project site also contains a detention basin, which collects and attenuates flood flows from the developed area of the subdivision as well as open space run-on. This was included in the pre- and post-development hydrologic models to account for a delay in peak discharge from that portion of the upstream watershed. The basin appears to contain woody riparian vegetation and some sediment deposition. Since maintenance of the stormwater basins generally occurs periodically, a sensitivity analysis was prepared to show that the proposed detention basin on the project site would provide attenuation of peak discharges downstream of the project site for both a fully and partially maintained condition in the existing Magee Ranch development basin.

Specific lag time calculations and figures that graphically illustrate the pre- and post-development watersheds are provided in Appendix G. Hydrologic routing was performed between each subwatershed and basins to account for channel roughness and floodplain storage. The routing methodology is described in detail in Appendix G.

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 for this analysis. The modeling shows that the 10-year and 100-year flows pass through the detention basins included in the model without overtopping.

Detention

Detention prevents receiving waters from being subject to peak discharges in excess of those carried by the waters prior to development. In order to offset increased runoff from proposed development, a detention basin is proposed on the west side of Magee East near Diablo Road (refer to Figure 4.8-1B). The total storage capacity of the detention basin is approximately 4.5 acre-feet.

The geometry of the detention pond was entered into the HEC-HMS model and a standpipe sized to attenuate flood flows in the basin before discharging into East Branch Green Valley Creek. Calculations performed for a 100-year, 24-hour rainfall event shows that the water surface elevation in the creek would not rise as high as the detention basin outfall. The outfall structure for the detention basin would consist of a reinforced concrete box standpipe with 6-inch thick walls and with two openings on the side of the box with an emergency spill way and a four foot square trash rack at the top.

Rock scour protection at the creek outfall location would be provided in conformance with the Town of Danville, San Francisco RWQCB, USACE, CDFG, and U.S. Fish and Wildlife Service requirements. The stormwater treatment plan prepared by the project includes BMPs that detain runoff from smaller event storms to be located alongside many roads in the proposed project. These areas were not included in the calculations for the hydrologic study. These features would provide some detention function during smaller storms. The proposed detention of water is expected to further reduce the flow rates released from developed portions of the proposed project site.

Based on the calculations in the hydrologic analysis, peak discharges into East Branch Green Valley Creek from the developed portion of Magee East would be delayed by the incorporation of the proposed detention basin. The basin would attenuate peak flows to below pre-project conditions, reducing peak discharges in Green Valley Creek downstream of the project.

Regional Effects

The Magee East portion of the project site is located in the easternmost portion of the East Branch Green Valley Creek watershed, which contains the most hydrologically distant point of the watershed as measured from its confluence with San Ramon Creek. Peak discharges from other downstream tributary channels that flow into the main stem of East Branch Green Valley Creek between the project site and the San Ramon Creek confluence are assumed to occur prior to the peak discharges from the portion of the studied watershed. Therefore, by detaining peak discharges from the proposed project and releasing them into East Branch Green Valley Creek after the peak discharge occurs in the upper portion of the watershed, regional impacts from Magee East would be less-than-significant, since proposed development would not increase peak flows in the East Branch of the Green Valley Creek watershed downstream of the project.

As shown on the site plans, the Magee West portion of the project contains six lots. Three clustered lots are proposed just southeast of the intersection of McCauley Road and Diablo Road, and three custom lots are located south of Diablo Road. These areas are approximately 0.9 and

1.3 miles downstream of the proposed Magee East detention basin outfall, respectively, and lie within a portion of the watershed downstream of the confluence with the branch of East Branch Green Valley Creek that extends into Dan Cook Canyon. Based on preliminary stormwater plans for the project, less than 1.2 acres of impervious surface are proposed for Magee West for a subwatershed 120 acres in size.

Hydrologic impacts have been studied by others in the vicinity of Magee West portion of the site. A study by Questa Engineers dated October 2006 for the Matadera subdivision, which is located in the East Branch Green Valley watershed near the westerly boundary of the Magee West portion of the site concluded that the detention of flood flows for Magee West would raise peak flows in East Branch Green Valley Creek. This conclusion was based on hydrograph timing computation, which demonstrates that the direct release of water from the Matadera project would occur approximately 30 minutes before the peak flood flows of East Branch Green Valley Creek would occur at the point of discharge from Magee West; therefore, the detention of project flood waters on this portion of the site 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 the study of the upper watershed for Magee East, where peak discharges in the watershed occur nearly simultaneously with proposed project runoff into East Branch Green Valley Creek, it was concluded that the limited development proposed for Magee West should adopt 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. The proposed residential lots would be subject to Provision C.3 requirements through the Contra Costa County Clean Water Program, which would allow only a minor increase in discharge of stormwater runoff up to the 10-year recurrence interval storm event above 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 East Branch Green Valley Creek without limitation. Given the proximity of these parcels to the Matadera project, ENGEO indicates that watershed timing would 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 West outfall.

Conclusion

Based on the results of the hydrologic modeling, the proposed project (both Magee West and Magee East) would not increase peak flows in the East Branch Green Valley Creek watershed downstream of the project or otherwise adversely impact flooding conditions, provided it is constructed in accordance with the project plans and recommendations provided in the hydrologic analysis (see also Appendix G).

Drainage Impacts

As a result of the proposed project, rainfall losses such as evapotranspiration and soil infiltration would decrease due to the addition of impervious surfaces such as roads and rooftops. In general, the movement of stormwater runoff collected in proposed storm drain systems and directed toward the proposed storm drain outfalls could be accelerated by new storm drain infrastructure and paved surfaces. For the hydrology studies prepared by ENGEO, approximately 40 acres of new impervious surfaces were assumed within Magee East and approximately 1.2 acres of impervious surfaces were assumed within Magee West, including building footprints, driveways, and roads. However, because onsite soils are generally clayey and the majority of the project site

is sloping, the runoff coefficient is relatively high. Therefore, the difference between pre-project and post-project runoff for proposed impervious areas would be relatively small (Engeo, pers. comm., May, 2012).

The project proposes to discharge all stormwater into East Branch Green Valley Creek or its tributaries, which could raise the post-development flow rates and volumes in the creek, affecting the potential for downstream flooding. This was determined to have a less-than-significant effect as discussed in detail in the hydrologic analysis summary above.

In order to minimize the impact of increased runoff, structural controls are proposed to bring the levels to pre-development flow for the 10-year and 100-year storm events prior to discharge. The project proposes to construct a storm drainage system to convey storm runoff from the project site (see Figure 4.13-3 Utility Plan and Figure 4.8-1 Stormwater Treatment Plan). The project would provide structural retention controls to avoid increases in downstream storm water flows for the 10-year and 100-year peak flow events, in accordance with Contra Costa County Flood Control standards. The proposed detention basin would have capacity to pass the 100-year event without overtopping, as described in the regional hydrology analysis above. The components of the stormwater treatment plan for the project are listed below:

- biofiltration swales along the entrance road to Magee East
- a biofiltration basin for the McCauley development area in Magee West
- a detention basin on the northwest portion of Magee East with storage capacity of 4.5 acre feet
- individual on-site storm water treatment facilities for custom lots

The project proposes that maintenance of the proposed detention basin and other proposed drainage facilities would be performed through a Geologic Hazard Abatement District (GHAD). The GHAD, in addition to implementing other measures to mitigate, prevent, control and abate geologic hazards, would establish a comprehensive plan to maintain the stormwater facilities and provide corrective measures as needed. Funding for the GHAD would occur through property owner assessments 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 within the project's GHAD limits that would require maintenance.

As described in the regional hydrologic study, the proposed detention facilities are adequate to accommodate the increases in runoff from the project. The project would have a less-than-significant impact on drainage conditions.

Flooding Impacts

A portion of the project site is located within the 100-year flood plain as delineated in the FEMA FIRM maps. The floodplain extends along a narrow portion of the project site within Magee East, along the south side of Diablo Road roughly between Alameda Diablo and Avenida Nueva. This encroaches onto proposed lots 68, 69, and 70; however, the home sites for these lots are located outside the 100-year floodplain. The only proposed improvements within the floodplain would be driveways.

The project would not place housing within the 100-year floodplain or expose people or structures to significant risks involving flooding. In addition, the project would not introduce structures within the 100-year flood zone that could impede or redirect flood flows.

As described in the summary of the hydrologic analysis, based on the results of the hydrologic modeling, the project would not increase peak flows in the East Branch Green Valley Creek watershed downstream of the project or otherwise adversely impact flooding conditions.

Water Quality and Storm Water Management

Site preparation and construction activities would disturb soil and could increase siltation of local streams and water bodies, specifically the East Branch Green Valley Creek. Construction activities could also result in the release of pollutants such as oil, grease, and heavy metals from use of equipment.

Upon project completion, the proposed residential development could generate urban pollutants affecting water quality from sources such as oil, grease, and trace metals from vehicles using parking areas and roadways. In addition, fertilizers, pesticides, and herbicides released from landscaped areas could impact receiving waters. Urban pollutants carried in stormwater runoff could discharge into East Branch Green Valley Creek and could impact downstream water quality.

The potential water quality impacts of the project would be minimized and/or avoided by implementation of a series of proposed long-term Integrated Management Practices (IMPs) 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.

The project proposes source controls to prevent the mobilization of materials and hydrologic designs that reduce and slow the volume of runoff that reaches natural surface waters. Source controls would 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"

Water quality treatment for the project is based on a combination of methods, 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 IMPs, including water quality/detention ponds and vegetated swales are planned for the project to remove pollutants from stormwater once they are mobilized from their source areas. These IMPs would provide active treatment for a minimum of 85 percent of average annual runoff from contributing tributary areas routed through the IMP facility in accordance with RWQCB and Contra Costa County C.3 requirements. These IMPs would 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.

As set forth in the project plans, the proposed detention basin would contain a filtration system to cleanse water entering East Branch Green Valley Creek prior to discharge. The proposed bio-retention swales would serve as both conveyance and water quality treatment features, with the water quality portion of the swales containing soil media that provides infiltration for smaller storms. The swale surface areas would be sized in accordance with Contra Costa County C.3 standards for appropriate water quality and hydromodification function. All proposed water treatment and drainage facilities would be designed and constructed in accordance with Contra Costa County Clean Water Program and RWQCB standards.

The project could result in impacts to surface water quality from construction and operational activities, which could potentially violate water quality standards or otherwise substantially degrade water quality. These impacts would be reduced to a less-than-significant level with the proposed BMPs described above and the mitigation measures identified below.

Impact **Construction and operation of the project could impact surface water quality.** ***This is a significant impact that would be reduced to a less-than-significant level with the following mitigation.***

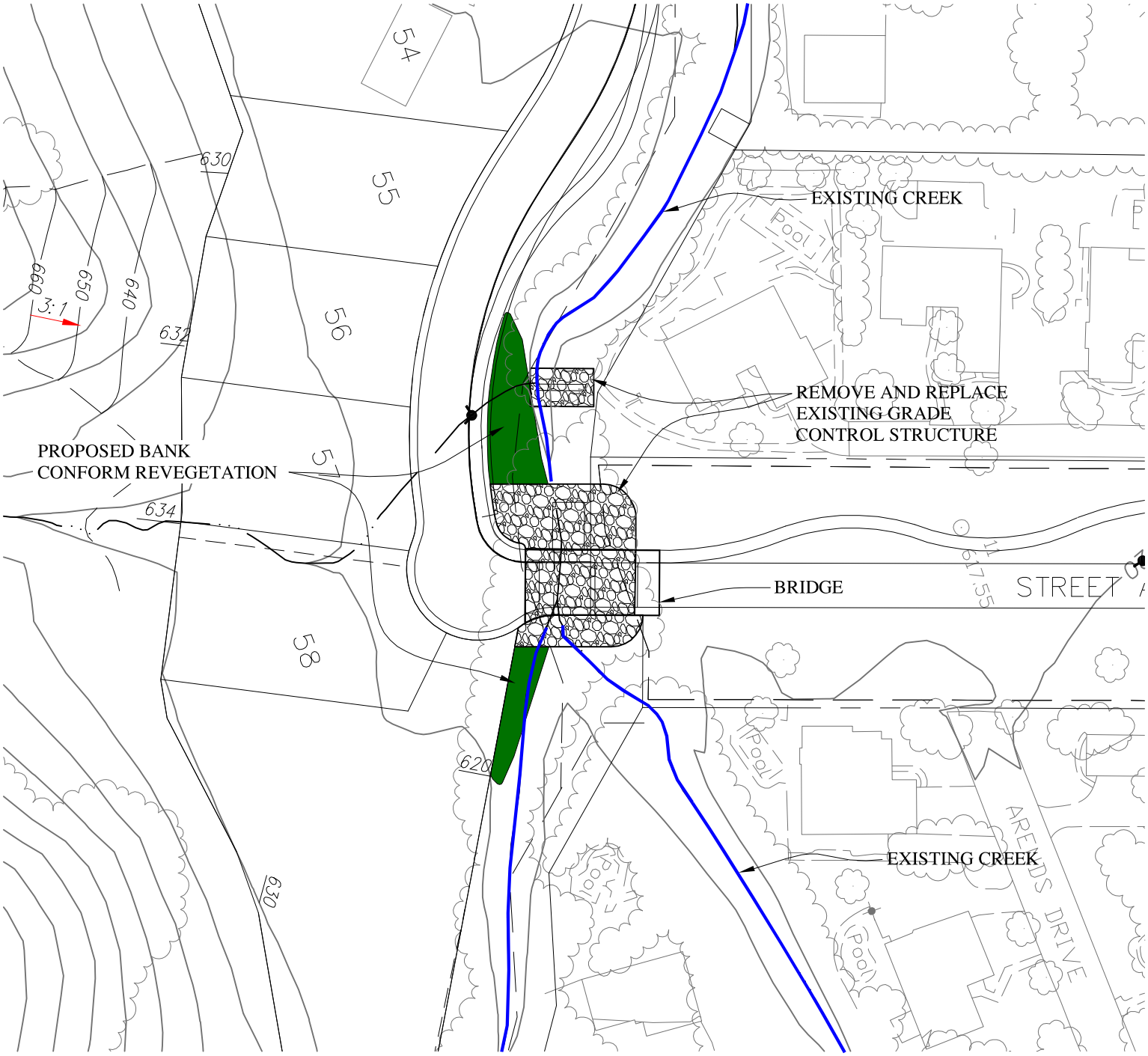
Mitigation

4.8-1 In order to avoid water quality impacts, a Storm Water Pollution Prevention Plan (SWPPP) shall be prepared for the site preparation, construction, and post-construction periods. The SWPPP shall incorporate best management practices consistent with the requirements of the National Pollution Discharge Elimination System (NPDES) Municipal Stormwater permit (No. CAS612008). The project proponent shall obtain a NPDES General Construction Permit and prepare the SWPPP in accordance with all legal requirements, prior to the issuance of a grading permit. Additional requirements for erosion control are detailed in mitigation measure 4.6-1 in 4.6 Geotechnical and Geologic Hazards.

Impacts from Creek Crossing

The proposed development includes a bridge crossing over East Branch Green Valley Creek to provide access to the Magee East portion of the site. The bridge would be designed to pass flood flows in East Branch Green Valley Creek up to the 100-year event plus freeboard while preserving the habitat values of the creek system. The existing concrete stabilization that has been put in place near this location would be improved with natural rock grade control structures to restore sediment transport equilibrium conditions in the channel and lessen concerns regarding erosion. Creek banks near the bridge would be flattened and stabilized with plantings upstream and downstream of the proposed bridge structure, which would enhance riparian habitat in the creek corridor and maintain the long-term stability of the creek banks. The conceptual restoration plan is presented on Figure 4.8-2.

The proposed bridge crossing would be designed to accommodate the 100-year recurrence interval storm event in East Branch Green Valley Creek plus provide adequate freeboard. The bridge foundation system would also be designed to withstand temporary scour up to a 100-year recurrence interval event. The proposed foundation system scour countermeasures would minimize impacts to the creek hydrology to a less-than-significant level. Refer also to the regional hydrology discussion above. Biological effects from the proposed bridge are described in 4.4 Biological Resources.



Proposed Creek Crossing and Restoration

Monterey | San Jose
Denise Duffy and Associates, Inc.
Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure
4.8-2

Groundwater

The project does not propose any wells on the site. Water supply and service will be provided by East Bay Municipal Utility District (EBMUD). The project would not substantially deplete groundwater supplies or interfere with groundwater recharge. Refer to Section 4.13 Utilities and Service Systems for additional discussion of groundwater and water supply. The project would not significantly impact groundwater supplies or recharge, thus having a less-than-significant impact on groundwater.

Cumulative Impacts

Section 15130 of the CEQA Guidelines requires an EIR to discuss cumulative impacts of a proposed project when the project's incremental effect may be cumulatively considerable. This EIR relies on a list approach, as described in Section 5.2 of this EIR. The geographic scope is generally the Town of Danville. Proposed development considered in the cumulative analysis is identified in Table 5-1 (see Section 5.0 CEQA Considerations).

Cumulative development on undisturbed land within the watershed could increase the amount of impervious surfaces, thereby increasing runoff rates in the area. Development of the project site as proposed would include storm drain facilities in accordance with all local and state regulations, and would not result in significant impacts to hydrology or flooding conditions based on the conclusions in the Regional Hydrologic Analysis described above. The project, therefore, would not contribute to cumulative hydrological impacts.

Cumulative development and increases in localized runoff could introduce urban pollutants into the drainage system and receiving water bodies, impacting water quality. The project proposes a detention pond and biofiltration systems to allow infiltration of runoff and remove pollutants from storm water before it enters the ground or surface water. The implementation of onsite drainage systems and best management practices for the project and cumulative development in the area would avoid offsite, cumulative water quality impacts. The project would have a less-than-significant cumulative impact on hydrology and water quality.

4.9 LAND USE AND PLANNING

Introduction

The following section analyzes the project's potential land use effects, specifically its consistency with environmental policies adopted for the purposes of avoiding and/or mitigating a significant environmental effect. The analysis presented in this section addresses the project in terms of the project's consistency with applicable land use policies and regulations pertaining to the development of the project site. The following documents were reviewed during the preparation of this section:

- 2010 Town of Danville General Plan
- Materials relating to the update of the Town's 2010 General Plan
- Town of Danville Municipal Code

The physical effects associated with the project, including the effects of the proposed rezoning, and other development applications, are addressed in the appropriate topical CEQA sections contained in this EIR (e.g., biological resources, transportation, public services, etc.). Please refer to those sections for a detailed discussion of the project's physical effects on those resources.

Setting

The project site is located in the Town of Danville and bounded by Diablo Road to the north and McCauley Road to the west. The project site consists of approximately 410 acres and is generally characterized by open grass-covered hills with scattered trees.

The project site is located on a portion of a historically larger ranch that has been subdivided several times over the last 60 years. The east portion of the original ranch was subdivided as part of the existing Magee Ranch subdivision (257 units). The existing Magee Ranch subdivision is located to the north and east of the proposed project. The project site is currently and has historically been used for beef cattle operations and horse ranching.

The project site is surrounded by single family residential neighborhoods, including the Belgian Drive/Clydesdale Drive/Fairway Drive neighborhoods, the unincorporated community of Diablo, and single family homes located between Green Valley Creek and Diablo Road/Blackhawk Road, to the north, the existing Magee Ranch development to the east, and residential uses located on the south side of Short Ridge to the south. Public and private open space areas, including Sycamore Valley Regional Space Preserve and Mt. Diablo State Park, are also located in the project vicinity. Figure 4.9-1 shows the surrounding land uses.

The 2010 General Plan includes policies for residential development on the project site. While the General Plan recognizes that the site could be subdivided into a series of smaller five-acre "ranchettes," the General Plan strongly discourages such development. The 2010 General Plan also discourages any proposals that would increase the overall development potential on-site. Instead, the General Plan encourages future development to transfer the overall number of units permitted on-site under existing General Plan land use designations to the least sensitive and obstructive parts of the property. Clustering development to a limited number of areas within the project site enables the bulk of the site to remain undeveloped.

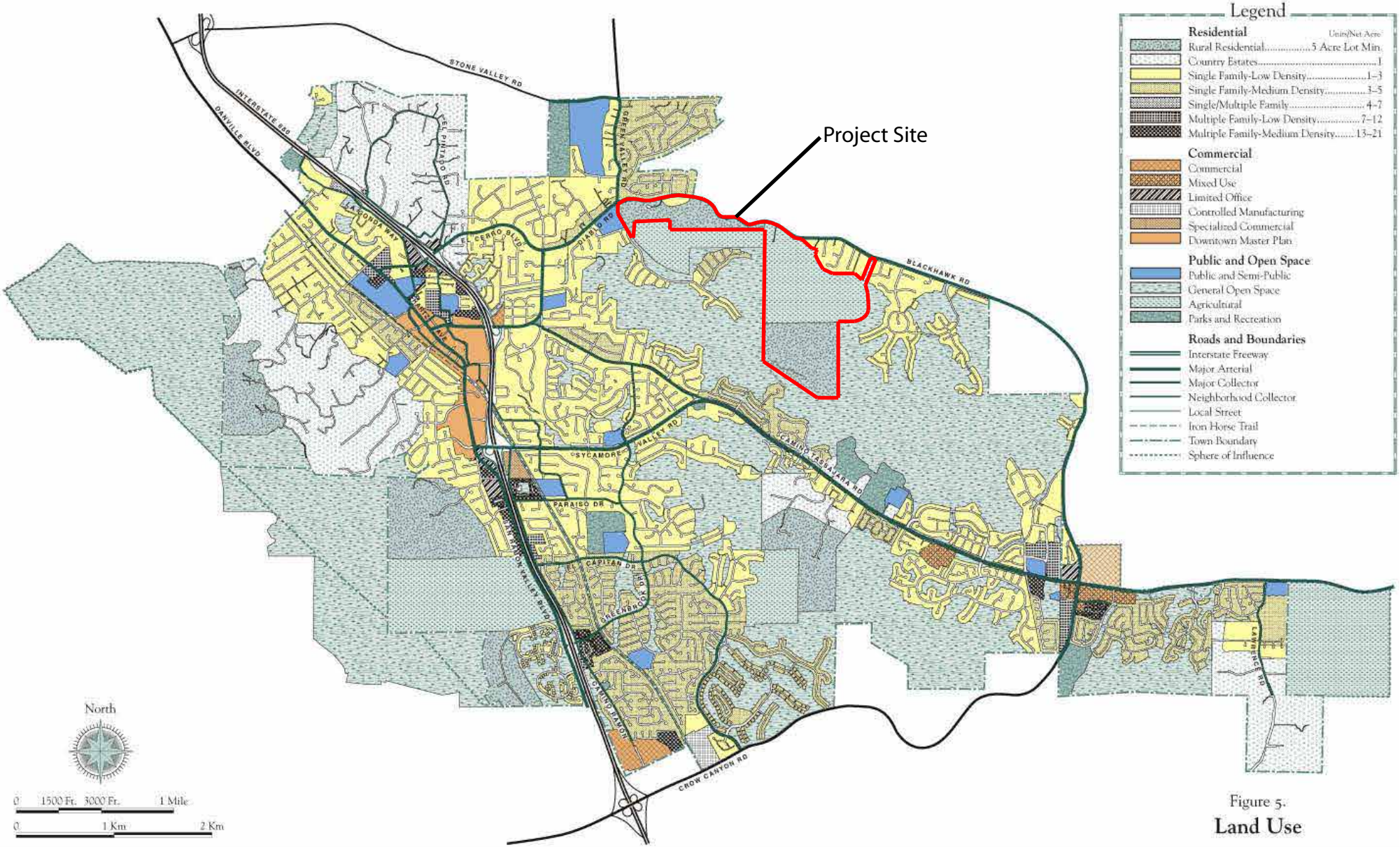


Figure 5.
Land Use

Source: Town of Danville General Plan, 2010

Existing Land Uses - General Plan

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Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure
4.9-1

Proposed Development

The project proposes to develop 70 new residential units on approximately 410 acres. At least 10 percent of the units would include second units (referred to as "casitas") to satisfy the Town's affordable housing requirements. Second units are excluded from density determinations in accordance with California Government Code §65852.2.[1] Development would be primarily clustered in two areas of the project site. Approximately 302 acres would be dedicated as permanent open space.

The proposed project would concentrate site development activities on approximately 108 acres. In order to cluster development, the project proposes to rezone the project site to P-1; Planned Unit Development District. Table 4.9-1 below shows the existing General Plan land use designations and the existing and proposed zoning designations. No General Plan amendments are proposed in connection with the project.

Table 4.9-1
Existing and Proposed Zoning/General Plan Designations

APN	General Plan Designations	Existing Zoning	Proposed Zoning	Acres
202-050-071	Public and Open Space -Agricultural	A-4	P-1	36.4
202-050-073	Public and Open Space - General Open Space	P-1	P-1	3.4
202-050-078	Public and Open Space -Agricultural	A-4	P-1	159.1
202-050-079	Residential - Rural Residential	A-2	P-1	17.2
202-050-080	Residential - Rural Residential	A-2	P-1	52.7
	Residential - Single Family - Low Density	A-2	P-1	5.0
202-100-017	Residential - Rural Residential	A-2	P-1	40.8
202-100-019	Residential - Rural Residential	A-2	P-1	38.9
202-100-038	Residential - Rural Residential	A-2	P-1	51.1
202-100-040	Public and Open Space – General Open Space	P-1	P-1	2.5
215-040-002	Public and Open Space -Agricultural	A-4	P-1	3.2
			Total Acres	**410.3**

A-2; General Agricultural District
A-4; Agricultural Preserve District
P-1; Planned Unit District
Sources: Town of Danville 2010 Land Use Map; Town of Danville Zoning Map

Regulatory Environment

Local

2010 Town of Danville General Plan. Pursuant to California Government Code §65300, each city is required to adopt a comprehensive General Plan to guide the physical development of the community. The 2010 General Plan consists of goals, policies, and implementation measures for the physical development of the Town.

[1] Municipal Code §32-76, which regulates second dwelling units further states that, "a second dwelling unit, which meets the requirements of this section [§32-76], shall be allowed on a parcel, which is zoned for single-family residential use. A second dwelling unit which meets the requirements of this section shall be considered in compliance with the allowable density for the lot upon which the second dwelling unit is located and shall be considered a residential use that is consistent with the existing General Plan and zoning designation for the lot."

Measure S. In November 2000 Danville voters approved Measure S, amending the General Plan and creating a new process for approving changes to the Danville General Plan Land Use Map for all properties designated "Agricultural," "General Open Space," and "Parks and Recreation." For the effective life of Measure S (through October 2020), such changes require approval by the Town's voters, if first approved by the Town Council. Since the proposed project will not require an amendment to the 2010 General Plan, Measure S is not applicable and voter approval is not required.

Land Use Designations. The General Plan Land Use Map identifies the land use designations for the project site. The site contains the following four General Plan land use designations: 1) Public and Open Space - General Open Space, 2) Public and Open Space - Agricultural, 3) Residential - Rural Residential, and 4) Residential - Single Family – Low Density.

- Public and Open Space - General Open Space covers approximately 5.9 acres of the project site. No development is permitted under this designation. The General Plan establishes that the Town's P-1 and A-4 zoning districts are consistent with this land use designation.

- Public and Open Space - Agricultural covers approximately 199 acres of the project site. This designation does not have a specific density range; density is established according to the applicable site-specific zoning. The General Plan establishes that the Town's A-2; General Agricultural zoning district is consistent with the Agricultural land use designation. The A-2; General Agricultural zoning district establishes a density of one unit per five acres.

- Residential - Rural Residential covers approximately 201 acres of the site. The General Plan specifies that the allowable density for lands with this designation as one unit per five acres. The General Plan also specifies that the zoning districts of P-1; Planned Unit Development District and A-2; General Agricultural District are consistent with this land use designation.

- Residential - Single Family – Low Density covers an approximately five acre portion of the project site along Diablo Road opposite Fairway Drive. This designation allows a density range of 1-3 units per acre. The General Plan also specifies that the Town's P-1; Planned Unit District and R-40, R-20 and R-15; Single Family Residential Districts are consistent with this land use designation.

Planning Areas/Special Concern Areas. The 2010 General Plan divides the Town into 21 distinct Planning Areas. Each Planning Area is distinguished by their location, unique physical characteristics, and other features. The General Plan also includes 14 Special Concern Areas. The 410-acre project site is located within the Diablo Road/Blackhawk Road Planning Area. This Planning Area is defined by Diablo Road on the north, Blackhawk Road on the east, and Short Ridge on the south. The east branch of the Green Valley Creek winds through the Planning Area on both the north and south sides of Diablo Road. Development in this area is characterized by large lots averaging one-half acre in size. This Planning Area, including the portion of Diablo Road that passes through it, is recognized for its scenic qualities, featuring some of the prominent ridgelines in eastern Danville. The majority of the development potential within this Planning Area has already been realized with the exception of the project site and several small infill sites.

Within the Diablo Road/Blackhawk Road Planning Area, the Town has designated the remaining developable properties as the Magee Ranch Special Concern Area due to this area's scenic quality and visual character. The overall 500-acre Magee Ranch Special Concern Area contains the project site and is located along the south side of Diablo Road and extends roughly two miles east from the intersection of Green Valley Road and Diablo Road Areas (depicted in Figure 8 of the

2010 Town of Danville General Plan). According to the 2010 General Plan, this area contains some of the best scenery in Danville. The General Plan recognizes that development within the remaining portions of this Special Area of Concern could occur and encourages the transfer of allowable densities to the "least sensitive and obtrusive parts of the site."

2030 General Plan. The Town of Danville is currently updating its 2010 General Plan with the 2030 General Plan ("Draft 2030 Plan"). The major changes in the Draft 2030 Plan include 1) an update to the Land Use Map and Land Use designations to reflect additional housing sites as shown in the recently adopted 2007- 2014 Housing Element (located primarily located in the downtown area); 2) factual updates to reflect current conditions and changes that occurred since the 2010 General Plan was adopted; 3) new language relating to sustainability, greenhouse gas reduction, priority development areas, and emergency preparedness; and 4) an expansion of the Town's Sphere of Influence (SOI) to include the portion of the Alamo Creek community lying east of the current SOI and the essentially built out communities north of Alamo Creek and across Camino Tassajara (i.e., the Bettencourt Ranch, Shadow Creek, and the Hansen Lane areas) . A Sustainability Action Plan (SAP) has also been prepared by the Town but is not part of the Draft 2030 Plan. The SAP is intended to reduce greenhouse gas emissions and improve other aspects of the Town's sustainability. The SAP will be used in tandem with the Draft 2030 Plan.

The proposed General Plan carries forward the designation of certain parts of Danville as "Special Concern Areas." The 2010 General Plan designated 14 Special Concern Areas. Since the adoption of the 2010 Plan in 1999, four of the 14 areas have been built out or are committed to development. In acknowledgement of this, the Draft 2030 Plan no longer identifies the four areas as Special Concern Areas. One of the Special Concern Areas in the Draft 2030 Plan is the Magee Ranch property. The Special Area of Concern language contained in the 2010 General Plan remains applicable to the project site and was carried forward in the Draft 2030 Plan. The planning goals and polices relating to the proposed project site set forth in the Draft 2030 Plan are either the same or are substantially similar with the goals and policies set forth in the 2010 General Plan.

While the Town is currently in the process of updating its 2010 General Plan, the analysis in this EIR evaluates the project's consistency with the applicable polices and goals in the 2010 General Plan since that plan was in effect at the time of EIR preparation and circulation. However, because the policies and goals in the Draft 2030 Plan are the same or similar to those in the 2010 General Plan as they relate to the proposed project site, the consistency analysis herein applies to both the 2010 General Plan and the Draft 2030 Plan.

The Draft 2030 Plan is tentatively scheduled for adoption in early 2013. A Draft Environmental Impact Report for the Draft 2030 Plan was released for public review and comment on October 15, 2012. The comment period on the DEIR for the Draft 2030 Plan is scheduled to end on December 5, 2012.

Town of Danville Municipal Code. The Town of Danville Municipal Code contains the zoning requirements and ordinances for the Town. A summary of the relevant portions of the municipal code as they relate to the proposed project is provided below.

Zoning Ordinance. Zoning districts for all lands within the Town of Danville are identified in the Town's Zoning Ordinance and shown on the Town's Zoning Map. Approximately 205 acres of the project site are zoned A-2; General Agricultural District, and approximately 5.9 acres are zoned P-1; Planned Unit Development District. Approximately 199 acres of the project site are zoned A-4; Agricultural Preserve District. Figure 4.9-2 provides a graphical representation of the project site's existing zoning designations.

The A-4 District is a remnant zoning district that applies to properties that are under a Williamson Act Contract. The Williamson Act Contract was cancelled on the project site in September 2010. Upon expiration of a Williamson Act Contract, it is the Town's practice to calculate the development density on these lands using the A-2 zoning standard, as specified by the General Plan, of 1 unit per 5 acres. This procedure was used on the Elworthy Ranch project, approved by the Town in July 2008.

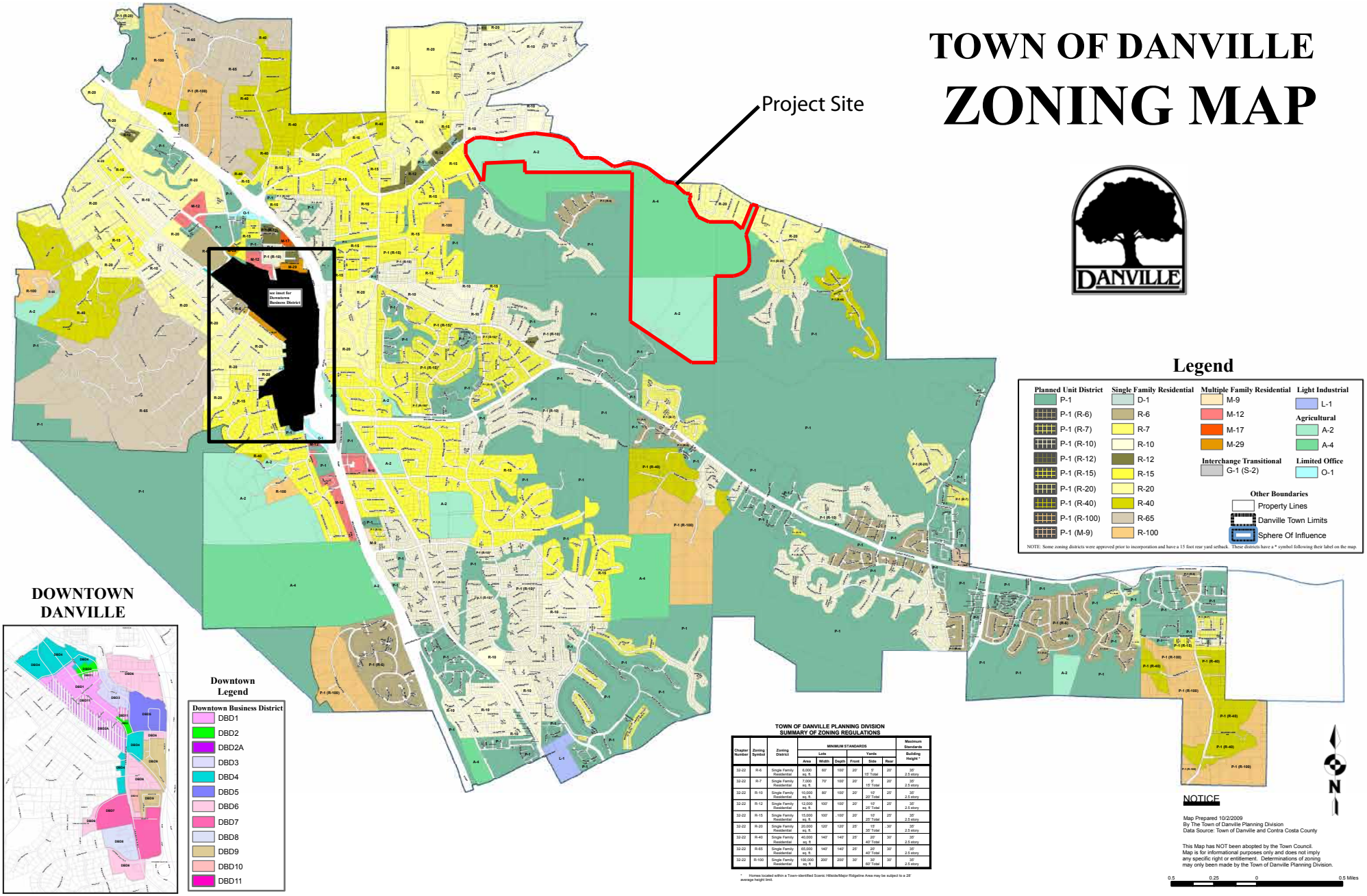
Scenic Hillside and Major Ridgeline Development Ordinance. In addition to the zoning regulations contained in Municipal Code §32-37, §32-38, and §32-63, the proposed project would also be subject the Scenic Hillside and Major Ridgeline Development regulations (Municipal Code §32-69). As described in Municipal Code §32-69.1.b the purpose of the Scenic Hillside and Major Ridgeline Development ordinance is to preserve significant features of scenic hillsides and major ridgeline areas. Scenic and major ridgelines are identified in Figure 10 of the Danville General Plan. Portions of the project site are identified as a scenic hillside and/or major ridgeline according to the 2010 General Plan. In accordance with Municipal Code §32-69.4.d, all new lots created in the proposed subdivision shall not result in the creation of a building site within 100 feet below the centerline of a major ridgeline. New building sites shall be identified in accordance with the requirements of this policy.

Tree Preservation Ordinance. The Tree Preservation Ordinance (Municipal Code §32-79) identifies a number of requirements related to the treatment and preservation of existing trees. The ordinance identifies a variety of tree types that are considered "Protected Trees" according to the Town of Danville. "Protected Trees" include certain trees that, when measured from four and a half feet above natural grade, have a diameter of 10 inches or greater; "Protected Trees" also include heritage trees, memorial trees, trees planted as mitigation for the removal of a protected tree, and a tree shown as preserved on a development plan. Please refer to Municipal Code §32-79-3 for more information concerning the type of "Protected Trees." The removal of a "Protected Tree" is subject to the tree removal permit process described in Municipal Code §32-79.5. Tree removal in connection with the proposed project would be required to comply with all applicable requirements contained in §32-79. For more information concerning potential project-related tree removal please refer to Section 4.4 Biological Resources of this EIR.

Grading Ordinance. The Grading Ordinance (Municipal Code §19-1) establishes controls on grading and all earthwork permitted by the Town associated with construction activities. These controls were developed to address aesthetics, sound soil engineering practice, erosion control, water quality protection and environmental sensitivity. All grading performed by the project would be required to confirm to the Town's Grading Ordinance.

Inclusionary Housing Ordinance. The Ordinance (Municipal Code §32-73) requires that new residential developments that include eight or more residential units or lots provide affordable units for very low, low, or moderate income households. The project proposes to provide for a minimum of 10% of the 70 lots to include a second dwelling unit to satisfy the Town's affordable housing requirements.

TOWN OF DANVILLE
ZONING MAP



Source: Town of Danville General Plan, 2009

Existing Zoning

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Denise Duffy and Associates, Inc.
Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure
4.9-2

Thresholds of Significance

In accordance with CEQA Guidelines, a project impact would be considered significant if the project would:

- physically divide an established community;
- conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect;
- conflict with any applicable habitat conservation plan or natural community conservation plan;
- induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure);
- displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere; or
- displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

Development Density

The discussion below is provided for informational purposes and is not required under CEQA. Given the extent of NOP comments related to the scale of proposed development, the Town has elected to include this information to provide background documentation concerning the site's development capacity.

The project proposes to develop 70 residential units on approximately 410 acres. Development would be primarily clustered in two areas. Approximately 302 acres would be preserved in permanent open space. The project does not require a General Plan Amendment, but does entail rezoning portions of the project site to P-1; Planned Unit Development to allow development to be clustered.

Residential lots must be considered "buildable" in order to be consistent with the Town's requirements. According to the Town of Danville, the site has an existing residential development capacity of 78 units (personal communication, David Crompton, August 7, 2012). In order to determine the maximum number of residential units that may be developed on a site that is proposed to be rezoned to P-1; Planned Unit Development District, the Town requires that the applicant prepare a base plan study. The base plan study shows the maximum number of lots that could be established on the site under zoning categories which are consistent with the site's General Plan land use designations. For the project site, development is allowed as follows: a) approximately 199 acres could be developed under the General Plan land use designation of Public and Open Space – Agricultural and the A-2; General Agricultural zoning district, requiring a minimum lot size of five acres; b) approximately 201 acres could be developed under the General Plan land use designation of Residential- Rural Residential requiring a minimum lot size of 5 acres; and c) 5 acres could be developed under the General Plan land use designation of Residential-Single Family – Low Density, which allows a density range of 1- 3 units/acre, and the R-15, Single Family Residential zoning district, requiring a minimum lot size of 15,000 square feet. The allowable density without subtracting out land that is considered "unbuildable" due to steep slopes, creek setbacks, the Town-identified major ridgelines, and other factors would be 96 units. However, while the project site has a higher development capacity based on the sites

zoning and acreage, the calculation of development capacity is contingent on a variety of factors, including whether the sites are considered "buildable," as described below.

The lots shown on the base plan study must be "buildable" (i.e., consistent with the Town's Subdivision Ordinance, Scenic Hillside and Major Ridgeline Ordinance, Tree Preservation Ordinance, Grading Ordinance). For example, pursuant to the Scenic Hillside and Major Ridgeline Ordinance, no lots may be created that result in a building site on a slope that is greater than 30 percent in steepness, or within 100 vertical feet of the top of a major ridgeline. All lots must also meet the minimum requirements for emergency access as required by the San Ramon Valley Fire Protection District. Once the total number of "buildable" lots has been established, those units can be clustered onto the flatter, less obtrusive portions of the site through the use of the P-1; Planned Unit Development zoning district. For the proposed project site, the Town of Danville has determined that the base plan study establishes that 78 "buildable" lots could be created consistent with the existing General Plan land use designations and zoning districts.

Impacts and Mitigation

Physically Divide an Established Community

For the purposes of the following analysis, the division or disruption of the physical arrangement of an established community would occur if a project creates a physical barrier that would separate or divide portions of a built community. For instance, the construction of a new freeway through an existing neighborhood or community has the potential to create a physical barrier that would divide and thereby separate portions of the community. In the absence of mitigation, the construction of a new freeway or similar facility that would divide an established community would constitute a significant environmental effect under CEQA.

A number of comment letters received during the Notice of Preparation (NOP) review period identified concerns that the proposed project would disrupt the existing nature of the surrounding community by introducing new residential development within a previously undeveloped area. As shown in Figure 4.9-1, the project site is generally surrounded by low-density residential uses. The proposed project would potentially separate and/or divide the existing community if it would 1) physically separate a portion of the area or 2) create a physical barrier that would isolate portions of the neighborhood from previously accessible areas.

The physical division of a community is traditionally associated with the construction of large-scale transportation improvements such as a highway or the creation of a large university campus. While the proposed project would increase the overall scale and intensity of development on site, the proposed project would not create a barrier that would physically divide the neighborhood by partitioning or separating the neighborhood in a way that would isolate portions of the existing community in a manner similar to a highway or large university. The project would result in the introduction of new residential uses and urban features on-site, but those uses would not physically divide the community in a manner that would represent a significant impact under CEQA. The project would not physically divide an existing community; this represents a less-than-significant impact.

Conflict with Applicable Land Use Plan, Policy, or Regulation

CEQA requires that an EIR identify and analyze a project's potential to conflict with policies or regulations that have been adopted for the purpose of avoiding or mitigating an environmental effect. CEQA does not require that an EIR determine whether a project is consistent with a municipality's General Plan or other applicable land use plan. The Court's have determined that the issue of General Plan consistency is part of the discretionary authority of the legislative body. CEQA, however, requires that an EIR determine whether a project conflicts with the environmental policies of a General Plan or other applicable regulatory document and whether the conflict would result in a significant impact on the environment. In this case, the role of the EIR is to identify mitigation measures to avoid or lessen those potential impacts to a less-than-significant level. Where mitigation is not feasible or cannot reasonably lessen the extent of a perceived conflict, this may constitute a significant land use effect.

Town of Danville General Plan

Based on the review conducted by the Town, the proposed project would be consistent with the General Plan and would not require a General Plan amendment. The site design, which includes clustering of development on the least sensitive and obstructive portions of the site, would be consistent with the Magee Ranch Special Area of Concern polices and would enable 302 acres of the site to be dedicated in permanent open space.

Land Use Designations. The project would be consistent with the land use designations set forth for the site in the General Plan, as summarized below.

- Public and Open Space – General Open Space. Consistent with the General Plan, no development will occur on the 5.9 acre portion of the site with this land use designation.

- Public and Open Space – Agricultural. Approximately 199 acres of the site is covered by this designation. This designation does not have a specific density range; the applicable zoning district specifies the density range. The General Plan states that the A-2- zoning district (1 unit/5 acres) is consistent with this designation. The portion of the project site with this designation is still identified with an A-4 zoning classification (1 unit/20acres) because a Williamson Act Contract initially covered this portion of the property. The Williamson Act Contract expired in 2010. Consistent with the Town's policy[2] and requirements of its General Plan and zoning ordinance, when a Williamson Act Contract expires the Town applies the minimum zoning density allowed under the General Plan (1 unit/5 acres).

- Residential – Rural Residential. This designation covers approximately 201 acres of the site. The General Plan specifies that the allowable density is one unit per five acres. Lands under this designation could be subdivided into minimum five acre lots. The project would transfer the allowable densities consistent with the requirements specified within the General Plan Magee Ranch Special Concern Area as described above.

- Residential – Single Family – Low Density. This designation covers an approximately five acre portion of the site along Diablo Road opposite Fairway Drive. This designation allows a density range of 1-3 units per acre. Consistent with the General Plan, the project would transfer this density to the least sensitive portions of the site.

[2] The Town used this same procedure in calculating density for the Elworthy Ranch project.

The project site is included in the Magee Ranch Special Concern Area. The General Plan specifies that "the Special Concern Areas require consideration of planning issues that are unique to a particular geographic area within the Town." And that "the Special Concern Areas text … identifies land use policies not shown on the Land Use Map or reflected in other parts of the General Plan." Language contained within the Magee Ranch Special Concern Area states that "proposals which transfer the allowable number of homes to the least sensitive and obtrusive parts of the site are encouraged." The Special Concern Area language also states that "despite the A-2 (General Agricultural) zoning on much of the site, subdivision of the Special Concern Area into five-acre ranchette sites similar to those in the Tassajara Lane/Sherburne Hills area is strongly discouraged. Such development would require grading and road construction that could substantially diminish the visual quality of the area. On the other hand, transferring the allowable densities to a limited number of areas within the ranch would enable the bulk of the site to be set aside as permanent open space."

As proposed, the development would transfer the allowable number of units to the least sensitive and obtrusive portions of the site, preserving 302 acres of the site as permanent open space, consistent with the General Plan.

General Plan Policies. The proposed project would be consistent with the 2010 Town of Danville General Plan. Table 4.9-2 contains a detailed analysis of the project's consistency with applicable 2010 General Plan policies related to environmental considerations. For the purposes of this analysis, an inconsistency or policy conflict may be considered significant under CEQA when substantial evidence in the record supports a fair argument that a project could cause a significant physical effect on the environment due to potential conflicts with adopted land use policies and regulations.[3] Moreover, the proposed project is consistent with the Magee Ranch Special Concern Area requirements by transferring the site's development potential to the least sensitive and obtrusive areas of the site and allowing the rest of the site to be undeveloped. In addition, consistent with the requirements of the Magee Ranch Special Concern Area, the Town has determined that the project would not exceed the site's existing development potential. The project is not anticipated to conflict with any applicable provisions of the General Plan that were adopted for the express purpose of avoiding and/or mitigating an adverse environmental effect; this is considered a less-than-significant impact for the purposes of this EIR. The Town is responsible for independently analyzing the proposed project with current General Plan policies, as well as the Town's Municipal Code to ensure consistency with applicable Town requirements.

Town of Danville Municipal Code

Zoning Ordinance. The project site is currently zoned A-4; Agricultural Preserve District, A-2;General Agricultural District, and a small portion is zoned P-1; Planned Unit Development District). The project would rezone the entire site to P-1; Planned Unit Development District in order to cluster development within the least sensitive areas of the site; the remaining 302 acres of the site would be permanently preserved as open space. According to §32-63.1 of the Municipal Code, the P-1; Planned Unit Development District is intended to allow diversification in the relationship of various uses, buildings, structures, lot sizes and open spaces, ensure compatibility with surrounding land uses, and to ensure substantial compliance with the General Plan and the intent of the Town Municipal Code.

[3] According to applicable case law, an inconsistency or conflict is "merely a factor to be considered in determining" the significance of changes in the physical environment caused by a project (*Lighthouse Field Beach Rescue v. City of Santa Cruz* (2005) 131 Cal. App.4th 1170).

The P-1; Planned Unit Development District is already designated on a portion of the site and the designation is considered appropriate for the Magee Ranch Special Area of Concern. According to §32-63.4 of the Municipal Code, the 2010 General Plan is considered the guide for determining the net residential density of P-1; Planned Unit Development Districts. Consistent with the requirements of the 2010 General Plan, the proposed project would not exceed the maximum allowable development density for the site. (Refer to Table 4.9-2).

The proposed project would result in 70 new residential units on-site. The site has an existing residential development capacity of 78 units according to the Town. The proposed rezoning would allow the transfer of development density to areas of the project site and would not exceed the allowable development potential of the site. The areas proposed for development are considered less visually sensitive and more suitable for residential development, consistent with the intent of the General Plan.

Scenic Hillside and Major Ridgeline Development Ordinance. The rezoning of the site to P-1; Planned Unit Development District in order to cluster development in the least sensitive areas of the project site would also help avoid potential conflicts with other pertinent sections of the Town of Danville Municipal Code. Specifically, clustered development would avoid potential inconsistencies/conflicts with §32-69 of the Municipal Code, which is intended to avoid potential adverse visual effects associated with hillside and ridgeline development. In addition, the project would also reduce potential inconsistencies with §32-79, which is intended to facilitate the preservation of existing trees.

The 2010 General Plan identifies that the hillsides and ridgelines on the project site are considered visually sensitive; these portions of the site are designated as scenic hillsides and major ridgeline areas in the General Plan (please refer to page 83, Figure 10, of the Danville 2010 General Plan). Municipal Code §32-69 regulates development activities within these areas. According to §32-69.1(b)(7), the purpose of these requirements is to "preserve the predominant views of the scenic hillsides and major ridgelines in order to retain the sense of identity and image that these areas now impart to the Town and its environs." The proposed project, by concentrating development on the flatter and less visually sensitive areas of the site, would avoid significant hillside development (construction of new residences, grading, installation of project infrastructure, etc.) that would otherwise potentially occur under the site's existing zoning designations.

Tree Preservation Ordinance. In addition to avoiding potential inconsistencies with §32-69 of the Municipal Code, clustering development on 108 acres would also minimize potential conflicts with the Town's tree preservation requirements articulated in §32-79 of the Municipal Code. The project would minimize the extent of tree removal by concentrating development in the areas of the site where there is less extensive tree coverage. The project would still, nevertheless, require tree removal. The project, by clustering development, would avoid impacting areas of extensive tree coverage; these areas are primarily concentrated along the ridgelines and hillsides of the site. These areas would be set aside and preserved as permanent open space. The project, while still necessitating the removal of 38 existing trees to accommodate project development, is designed to avoid removing a substantial number of existing trees.

Conclusion

The project is not anticipated to conflict with any applicable provisions of the Town of Danville General Plan or Municipal Code that were adopted for the express purpose of avoiding and/or mitigating an adverse environmental effect; this is considered a less-than-significant impact for the purposes of this EIR. Moreover, the Town will be responsible for independently analyzing the proposed project with current General Plan policies, as well as the Town's Municipal Code to ensure consistency with applicable Town requirements. This information will be contained in the staff report prepared for the project.

The following table presents a detailed analysis of the Project's consistency with the Danville General Plan policies that are applicable to site development. Policies that are Town directives or that are not pertinent to the proposed project are not evaluated.

Table 4.9-2
Consistency with Relevant Danville General Plan Policies

Policy No.	Policy Summary	Consistency Determination
Quality Development		
1.01	Recognize Danville's predominantly single family residential character and distinctive Downtown retail core in planning and development decisions.	*Project consistent.* The project proposes the development of new residential uses at densities that are consistent with surrounding development and Danville General Plan and zoning policies.
1.02	Require that new development be consistent with the scale, appearance, and small town character of Danville.	*Project consistent.* See above. The proposed residential design is consistent with scale, appearance, and character of the surrounding neighborhoods and larger Danville community.
1.03	Recognize the need for suitably located housing, facilities, and services for all age groups within the community.	*Project consistent.* The project would meet the demands of a higher income housing market; however, a minimum of 10% of the 70 proposed residential lots will include second dwelling units in accordance with the Town's inclusionary housing requirements.
1.06	Consider the cumulative effects of development on community facilities and services, such as transportation and schools, throughout the planning process.	*Project consistent.* The project's cumulative effect on community facilities is evaluated within the individual sections of this Draft EIR. The project would not result in a cumulatively considerable effect on any community facilities with identified mitigation.
1.07	Combine urban development with the goal of preservation of land for open space uses in appropriate areas.	*Project consistent.* The project would result in new residential development in an area that is primarily undeveloped. The project would develop 70 residential lots, while providing permanent conservation of 302 acres of open space.
1.08	Protect existing residential areas from intrusion of incompatible land uses and disruptive traffic to the extent reasonably possible.	*Project consistent.* While the project would cause increases in traffic due to new residential development, the project would not result in the introduction of an incompatible land use (e.g. industrial, commercial, etc.) within an existing residential area.
Community Design		
2.02	Preserve the Town's visual qualities and the identity of its neighborhoods by restricting development on visible ridges and hillsides, protecting trees and riparian areas, and maintaining open space in the community.	*Project consistent.* The project has been designed to minimize development in the visually sensitive areas of the site. Development has been clustered in areas on the site to avoid development along the hillsides and ridgelines. Refer to Section 4.1 Aesthetics for more information.
2.03	Where development is allowed on existing legal lots within Scenic Hillside or Major Ridgeline areas, require the preservation of the undeveloped remainder of the parcel in its natural state through the dedication of scenic easements to the Town of Danville.	*Project consistent.* The project proposes to provide a conservation easement over approximately 302 acres of the undeveloped portions of the site. The project, as designed and mitigated, avoids development within the portions of the site that are characterized as Scenic Hillside or Major Ridgeline areas.
2.04	Where hillside development occurs, require that project design be sensitive to visual impacts. Design guidelines for hillside sites should address mass, color, materials, and screening requirements, and should discourage excessive grading and flat pad construction.	*Project consistent.* See discussion concerning General Plan policies 2.02 and 2.03 above.
2.05	On developable properties with steep hillsides, encourage clustering in	*Project consistent.* Development has been clustered on the flatter portions of the

Table 4.9-2
Consistency with Relevant Danville General Plan Policies

Policy No.	Policy Summary	Consistency Determination
	the flatter parts, conservation of open space on the steeper parts, and the protection of natural features such as trees, creeks, knolls, ridgelines, and rock outcroppings.	site in order to avoid major hillside development. Approximately 302 acres of the site will be permanently preserved as open space to help preserve the natural features.
2.08	Protect the visual qualities of designated scenic routes by reviewing proposed projects with respect to their visual impacts.	*Project consistent.* The visual effects of the project are evaluated within the context of the project and Draft EIR. Please refer to Section 4.1 Aesthetics for more information.
Housing		
4.01	Preserve and enhance existing residential neighborhoods by maintaining public facilities, ensuring that infill development is complementary to existing development, and encouraging home improvements.	*Project consistent.* The project has been designed and mitigated to ensure that it is complementary to existing surrounding residential uses and would not constitute a significant adverse effect on existing public facilities or existing character of the area.
4.02	Promote the development of affordable housing at a wide range of densities in a variety of locations. The Town should use a variety of methods to encourage affordable housing production.	*Project consistent.* A minimum of 10% of the 70 proposed residential lots will include second dwelling units in accordance with the Town's inclusionary housing requirements.
Growth Management		
5.02	Give priority to developing vacant or underused land within the Town limits prior to extending development outside, unless the needs for housing and economic vitality require development that is difficult to achieve on an infill basis.	*Project consistent.* The project is located within the Town limits.
5.03	Allow new development based on the project's demonstration of a plan for full public services (such as roads, parks, schools, fire, police, sanitary sewer facilities, water, and flood control) to which all providers are committed and where service can be assured in a timely manner.	*Project consistent.* The project is consistent with the intent of this policy. Public service providers were contacted during the course of preparing this Draft EIR and all public facilities necessary to serve the project will be provided in a timely manner in order to ensure project effects are minimized to a less-than-significant level.
5.06	Pursuant to County Measure C-1988, continue to implement a development mitigation program which ensures that development projects pay the costs necessary to mitigate impacts on the local and regional transportation system. The Town shall require traffic impact analysis, mitigation, and findings of consistency as appropriate for new development projects in accordance with this program.	*Project consistent.* The project will be required to pay all costs necessary to mitigate impacts on the local transportation system consistent with the requirements of this policy. A traffic impact analysis was prepared for the project that identified appropriate mitigation. Please refer to Section 4.12, Transportation, for more information.
5.07	Pursuant to County Measure C-1988, continue to implement a development mitigation program which ensures that development projects pay their share of the costs of services (such as parks, fire, police, sanitary sewer, water, and flood control) associated with that development. New development projects may only be approved where the Town finds that adopted minimum performance standards will be observed.	*Project consistent.* The project will pay fair-share contributions towards the provisions of public services associated with the project. All adopted performance standards will be achieved in connection with the project.
Historic Preservation		
8.04	Where appropriate, retain physical elements of Danville that contribute to the aesthetic and historic character of agricultural and formerly agricultural areas, such as barns, outbuildings, bridges, heritage trees, and fences.	*Project consistent.* Although historically used for beef cattle ranching operations, the project site does not contain any historically significant structures or elements that would be affected by the project as described in Section 4.5 Cultural Resources.

Table 4.9-2
Consistency with Relevant Danville General Plan Policies

Policy No.	Policy Summary	Consistency Determination
8.10	Ensure that development approvals do not result in the loss of significant archaeological resources by requiring full compliance with state and federal laws regarding the assessment and recovery of archaeological resources.	*Project consistent.* Surface and subsurface testing did not identify the presence of archeological resources on the project site; however, mitigation is identified in Section 4.5 Cultural Resources to avoid any possible impacts to unknown buried resources during construction.
Parks, Recreation, and Open Space		
10.03	Provide adequate access points and an interconnecting trail system linking local park and recreation facilities to each other and, where possible, to regional and state parks.	*Project consistent.* The project includes the development of a pedestrian/bicycle within Magee East to provide access from Blackhawk Road through the panhandle and to the proposed residential portion of Magee East along Green Valley Creek. In addition, the project will dedicate 302 acres of the site as permanent open space, which adjoins the Sycamore Valley Regional Open Space Preserve and offers recreational opportunities.
10.04	Public access easements shall be provided to designated public open space areas and along creeks and streams, where appropriate.	*Project consistent.* The project will be required to provide public access easements in connection with proposed trail segment in accordance with this policy. Also see above discussion.
10.10	Develop alternative transportation through a comprehensive biking and trail system.	*Project consistent.* The project includes the construction of a pedestrian/bicycle trail along East Branch Green Valley Creek within Magee East as described earlier.
Civic and Community Facilities		
11.01	Require new development to pay its fair share of the cost of civic and community facilities, based on the impacts attributed to that development.	*Project consistent.* The project, as mitigated and conditioned, will be required to pay its fair share of the cost of all affected civic and community facilities. These costs will be based on the impacts attributed to the project as determined by the Town of Danville.
11.05	Cooperate with the San Ramon Valley Fire Protection District in providing the fire protection facilities needed to maintain or improve existing fire protection standards.	*Project consistent.* The San Ramon Valley Fire Protection District was contacted during the course of preparing this Draft EIR. SVFPD concerns were incorporated as mitigation measures to ensure that all necessary fire protection facilities would be available to meet existing fire protection standards. Please refer to Section 4.11 Public Services for more information.
11.06	Encourage superior schools in Danville by coordinating CEQA and the Development Review process with the San Ramon Valley Unified School District. To the extent permitted by law, this review should ensure that new development contributes its fair share to the timely construction of new school and/or administrative facilities.	*Project consistent.* The San Ramon Valley Unified School District (SRVUSD) was consulted during the course of preparing this Draft EIR. Mitigation has been incorporated to ensure that the proposed project contributes its fair share towards school facilities in compliance with the requirements of this policy and applicable State law.
Circulation		
12.02	Use the most up-to-date version of the Highway Capacity Manual (which ranks roadway operating conditions on a scale from "A" through "F") to define acceptable service levels on Danville roadways. Require that the operating level of service on Basic Routes be no worse than mid-range "D" during the peak hours.	*Project consistent.* The traffic impact analysis prepared for the project evaluated traffic conditions based on level of service (LOS) in accordance with the current methodology. Results of the traffic analysis showed project impacts at two unsignalized intersections and identified measures to mitigate the impacts.
12.03	Implement physical and operational improvements to improve roadway and intersection capacity that are: (1) consistent with the need to preserve the character of residential streets; and (2) sensitive to the requirements of bicycles and pedestrians.	*Project consistent.* See discussion concerning project consistency with General Plan policies 10.03, 12.02 and 13.05.

Table 4.9-2
Consistency with Relevant Danville General Plan Policies

Policy No.	Policy Summary	Consistency Determination
12.04	Limit the number of curb cuts and other access points along arterial streets to avoid congestion and to improve traffic safety.	*Project consistent.* During the design process, the project modified the layout to minimize the number of access points into the development to facilitate adequate circulation and access.
12.05	Require site-specific traffic studies for development that is likely to generate significant volumes of traffic. If such studies indicate that the development could cause the Town's level of service standards to be exceeded, require modifications to the project and/or transportation improvements which ensure that level of service standards are maintained.	*Project consistent.* The traffic impact analysis prepared for the project evaluated traffic conditions based on level of service calculations. Results of the traffic analysis showed project impacts at two unsignalized intersections and identified measures to mitigate the impacts at these locations.
13.02	Create and maintain a safe, effective system of bikeways and roadways suitable for bicycle use, including an integrated network of off-road bicycle trails and bicycle lanes along collector and arterial streets.	*Project consistent.* This policy refers to the Town-wide bikeway system. On the project site, a pedestrian/bicycle trail is proposed within Magee East to provide access from Blackhawk Road through the panhandle and to the proposed residential portion of Magee East along Green Valley Creek.
13.05	Provide a pleasant and safe environment for pedestrian movement.	*Project consistent.* Mitigation is identified requiring a new pedestrian crossing with in-pavement lighting at the project main entrance on Blackhawk Road to provide safe pedestrian movement. On the project site, a pedestrian/bicycle trail is proposed within Magee East to provide access from Blackhawk Road to proposed residences.
14.01	Implement neighborhood traffic management measures, including physical changes and traffic control devices, which increase neighborhood livability and street ambiance, discourage through traffic on residential streets, discourage speeding, and ensure vehicle, pedestrian, and bicycle safety. Require the design of streets in new development areas to incorporate traffic calming features.	*Project consistent.* Results of the traffic impact analysis show that the project would not result in a substantial increase in neighborhood cut-through traffic. The street system in the proposed project is designed in accordance with the Town's requirements.
14.04	Maintain and enforce regulations on construction traffic which ensure vehicle safety, limit the potential for nuisance conditions, and reduce conflicts with adjacent uses and traffic patterns.	*Project consistent.* The Town would require that the project applicant submit a construction traffic management plan for any locations where traffic may be disrupted.
15.01	Coordinate development planning with the capacity of the transportation system and coordinate the planning of the transportation system with existing and planned land uses.	*Project consistent.* The traffic impact analysis and Draft EIR identify potential transportation impacts and describe appropriate mitigation and conditions of approval in order to maintain operations on the local transportation network.
15.05	Require design measures as appropriate to accommodate access by pedestrians, bicycles, and transit within new development, and to provide connections to adjacent development.	*Project consistent.* Mitigation is identified requiring a new pedestrian crossing with in-pavement lighting at the project main entrance on Blackhawk Road to provide safe pedestrian movement. On the project site, a pedestrian/bicycle trail is proposed within Magee East to provide access from Blackhawk Road to the proposed residences. No transit service is available in the project area.

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Consistency with Relevant Danville General Plan Policies

Policy No.	Policy Summary	Consistency Determination
Infrastructure		
17.02	Coordinate development approvals with the appropriate agencies to ensure that adequate water quantity, quality, and distribution; adequate sewage collection and wastewater treatment capacity; and other utilities can be provided to serve proposed development projects without adverse community impacts.	*Project consistent.* Adequate public services are available to serve the project, as identified in Section 4.13 Utilities. All new infrastructure serving the project will be required to be appropriately sized to accommodate peak demand associated with the project. Mitigation is identified to ensure that all potential impacts in connection with the project would be less-than-significant.
17.03	In accordance with the Town of Danville's Growth Management Element, ensure that all water and sewer infrastructure is designed to meet the standards established by the East Bay Municipal Utility District and the Central Contra Costa Sanitary District.	*Project consistent.* The final design of all project infrastructure will be required to comply with the standards established by the East Bay Municipal Utility District and the Central Contra Costa Sanitary District. As discussed in Section 4.13 Utilities, all project infrastructure shall be subject to the review and approval of the appropriate utility district (e.g., EBMUD and CCCSD).
17.05	Assure that the costs of upgrading and constructing public facilities needed to serve new development shall be the responsibility of the developers and not existing residents.	*Project consistent.* The project will be solely responsible for the costs of upgrading and constructed necessary public facilities needed to serve the proposed project. Please refer to Section 4.13 Utilities, for more information.
17.06	Discourage private infrastructure improvements such as private roads and private storm drainage systems.	*Project consistent.* The project will result in the construction and extension of existing utilities, roadway improvements, and other associated facilities onto the site. These facilities will be publicly maintained and operated.
17.07	Protect surface water from pollution by ensuring that stormwater discharges comply with San Francisco Bay Area Regional Water Quality Control Board limits, establishing nonpoint source pollution control measures as required by federal and state law, controlling erosion and sedimentation, and encouraging retention ponds and other measures which reduce or contain urban runoff.	*Project consistent.* The project will not result in stormwater discharges in excess of the San Francisco Bay Area Regional Water Quality Control Board limit. Please refer to Section 4.8 Hydrology and Water Quality for more information.
Environmental Quality		
18.01	The Town shall seek to preserve and enhance natural habitat areas that support wildlife, including large continuous areas of open space and wetland and riparian habitat.	*Project consistent.* The project, as designed and mitigated, will avoid significant impacts to natural habitat areas. The project will preserve large areas of habitat that are contiguous to existing areas of open space. Enhancement of the riparian corridor on the project site is identified as mitigation in Section 4.4 Biological Resources.
18.02	Maintain open space in appropriate areas, including areas of scenic beauty, areas of economically viable agriculture, and areas where natural hazards such as flooding and land stability preclude safe development.	*Project consistent.* The project has been designed to avoid the most visually sensitive areas of the project site (e.g., hillsides) in accordance with the requirements of the General Plan. The project clusters development within the flatter portions of the site to avoid the development of new urban infrastructure (e.g., roads and utilities) within the scenic hillsides on the site. Approximately 302 acres will be permanently preserved as open space. Please refer to Section 4.11 Public Services for more information.
18.03	Utilize the Development Review process to preserve adequate open space for scenic, active, and passive purposes. Require private open space areas where appropriate.	*Project consistent.* See discussion above concerning the project's consistency with General Plan policies 18.01, 18.02 and 10.03.
18.05	Maintain development standards and regulations for hillside grading which protect public safety, discourage major changes to natural landforms, ensure that adverse visual and aesthetic impacts are	*Project consistent.* The project, as designed and mitigated, will reduce potential adverse environmental effects associated with hillside development. The project consists of clustering new development within the relatively flatter areas of the

Table 4.9-2
Consistency with Relevant Danville General Plan Policies

Policy No.	Policy Summary	Consistency Determination
	minimized, and require that erosion, sedimentation, and other potentially harmful effects of grading are adequately mitigated.	subject property in order to avoid development in areas recognized as visually important in the Town's General Plan.
18.06	Discourage activities that would harm the health of existing trees. Prevent the unnecessary removal and alteration of trees, including "protected" trees as defined by the Town's Tree Preservation Ordinance and other trees that contribute to the scenic beauty of the Town. Public and private improvements should be designed to avoid removal of trees of any type. If removal is necessary, trees should be replaced with an appropriate number and species.	*Project consistent.* An arborist report was prepared in conjunction with the Draft EIR that identified all trees within the project development envelope by type, size, and health. Recommendations will be incorporated into project design as set forth in Section 4.4 Biological Resources. All trees to be removed and/or altered shall be replaced and treated in accordance with the Town's requirements and recommendations of the arborist report.
18.07	Protect rare and endangered plant and animal species and encourage the retention and reestablishment of native vegetation in development projects and public facility construction where appropriate.	*Project consistent.* The project's impacts on biological resources, including rare and endangered plants and animals, were analyzed in a Biological Evaluation for the project. Measures are identified in Section 4.4 Biological Resources to retain and mitigate for habitat and vegetation loss.
18.08	Require the planting and maintenance of trees along Danville streets.	*Project consistent.* The project includes the planting of trees and other landscaping along the portions of Blackhawk and McCauley Roads where development is proposed.
18.09	Encourage recycling, composting, and other programs that reduce the amount of waste disposed in landfills.	*Project consistent.* Upon completion, the project will be required to comply with all applicable Town of Danville programs related to recycling and other waste diversion programs. Mitigation has been identified in Section 4.13 Utilities to ensure that a construction waste diversion program is implemented during project construction to minimize to extent of materials disposed of at the landfill.
18.10	Promote the efficient use of existing water supplies, including conservation and the use of reclaimed water.	*Project consistent.* The project will be required to implement water conservation measures consistent with the requirements of EBMUD, as discussed in Section 4.13 Utilities.
19.06	Work with other jurisdictions and water providers to ensure a sufficient and sustainable long-term supply of potable water for existing Danville customers and for future development that is consistent with the goals of this General Plan.	*Project consistent.* The project's water demand was anticipated as part of the 2040 Demand Study, as described in Section 4.13, Utilities. Prior to the initiation of construction, the proposed project will be required to obtain a water supply guarantee from EBMUD to ensure that long-term water supply will be available during critical dry year.
Geologic Hazards		
20.01	Recognize local seismic risks and incorporate earthquake protection measures in the Development Review process.	*Project consistent.* This Draft EIR identifies known geologic and seismic hazards that may potential adversely affect the proposed project. Appropriate mitigation measures are presented in this Draft EIR to reduce all the impacts to a less-than-significant level. Refer to Section 4.6 Geotechnical and Geological Hazards.
20.02	Prohibit construction of any facilities serving public safety such as fire stations and hospitals in the Alquist-Priolo Special Studies Zones.	*Project consistent.* No new facilities serving a public safety function are proposed in connection with the proposed project. The project would be served by existing facilities.
20.03	Require soils and geologic reports for all projects proposed in scenic hillside development areas, as defined by the Town's Scenic Hillside and Major Ridgeline Development Ordinance, and in other areas where the potential for landslides, liquefaction, subsidence, or severe groundshaking exists. Assure that development in these areas mitigates	*Project consistent.* The project has been designed to avoid major development within the scenic hillside development areas defined by the Town's Scenic Hillside and Major Ridgeline Development Ordinance. Development will primarily be concentrated within the flatter areas of the site. A geotechnical report was prepared for the project that evaluated potential hazards from landsides,

Table 4.9-2
Consistency with Relevant Danville General Plan Policies

Policy No.	Policy Summary	Consistency Determination
	potential landslide hazards and other geologic hazards.	liquefaction, subsidence, and other geological hazards. All potential geological/seismic related hazards would be mitigated in accordance with the requirements of this policy. Refer to Section 4.6 Geotechnical and Geological Hazards for more information.
20.04	For major subdivisions, development on slopes of 30 percent or greater shall be prohibited. For individual single family residences, development on areas greater than 30 percent slopes may be permitted only with minimal grading and excellent hillside design. On all hillside sites, development shall be designed and constructed to minimize cutting and filling of slopes, avoid high risk landslide areas, and fully address environmental and aesthetic concerns.	*Project consistent.* The majority of the proposed residential lots are proposed within the flatter portions of the site. No development is proposed on slopes of 30 percent or greater. The project has generally been designed to minimize grading of slopes and avoid high risk landslide areas. Mitigation is identified in 4.6 Geotechnical and Geological Hazards to further minimize these effects.
20.05	Require that roads and drainage systems constructed in hillside areas are engineered to standards that prevent excessive maintenance and repair costs.	*Project consistent.* All final infrastructure improvement plans associated with the project will be subject to the review and approval of the Town of Danville. To the extent that new roads and drainage systems will be constructed in hillside areas, they will be subject to this standard. All improvement plans in hillside areas shall be reviewed to ensure that they are appropriately engineered to standards that prevent excessive maintenance and repair costs.
20.06	Maintain structural design and engineering standards which ensure that buildings and infrastructure are constructed to minimize damage resulting from expansive soils, erosion, subsidence, and other local geologic conditions.	*Project consistent.* The project will be constructed in accordance with a design-level geotechnical/geological evaluation that will minimize potential hazards associated with expansive soils, erosion, subsidence, and other site specific geologic conditions. Please refer to Section 4.6 Geotechnical and Geological Hazards for more information.
Wildfire Hazards		
21.01	Require safe roofing and other fire prevention standards for development in high fire hazard areas by maintaining a Fire Safe Roofing Ordinance, in coordination with the San Ramon Valley Fire Protection District.	*Project consistent.* The project is located in an area that may be subject to wildland fire hazards. As shown in General Plan Figure 21, the proposed project is located in a Fire Safe Roofing Area (Class "A" or "B"). As a result, construction of future residences within the project boundaries will be required to comply with the provisions of this policy.
21.03	Assure provision of adequate fire equipment access to all developed and open space areas.	*Project consistent.* As required by the San Ramon Valley Fire Protection District, the project will be required to maintain appropriate site access and may payment of all applicable fees to ensure that adequate fire safety apparatus will be available to serve the project. In addition, adequate fire flow volumes will also be required, including sufficient water storage, to serve the site.
21.04	Maintain a response time of less than five minutes for emergency fire calls to be met a minimum of 90 percent of the time calls and/or a fire station within 1.5 miles of all residential and nonresidential development. Where this standard cannot be met, and/or where severe wildland fire hazards exist, require special mitigation measures for fire prevention as necessary.	*Project consistent.* Fire Station 33 is located immediately west of the project site. In addition, the project will be required to comply with all applicable conditions of approval identified by the Fire District, as well as the Town of Danville's Fire-Safe Roofing Ordinance. Please refer to Section 4.11, Public Services, for more information concerning applicable conditions of approval and other measures.
21.05	Prior to project approval, require written verification from the San Ramon Valley Fire Protection District on the anticipated response time to the project and the distance from existing stations.	*Project consistent.* The San Ramon Valley Fire Protection District was consulted during the course of the preparation of this EIR. Based on consultations with District staff, the proposed project is not anticipated to significantly affect existing

Table 4.9-2
Consistency with Relevant Danville General Plan Policies

Policy No.	Policy Summary	Consistency Determination
		target responses times, require the construction or expansion of existing facilities, or otherwise adversely affect the District's abilities to provide fire protection services to the surrounding area. Refer to Section 4.11 Public Services for more information.
Flood Hazards		
22.01	Take all appropriate steps in the Development Review process to protect life and property from flooding and erosion along local creeks.	*Project consistent.* As described in Section 4.8 Hydrology and Water Quality, the proposed project would not subject persons and/or structures (existing or proposed) to flooding and/or erosion related hazards with applicable design measures.
22.02	Restrict new development in floodways and flood plains in accordance with FEMA requirements.	*Project consistent.* A portion of the project site is located within the 100-year flood plain as delineated in the FEMA maps that encroaches onto proposed custom lots 68, 69, and 70. As described in Section 4.8 Hydrology and Water Quality, the home sites for these lots are located well outside the 100-year floodplain.
22.03	New development shall not exceed the Town's primary flood control channel's ability to carry 100-year flood flows.	*Project consistent.* As described in Section 4.8 Hydrology and Water Quality, based on the results of the hydrologic modeling performed, the project would not increase peak flows in the East Branch Green Valley Creek watershed downstream of the project. See additional discussion below.
22.04	Cooperate with the Contra Costa County Flood Control and Water Conservation District (CCCFCWCD) in watershed evaluations and projects intended to reduce flood hazards.	*Project consistent.* As described in Section 4.8 Hydrology and Water Quality, the Regional Hydrologic Analysis and the Baseline Hydrology & Geomorphic Analysis for the project were prepared in close coordination with the Contra Costa Flood Control and Water Conservation District and the Town of Danville. Results of the hydrologic modeling performed for the project show that it would not increase peak flows in the East Branch Green Valley Creek watershed downstream of the project or otherwise adversely impact flooding conditions.
22.05	Work in conjunction with the CCCFWCD to maintain natural creek settings to the extent possible while providing for adequate drainage capacity. Creeks should be retained in their natural state whenever possible to maintain water quality, wildlife diversity, aesthetic values, and recreational opportunities.	*Project consistent.* See above. Mitigation is identified in Section 4.4 Biological Resources to reduce impacts to the riparian corridor within the project site to a less-than-significant level, thus maintaining the water quality, wildlife diversity, and aesthetic qualities of the East Branch Green Valley Creek.
22.06	Encourage the use of detention basins by developers to reduce peak stormwater runoff during significant rainfall events; no net increase in peak flow runoff should be allowed unless adequate drainage capacity exists or other mitigation measures are provided. Where feasible, support the use of common detention facilities serving more than one development.	*Project consistent.* The project proposes to construct a detention basin on the northwest portion of Magee East to reduce peak runoff flows. Refer to Section 4.8 Hydrology and Water Quality for more detailed information.
Noise		
23.01	New residential development projects should meet acceptable noise level guidelines, as shown in Figure 24.	*Project consistent.* A noise assessment was completed for the project as described in Section 4.10 Noise and Vibration. The results show that the project would meet the Town's acceptable noise level guidelines with implementation of identified mitigation.
23.02	Require acoustical studies for major residential and other development	*Project consistent.* See above concerning project consistency with General Plan

Table 4.9-2
Consistency with Relevant Danville General Plan Policies

Policy No.	Policy Summary	Consistency Determination
	projects, as appropriate, and impose noise mitigation measures accordingly.	policy 23.01.
23.03	The noise environment in existing residential areas shall be protected. Where acceptable noise levels in residential areas (as shown on Figure 5) 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.	*Project consistent.* See above discussion concerning the project's consistency with General Plan policies 23.01 and 23.02. Appropriate measures have been incorporated into the project and noise mitigation identified to protect adjacent residential areas from noise sources. Refer to Section 4.10 Noise and Vibration.
23.05	Open space should be used, wherever practical, to provide an adequate spatial separator between noise sources and sensitive land uses.	*Project consistent.* The project is located near sensitive residential land uses; however, the proposed residential uses are consistent with surrounding neighborhoods and do not represent a major new source of noise. Open space is used to provide buffer between the proposed homes and adjacent development; however, the use of open space buffer is constrained because the majority of the open space consists of hillsides to be preserved in permanent open space.
23.10	Noise levels should generally not exceed 60 Ldn 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.	*Project consistent.* A noise assessment was completed for the project as described in Section 4.10 Noise and Vibration. The results show that the project would meet the Town's acceptable noise level guidelines with implementation of identified mitigation.
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.	*Project consistent.* See above. Appropriate measures have been incorporated into the project and noise mitigation identified to protect adjacent residential areas from noise sources. Refer to Section 4.10 Noise and Vibration.
Air Quality		
24.02	Consider air pollution impacts during the local Development Review process. Development should be located and regulated to minimize the emission of direct and indirect air contaminants.	*Project consistent.* The project has been evaluated for potential direct and indirect air quality effects. These impacts are identified in Section 4.3 Air Quality. The project would result in temporary construction-related air quality emissions as well as permanent air quality emissions associated with the occupancy of new residences and additional traffic. Mitigation measures are identified to minimize these effects in accordance with the requirements of CEQA and the Bay Area Air Quality Management District (BAAQMD).
24.03	Encourage transportation alternatives that minimize single passenger motor vehicles such as public transit, ridesharing, bicycles, and walking.	*Project consistent.* Given the location and residential nature of the project, most transportation demand management alternatives are difficult to implement. The project proposes an onsite pedestrian/bicycle trail and access to the larger trail system along Blackhawk Road. No public transit is available in the project area. The project proposes tro incorporate sustainability measures to reduce energy usage and associated greenhouse gas emissions.

Land Use Compatibility

Given the extensive public comments received during the NOP process raising concerns associated with land use compatibility, the following analysis has been included in this EIR for informational purposes. CEQA does not require an analysis of impacts that do not have the potential to cause changes to the physical environment. A Lead Agency may, however, elect to include such an analysis. In most cases, the issue of land use compatibility is not related to a physical change in the environment.

Land use compatibility issues may arise from a variety of factors including: 1) new development or land use causes direct or indirect effects that may adversely impact adjacent uses in the vicinity of the project site or elsewhere; 2) conditions on or near the project site may cause impacts on the persons or development introduced onto the site by the new project (e.g. adjacent uses may cause impacts to the project); and 3) the new development may not be appropriate in the existing neighborhood. For the purposes of this analysis, a land use compatibility conflict is considered significant when such conflicts would result in additional physical impacts to the environment beyond those identified within this EIR.

Potential land use compatibility impacts associated with the proposed project can generally be classified within the first category described above; the proposed project would result in environmental impacts, including traffic, noise, and aesthetics, among others, which have the potential to adversely affect surrounding residential uses. The physical impacts associated with the proposed project may be noticeable to adjacent residential uses and/or otherwise adversely affect adjacent uses (e.g., loss of views, increased noise or traffic, etc.); the increase in on-site residential use could, therefore, be considered incompatible with other adjacent residential development if mitigation cannot reduce these effects to a less-than-significant level. Based on the analysis contained in this Draft EIR, the project could cause potential effects to adjacent uses.[4] This EIR has identified mitigation measures to reduce the extent of these impacts to less-than-significant levels. While impacts can be reduced to a less-than-significant level, residual impacts (e.g. noise, viewshed impacts, traffic, etc.) may still nevertheless affect adjacent uses. The land use compatibility issue would not, however, result in any new or expanded environmental impacts that have not already been disclosed in this EIR. The environmental impacts associated with the project have been disclosed within the appropriate sections of this Draft EIR.

Land use compatibility issues may also arise in conjunction with development that is proposed in an inappropriate location. This type of land use compatibility issue is usually related to the scale or intensity of a particular development or the nature of a project. The majority of public concerns identified during the NOP comment period generally fall within this category; neighbors consider the scale and location of the project to be inappropriate given the rural character of the area and existing land use constraints (e.g., traffic capacity). As identified in Table 4.9-2, the proposed project would not increase the density of residential development beyond the level allowed under the existing General Plan Land Use Designations. According to the Town of Danville, the site has an existing residential development potential of 78 units. The project would result in the construction of 70 new residential units. The project would result in less residential development than currently allowed under the site's existing land use designations. The project would cluster development in areas that are considered more suitable for development and would avoid impacts to visually sensitive areas, including ridgelines and hillsides, consistent with the intent of the 2010 General Plan. Ultimately, it is the responsibility of the Town of Danville, through the

[4] The site has historically been used for agricultural purposes.

deliberative process, to determine whether the proposed project represents an appropriate use of the project site.

The potential environmental impacts associated with the project are reflected in the analysis contained in this EIR in each of the topical CEQA sections. An EIR must represent an objective analysis of the environmental impacts associated with the project; it is not appropriate for an EIR to determine the appropriateness of a project in terms of it scale, siting, and intensity or whether the project is considered compatible with other uses. An EIR is intended to disclose the environmental impacts associated with a discretionary action and identify appropriate mitigation to reduce the extent of those impacts to the maximum extent possible. With this in mind, this EIR contains an analysis of a number of project alternatives, including a reduced density project alternative, that seek to minimize the extent of adverse environmental impacts associated with developing the project site. Please refer to Section 6.0, Project Alternatives, for an analysis of selected project alternatives.

To the extent that the project would result in potential significant environmental impacts, the EIR has identified mitigation to reduce those impacts to a less-than-significant level. Ultimately, the Town of Danville will need to carefully evaluate potential land use compatibility matters associated with the proposed project within the context of other land use and planning considerations. While the Town of Danville will need to balance competing land use objectives, the potential land use compatibility issues associated with the proposed project would not result in any new significant adverse environmental impact beyond those identified in this Draft EIR. This represents a less-than-significant impact.

Conflict with Any Applicable Habitat or Natural Community Conservation Plan

There are no habitat or natural community conservation plans that apply to the project site. Therefore, the project would not conflict with any applicable Habitat or Natural Community Conservation Plans. Refer also to Section 4.4. Biological Resources for a full discussion on the project's potential impacts on biological resources.

Population/Housing

Development of the project would result in the addition of 70 new residential lots within the project area. The project would introduce an estimated 191.1 new persons to the project area.[5] Population projections developed in this analysis are conservative, representing a worst-case scenario. The rate of occupancy and number of persons occupying the project site would be dependent on the various product of second units (studio, 1-bedroom, and 2-bedroom) provided in connection with the proposed project. A breakdown of product types was not available at the time of this analysis and the number of future site occupants is likely to be less. While the project would increase the number of persons occupying the site, this does not constitute a substantial increase in population growth. For more information concerning growth inducement, refer to Section 5.0 CEQA Considerations.

The proposed project would not displace a substantial number of existing housing units and/or a substantial number of persons. The project site has historically been used for

[5] Population estimates based on existing residential occupancy rate of 2.73 person/unit. Residential occupancy for second units is presumed to be less; however, occupancy rates for these types of units were not available. This analysis conservatively estimates residential population based on information obtained by the U.S. Census Bureau.

agricultural/ranching purposes and is considered primarily undeveloped with the exception of existing agricultural support structures. No houses and/or persons would be displaced in connection with the proposed project. The project would have a less-than-significant impact on population and housing.

Cumulative

Development of the project would result in the addition of 70 new residential lots within the project area. Future development of the project site would not significantly contribute to cumulative impacts associated with land use and planning. Land use effects would be localized and would not combine with similar effects in other locations. Further, there is no cumulative context to assess land use consistency and compatibility issues unless there is an environmental impact, whereby these impacts are discussed in the appropriate environmental discussion sections in this EIR.

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4.10 NOISE

Introduction

This section assesses the potential noise impacts from project operations (long-term) and construction equipment (short-term) on sensitive receptors. A noise assessment for the project was prepared by Illingworth & Rodkin, Inc. (October 2011), and is contained in Appendix H of this EIR. This was based on the original 78-lot plan; the current plan is 70 lots.

Setting

Noise Characteristics

Noise is defined as unwanted or objectionable sound. State and local regulations define objectionable noise levels and identify land use compatibility standards. The following analysis describes the characteristics of sound, the location of sensitive noise receptors, and the existing/future noise environment.

Sound is comprised of three variables: magnitude, frequency, and duration. The magnitude of air pressure changes associated with sound waves results in the quality commonly referred to as "loudness." Variations in loudness are measured on the "decibel" (dB) scale. On this scale, noise at zero decibels is barely audible, while noise at 120-140 decibels is painful and may cause hearing damage. These extremes, however, are not encountered in commonplace environments.

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.

The second characteristic of sound is frequency. The human ear responds to sounds whose frequencies are in the range of 20 to 20,000 hertz. Within the audible range, subjective response to noise varies. People generally find higher pitched sound to be more annoying than lower pitched sounds. Noise is typically characterized using the A-weighted sound level or dBA. This scale gives greater weight to the frequencies to which the human ear is most sensitive.

The third characteristic of noise is duration. Annoyance due to noise is often associated with how long noise persists. To adequately describe a noise environment, it is necessary to quantify the variation in noise levels over time. Acoustical engineers often use a statistical approach that specifies noise levels that are observed to be exceeded over a given percentage of time.

For evaluating noise over extended periods, the "Day-Night Noise Level" scale (DNL or L_{dn}) or "Community Noise Equivalent Level" (CNEL) are measures of the average equivalent sound level (L_{eq}) during a 24-hour period. The L_{eq} can be thought of as the steady sound level that, in a stated period of time, would contain the same acoustic energy as the time-varying sound level during the same period. The CNEL and L_{dn} account for greater sensitivity of noise receptors at night by penalizing noise occurring during evening and nighttime hours.

Vibration Characteristics

Ground vibration consists of rapidly fluctuating motions or waves with an average motion of zero. Various methods are 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. For the noise evaluation prepared for this project, a PPV descriptor with units of mm/sec or in/sec is used to evaluate construction generated vibration impacts associated with building damage and human complaints. Vibration may be found to be annoying at different levels, depending on the level of activity and/or the sensitivity of the individual. For sensitive individuals, vibrations approaching the threshold of perception can be annoying.

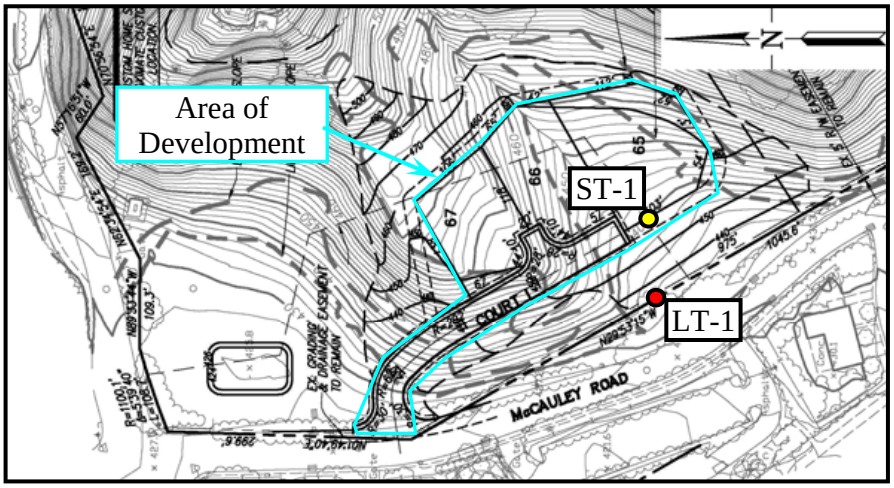
Existing Noise Environment

The Magee Ranches property is located in northeast Danville, on the south side of Diablo Road and Blackhawk Road (see Figure 3-2). The property is currently used for beef cattle operations. 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 beyond Short Ridge to the south. A substantial amount of open space is located in the vicinity. Specifically, the project site lies adjacent to the Sycamore Valley Open Space Preserve managed by the East Bay Regional Park District.

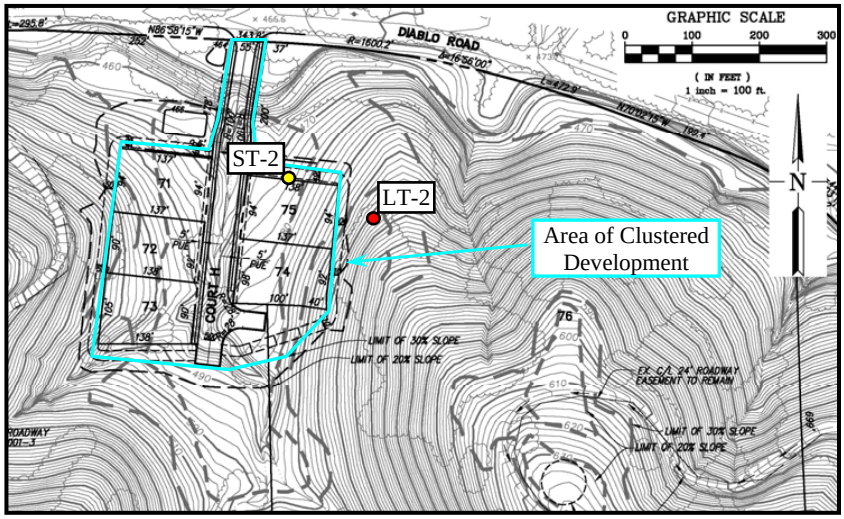
The project consists of 70 single-family homes on minimum 10,000 square foot lots, which would be clustered on the flatter portions of the site. Several larger custom lots are also included in the plan. The project site would be accessed by three driveways along Diablo/Blackhawk Road and one driveway along McCauley Road. The main project entrance is proposed from Blackhawk Road just east of Jillian Way.

A noise monitoring survey was completed by the noise consultant between Friday March 11th and Monday March 14th, 2011 to quantify the existing noise levels in the area. Three long-term (LT-1, LT-2 and LT-3) and three short-term (ST-1, ST-2, and ST-3) noise measurements were performed. 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 with pertinent information. The approximate locations of the noise measurements are presented in Figure 4.10-1.

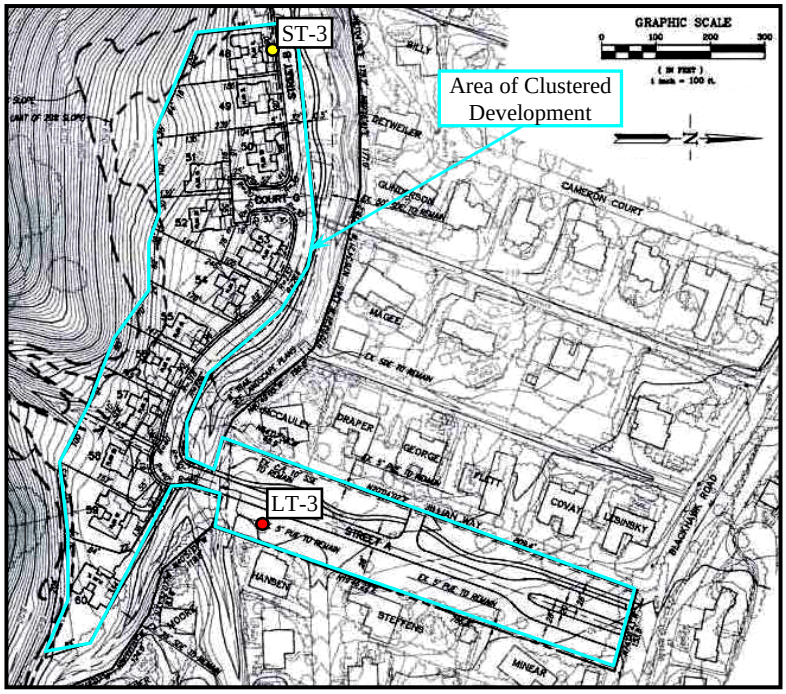
Noise measurements LT-1 and ST-1 were made in the vicinity of the residential lots proposed along McCauley Road (refer to Figure 4.10-1). Long-term measurement (LT-1) was made in the branches of a tree at a distance of 50 feet from the centerline of McCauley Road. The primary noise source at this location was traffic on McCauley Road, with background noise from Diablo Road traffic, bird song, and occasional noise from activities at the Green Valley School parking area and play fields opposite McCauley Road. 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 and 59 dBA on the third full day period. The higher L_{dn} noise 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 p.m. and 3 a.m. and again in the 6 a.m. hour. These increased noise levels coincide with area rainfall and were likely caused by raindrops impacting the measurement enclosure and surrounding foliage. When the increased noise from rain is discounted, the calculated L_{dn} for the third day drops to 56 dBA, reducing the L_{dn} for the three-day period to 56 dBA.



LT-1 and ST-1 Measurement Locations



LT-2 and ST-2 Measurement Locations



LT-3 and ST-3 Measurement Locations

Source: Illingworth and Rodkin, Inc., 2011

Noise Measurement Locations

Monterey | San Jose
Denise Duffy and Associates, Inc.
Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure 4.10-1

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 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 along Diablo Road (refer to Figure 4.10-1). LT-2 was made from a tree trunk 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 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 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 the increase noise levels coincide with area rainfall and are likely due to rain. 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, although measured sound levels were lower at this position due to the lower elevation and an observed greater terrain and foliage shielding of traffic noise. Occasional noise from general aviation and jet over-flights and bird song contributed to the measured noise environment. The estimated L_{dn} noise level at this location, without the effects of rain, is 53 dBA.

Noise measurements LT-3 and ST-3 were made in the vicinity of the eastern project entry and the clustered home lots proposed south of Green Valley Creek in this area (see Figure 4.10-1). LT-3 was made on a tree trunk in the project entry area at the approximate setback of the homes that 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 song. 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, 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 were likely associated with area rainfall. When these increased 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.

Noise measurement ST-3 was conducted simultaneously with the measurement at LT-3 south of Green Valley Creek. The primary noise sources at this location were due to the creek and bird song. 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, were also audible at this site. Traffic noise from Blackhawk Road was not distinctly audible at this location. Based on the results of this measurement the estimated L_{dn} noise level at this location, without the rain-generated noise, is 48 dBA.

Regulatory Environment

State

California Building Code. The 2010 California Building Code (Chapter 12, Appendix Section 1207.11.2) regulates environmental noise intrusion. Interior noise levels attributable to exterior sources cannot exceed 45 CNEL. Regulated structures proposed where exterior noise levels exceed 60 CNEL require an acoustical analysis demonstrating that the proposed design will maintain interior noise levels at or below 45 CNEL. Further, if the interior standard can only be met with the windows closed, then the proposed buildings shall be supplied with some form of mechanical ventilation.

Local

Town of Danville General Plan. The Town of Danville General Plan contains noise goals and policies that support the Town's goal of protecting existing and future residents from excessive noise.. Applicable policies contained in the 2010 General Plan are as follows:

23.01 New residential development projects should meet acceptable noise level guidelines, as shown in Figure 24. *Note: refer to Table 4.10-1 below.*

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.

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.

Table 4.10-1
Noise and Land Use Compatibility from 2010 General Plan

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.

Source: Danville 2010 General Plan

Town of Danville Municipal Code. Chapter IV 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 that 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.

Thresholds of Significance

In accordance with the CEQA Guidelines, a project impact would be considered significant if the project would:

- expose 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;
- expose persons to or generation of excessive groundborne vibration or groundborne noise levels;
- have substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;
- have a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project;
- 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; or
- 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.

In applying the above CEQA Guideline thresholds, the following specific significance criteria were used to evaluate the significance of environmental noise resulting from the project, based on acoustical industry standards.

1. With regards to the first bulleted criterion in the thresholds listed above, a significant impact would occur if the project would expose persons to noise levels in excess of applicable standards, specifically if indoor residential noise levels exceed 45 dBA L_{dn} or exterior noise levels exceed 55 dBA L_{dn}.

2. With regards to the second bulleted criterion in the thresholds listed above, a significant impact would occur 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. With regards to the third and fourth bulleted criteria in the thresholds listed above, a significant impact would occur under the following conditions:

    - If the project would increase noise levels at sensitive receivers in the vicinity, a substantial increase would result if such noise levels increase by 3 dBA L_{dn} or greater above existing conditions with the project.

    - For construction-related noise, the impact 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).

Impacts and Mitigation

Project Operational Noise

Project operation would result in two types of noise increases: 1) noise from additional traffic generated by the residential development, and 2) noise from activities associated with the operation of proposed residential uses. The project would not result in a substantial, permanent increase in ambient noise levels in the project vicinity above levels existing without the project as described below.

Operations

The 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 currently undeveloped areas. The occupation and use of the proposed homes is expected to create noise sources typical of residential development, including voices of the new residents, children playing, home maintenance activities, and barking dogs. Although the auditory content of the new noise sources may change compared to existing conditions, the typical sound levels produced by residential uses are expected to result in average daytime sound levels within the same range as those existing at residences adjacent to the project site.

The noise levels at adjacent existing residences are expected to increase less than 3dBA L_{dn} with the proposed project. This is based on typical noise levels from new residents of a similar residential type, with the 3 dBA equating to a doubling of residential activity.[1] Noise levels in these areas will continue to comply with the Town's General Plan and Municipal Code noise standards, since they will not exceed the exterior standard of 55 L_{dn} and interior standard of 45 L_{dn}. The operational noise associated with the proposed residential uses, therefore, would not significantly impact existing uses in the project area.

Traffic

Traffic data provided by Hexagon Transportation Consultants was reviewed to calculate potential project-related traffic noise level increases along roadways serving the project site. The data included turning movement counts at key area intersections for existing and cumulative conditions with and without project-generated vehicle 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 4.10-2). Table 4.10-2 also shows that noise levels would generally increase by 2 dBA over existing conditions under cumulative traffic conditions with or without the project. Since traffic noise increases from the proposed project would increase ambient noise levels by less than 3 dBA L_{dn}, this is considered a less-than-significant noise impact.

[1] The 3 dBA criteria is based on 10xlog, where x equals the activity level with the new homes. This method is based on industry practice.

Table 4.10-2
Increases in Traffic Noise Levels on Area Roadways

Roadway and Segment	Noise Increase Comparison Scenario		
	Existing No Project to Existing + Project	**Existing No Project to Cumulative No Project**	**Cumulative No Project to Cumulative + 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}

The project would not result in a substantial, permanent increase in ambient noise levels in the project vicinity above levels existing without the project. This represents a less-than-significant impact.

Noise Impacts on Project

Residential uses are considered a noise-sensitive receptor. Residential uses proposed on portions of the project site would be exposed to "Conditionally Acceptable" noise levels based on the Town of Danville General Plan noise standards. The noise environment would exceed the Town's noise level goal for normally acceptable exterior noise levels of 55 dBA at residential outdoor use areas of custom home lot building sites 69 and 70 near Diablo Road as described below.

Existing noise levels measured along McCauley Road indicate that the area 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 150 feet from the centerline of the roadway; therefore, the noise levels at the proposed residential lots along McCauley Road would be considered "Normally Acceptable" for residential uses.

Existing noise levels measured along Diablo Road indicate that property within 350 feet of the centerline that is elevated above the roadway, and does not receive any significant terrain and foliage shielding of traffic noise, would be exposed to an L_{dn} of greater than 55 dBA. Properties 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 69 and 70 are proposed within approximately 60 and 120 horizontal feet

from the centerline of Diablo Road, respectively. Based on these distances, the vertical relationship of the building sites to adjacent portions of Diablo Road, and the relative foliage and terrain shielding for each building site, the closest portions of the proposed building sites for these lots (69 and 70) would be exposed to respective noise levels of 64 dBA and 61 dBA L_{dn}. These noise levels are considered "Conditionally Acceptable" for residential uses. The Town of Danville also requires project-specific acoustical analyses to assure that interior noise levels are 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 by the project would be located in areas exposed to an L_{dn} of 55 dBA or less, which is considered "Normally Acceptable" for residential development by the Town's General Plan noise standards, would not require the incorporation of any noise insulation features.

Impact **The noise environment would exceed the City's noise level goal for normally acceptable exterior noise (55 dBA) L_{dn} at residential building sites for custom lots 69 and 70 near Diablo Road, which represents a potentially significant noise impact.** ***This impact can be reduced to a less-than-significant level with the following mitigation.***

Mitigation

4.10-1 In order to avoid noise impacts at proposed residential lots located near Diablo Road, the project proponent shall prepare site-specific acoustical analyses where proposed homes are located in noise environments that exceed 55 dBA L_{dn} (i.e., custom lots 69 and 70). Exterior and interior noise levels at these residences shall be maintained in accordance with the standards presented in the General Plan and Municipal Code.[2] The specific determination of necessary treatments, such as forced-air mechanical ventilation or sound-rated windows shall be conducted on a unit-by-unit basis for affected lots based on the results of the site-specific acoustical studies. Evidence shall be provided to the Town of Danville, prior to the issuance of the building permit for the affected lots, demonstrating that all acoustical recommendations have been incorporated into final design.

Site planning may be adequate to minimize noise in outdoor activity areas, i.e., locating the outdoor activity areas behind homes or in courtyards. If site planning cannot bring noise levels to acceptable levels, then solid noise barriers shall be incorporated into final design plans to interrupt the sound transmission path between roadway traffic and private outdoor use areas of lots 69 and 70, which may be exposed to an L_{dn} greater than 55 dBA. The type and height of such barriers shall be determined through the site-specific acoustical analyses described above to reduce the L_{dn} at the primary outdoor areas of these lots to an L_{dn} of 55 dBA or less. Barriers should be airtight over the surface and at the base, with a minimum surface weight of 3.0 pounds per square foot. Evidence shall be provided to the Town of Danville, prior to the issuance of the building permit for the affected lots, demonstrating that noise barriers have been incorporated into final design.

[2] The Town of Danville 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}.

Construction Noise

Project construction activities at the clustered development area on the Magee East portion of the project site are expected to take place in two phases, the first phase involving the construction of the project access road, drainage infrastructure, utilities, and up to four model homes, and the second phase involving the construction of the remaining individual residences. According to the developer's projected schedule the first phase of construction (site work) would take no more than 12 months to complete and the developer anticipates site work to be completed within 8 months. During the second phase of work (home building) the developer estimates that each home would take approximately seven months to construct. Each home would be constructed individually and would have its own building permit. Construction activities during the second phase, including the building, framing, and finishing of the proposed individual residences would generally result in lower noise levels than the construction activities during the first phase. However, project construction activities would generally result in noise levels that would exceed ambient noise levels at land uses in the vicinity of proposed project construction.

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, a different mix of equipment would be operated as needed. Construction noise levels vary by stage and within stages depending on the amount of equipment in operation and its location. Typical construction noise levels at a distance of 50 feet are shown in Tables 4.10-3 and 4.10-4. Table 4.10-3 shows the average noise level ranges by phase for housing construction and Table 4.10-4 presents the maximum noise level ranges for various 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 main access road on Blackhawk Road (Street A), would occur at distances of 50 feet or more from existing residential units.

Table 4.10-3
Typical Ranges of Noise Levels for Domestic Housing Construction at 50 Feet
L_{eq} in dBA

Construction Stage	Construction Equipment on Site	
	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.		

Table 4.10-4
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
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.

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 in the Magee East portion of the site may be exposed to average noise levels of between 70 to 80 dBA during busy construction periods while construction activities are occurring near these existing homes. Noise levels decrease 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 be 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.

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. Implementation of mitigation measures identified below 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.

The construction schedule for the nine custom lots has not been determined. The intensity of construction activities would be greatly reduced compared to the higher density development of the non-custom lots. Construction activities on the custom lots, however, may still result in potentially significant impacts on existing residences located near the proposed building sites.

In addition to the existing residents, future residents of the proposed homes that are constructed early in project development may also be potentially impacted by construction noise within the proposed subdivision.

Implementation of mitigation measures identified below 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.

Impact **Construction of the project would result in significant short-term noise impacts on nearby sensitive receptors.** ***This is a significant impact that can be reduced to a less-than-significant level with the following mitigation.***

Mitigation Measures

4.10-3 Prior to any grading or other construction activities, the applicant shall develop a construction mitigation plan in close coordination with the Town of Danville staff to assure that construction activities are scheduled to minimize noise disturbance. The following conditions shall be incorporated into the building contractor specifications.

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 Friday.

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 outdoor construction or construction-related activities at the project site on weekends and holidays. Indoor construction activities may be allowed based on review/approval of the Town.

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 conduct the following: receive and act on complaints about construction disturbances during infrastructure installation, landslide repair, road building, residential construction, and other construction activities; determine the cause(s) and implement remedial measures as necessary to alleviate significant problems; clearly post his/her name and phone number(s) on a sign at each clustered development and home building site; and, notify area residents of construction activities, schedules, and impacts.

Effects of Vibration

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 for this project. Construction activities would generally occur at distances of 100 feet or more from the nearest residential units. Activities associated with the project access off Blackhawk Road (Street A) would occur at distances of approximately 50 feet or more from existing residential units.

For structural damage, the California Department of Transportation uses a vibration limit of 0.5 inches/second, PPV for buildings structurally sound and designed to modern engineering standards, 0.2 inches/second, 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 inches/second, PPV for ancient buildings or buildings that are documented to be structurally weakened. A conservative threshold of 0.2 inches/second, 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 4.10-5 presents vibration source levels for typical construction equipment at a distance of 25 feet. Jackhammers typically generate vibration levels of 0.035 inches/second PPV and drilling typically generates vibration levels of 0.09 inches/second PPV at a distance of 25 feet. Again, vibration levels 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 inches/second PPV, and would be below 0.20 inches/second PPV significance criteria.

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 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 activities and scheduling construction activities with the highest potential to produce perceptible vibration to hours with the least potential to affect nearby residences, perceptible vibration can be kept to a minimum and as such would not result in a significant impact.

Table 4.10-5
Vibration Source Levels for Construction Equipment[1]

Equipment		**PPV at 25 feet (inches/secomd)**
Pile Driver (Impact)	upper range	1.158
	typical	0.644
Pile Driver (Sonic)	upper range	0.734
	typical	0.170

Table 4.10-5 **Vibration Source Levels for Construction Equipment**[1]		
Equipment		**PPV at 25 feet (inches/secomd)**
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
[1] Transit Noise and Vibration Impact Assessment, United States Department of Transportation, Office of Planning and Environment, Federal Transit Administration, May 2006.		

The project will not result in significant impacts associated with groundborne vibration.

Other Noise Issues

The project would not expose any existing or future receptors to excessive ground borne noise levels, nor would excessive ground borne noise levels be generated by the project. In addition, the project is not located within two miles of a public airport or within the vicinity of a private airstrip and aircraft noise would not measurably impact the site. The project would not be subject to significant noise impacts associated with ground borne or airport sources.

Cumulative Impacts

Section 15130 of the CEQA Guidelines requires an EIR to discuss cumulative impacts of a proposed project when the project's incremental effect may be cumulatively considerable. This EIR relies on a list approach, as described in Section 5.2 of this EIR. The geographic scope for the cumulative analysis is limited to the Town of Danville, unless otherwise noted. Proposed development considered in the cumulative analysis is identified in Table 5-1 (see Section 5.0 CEQA Considerations).

The noise analysis for the project evaluated cumulative noise impacts associated with future traffic increases in the project area. This analysis was based on the 2030 cumulative with project scenario used for the traffic study. As presented in Table 4.10-2 above, noise levels would generally increase by 2 dBA over existing conditions under cumulative traffic conditions with or without the project, which is considered a less-than-significant impact, since it does not exceed Town standards of the industry threshold of 3 dBA. The project, therefore, will have a less-than-significant cumulative contribution to permanent noise impacts.

The cumulative projects would generate temporary noise emissions during construction. These may contribute to cumulative impacts where the projects are physically located in close proximity. Given that 1) the cumulative projects have varying construction schedules, 2) development is relatively widely spread throughout the Town, and 3) all would be required to implement standard noise construction abatement measures, the cumulative impact is considered less-than-significant.

4.11 PUBLIC SERVICES

Introduction

This section assesses the project's potential impacts on public services and recreation. To obtain information from public service providers, The EIR consultant contacted the Town of Danville Police Department, the San Ramon Valley Fire Protection District ("District"), in order to gather information on existing fire and police facilities, staffing for the project area, and current and target response times. In addition, the East Bay Regional Park District ("EBRPD") was also contacted to obtain information concerning parks and recreational facilities in the project vicinity (i.e., the Sycamore Valley Open Space Preserve) that could be impacted by the project. The San Ramon Valley Unified School District (SRVUSD) was also consulted during the course of preparation of the EIR to solicit input concerning potential impacts to school facilities. For a full list of persons contacted as part of this EIR, please refer to Section 7.0 References. In addition to directly consulting with area service providers, public comments were received on the Notice of Preparation (NOP) concerning potential impacts to public services, including comments from EBRPD, SRVUSD, and SRVFPD. These comments were considered during the course of evaluating the project's potential impacts to public services.

Setting

Police

The Town of Danville Police Department is responsible for providing police protection services in the Town of Danville. The Town contracts with the Contra Costa County Sheriff's Department for police services. The Department headquarters is located at 510 La Gonda Way, approximately 1.8 miles from the project site. The Department maintains a staff of approximately 30 sworn officers, three full-time civilian positions, and eight part-time civilian positions. There are three shifts per day with an average of three officers and a sergeant on duty per shift. The project site is located within Danville Police Department Beat One. The Police Department responded to 10,112 calls for service in 2010; the Police Department, over the course of the past four (4) years, has responded to approximately 15,578 calls for service per year. According to the Town of Danville Police Department, average response times, depending on the type of emergency, are 5:58 minutes for a priority one emergency (critical) and 5:23 minutes for a priority two emergency (emergency) (personal communication, Jeff Moule, Danville Police Department, August 8, 2011). Typical crimes committed within this beat include vandalism, vehicle incidents, theft, alcohol related incidents, and similar events. One officer would be responsible for patrolling the project site and surrounding area per shift (personal communication, Jeff Moule, Danville Police Department, August 8, 2011).

Fire

The San Ramon Valley Fire Protection District ("District") is responsible for providing fire protection services to the project site. The District is an autonomous Special District as defined under the Fire Protection District Law of 1987, Health and Safety Code, Section 13800, of the State of California. The District is responsible for providing emergency and non-emergency services to the community. The District's administration building is located at 1500 Bollinger Canyon Road in San Ramon, California.

The District's service area encompasses approximately 155 square miles, covering the communities of Alamo, Blackhawk, the Town of Danville, Diablo, the City of San Ramon, the southern boundary of Morgan Territory and the Tassajara Valley. The District operates ten fire stations, a 911 dispatch center, an administrative office building, a tactical training site and various ancillary facilities including an essential services warehouse, a communications annex building and several radio towers. The District consists of 191 personnel, including administrative and fire prevention staff.[1] The District intends to hire 12 new personnel in 2012.[2] The District's average response times are 7:34 minutes to urban, 8:12 minutes to suburban, and 12:35 minutes to rural incidents 90% of the time.[3] The nearest station, Fire Station 33, is located immediately west of the project site across McCauley Road at 1051 Diablo Road. Fire Station 33 has a minimum staffing of six personnel on-duty at all times.[4]

District apparatus resources include engines, trucks, ambulances, water tenders, and other specialized equipment for rescue, hazmat, communications and support functions. The District operates eight engine companies, which are staffed on a daily basis with a minimum staffing of three firefighters. In addition, the District also operates three ladder trucks. The three ladder trucks have the same staffing requirements as the engine companies. According to the District's 2010 Standards of Coverage report, the daily minimum shift staffing count is 43 firefighters plus one battalion chief. Under normal conditions, 15 firefighters plus a command chief are required for a typical room and contents fire in a home in a suburban area[5] and one company for most medical emergencies. According to the District, daily staffing is adequate to handle two simultaneous fires and two to three medical emergencies before relying on mutual aid agreements.[6]

Schools

The proposed project site is located within the San Ramon Valley Unified School District (SRVUSD), which encompasses the communities of Alamo, Blackhawk, Danville, Diablo, and San Ramon (including the new Dougherty Valley communities) as well as a small portion of the cities of Walnut Creek and Pleasanton. The SRVUSD is comprised of 35 schools, including 21 elementary schools, eight middle schools, four high schools, one continuation high schools, and one independent study school. The SRVUSD's student enrollment for the academic year of 2010-2011 is 29,427 students in grades K-12.[7] According to SRVUSD, the project is located within the attendance areas for Green Valley Elementary, Los Cerros Middle, and Monte Vista High School. Table 4.11-1 depicts current student enrollment and student capacity for those facilities.

[1] San Ramon Valley Fire Protection District, 2011, Annual Operating Budget, Fiscal Year 2011/2012.
[2] Ibid.
[3] San Ramon Valley Fire Protection District, 2010, Standards of Coverage, pg. 6.
[4] San Ramon Valley Fire Protection District, 2010, Standards of Coverage, pg. 43.
[5] As per National Fire Protection Association Code, # 1710.
[6] San Ramon Valley Fire Protection District, 2010, Standards of Coverage, pg. 43.
[7] San Ramon Valley Unified School District. August 23, 2011. Facts and Figures. Available at: http://www.srvusd.k12.ca.us/district/facts.

Table 4.11-1 Current Student Enrollment				
School	**Grade Level**	**Student Enrollment**	**Capacity**	**Capacity (%)**
Green Valley Elementary	K-5	589	750	78%
Los Cerros Middle	6-8	664	760	89%
Monte Vista High	9-12	2,213	2,200	101%*
Source: San Ramon Valley Unified School District, August 2011. *Monte Vista High current enrollment exceeds existing capacity.				

Recreation

The Town of Danville, the National Park Service ("NPS"), the State Department of Parks and Recreation ("State Parks"), East Bay Regional Park District ("EBRPD"), the SRVUSD, and Contra Costa County provide park and recreational facilities or services in and around Danville. Regional park facilities include the Eugene F. O'Neil National Historic site, Mt. Diablo State Park, Las Trampas Regional Wilderness Park, and Sycamore Valley Regional Open Space Preserve. Locally, the Town owns, operates, and maintains 167 acres of parkland, which are primarily used for active recreational uses. In addition, SRVUSD also provides an additional 71 acres of active recreational facilities. An additional 20 acres within Danville have been improved with trails or special use facilities. In addition to these facilities, there is approximately 3,700 acres of general open space uses within the Town. The project site is immediately adjacent to the EBRPD's Sycamore Valley Regional Open Space Preserve.

Regulatory Environment

Town of Danville General Plan. The General Plan provides policies for adequate public services and recreation. Please refer to Table 4.9-2 of the Land Use section for a detailed analysis of the project's consistency with the relevant provisions of the Town of Danville General Plan.

Thresholds of Significance

In accordance with CEQA Guidelines, a project impact would be considered significant if the project would:

- result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for the following public services:
  - fire protection;
  - police protection;
  - schools;
  - parks; and
  - other public facilities
- impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan;
- expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands;

- increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated; or
- include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

Impacts and Mitigation

Police

Development of the proposed project would incrementally increase demands for police protection services associated with the introduction of new residential units on a previously undeveloped site. This could increase the number of police services calls associated with disturbances, property crimes, traffic, and misdemeanors among other types of crime. An impact is potentially significant under CEQA if the additional demand for services would require the construction or expansion of a new or existing facility in order to meet project generated demands. In this instance, an impact would be significant if the project would adversely impact existing response times such that a new or expanded facility would be necessary to accommodate the additional demand.

Police protection services would be provided to the project site from the existing station, which is situated on 510 La Gonda Way, approximately 1.8 miles from the project site. The project site is located within the Police Department's existing Beat 1; no new beat would need to be created to serve the project site. According to the Police Department, the incremental increase in the demand for police protection services is not anticipated to adversely affect existing response times. Specifically, the Police Department identified that the relative increase in number of new residential units in comparison to the large beat area would have a proportionately small impact on the health of the beat; as a result the project would not significantly affect average response times such that a new facility or additional staff would be needed to serve the project. No additional staff would be necessary to serve the project (personal communication, Jeff Moule, August 8, 2011).

The proposed project would result in an incremental increase in the demand for police protection services due to the introduction of new residential units. The project would increase the number of units in Beat 1 by approximately 1.5 percent; there are approximately 5,003 existing units in Beat 1. The Town of Danville Police Department has identified that the project would result in approximately 78 new calls for service per year (personal communication, Jeff Moule, September 21, 2012). This would represent a 0.5 percent increase in calls for services as compared to existing levels. In addition, the project number of residents created by the project would not change the current ratio of officers to residents (0.7 officers per 1,000 residents).[8] These impacts are not considered significant and would not warrant the construction and/or expansion of new or existing facilities. The Town of Danville Police Department has indicated that this would not adversely impact existing response times or require additional staff. As a result, the project would not require the construction of new and/or expanded facilities that would potentially result in an adverse environmental effect. The project would be served by existing facilities and no new facilities would need to be constructed. This represents a less-than-significant impact.

[8] Please note that the officer to resident ratio does not include reserve officers or volunteers. Only officers were considered as part of this analysis.

Fire

Project development would incrementally increase demands for fire protection services due to the introduction of new urban uses on a site historically used for ranching/agricultural purposes. Several existing structures are located on-site and fire protection services are currently provided to the site, although the introduction of new urban uses and the corresponding increase in residential population would increase demands for these services beyond historical levels. Increased demands would be associated with a variety of issues, including, but not limited to, structural fires, medical emergencies, and wildland fire hazards due to the project's proximity to undeveloped open space, which is recognized by the Town of Danville 2010 General Plan as being subject to wildland fire hazards.[9] For the purposes of the following analysis, the project would have a significant effect if it would cause changes in existing response times (7:34 minutes to urban emergency and 8:12 minutes to suburban incident, 90 percent of the time)[10] or result in the exposure of site occupants and/or structures to significant wildland fire hazards such that new or expanded fire facilities would need to be constructed, which could potentially result in a significant impact to the environment.

The San Ramon Valley Fire Protection District ("District") is responsible for providing fire protection services to the project site. The nearest fire station to the project site is Station No. 33, which is located immediately west of the site. The District was consulted during the course of preparing this Draft EIR to determine whether the proposed project would: a) adversely affect target response times, b) necessitate the construction of new facilities, or c) otherwise adversely affect the District's ability to provide fire protection services to the surrounding area. In addition to consulting directly with District staff regarding potential fire protection considerations, the District also provided written comments on the Notice of Preparation (NOP). Copies of the District's comments are contained in Appendix A. Based on consultations with District staff, the proposed project is not anticipated to significantly affect existing responses times, require the construction or expansion of existing facilities, or otherwise adversely affect the District's abilities to provide fire protection services to the surrounding area (e-mail correspondence, Ian Hardage, Fire Plans Examiner, August 25, 2011 and January 24, 2012). As a result, the District determined that the project would not significantly affect fire protection services.

While the proposed project is not anticipated to result in a significant increase in demands for fire protection services such that new or expanded facilities would be necessary, the construction of new residences and associated infrastructure could be exposed to potential fire-related hazards. As identified above, the project site is located in an area that is identified in the 2010 Danville General Plan as being subject to potential wildland fire hazards. In addition, the project site is also located within proximity to areas identified by the State of California Department of Forestry and Fire Protection as being subject to moderate and high fire hazards.[11] In order to address potential wildland fire hazards, all new residential structures will be required to comply with the Town's Fire-Safe Roofing Ordinance (see General Plan Policy 21.01) and all applicable fire and building safety codes (Uniform Building Code and Uniform Fire Code). In addition, the project would be required to be constructed with all applicable District conditions of approval related to access, roadway widths, turning radii, fire flow requirements, fire hydrant locations, and other requirements to ensure that the project is able to safely accommodate emergency response apparatus (see Appendix A for more information concerning District conditions). Compliance

[9] Town Danville, 1999, 2010 General Plan, pg. 155; see also Figure 21, Environmental Hazards, pg. 153.
[10] Best practices recommend a response time of seven (7) minutes from the receipt of the call.
[11] California Department of Forestry and Fire Protection, Contra Costa County Fire Hazard Severity Zones in State Responsibility Areas, November 7, 2007.

with existing regulatory requirements and adherence to District conditions would ensure that potential impacts to fire protection services would be less-than-significant. The District has determined that the project would not substantially affect existing levels of service and no new facilities would need to be constructed in order to accommodate the project's incremental increase for service. This is a less-than-significant impact.

Schools

Development of the proposed project would generate additional students, associated with the increase in population. The SRVUSD has reviewed the project and identified that the project is within the attendance areas of Green Valley Elementary, Los Cerros Middle, and Monte Vista High School. The SRVUSD has prepared student generation rates for residential uses. Using these rates, project build-out is anticipated to generate 62 school-aged children, as presented in Table 4.11-2 below.

Table 4.11-2
Projected Student Generation

Grade Level	Generation Rate/Unit	No. Units	No. New Students
K-5	0.46	70	32
6-8	0.22	70	15
9-12	0.21	70	15
		Total	**62**

Source: San Ramon Valley Unified School District, August 2, 2011

Project development would result in an increase in student population based on projections provided by the SRVUSD. As evidenced in the SRVUSD NOP comment letter, the generation of additional students could impact student capacity for neighboring schools. In particular, SRVUSD identified that overcrowding could require that students residing in this subdivision may be diverted to other facilities. An impact would be significant under CEQA if the demands associated with the proposed project would exceed existing school capacity as a result of overcrowding and necessitate the construction of a new school facility or the expansion of an existing facility. Overcrowding itself is not considered a significant effect on the environment; previous court rulings, however, have determined that overcrowding may constitute a significant effect under CEQA if it requires physical changes in the environment, such as the construction of a new facility.

The proposed project would represent an incremental increase in the student population within the SRVUSD; particularly in the attendance areas for Green Valley Elementary, Los Cerros Middle, and Monte Vista High School. As a result, the introduction of an additional 62 students could result in potential classrooms shortages if existing school capacity is exceeded in the affected schools. As identified in Table 4.11-1, both Green Valley Elementary and Los Cerros Middle Schools have sufficient capacity to accommodate project generated demands. Monte Vista High School, however, is currently beyond capacity. Although the proposed project would incrementally increase student enrollment at Monte Vista High School beyond the current capacity, the project would not necessitate the construction of new or expanded facilities such that an adverse environmental effect would occur. The SRVUSD commented that student enrollment may fluctuate from year to year and additional capacity may be available by the time the project is constructed (personal communication, Tina Perault, August 2, 2011). Alternatively,

if capacity becomes an issue, students may be diverted to other facilities in SRVUSD.[12] No new or expanded school facilities would be necessary to accommodate the anticipated student population associated with the project. In addition, the incremental increase in student population can be mitigated through the payment of applicable school impact fees. As a result, the increased student population generated by the proposed project would not result in a substantial adverse physical impact to the environment under CEQA.

In 1998, California voters passed Proposition 1A, a statewide school bond measure. Proposition 1A was linked to legislation enacted in 1998 (SB 50) that significantly limited the application of CEQA to consideration of school impacts and mitigation. Government Code sections 65995-65998, part of SB 50, collectively provide that payment of school impact fees by new development is the exclusive means of "considering and mitigating impacts on school facilities that occur or might occur as a result of any legislative or adjudicative act, or both, by any state or local agency involving, but not limited to, the planning, use, or development of real property" (§65996(a)). The legislation further provides that the payment of school impact fees "are hereby deemed to provide full and complete school facilities mitigation" under CEQA (§65996(b)).

While approval of the project would not directly result in the construction of new or expanded school facilities, development of the project would incrementally increase students within the service areas of the affected schools. As evidenced above, these impacts can be minimized to a less-than-significant level through the compliance with the mitigation identified below.

Impact **The project would result in an incremental increase in the student population in the SRVUSD.** ***This represents a potentially significant impact that can be reduced to a less-than-significant level with implementation of the following mitigation measure.***

Mitigation Measure

4.11-1 The applicant shall pay a school impact fee pursuant to the criteria set forth within California Government Code Section 65995. Prior to the issuance of building permits, the applicant shall pay required school mitigation fees, subject to the review and approval of the Town of Danville and San Ramon Valley Unified School District. The fees set forth in Government Code Section 65996 constitute the exclusive means of both "considering" and "mitigating" school facilities impacts of projects [Government Code Section 65996(a)]. They are "deemed to provide full and complete school facilities mitigation" [Government Code Section 65996(b)].

[12] Information concerning the SRVUSD's student diversion program is available for review at: (http://srvusd.ca.schoolloop.com/file/1276956734524/1275747792962/2207087122222987212.pdf). AR5116 discusses, among other things, the procedures for students who have been diverted to another facility due to classrooms/grades reaching the established capacity. Under SRVUSD's student diversion program students are diverted to the nearest education facility. Students are afforded the opportunity to transfer back at the time an opening is available. When siblings are assigned to two different areas priority is given to transfer requests to allow siblings to concurrently attend the same facility. For more information concerning SRVUSD's programs and policies please refer to the website listed above.

Recreation

For the purposes of this analysis, the project could constitute an adverse impact to parks and recreational uses if the project (due to projected population growth or lack of suitable recreational amenities) would result in the overuse and subsequent deterioration of existing recreational facilities in the project area. The project site is adjacent to the Sycamore Valley Regional Open Space Preserve (SVROSP). The EBRPD, which is responsible for the maintenance and operation of SVROSP, has indicated that the project could impact existing parks and recreational facilities in the surrounding area (i.e. SVROSP).

The project would increase the residential population in the project area by approximately 189.7 persons assuming approximately 2.71persons per residential unit.[13] This increase in population would result in an increased demand for park and recreational facilities, which could 1) require the construction of new facilities; 2) increase the use of existing neighborhood and regional parks such that substantial physical deterioration would occur; or 3) require the construction or expansion of recreational facilities such that an adverse environmental affect might occur. The Town of Danville General Plan has established a standard of five (5) acres of parkland for every 1,000 residents to ensure that there are adequate recreational amenities to meet the needs of area residents.

Development of the proposed project would generate additional demands for recreational amenities due to the introduction of new residential units in the project area. As proposed, the project entails the preservation of 302 acres as permanent open space. There are existing fire trails within the open space. These trails may be used as hiking trails provided the applicable resource agencies (i.e., California Department of Fish & Game) do not prohibit public access into the open space. The project also entails an eight-foot wide multi-use trail adjacent to the East Branch of Green Valley Creek (please refer to Section 3.0 Project Description for additional detail concerning the proposed trail). The Town of Danville has identified that the project, as a condition of approval, will be required to either pay an in-lieu park dedication fee or designate additional on-site recreational amenities in order to ensure adequate active recreational uses are provided on-site (personal communication, David Crompton, September 20, 2012). The project, through the payment of an in-lieu park fee or the provision of on-site recreational amenities, including the creek trail, as well as the permanent preservation of 302 acres of open space would ensure that impacts would be less-than-significant.

The project would constitute an adverse impact to parks and recreational uses if the project would substantially increase the use of existing facilities due to the introduction of new residential uses. The EBRPD has identified that the project would result in the increased use of adjacent open space, specifically the SVROSP. The EBRPD commented during the NOP process, that the increased use of adjacent open space could result in the overuse and physical deterioration of existing facilities and mitigation would be warranted. The Town of Danville has, however, determined that the project would not significantly impact the SVROSP.

The SVROSP is approximately 700 acres and consists mainly of open space with hiking trails and is used for passive recreational use (e.g. hiking). SVROSP does not contain any active recreational (e.g. playfields, tennis courts, etc.) amenities. While a portion of the project site abuts the SVROSP, this portion of the site would be preserved as open space and no direct access (e.g. staging areas) would be provided in connection with the project that would facilitate a substantial increase in use/access. Use of this open space by the new residents would not result in overuse

[13] United States Census Bureau, Census 2010 DP-1, American Community Survey 2006-2010.

and subsequent deterioration of the open space. The project includes on-site open space uses for future residents and the project would not substantially increase the number of people accessing the SVROSP. The project, through the provision of on-site recreational amenities, including the creek trail, as well as the permanent preservation of 302 acres of open space with hiking trails would provide recreational opportunities to meet anticipated future demand associated with the project. Moreover, due to the small number of residents generated by the project in relation to the existing amount of parkland and the fact that the project is providing on-site recreational amenities and open space, the projected population growth would not result in the overuse and subsequent deterioration of the existing park land or facilities, including SVROSP. Additionally, properties located within the boundaries of EBRPD are assessed which provides revenue to the EBRPD to allow it to continue to maintain its existing parks, including SVROSP. It is anticipated that the proposed lots would be subject to these assessments. As a result, the project population growth is not expected to result in the overuse and subsequent deterioration of the SVROSP. This represents a less-than-significant impact.

Cumulative Impacts

Section 15130 of the CEQA Guidelines requires an EIR to discuss cumulative impacts of a proposed project when the project's incremental effect may be cumulatively considerable. This EIR relies on a list approach, as described in Section 5.2 of this EIR. The geographic scope for the cumulative analysis is limited to the Town of Danville, unless otherwise noted. Proposed development considered in the cumulative analysis is identified in Table 5-1 (see Section 5.0 CEQA Considerations). The following provides an evaluation of cumulative impacts for each of the respective issue areas discussed above.

The project could cause an incremental increase in demand for the provision of fire protection, police protection, schools, and park facilities associated with the introduction of new residents uses on the project site. The SRVFPD and Town Police Department have indicated that the project would not significantly affect existing levels of service. Adequate public facilities are available to serve the project. The project would not adversely affect SRVFPD or the Police Department's ability to respond to existing areas within the Town of Danville. While the proposed project would increase the Town's population, the project, in conjunction with other area development, would not create a substantial additional demand for police or fire protection services such that a cumulative impact would occur. Implementation of the project would increase the demand on public schools within the SRVUSD; however, the project would pay its fair share in fees for schools. While the project would increase demand for fire, police, and school services, the proposed project would not contribute to any cumulative impacts on these services because the project would pay its fair share in fees for schools, and would meet all the local and state code requirements for fire and police protection. The project would have a less-than-significant cumulative impact on public services.

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4.12 TRAFFIC AND CIRCULATION

Introduction

The following discussion is based on a comprehensive traffic impact analysis prepared for the project by Hexagon Transportation Consultants in close coordination with the Town of Danville Transportation Department (September 2012). This traffic study is provided in Appendix I of this EIR.

The traffic study analyzed a 78 single family unit subdivision with a minimum of 25% second units. After the original traffic calculations were made, the applicant revised the project to include 70 single family units with a minimum of 10% second units. The traffic analysis was not revised to reflect the revised project, since the number of units was reduced and not increased. The assumptions in the traffic analysis and this section of the Draft EIR, therefore, represent a more conservative analysis of the project's impacts than expected. Please note that references to the "project" in the traffic study and this section of the Draft EIR refer to the originally proposed 78 unit development.

Setting

Roadway System

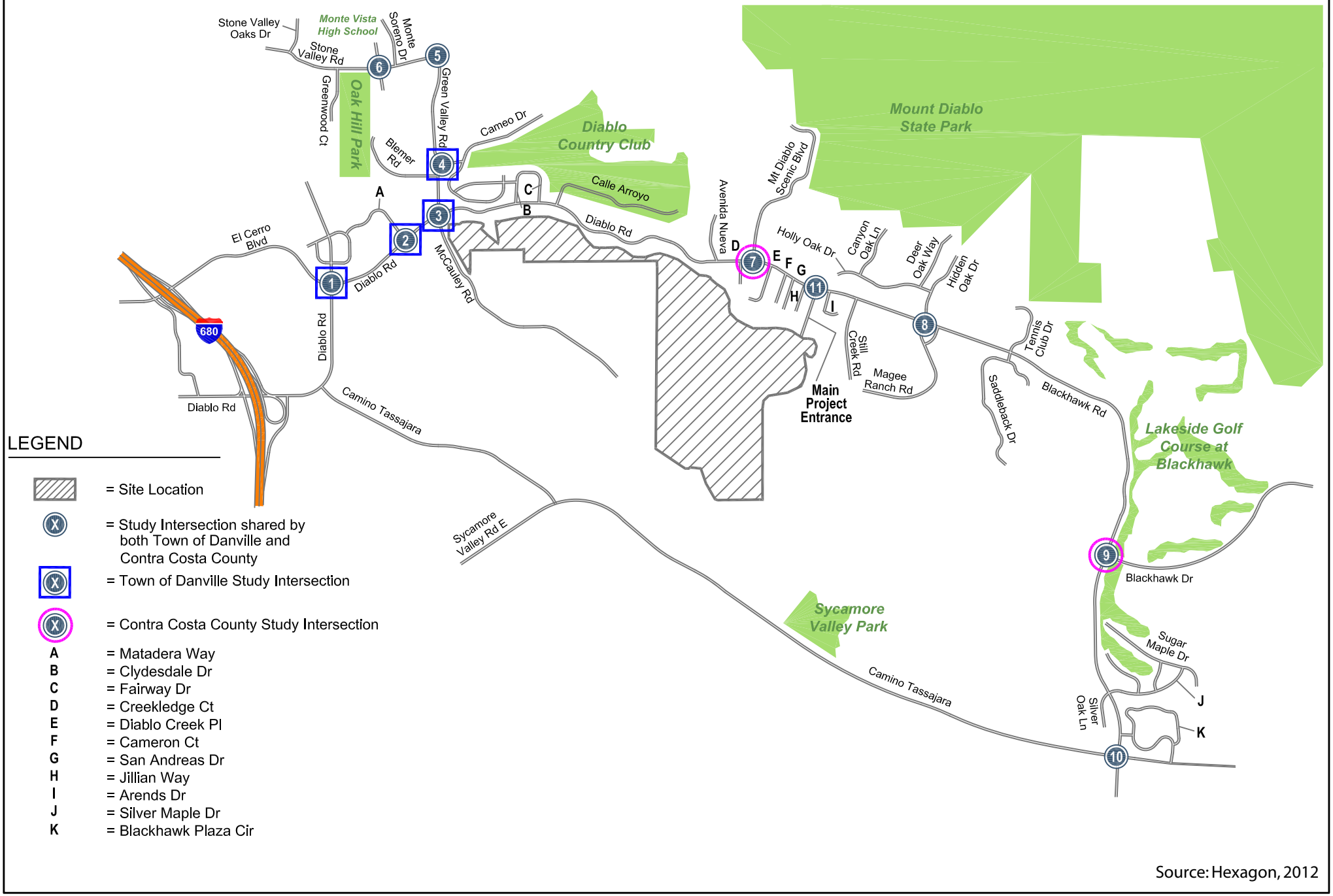
The roadway network in the project area is presented in Figure 4.12-1 and summarized below. Regional access to the project site is provided via I-680. Local access to the site is provided via Diablo Road/Blackhawk Road, Camino Tassajara, Crow Canyon Road, El Cerro Boulevard, Green Valley Road, and Stone 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 project vicinity. 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.

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 leading 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.

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.



LEGEND

- = Site Location
- X = Study Intersection shared by both Town of Danville and Contra Costa County
- X = Town of Danville Study Intersection
- X = 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

Source: Hexagon, 2012

Roadway Network & Study Locations

Monterey | San Jose
Denise Duffy and Associates, Inc.
Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure 4.12-1

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, which provides access to Mt. Diablo.

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.

Transit Service

Existing transit service in Danville is provided by the Central Contra Costa Transit Authority (CCCTA). However, no transit service is currently available along Diablo Road or Blackhawk Road near the project site. The closest transit service in the area 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 6-7 AM and 5-7 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 PM and 4:15 PM.

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 north and south, 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 ½ cent sales tax extended by Contra Costa voters in 2004. Its purpose is to reduce school related traffic congestion along some of San Ramon Valley's most congested corridors. Within the project area there are currently two TRAFFIX bus routes (LC 8 and LC 9) serving Los Cerros Middle School, and two bus routes (GV 8 and GV 9) serving Green Valley Elementary School. Monte Vista High School began receiving TRAFFIX service in fall of 2012. 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 reinstated by the voters.

Bicycle/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 have only signs to help guide bicyclists on recommended routes to certain locations.

The Contra Costa Countywide Bicycle and Pedestrian Plan (2009) identifies 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 4.12-2.

- 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 Monte Sereno Drive

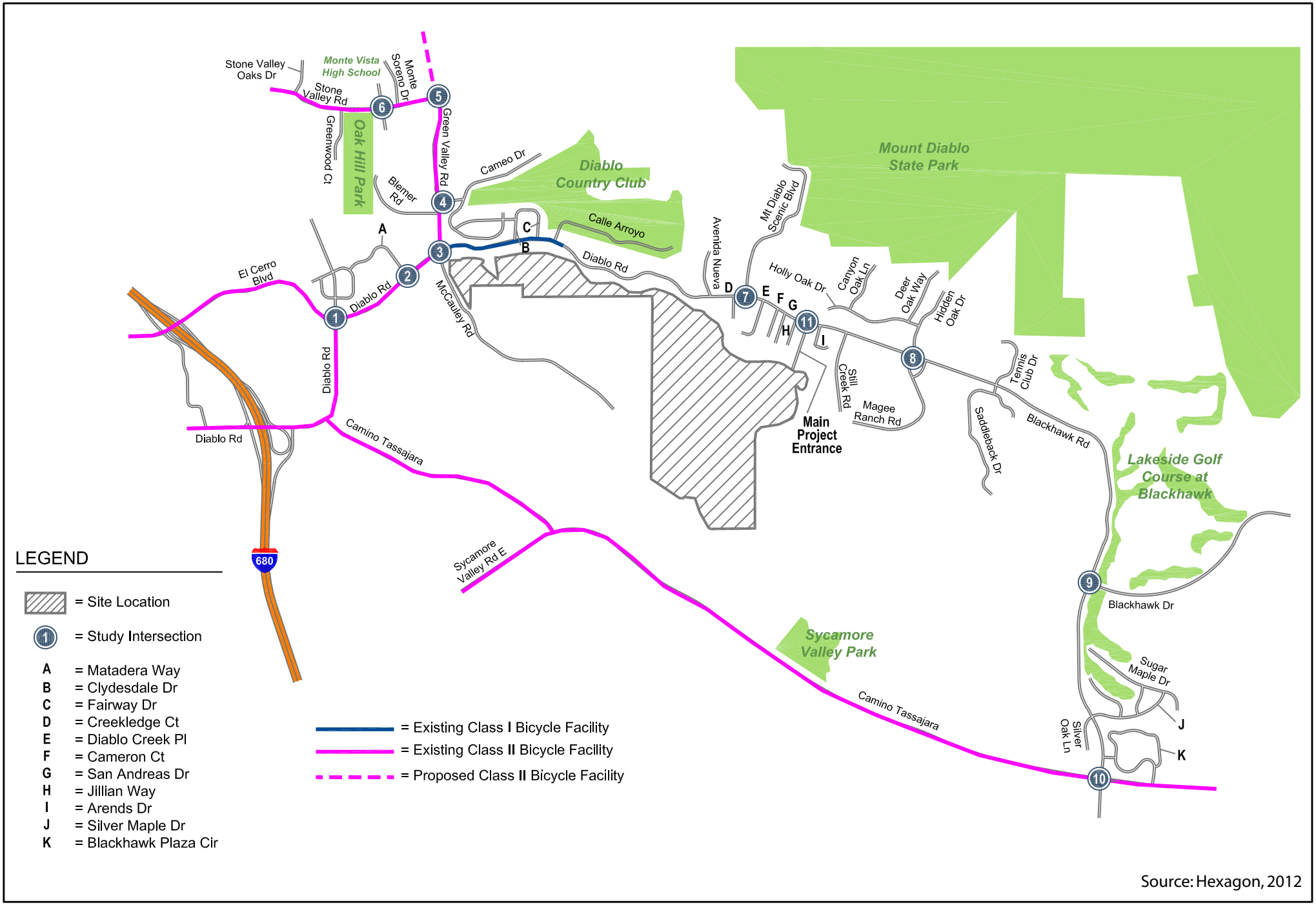
Pedestrian facilities in the project area consist primarily of sidewalks along the streets near the project site. Sidewalks are found along the northern side of Blackhawk Road adjacent to the project site. There are currently no sidewalks on the south side of Blackhawk Road. In addition, there are no 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.

Traffic Study and Methodology

A traffic study was prepared for the project by Hexagon Transportation Consultants, Inc. (refer to Appendix I). Traffic conditions were analyzed for intersections, road segments, and freeways based on level of service (LOS) evaluations. LOS is a measure of roadway quality of service. LOS describes traffic conditions on a scale of A to F, with LOS A indicating free flow conditions with minimum delay, and LOS F representing severe congestion with major delay. The traffic study analyzed traffic conditions under the following scenarios:

- Scenario 1: Existing Conditions. Existing conditions represent existing peak hour traffic volumes on the existing roadway network. Existing traffic volumes were obtained from new traffic counts.

- Scenario 2: Existing Plus Project Conditions. Existing plus project conditions represent future traffic volumes with the project. Future traffic volumes with the project (or project traffic volumes) were estimated by adding existing traffic volumes to the trips generated by the proposed project. Existing plus project conditions were compared to existing conditions to determine project impacts.



Source: Hexagon, 2012

Existing Bicycle Facilities

Monterey | San Jose
Denise Duffy and Associates, Inc.
Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure
4.12-2

- Scenario 3: Cumulative Conditions (both "no project" and "with project"). Cumulative conditions represent forecasted long-term future (year 2030) traffic conditions. Cumulative no project traffic volumes were estimated based on an annual growth factor of two percent per year, based on the CCTA's TransCAD travel forecasting model. Project trips were then added to estimate cumulative with project conditions. Cumulative with project conditions were compared to cumulative no project conditions to determine project impacts.

The traffic analysis evaluated a total of 11 signalized and unsignalized intersections in the vicinity of the project site, as listed below. The traffic analysis also evaluated traffic impacts at the proposed project access points.

1. Diablo Road and El Cerro Boulevard (Signalized)
2. Matadera Way and Diablo Road (Signalized)
3. Green Valley Road and Diablo Road (Signalized)
4. Green Valley Road and Blemer Road/Cameo Drive (Signalized)
5. Green Valley Road and Stone Valley Road (Unsignalized)
6. Monte Vista H.S. Main Entrance and Stone Valley Road (Signalized)
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 (Signalized)
11. Project Entrance and Blackhawk Road (Unsignalized)

The potential traffic impacts related to the project were evaluated in accordance with the standards and methodologies set forth by the Town of Danville and the Contra Costa Transportation Authority (CCTA), as explained in further below. Traffic conditions at the study intersections were analyzed for the weekday AM and PM commute peak hours, and school PM peak hours.[1] The AM commute peak hour is generally between 7-9 AM, the PM commute peak hour is typically between 4- 6 PM, and the school PM peak hour is typically between 2-4 PM. On an average day the most congested traffic conditions occur during these time periods.

The data required for the traffic analysis were obtained from new traffic counts, previous traffic studies, the Town of Danville, 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 development (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 (specifically, 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)". While it is not required by 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.

[1] This scenario was evaluated due to the location of a number of schools in the project area.

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 intersections on Basic Routes. The LOS standard for signalized intersections 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 to understand the potential traffic impacts that may result from a proposed project.

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 TRAFFIX software was used to apply the CCTALOS and 2000 HCM methods for evaluating traffic conditions at signalized intersections. CCTALOS provides LOS conditions in terms of total volume-to-capacity (v/c) ratios, which does not take into account signal timing, queue lengths, delay and storage capacity. CCTALOS is the required methodology of the CCTA. The 2000 HCM method 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 (in seconds) attributed to the intersection and includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. Per the Town of Danville, the LOS was reported using the 2000 HCM methodology because it provides a more accurate indication of intersection operation in the Town. However, the CCTALOS calculations are included in the traffic analysis provided in Appendix I for Measure J compliance reporting purposes. For the 2000 HCM methodology, the correlation between average delay and level of service for signalized intersections is shown in Table 4.12-1.

Unsignalized Intersections

Level of service at unsignalized intersections in the Town of Danville and Contra Costa County is evaluated based on the 2000 Highway Capacity Manual (2000 HCM) method. TRAFFIX software was used to apply the 2000 HCM operations method. This method is applicable for both two-way and all-way stop-controlled intersections. The delay and corresponding LOS definitions at unsignalized, stop-controlled intersections are presented in Table 4.12-2. For two-way and four-way stop controlled intersections, the reported LOS represents the average delay of all intersection movements combined.

Table 4.12-1
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 4.12-2
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)

Existing Traffic Conditions

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 Figure 4.12-3. Daily traffic counts were collected by the traffic consultant in October 2010 on Blackhawk Road in the vicinity of the project site. These counts included the volume and direction of vehicles over a 72-hour time period. Blackhawk Road between Diablo Creek Place and Cameron Court carries approximately 8,254 daily trips (both directions) during a typical

weekday. A further breakdown shows 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 4.12-4A and 4.12-4B, respectively.

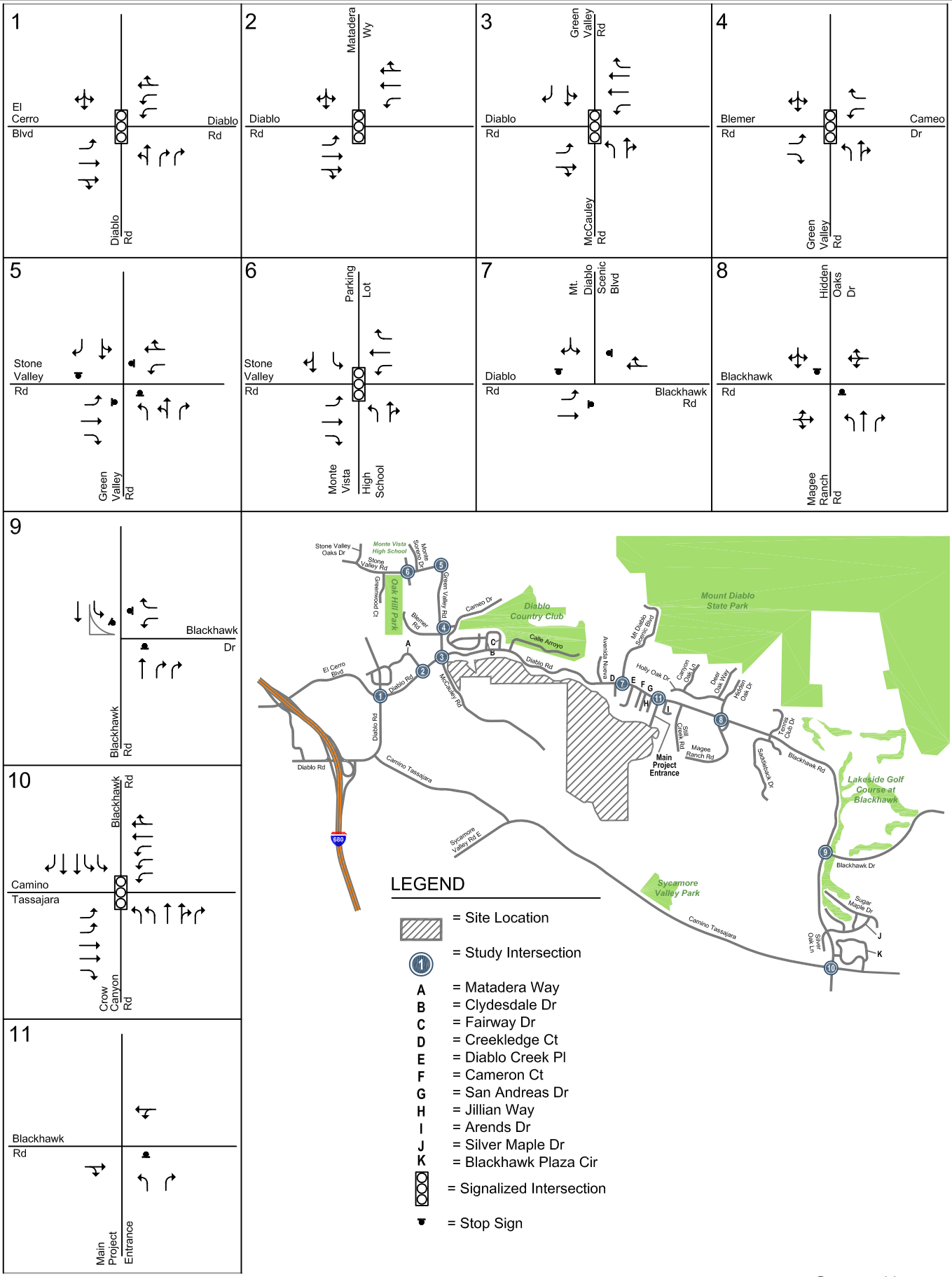
The results of the level of service analysis under existing conditions for signalized and unsignalized intersections are presented in Figures 4.12-5A and 5B. The results indicate that the intersection of Green Valley Road and Blemer Road/Cameo Drive currently operates at an unacceptable LOS E during the AM Peak hour. All 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. Under existing conditions, all unsignalized intersections currently operate at acceptable levels of service, with the exception of the Green Valley Road/Stone Valley Road intersection, which operates at LOS F and E during the AM and school PM peak hours, respectively.

Diablo Cut-Through Survey

In response to comments raised at the EIR scoping meeting, Hexagon conducted a license plate survey to determine if cut-through traffic occurs through the community of Diablo, north of Diablo Road. The cut-through routes identified by the community 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. 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 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, as shown in Table 4.12-3.

Table 4.12-3
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%

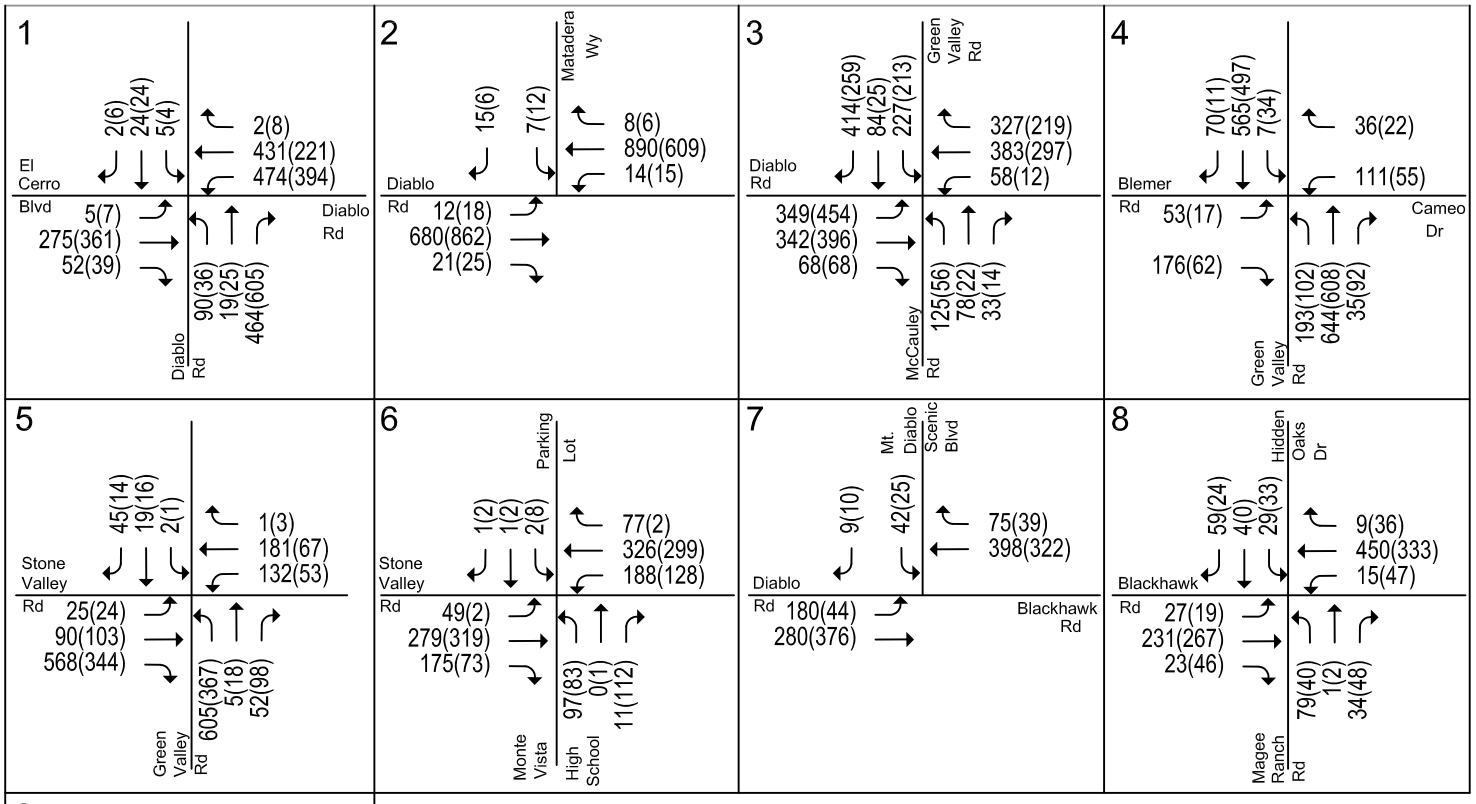


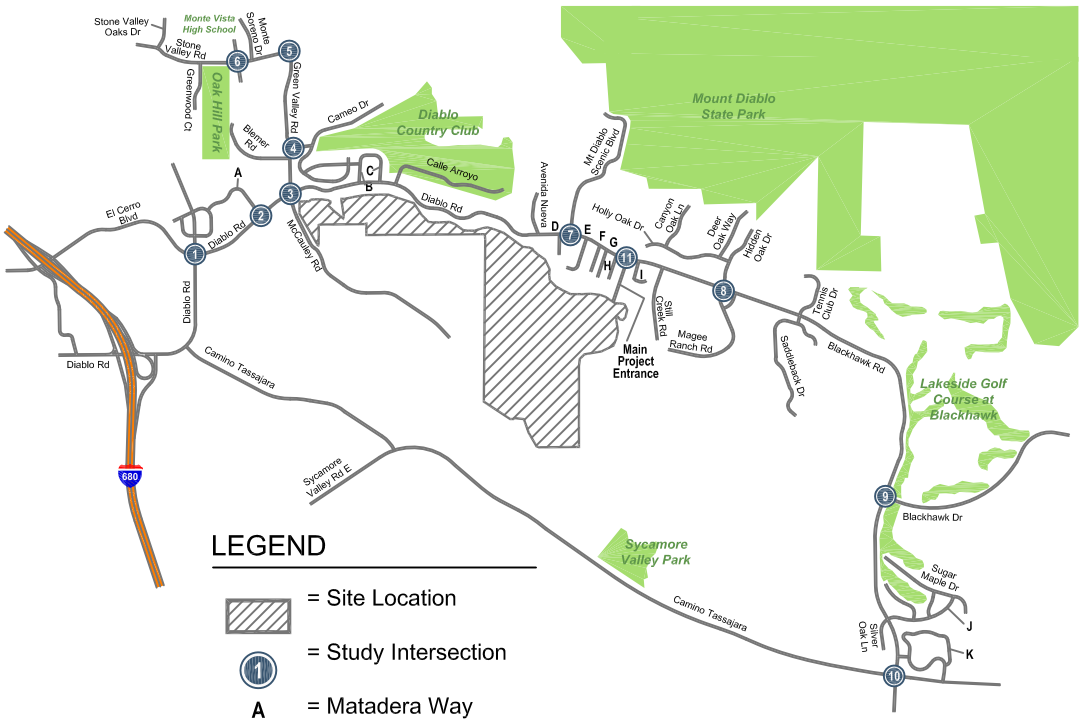
Source: Hexagon, 2012

Existing Lane Configurations

Monterey | San Jose
Denise Duffy and Associates, Inc.
Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure
4.12-3





LEGEND

= Site Location

= 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

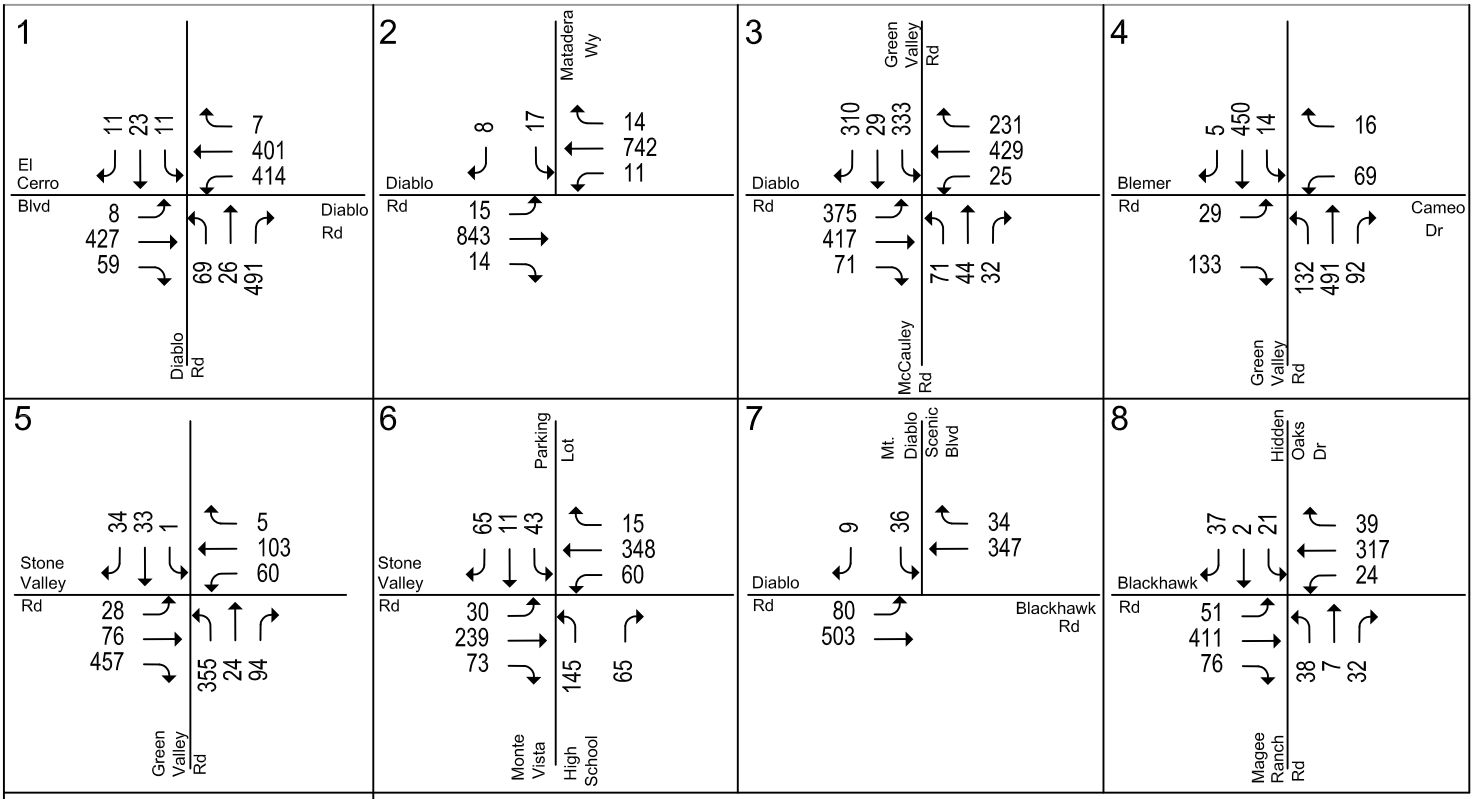
XX(XX) = AM(PM) Peak Hour Volumes

Source: Hexagon, 2012

Existing AM & PM Peak Hour Traffic Volumes

Monterey | San Jose
Denise Duffy and Associates, Inc.
Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure 4.12-4A



Source: Hexagon, 2012

Existing School PM Peak Hour Traffic Volumes

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Denise Duffy and Associates, Inc.
Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure 4.12-4B

Intersection	Traffic Control	Peak Hour	Count Date	Existing Avg. Delay	Existing LOS	Existing Crit. V/C	Existing Plus Project Avg. Delay	Existing Plus Project LOS	Existing Plus Project Crit. V/C	2030 Cumulative No Project Avg. Delay	2030 Cumulative No Project LOS	2030 Cumulative No Project Crit. V/C	2030 Cumulative With Project[1] Avg. Delay	2030 Cumulative With Project[1] LOS	2030 Cumulative With Project[1] Crit. V/C
Signalized Intersections															
Diablo Rd and El Cerro Blvd	Signalized	AM	10/7/2010	31.0	C	0.492	31.0	C	0.504	36.3	D	0.730	36.6	D	0.742
		Midday	10/7/2010	32.8	C	0.485	32.8	C	0.492	37.7	D	0.720	37.9	D	0.727
		PM	10/7/2010	33.4	C	0.501	33.6	C	0.516	38.7	D	0.745	39.2	D	0.760
Matadera Wy and Diablo Rd	Signalized	AM	10/7/2010	4.0	A	0.312	4.2	A	0.320	4.1	A	0.464	4.3	A	0.471
		Midday	10/7/2010	4.3	A	0.318	4.5	A	0.328	4.4	A	0.473	4.6	A	0.483
		PM	10/7/2010	4.2	A	0.295	4.4	A	0.310	4.2	A	0.438	4.4	A	0.453
Green Valley Rd and Diablo Rd	Signalized	AM	10/7/2010	51.8	D	0.832	54.2	D	0.862	**114.5**	**F**	1.237	**121.8**	**F**	1.266
		Midday	10/7/2010	50.2	D	0.826	52.1	D	0.853	**115.4**	**F**	1.227	**121.8**	**F**	1.254
		PM	10/7/2010	36.3	D	0.734	36.8	D	0.749	**73.1**	**E**	1.091	**75.8**	**E**	1.106
Green Valley Rd and Blemer Rd/Cameo Dr	Signalized	AM	10/21/2010	**59.9**	**E**	0.712	**61.5**	**E**	0.722	**171.1**	**F**	1.059	**174.2**	**F**	1.068
		Midday	10/21/2010	30.6	C	0.454	31.0	C	0.463	**67.9**	**E**	0.675	**69.6**	**E**	0.684
		PM	10/21/2010	30.2	C	0.498	30.3	C	0.499	**95.1**	**F**	0.732	**95.4**	**F**	0.732
Monte Vista H.S. and Stone Valley Rd	Signalized	AM	10/21/2010	22.4	C	0.514	22.5	C	0.519	34.1	C	0.763	34.6	C	0.767
		Midday	10/21/2010	22.4	C	0.5	22.4	C	0.501	28.2	C	0.744	28.3	C	0.744
		PM	10/21/2010	21.6	C	0.404	21.5	C	0.405	25.1	C	0.600	25.1	C	0.601
Blackhawk Rd/Crow Canyon Rd and Camino Tassajara	Signalized	AM	10/28/2010	39.1	D	0.584	39.2	D	0.587	47.8	D	0.867	47.9	D	0.870
		Midday	10/28/2010	42.2	D	0.592	42.3	D	0.594	52.1	D	0.880	52.3	D	0.882
		PM	10/28/2010	41.3	D	0.595	41.3	D	0.598	51.6	D	0.884	51.8	D	0.887

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.

Source: Hexagon, 2012

Level of Service Summary - Signalized Intersections

Monterey | San Jose
Denise Duffy and Associates, Inc.
Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure 4.12-5A

Intersection	Traffic Control	Peak Hour	Count Date	Existing Avg. Delay	Existing LOS	Existing Crit. V/C	Existing Plus Project Avg. Delay	Existing Plus Project LOS	Existing Plus Project Crit. V/C	2030 Cumulative No Project Avg. Delay	2030 Cumulative No Project LOS	2030 Cumulative No Project Crit. V/C	2030 Cumulative With Project[1] Avg. Delay	2030 Cumulative With Project[1] LOS	2030 Cumulative With Project[1] 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	0.72	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	0.58	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.

Source: Hexagon, 2012

Level of Service Summary - Unsignalized Intersections

Monterey | San Jose
Denise Duffy and Associates, Inc.
Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure 4.12-5B

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/Mt. Diablo Scenic Boulevard and Diablo Road/Avenida Nueva as these intersections experience high traffic volumes during a defined peak hour. The intersection of Diablo Road/Mt. Diablo Scenic Boulevard 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.

Observed Existing Traffic Conditions

Traffic conditions in the field were observed in order to identify existing operational deficiencies and confirm the accuracy of calculated levels of service. The purpose of this effort was to 1) identify any existing traffic problems that may not be directly related to intersection level of service, and 2) 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 problems currently occur at locations near the project site as described below.

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, past Blemer/Cameo, 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 eastbound queue on Blemer Road occasionally spills back to Los Cerros Middle School and requires two signal cycles to clear the intersection.

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 Serano 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.

Regulatory Environment

State

The California Department of Transportation (Caltrans) is responsible for the planning, design, construction, and maintenance of interstate freeways and state highways. Within the project study area, I-680 and I-580 are within Caltrans' jurisdiction. Caltrans' *Guide for the Preparation of Traffic Impact Studies* (December, 2002) identifies Caltrans requirements for evaluating the effect of local development and land use changes on state highway facilities.

Regional

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 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 MTC 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.

Contra Costa Transportation Authority (CCTA). The 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 CCTA oversees the design and construction of the transportation projects contained in the Measure C and J expenditure plans, carries out the programs included in the expenditure plans, 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 level of service standard for intersections along Routes of Regional Significance[2] is LOS E or better, with a volume-to-capacity ratio 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 TVTC includes the Cities of San Ramon, Dublin, Pleasanton, Livermore, the Town of Danville, and unincorporated areas of Alameda and Contra Costa Counties. The TVTC develops and implements the Tri-Valley Transportation Plan/Action Plan for Routes of Regional Significance. As described above, the level of service standard for intersections along Routes of Regional Significance is LOS E or better, with a volume-to-capacity ratio of 0.90 to 0.91 depending on the intersection. This plan also establishes

[2]Routes of regional significance are chosen by the individual regional transportation planning committees based on the CCTA's Implementation Guide criteria.

shared traffic service objectives and presents a list of 11 high-priority transportation improvement projects to ease regional traffic congestion. The Tri-Valley Transportation Development Fee on new developments was developed to fund these transportation improvements. The most recent Tri-Valley Transportation Plan/Action Plan was updated in July of 2008.

Local

Town of Danville General Plan. The Town of Danville's General Plan outlines transportation goals that 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. The acceptable service level for signalized intersections may be no worse than mid-range LOS D.

Thresholds of Significance

In accordance with Appendix G, Environmental Checklist, of the CEQA Guidelines, a project impact would be considered significant if the project would:

- cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections);
- exceed, either individually or cumulatively, a level of service standard established by the county congestion/management agency for designated roads or highways;
- result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks;
- substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);
- result in inadequate emergency access;
- conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).

In applying the above CEQA Guideline thresholds, the following specific significance criteria were used to evaluate the significance of traffic impacts resulting from the project.

1. In the context of the first bulleted CEQA criterion listed above, the following quantitative thresholds were applied based on the policies in the General Plan and/or the current Town standards:

    - Cause a signalized intersection on a Basic Route to fall from mid-range LOS D (or better) to LOS E (or worse); or

    - Cause an increase in the volume-to-capacity ratio (v/c) of 0.05 or more at a signalized or unsignalized intersection that is currently, and projected to continue to, operate at LOS E (or worse).

    The Danville General Plan establishes a Level of Service (LOS) standard of mid-range D for signalized intersections on Basic Routes. 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 traffic analysis in an effort to fully understand the potential traffic impacts from the project.

If an intersection is already operating at an unsatisfactory level of service (LOS E or F), an increase of five percent (addition of 0.05) to the v/c ratio would constitute a significant project impact. Based on the judgment of the Town's traffic consultants and traffic engineering staff, and historic variations in daily traffic volume, it has been determined that an increase of 0.05 in the v/c ratio (or a five percent threshold increase) is a conservative, appropriate measurement of an adverse change to an intersection.[3] 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

2. In the context of the second bulleted CEQA criterion listed above, the following quantitative thresholds were applied to reflect the established standards in the Tri-Valley Transportation Action Plan (TVTC, 2008):

   - Cause an intersection along a Route of Regional Significance to exceed the LOS E standard established 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 levels.

Impacts and Mitigation

Project Trip Generation

The estimated traffic generated by a project and the locations where that traffic will occur are based on the following: 1) trip generation, 2) trip distribution, and 3) trip assignment. To determine trip generation for the proposed project, the amount of traffic entering and exiting the site was estimated for the AM, school PM, and PM peak hours. To determine project trip distribution, an estimate was made of the directions to and from which the project trips would travel. For the trip assignment, the project trips were assigned to specific streets and intersections.

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 national empirical research and correlated to common land uses that produce traffic. For most common land uses, standard trip generation rates are provided by the ITE to predict future traffic increases from new development. The magnitude of traffic added to the roadway system by a particular development is estimated by applying the appropriate trip generation rate to the proposed development. The ITE rate for Single-Family Detached Housing is presented in Table 4.12-4.

The Town of Danville has compiled its own more conservative residential trip generation rates ("Danville Rates") as shown in Table 4.12-4. These rates are collected locally and more accurately reflect the predicted trip generation rates of similar residential projects in the Danville

[3] Due to normal fluctuation in daily traffic and motorist's perception of traffic conditions, a change in v/c of less than 0.05 is considered imperceptible based on industry practice.

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.

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 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 trip generation rates is shown below in Table 4.12-4.

Table 4.12-4
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)" to the project's daily, AM, school PM, and PM peak hours as shown in Table 4.12-5. 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.

Table 4.12-5
Project Trip Generation Estimates

Land Use	Size[4]	Daily		Am Peak Hour				School PM Peak Hour				PM Peak Hour			
		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.
[4] Calculations based on original 78-unit project.

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 4.12-6 shows the trip distribution patterns that were used. Figure 4.12-7 shows the project trip assignment for the proposed residential development. The project driveway locations and trips are shown on Figure 4.12-8.

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 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.

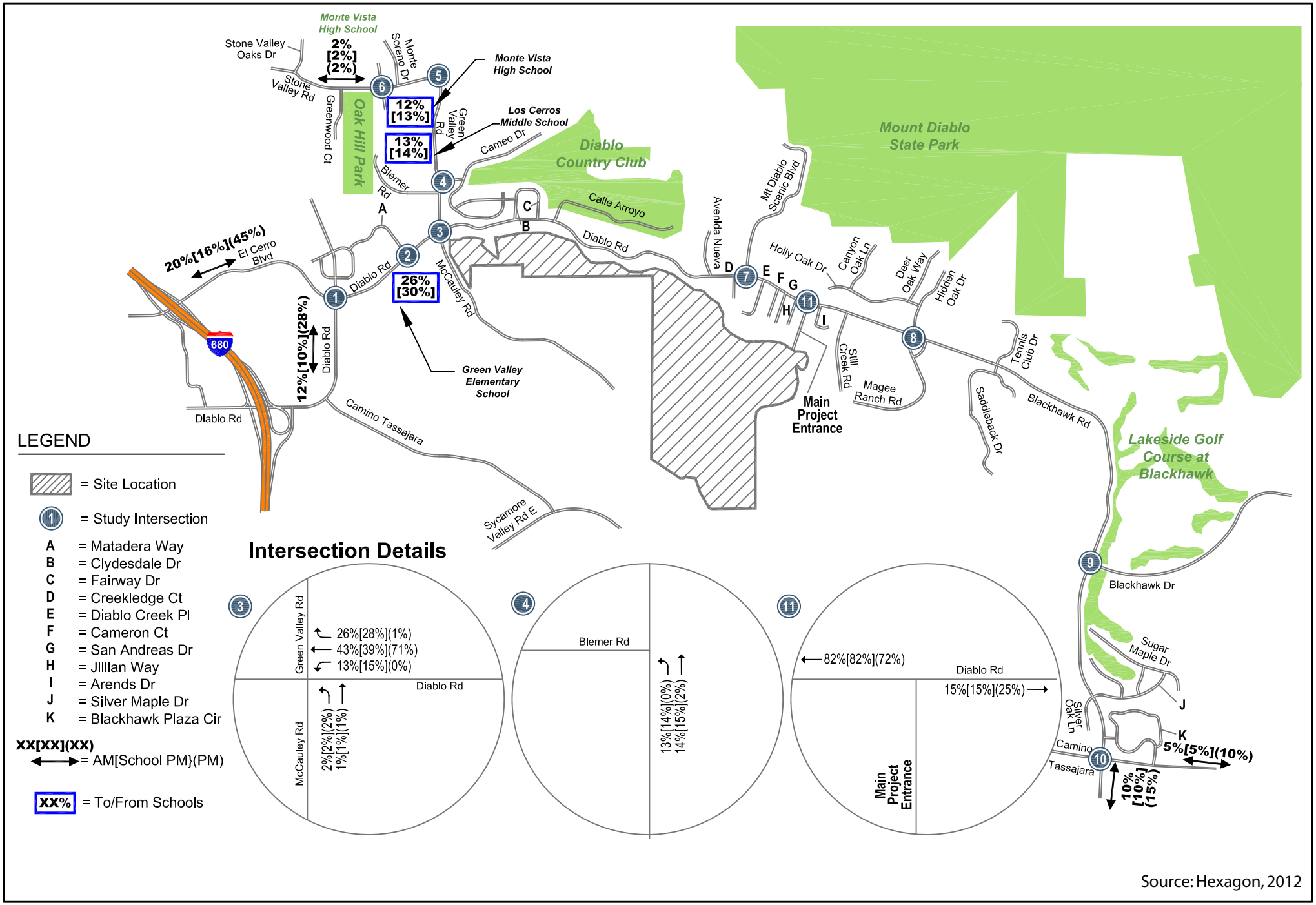
Due to the low percentage of cut-through traffic observed under existing conditions (5%), the traffic analysis did not assign cut-through traffic along the potential cut-through route north of Diablo Road within the Diablo community.

Existing Plus Project Conditions – Signalized Intersections

Existing plus project conditions consist of existing traffic conditions with the addition of project traffic. As a conservative assumption, the traffic analysis assumed a trip generation based on 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. 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 4.12-9 and 4.12-10, respectively.

The results of the level of service analysis under existing plus project conditions for signalized intersections are summarized in Figure 4.12-5A. Summaries of the project's impacts to all study intersections, based on the Town's criteria, are presented in Figures 4.12-11A – 4.12-11C. The results of the traffic study show that the signalized intersection of Green Valley Road and Blemer Road/Cameo Drive would continue to operate at an unacceptable LOS E during the AM peak hour. 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.

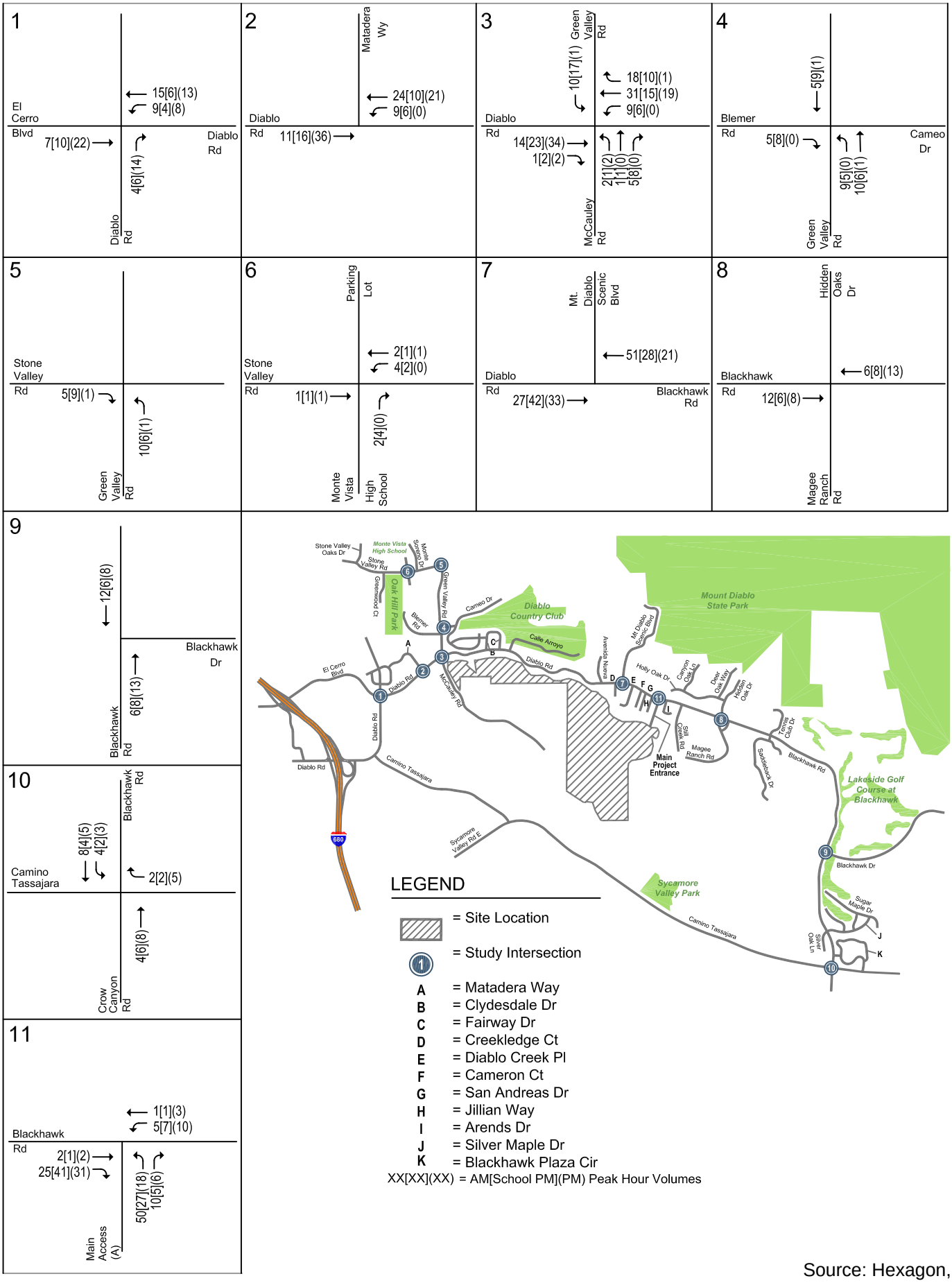


Source: Hexagon, 2012

Trip Distribution Patterns

Monterey | San Jose
Denise Duffy and Associates, Inc.
Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure 4.12-6

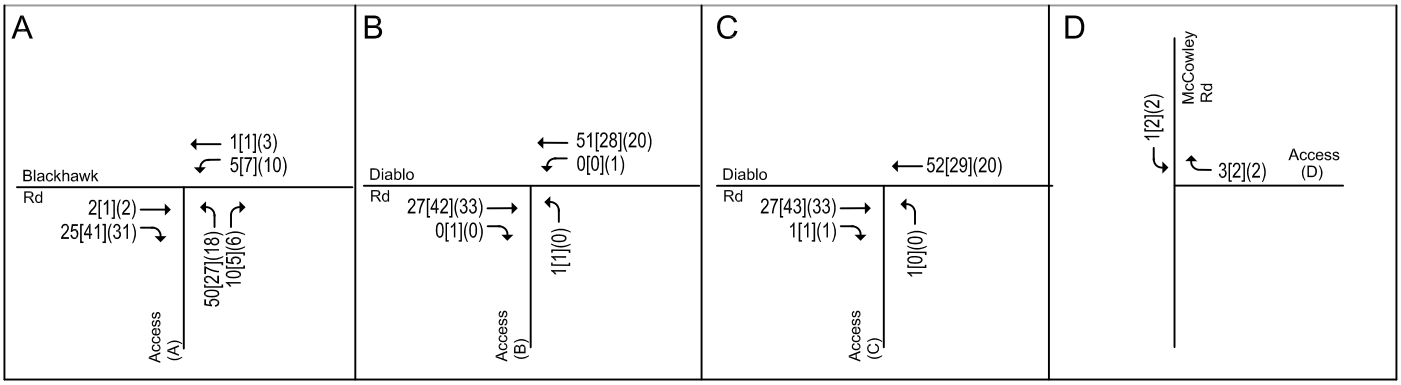


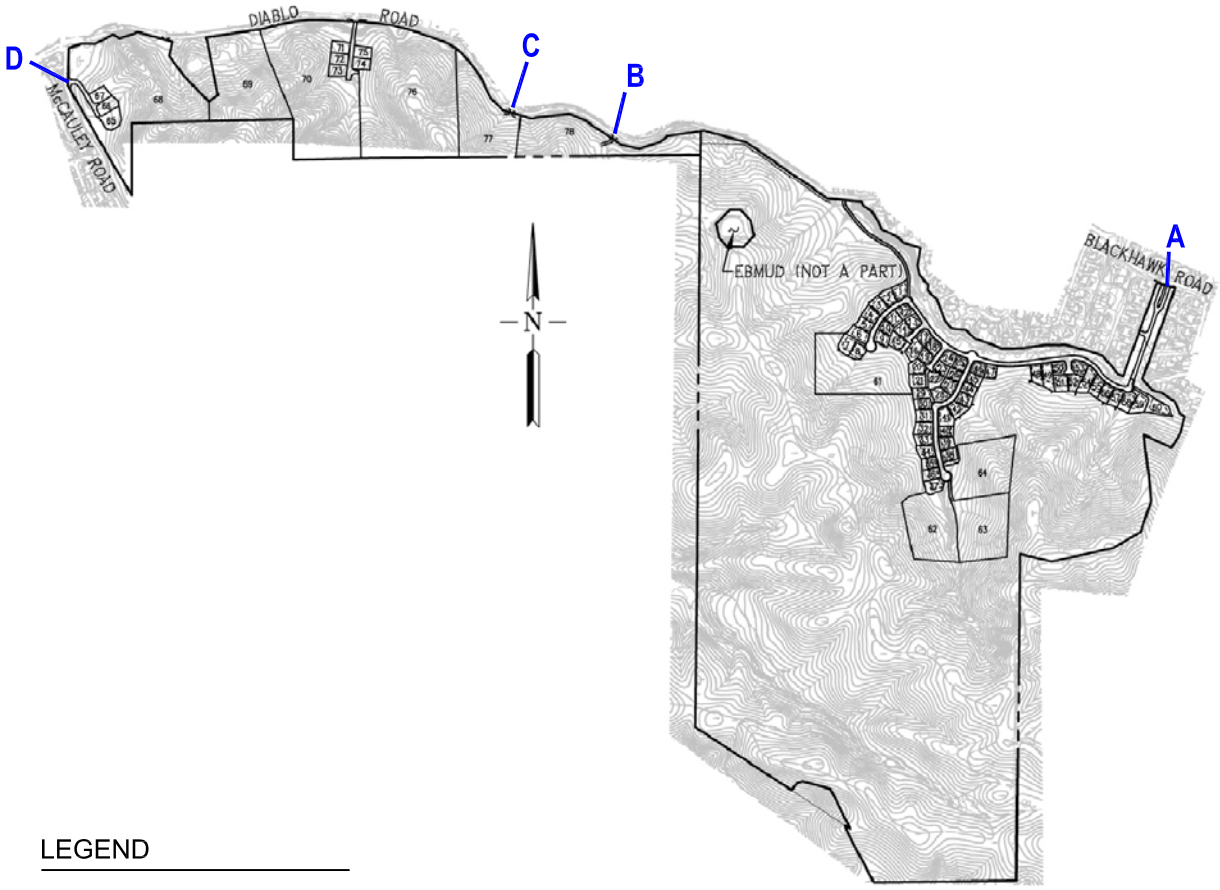
Source: Hexagon, 2012

Project Trip Assignment

Monterey | San Jose
Denise Duffy and Associates, Inc.
Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure 4.12-7





LEGEND

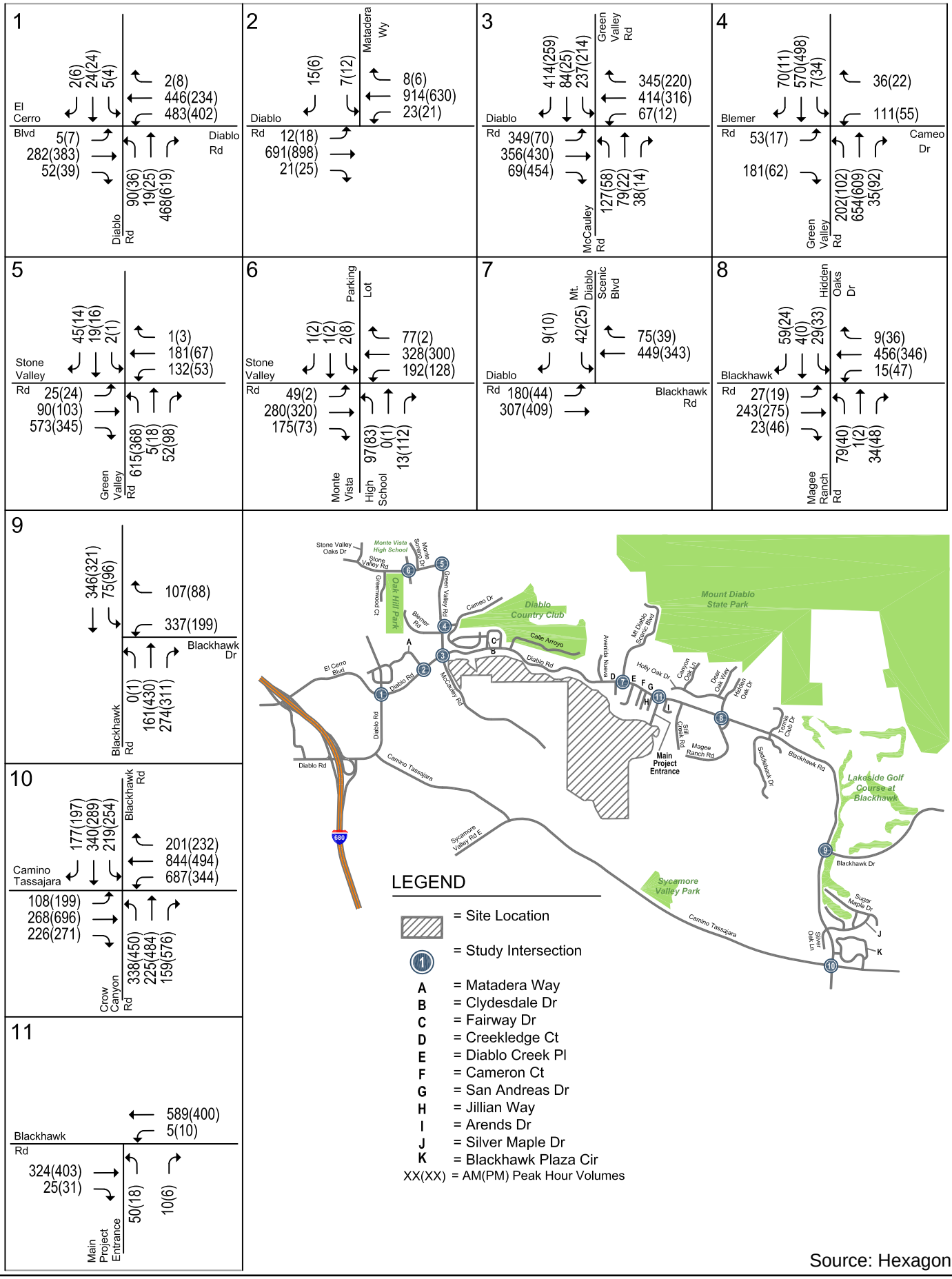
XX[XX](XX) = AM[School PM](PM) Peak Hour Volumes

Source: Hexagon, 2012

Project Driveways & Driveway Trips

Monterey | San Jose
Denise Duffy and Associates, Inc.
Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure
4.12-8

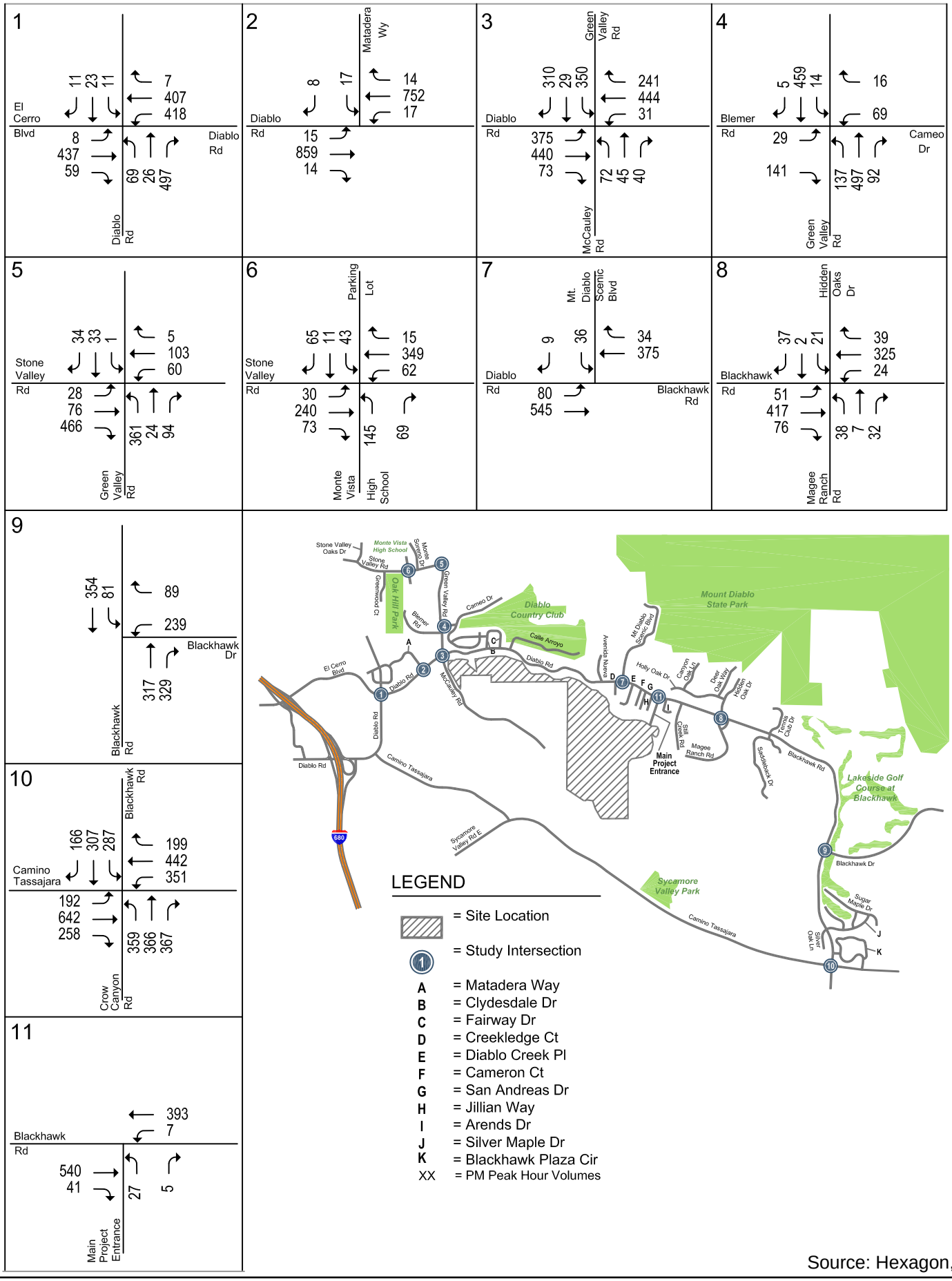


Source: Hexagon, 2012

Existing Plus Project AM & PM Peak Hour Traffic Volumes

Monterey | San Jose
Denise Duffy and Associates, Inc.
Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure 4.12-9



Source: Hexagon, 2012

Existing Plus Project School PM Peak Hour Traffic Volumes

Monterey | San Jose
Denise Duffy and Associates, Inc.
Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure 4.12-10

Cumulative Traffic Conditions – Signalized Intersections

Cumulative no project (baseline) 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 an annual growth factor of two percent to existing traffic volumes over a period between the date of 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 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 4.12-12 through 4.12-15, respectively.

The signalized intersection level of service results under cumulative conditions are summarized in Figure 4.12-5A. The results of the cumulative no project and project analysis are summarized below.

Cumulative Conditions - No Project

The traffic analysis results show that two signalized study intersections would operate at an unacceptable LOS E or worse, with a v/c between 0.675 to 1.241, under cumulative no project conditions as follows:

- Green Valley Road/Diablo Road (LOS F during AM and school PM peak hours and LOS E during PM peak hour)

- Green Valley Road/Blemer Rd/Cameo Drive (LOS F during AM and PM peak hours and LOS E during school PM peak hour)

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 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, as follows:

- Green Valley Rd and Diablo Rd (LOS F during the AM and school PM peak hours and LOS E during the PM peak hour)

- Green Valley Rd and Blemer Rd/Cameo Dr (LOS F during the AM and PM peak hours and LOS E during the school PM peak hour)

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	-

Source: Hexagon, 2012

AM Summary of Analysis & Thresholds of Significance

Monterey | San Jose
Denise Duffy and Associates, Inc.
Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure 4.12-11A

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	-

Source: Hexagon, 2012

PM Summary of Analysis & Thresholds of Significance

Monterey | San Jose
Denise Duffy and Associates, Inc.
Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure 4.12-11B

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	-

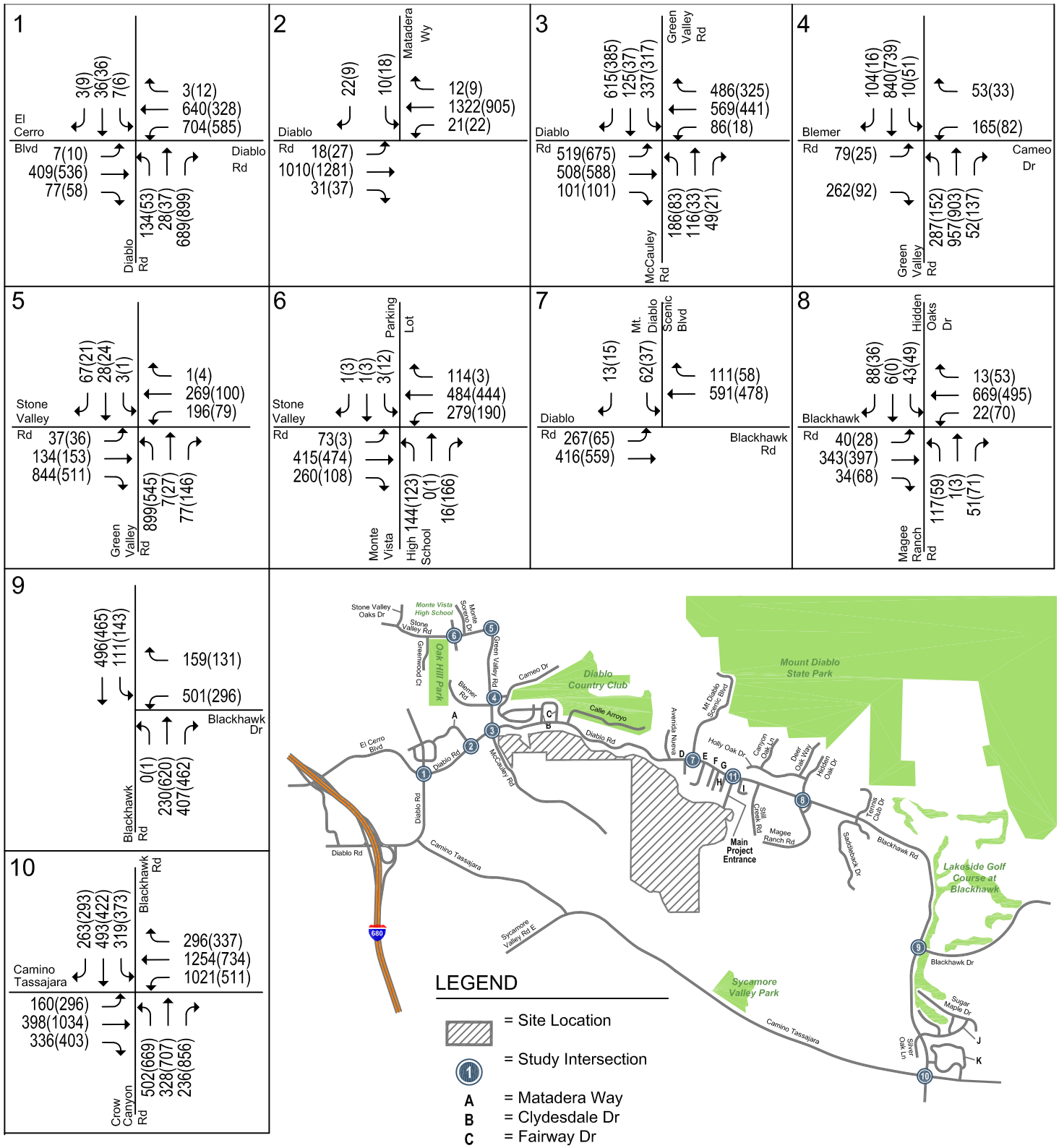
Source: Hexagon, 2012

School PM Summary of Analysis and Thresholds of Significance

Monterey | San Jose
Denise Duffy and Associates, Inc.
Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure 4.12-11C

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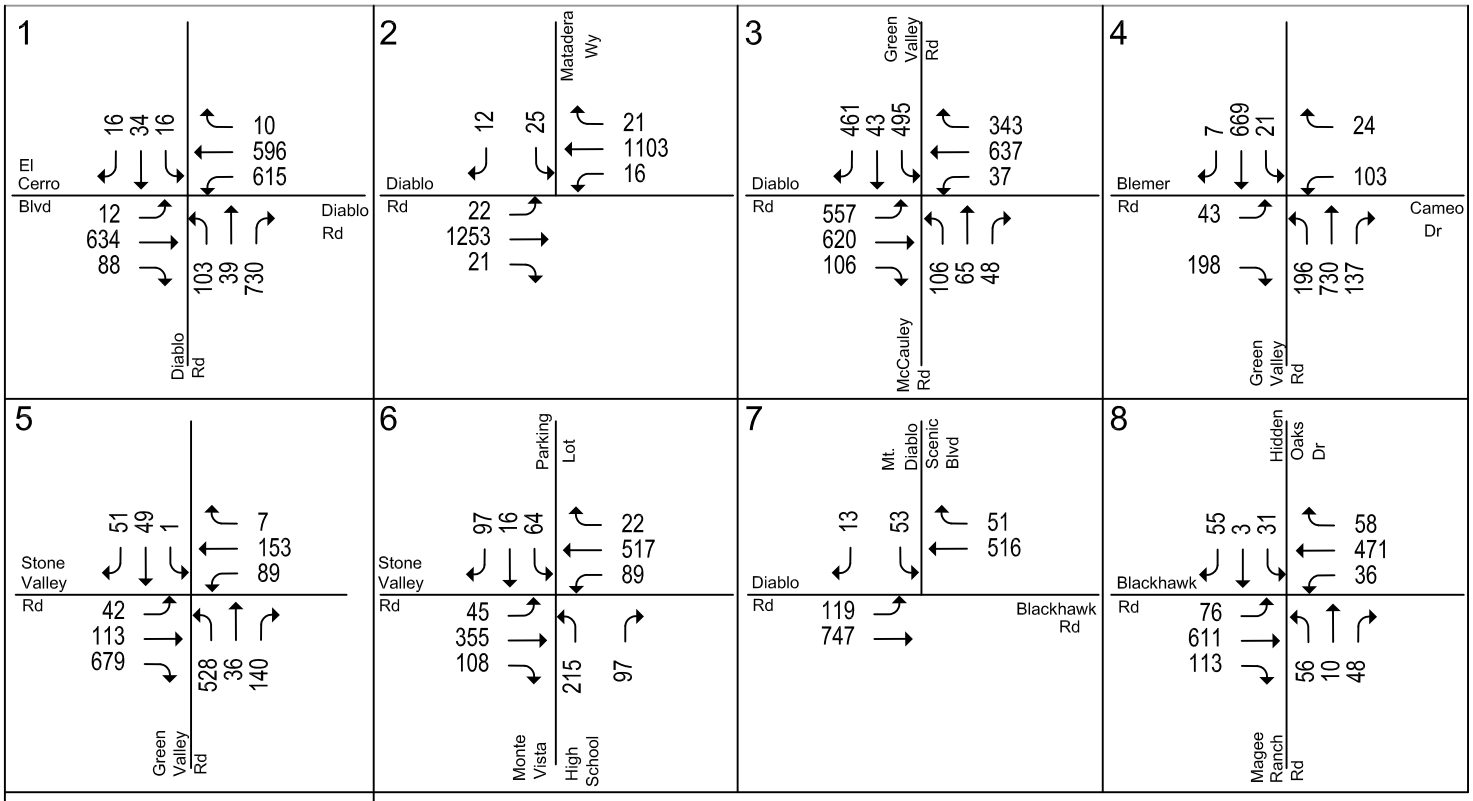


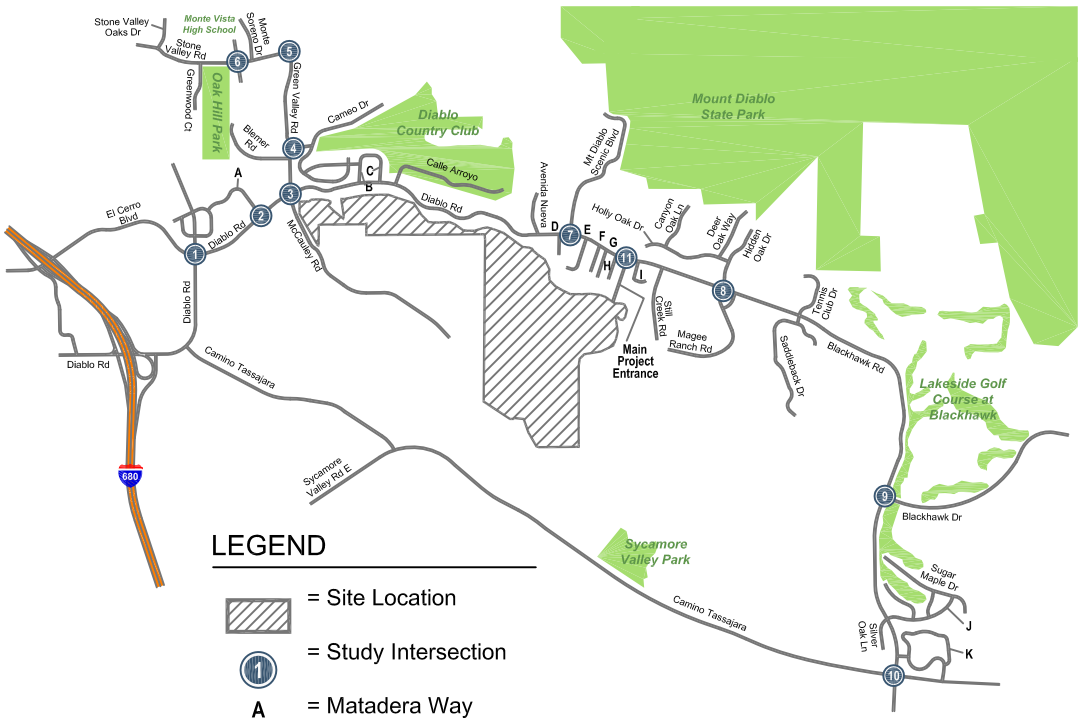
Source: Hexagon, 2012

2030 Cumulative No Project AM & PM Peak Hour Traffic Volumes

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Denise Duffy and Associates, Inc.
Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure 4.12-12



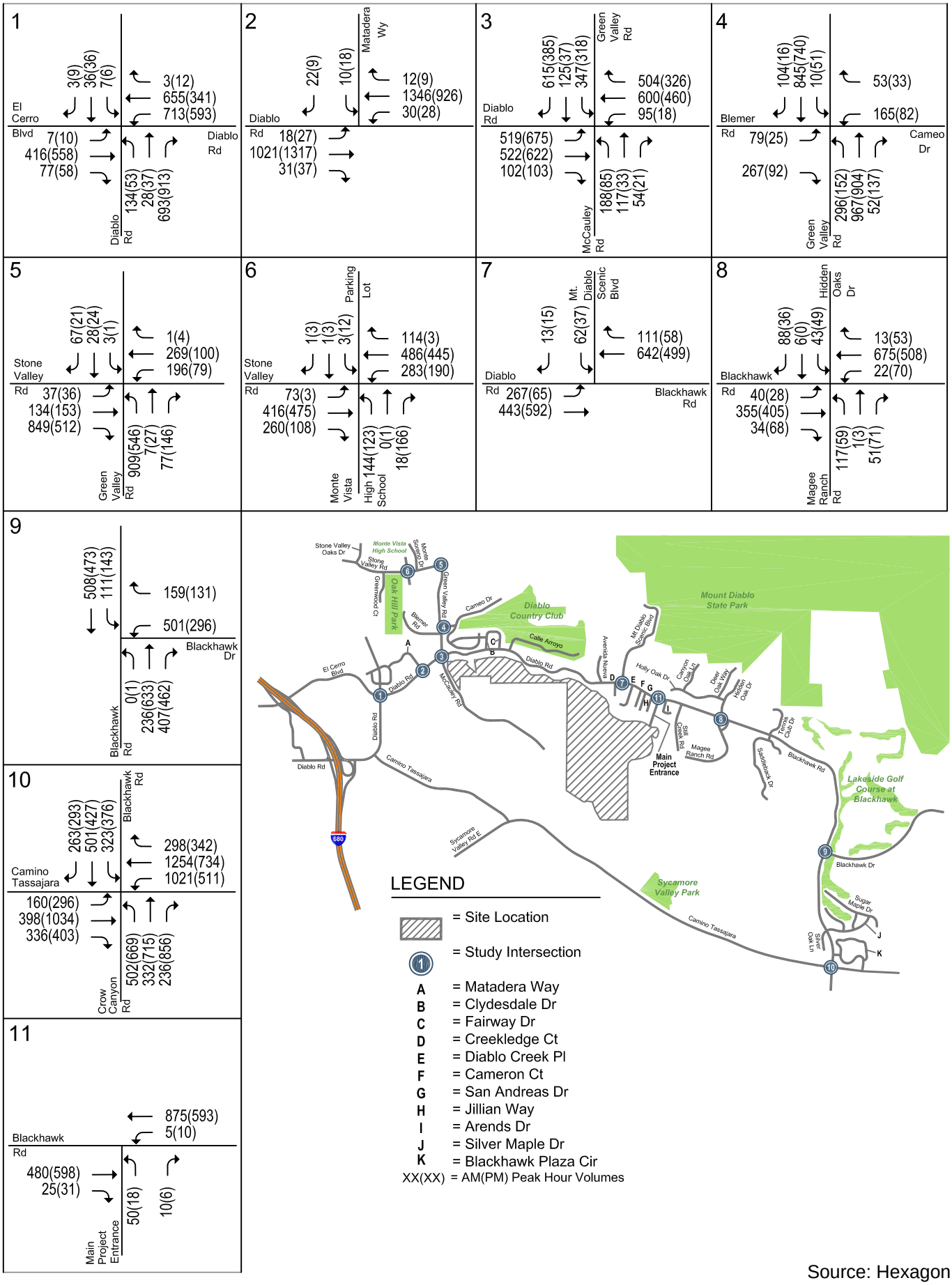


Source: Hexagon, 2012

2030 Cumulative No Project School PM Peak Hour Traffic Volumes

Monterey | San Jose
Denise Duffy and Associates, Inc.
Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure 4.12-13

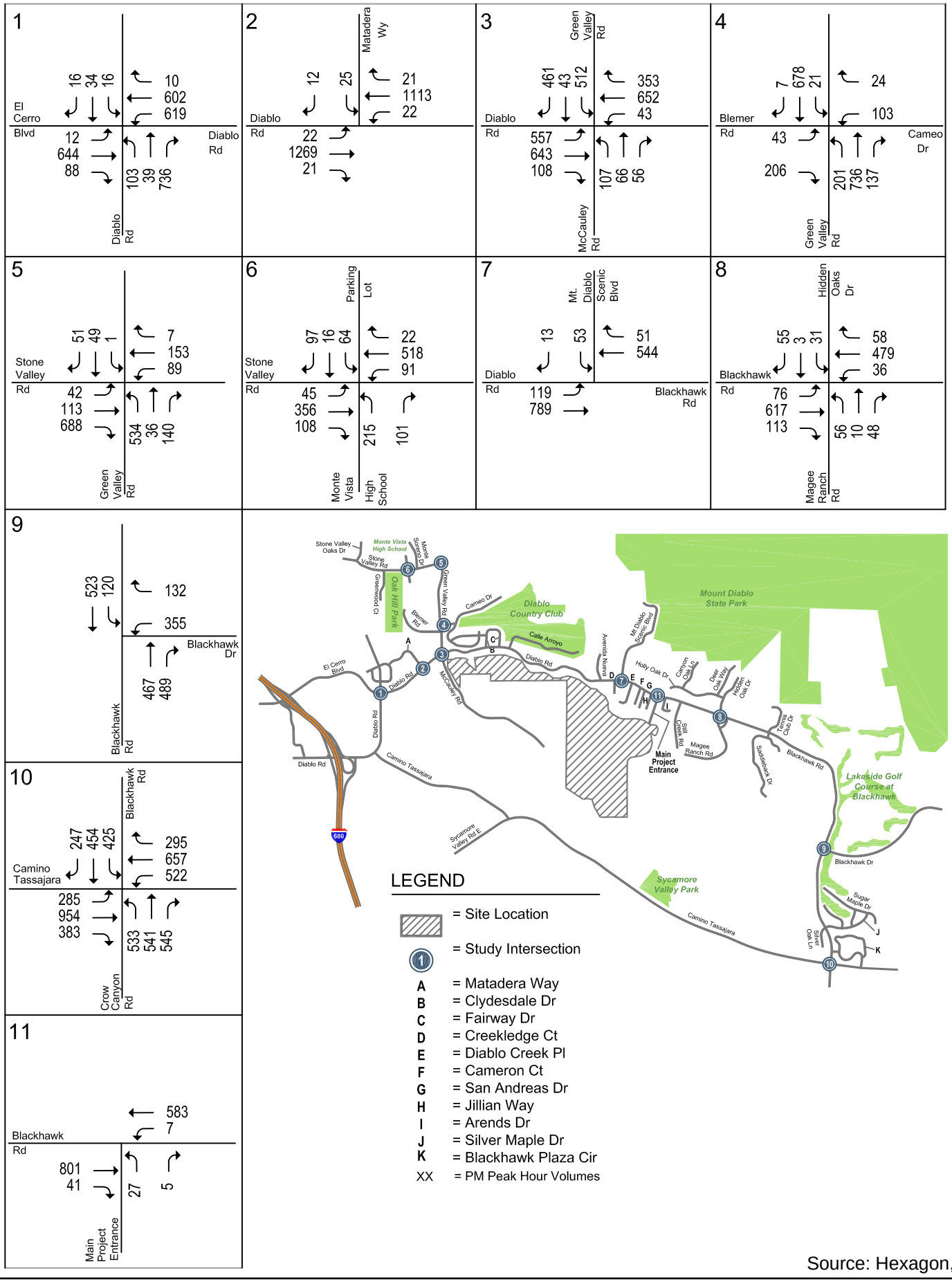


Source: Hexagon, 2012

2030 Cumulative With Project AM & PM Peak Hour Traffic Volumes

Monterey | San Jose
Denise Duffy and Associates, Inc.
Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure 4.12-14



Source: Hexagon, 2012

2030 Cumulative With Project School PM Peak Hour Traffic Volumes

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Denise Duffy and Associates, Inc.
Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure 4.12-15

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 two 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 traffic impact at the intersection of Diablo Road/Green Valley Road, the Town requested that Hexagon analyze the extension of the westbound right-turn and through lanes at this location. 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). These improvements would result in impacts to existing trees in the immediate vicinity; these impacts are addressed in Section 4.4 Biological Resources of this EIR.

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.

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 don't typically limit the potential capacity of a roadway. The evaluation 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 of the traffic consultant.

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 project. The evaluation of unsignalized intersection applied the same threshold of significance used for signalized intersections: if project traffic would result in an increase in the v/c ratio of 0.05 or more at an intersection that is already operating, and is projected to continue to operate, at LOS E (or worse). 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

The levels of service for the unsignalized study intersections under existing, existing plus project, and cumulative conditions are shown in Table 4.12-4B. The delay and LOS for the intersections were reported as an overall average of all intersection movements. Based on this analysis, the

following unsignalized intersections would operate at poor overall levels of service under the Existing Plus Project and Cumulative scenarios.

Existing Plus Project Scenario

- Green Valley Rd and Stone Valley Rd (LOS F AM peak hour and LOS E school PM)

Cumulative No Project and Project Scenario

- Green Valley Rd and Stone Valley Rd (LOS F during AM, school PM, and PM)
- Mt. Diablo Scenic Blvd and Diablo Rd (LOS F during AM and school PM)
- Hidden Oaks Dr/Magee Ranch Rd and Blackhawk Rd (LOS F during AM)
- Blackhawk Rd and Blackhawk Dr (LOS F during AM and PM, LOS E during school PM)

Summary of Impacts and Mitigation

Intersection of Hidden Oaks Drive/Magee Ranch Road and Blackhawk Road. The project trips added during the cumulative plus project AM peak hour would increase the v/c ratio by 0.13. Based on the thresholds of significance, this would constitute a significant traffic impact.

Impact **The project trips added to the intersection of Hidden Oaks Drive/Magee Ranch Road and Blackhawk Road during the cumulative plus project AM peak hour would increase the v/c ratio by 0.13, which constitutes a significant impact based on the thresholds of significance. *This can be mitigated to a less-than-significant level with implementation of the following mitigation.***

Mitigation Measures

4.12-1 Per the Town of Danville, signalize the intersection of Hidden Oaks Drive/Magee Ranch Road and Blackhawk Road. 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 project applicant shall make a fair share contribution toward signalization at this intersection. With signalization, the intersection would operate at LOS B or better under all scenarios. Signalization of this intersection is identified as a project within the Town's Capital Improvement Program, with funds collected for its installation as part of the North East Roadway Improvement Association District.

Intersection of Mt. Diablo Scenic Boulevard/Diablo Road. This intersection is located within the jurisdiction of Contra Costa County. Project trips added to this intersection during the cumulative plus project AM peak hour and the cumulative plus project school PM peak hour would increase the v/c ratio by 0.05 or more. Based on the thresholds of significance, this 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 allowed by the County, then signalization of the intersection is also an option as described in the mitigation below.

Impact **The project trips added to the intersection of Mt. Diablo Scenic Boulevard and Diablo Road during the cumulative plus project school PM peak hour would increase the v/c ratio by 0.076, which constitutes a significant impact based on the thresholds of significance.** ***This is a significant impact that can be reduced to a less-than-significant level with implementation of the following mitigation.***

Mitigation Measures

4.12-2 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 shall be the project applicant's 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.

Green Valley Road/Stone Valley Road Intersection. The project trips added to this intersection would not increase the v/c ratio by 0.05 or more; therefore, the project's contribution would not be cumulatively considerable. The project would not create a significant impact at this location.

Blackhawk Road/Blackhawk Drive Intersection. 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. The project would not create a significant impact at this location.

Site Access and On-Site Circulation

A review of the project site plan was performed by the traffic consultant as part of the traffic analysis to evaluate the adequacy of site access and on-site circulation as summarized below. For the purposes of this EIR, this review focuses on the site design elements and analyzes whether the project provides safe and efficient circulation.

Access

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 on 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 driveway locations and project trips at the driveways are shown on Figure 4.12-8.

1. The project's main driveway (Driveway A), into Magee East, is located on Blackhawk Road. This entrance road would provide access to 64 proposed residential lots, and consist of one 28 foot inbound lane, two 14 foot outbound lanes, and a 20 foot landscaped median. Sight distance at Blackhawk Road is adequate based on the traffic analysis.

2. Driveway B is proposed on Diablo Road west of Mt. Diablo Scenic Boulevard and provides direct access to one residential lot. 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 field review with Town staff, sight distance at Diablo Road is adequate at this location.

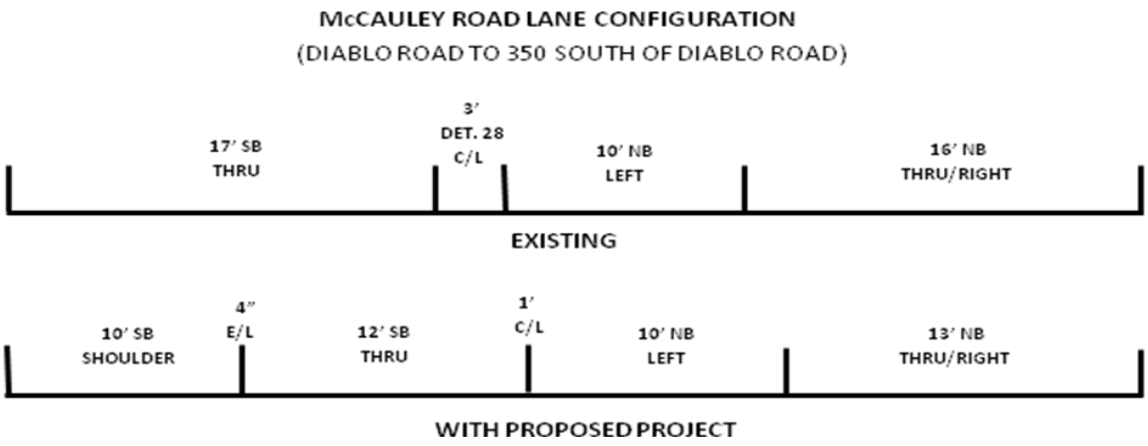
3. Driveway C would be located on Diablo Road west of Driveway B and provide direct access to two residential lots. The roadway dimensions for Driveway C are not shown on the current site plan. A review of the site access for Driveway C showed no more than one inbound and one outbound left turn movement at the project driveway during any of the peak hours. Based on field review with Town staff, sight distance at Diablo Road is adequate at this location.

4. Driveway D is located on McCauley Road 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 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.

Impact **Access to Driveway D (southbound left) during the AM and school PM peak periods has the potential to cause unsafe conditions and vehicle queuing. *This is a significant impact that can be reduced to a less-than-significant level with implementation of the following mitigation.***

Mitigation Measures

4.12-3 The project proponent shall modify the roadway striping along McCauley Road between the intersection and approximately 350 feet south of the Diablo Road/Green Valley Road. The modified roadway striping shall 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.



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. However, on-site circulation for the remaining two custom residential sites, accessible by Driveways B and C, were not analyzed given that details for each of these lots would be subject to the review and approval of the Town of Danville as a part of each site's individual development plan review process.

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. Prior to final design, all roadway designs would be subject to review and approval 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 buses. 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 trucks during activities such as garbage collection. In addition, large vehicles may require 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, therefore, would not create operational problems.

Transit, Pedestrian and Bicycle Analysis

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 project, this would equate to approximately one new pedestrian commute trip during the AM, school PM, and PM peak hours. 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.

Impact **The project main entrance (Driveway A) has the potential to provide an unsafe condition for pedestrian crossings of Blackhawk Road. *This is a significant impact that can be reduced to a less-than-significant level with implementation of the following mitigation.***

Mitigation Measures

4.12-4 The project proponent shall install a new pedestrian crossing, with in-pavement lighting or other equivalent pedestrian safety improvement, at the project main entrance on Blackhawk Road. The crossing shall physically connect the project's pedestrian traffic 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 project, this would equate to approximately one new bike trip during the AM, school PM, and PM peak hours. No bike lanes or bike paths are located in the immediate vicinity of the Magee East site. The Magee West 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.

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.

Emergency Access

The project includes emergency access to the project site via the EVA on Magee East. The project does not propose any physical changes to the roadway system that would affect emergency 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 required. Therefore, the project would not introduce any impacts to emergency access.

Air Traffic

The project site is not located within an airport land use plan. The nearest airport is Oakland International Airport, located about 10 miles west of the site. The proposed residential development would not change air traffic patterns or in any way create safety risks associated with flights or airport operations. The project would not impact air traffic.

Traffic Hazards

Beyond the issues described in the analysis above, the project would not introduce any features that would substantially increase traffic hazards in the area (e.g., dangerous intersections or sharp curves), nor would it introduce uses that are incompatible with existing roadway conditions (e.g., farm equipment) as per the CEQA thresholds.

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4.13 UTILITIES AND SERVICE SYSTEMS

Introduction

This section evaluates the impacts of the proposed project on water supply and distribution facilities, wastewater collection, treatment, and disposal facilities, and natural gas/electricity supply and infrastructure. Impacts related to water quality and stormwater/drainage infrastructure are addressed in Section 4.8 Hydrology and Water Quality. To obtain information from public utility providers, DD&A contacted the applicable water, sewer, and landfill operators, including, but not limited, to the following:

- East Bay Municipal Utility District ("EBMUD")
- Central Contra Costa Sanitary District ("CCCSD")
- Central Contra Costa Solid Waste Authority ("CCCSWA")

The following section has been prepared based on information received from public providers. This information was used to evaluate existing capacity, projected capacity, and existing and projected future use of that capacity.

Setting

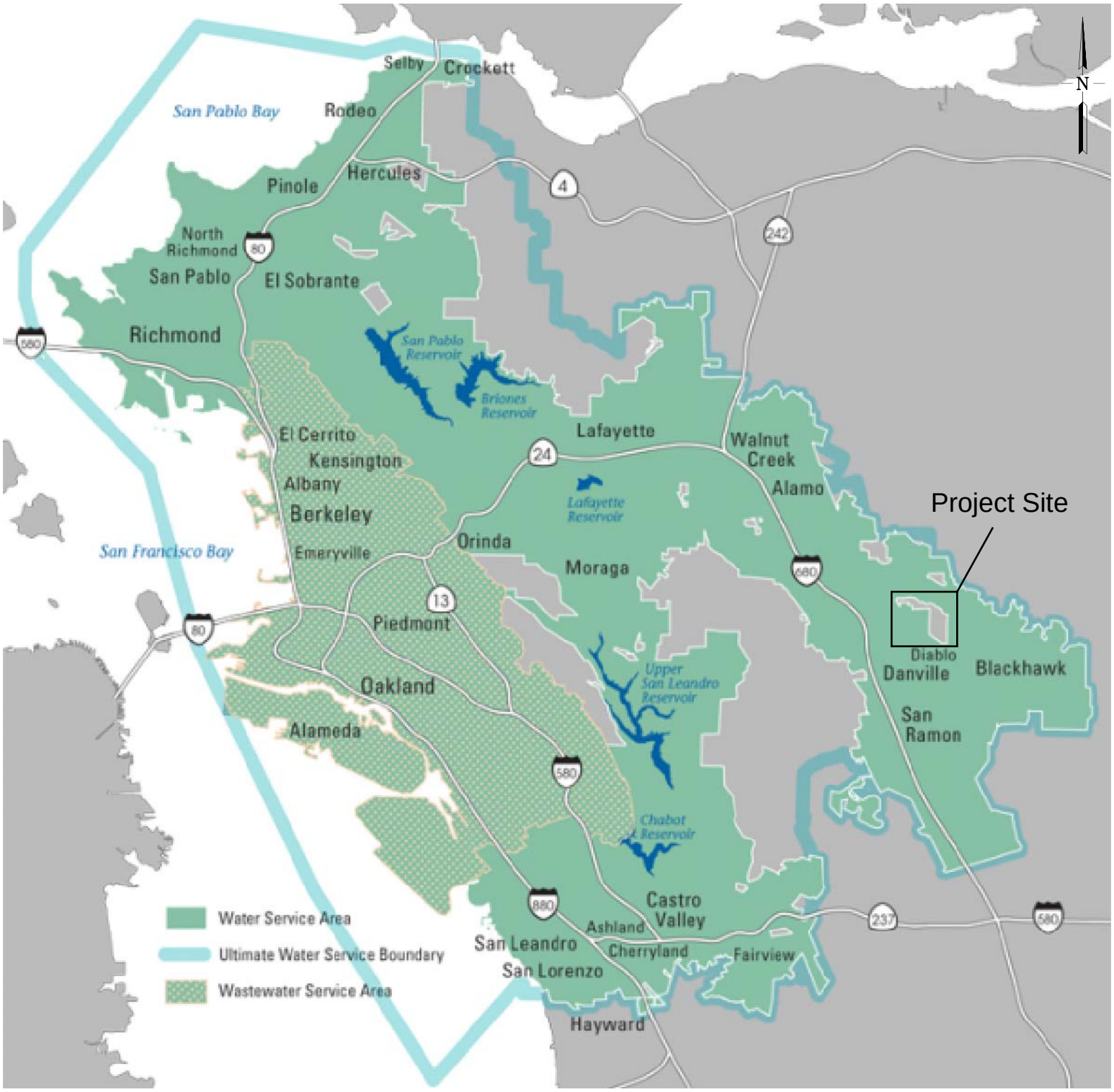
Water Supply

The Town of Danville is located within the service area of the EBMUD, which is responsible for supplying water to portions of Alameda and Contra Costa counties. The project site, although located within EBMUD's Ultimate Service Boundary, is located outside of EBMUD's current service area. As a result, the project site will need to be annexed into EBMUD's service area prior to any future water deliveries.[1] The EBMUD's water supply service area is approximately 332-square miles and includes incorporated and unincorporated areas of Alameda and Contra Costa counties (Figure 4.13-1). According to EBMUD's 2010 Urban Water Management Plan ("2010 UWMP"), the EBMUD provides water supply services to approximately 1.34 million persons. The EBMUD's water supply service area extends from Crockett in the north to the San Lorenzo area in the south and extends east towards Walnut Creek, Danville, and San Ramon.

Water Supply Sources

The EBMUD's water supply is distributed through a collection system consisting of aqueducts, reservoirs, and other various components. The primary source of water supply for EBMUD is the Mokelumne River; according to the 2010 UWMP, the Mokelumne River watershed accounts for 90 percent of EBMUD's water supply. EBMUD's existing water rights allow the delivery of up to a maximum of 325 million gallons per day (MGD) or approximately 364,046 acre-feet per year (AFY) of water from the Mokelumne River. The EBMUD's water right is, however, subject to variability, particularly during dry and multiple-dry years. Specifically, the availability of Mokelumne River runoff is subject to the senior water rights of other users, downstream fishery flow requirements, and other Mokelumne River water uses. The amount of Mokelumne River water available to EBMUD during dry and multiple-dry years is subject to variability; the EBMUD has identified that supplemental water supply sources are necessary to meet future water demand during extended periods of drought.

[1] Due to limited water supplies during dry and multiple-dry years, EBMUD requires prior approval from the U.S. Bureau of Reclamation ("Reclamation") to supply water to areas outside of EBMUD's current service area. Reclamation is responsible for providing supplemental water supply during dry and multiple-dry years to ensure the reliability of EBMUD's water supply.



Source: EBMUD.com, 2012

EBMUD Existing Service Area

Monterey | San Jose
Denise Duffy and Associates, Inc.
Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure
4.13-1

EBMUD's secondary source of water supply is obtained from localized runoff from the various watersheds in the East Bay. Runoff from these areas is detained in terminal reservoirs located through EBMUD's service area boundaries. The availability of water from this secondary source of supply is, however, dependent on two factors: hydrologic conditions, and storage availability. According to the 2010 UWMP, hydrologic conditions influence the availability of secondary supply, particularly in dry-years where evaporation can exceed runoff thereby resulting in no net local supply. Additionally, the existing storage capacity to capture run-off is limited. Grant funding has been obtained to expand storage capacity, but the existing terminal reservoirs are also used to regulate EBMUD's Mokelumne River supply and provide emergency storage. As a result, limited capacity is available. Local runoff provides an average of 15 to 25 MGD during normal hydrologic conditions; this supply is not considered reliable during drought conditions.

Supplemental Water Supply Sources

In addition to the two existing sources of water supply discussed above, EBMUD continues to secure additional sources of supply in order to ensure the reliability of supply and provide a diversified water portfolio. The 2010 UWMP identified several supplemental water supply sources, as well as potential short-term and long-term supplemental supply projects. The potential long-term supplemental supply projects are identified for the planning horizon beyond the year 2030. These potential sources are included in the UWMP for the purposes of identifying potential future sources of supply.[2] According to the 2010 UWMP, two sources of supplemental water supplies have been developed to provide augmented supply during dry, multiple-dry, and drought years. These supplemental sources include the Freeport Regional Water Facility and Bayside Groundwater Facility. These projects, as well as potential short-term and long-term supply projects, which are described in detail in the 2010 UWMP, are briefly discussed below.

Freeport Regional Water Facility. This facility is a regional water supply project that was undertaken by the Freeport Regional Water Authority, which was created under a joint powers agreement between EBMUD and the Sacramento County Water Agency. This facility was constructed and became operational in February 2011. This facility, which includes a 185 MGD water intake, pumping plant, and associated distribution infrastructure, provides supplemental water supply to EBMUD users during dry-years. Supplemental water supply generated through this facility will be used during dry-years in combination with aggressive water conservation, water recycling, and water rationing. Water delivery from this facility is based on EBMUD's Long Term Renewal Contract (LTRC) with the U.S. Bureau of Reclamation, which provides for up to 133,000 AFY in a single dry-year, with a not to exceed total of 165,000 AFY in three consecutive dry-years.[3]

Bayside Groundwater Facility. This facility was constructed to enable EBMUD to inject potable drinking water into the deep aquifer of the South East Bay Plain Groundwater Basin (herein referred to as "Basin") during wet years in order to store excess water. This water would be accessed during dry, multiple-dry, and drought years to provide additional sources of supply to augment reduced supplies from EBMUD's existing sources. This facility became operational in

[2] The Urban Water Management Planning Act, as codified in Water Code §10610 through 10656, requires than an UWMP identified a reliable water supply for a 20-year planning horizon. Long-term supplemental water supply sources are not required in order to provide a reliable source of supply through the year 2030 as required pursuant to the Urban Water Management Planning Act and applicable portions of the Water Code. These projects will, however, be required in future updates to the UWMP in order to provide a reliable supply beyond 2030.

[3] Under EBMUD's LTRC Central Valley Water Project water is only available to EBMUD during dry-years when EBMUD's total stored water supply is forecast to be below 500,000 AF on September 30 of each year.

2010 and consists of a new water treatment facility, associated pipelines, subsidence monitoring system, and a network of groundwater monitoring wells. This facility, which would only be used to provide supplemental supply during dry, multiple-dry, and drought years, would produce an average annual production of approximately 1,120 AFY.

Short-Term Supplemental Water Supply Sources

The following short-term supplemental water supply projects are necessary in order to ensure that EBMUD has sufficient supplies to accommodate projected future demands during dry, multiple-dry, and drought years through the year 2030. (For more information, please refer to the 2010 UWMP.)

Northern California Water Transfer. EBMUD is exploring a water transfer program to secure up to an additional 13 MGD of dry-year water supply through voluntary water transfers. This is considered a potential short-term supplemental water supply source for the purposes of water supply reliability. According to the 2010 UWMP, water transfers could provide an additional 15,000 AFY of water during dry, multiple dry, and drought years. At this time, EBMUD is only exploring this option and existing supplies are considered sufficient in the near-term. According to the 2010 UWMP, these potential partnerships will continue to be explored as part of a long-term or permanent water transfer arrangement. In the future, EBMUD may also pursue short-term transfer arrangements, as needed, to help meet dry-year water supply needs.

Bayside Groundwater Project Expansion. EBMUD has identified this project as a potential future source of supply. This project is conceptual at this time; however, EBMUD is exploring options for potential future expansion of this facility. Based on initial estimates, the 2010 UWMP identified that Phase 2 of the Bayside Groundwater Facility would expand annual capacity at the facility to an average of roughly 2 to 9 MGD. The final design and capacity of Phase 2 is contingent upon operational data obtained from the Bayside Groundwater Facility, which was constructed in 2010. The 2010 UWMP estimates that this project would provide an additional 10,000 AFY of water during dry, multiple dry, and drought years.

Long-term Supplemental Water Supply Sources (2030 and beyond)

The following long-term supplemental water supply sources are necessary to ensure a long-term supply beyond 2030. These projects were included as part of the 2010 UWMP for informational purposes to identify that future water supply sources would need to be secured beyond the 20 year planning horizon mandated by the Urban Water Management Planning Act. These projects are conceptual at this time; future water supply planning conducted as part of the next update to the UWMP will be required to provide more information concerning these projects in order to provide documentation supporting the reliability of EBMUD's water supply.

Bay Area Regional Desalination Project. EBMUD, in collaboration with the Contra Costa Water District, San Francisco Public Utilities Commission, Santa Clara Valley Water District, and the Alameda County Flood Control and Water Conservation District, are exploring the development of a regional desalination facility. This project, as currently contemplated, would consist of one or more facilities with an estimated treatment capacity between 10 and 50 MGD; this project would provide a maximum 22,400 AFY of ocean/bay/brackish water to EBMUD for municipal use. A feasibility study was completed in 2007 and a six month pilot test was completed in 2009. Implementation of this project would require a detailed assessment of potential environmental affects and would be subject to an extensive and complex regulatory review process.

Inter-Regional Groundwater Banking/Exchange. EBMUD is exploring options for combined use of groundwater and surface water sources beyond the East Bay Service area. Currently, groundwater storage options in Sacramento and San Joaquin Counties are being explored. Groundwater would be stored in either of these areas and would be utilized during dry-years.

Inter-Regional Conjunctive Use Project. This project envisions conjunctive use on a regional scale for users of Mokelumne River water. This project is intended to provide water supply and environmental benefits to a broad range of Mokelumne River basin stakeholders. These benefits include storage and supplies for drought protection, long-term drought protection for areas served by EBMUD, groundwater recharge and prevention of saline intrusion, and other benefits. This project, as currently envisioned, includes the capture of excess surface water flows during wet years and the diversion of water to groundwater storage/recharge facilities. It is anticipated that these excess surface flows would subsequently be accessed during dry-years to supplement surface water supplies. Conveyance would be accommodated through existing and new facilities to EBMUD users.

Expansion of Surface Water Storage. In order to improve the reliability of supply during drought years, EBMUD intends to expand surface water storage facilities to meet future needs. This is considered a long-term water supply project that is currently considered conceptual. This project may include participation in the Los Vaqueros Expansion project; participation is contingent upon project feasibility and other factors and would presumably be considered in the 2015 UWMP. Enlargement of other EBMUD facilities on the Mokelumne River may also be pursued in the long-term to provide reliable storage during dry-years. Any future project along the Mokelumne River would be pursued on a regional basis in collaboration with other Mokelumne users. If pursued, these actions would be subject to additional negotiation efforts among Mokelumne users, as well as the planning, design, and environmental review of any future project.

Water Demand

Water demand projections for future build-out within EBMUD's service area were estimated using a land-use based approach method. This method projects average annual water demands out to the year 2040. The information contained in the 2010 UWMP is based on EBMUD's *2040 Demand Study*, which was completed in 2009. This methodology relies on existing land uses and existing water consumption data for the study area. This information was utilized to calculate Land use Unit Demand (LUDs), which are a measurement of water consumption on a per acre basis for each type of land use category. For more information concerning demand forecasting, please refer to the *2040 Demand Study*. Demand projections were made for the years 2010, 2015, 2020, 2025, 2030, and 2040.

The *2040 Demand Study* relied on the adopted general plans of the cities and counties within EBMUD's service area, as well as information provided by local planning agencies regarding anticipated future development. The information contained in this analysis is considered conservative since the district-wide land use analysis was conducted at a time of continued economic growth and expansion. Despite the recession and change in economic conditions, the *2040 Demand Study* projections are consistent with current planning forecasts and are therefore considered reliable for the purposes of water supply planning. Table 4.13-1 identifies projected future water demand according to use. These projections and total anticipated water use take into consideration water use savings associated with increased conservation and the use of recycled water.

Table 4.13-1 Water Demand Projections By Sector
Average Annual Demand (MGD)[1]

Use	Calendar Year						
	2010[2]	**2015[3]**	**2020**	**2025**	**2030**	**2035[4]**	**2040**
Single-Family	120	121	118	117	117	117	117
Multi-Family	31	36	41	47	53	54	54
Commercial	26	26	26	26	26	26	27
Industrial	22	23	20	19	18	18	18
Institutional	8	8	8	7	7	7	7
Irrigation	9	9	8	8	8	7	7
Total:[5]	216	223	221	224	229	229	230

Notes:
Source: East Bay Municipal Utility District, 2010 Urban Water Management Plan; Table 4-1
1) Demand represents the Planning Level of Demand.
2) 2010 demands are based on projections, which differ from actual water consumption.
3) 2015 demands are based on projections and do not reflect the demand during the recovery period. The slight increase in total demand as compared to 2010 and 2020 is due to implementing conservation and recycled water projects later than anticipated as the customer demand recovers in the post-drought and from the economic downturn.
4) 2035 values are interpolated from 2030 and 2040 demand projections.
5) Adjusted for water conservation and recycled water use.

Water Supply Reliability

The 2010 UWMP identified several factors that influence the reliability of EBMUD's existing water supply. These variables include droughts and climatic variations, system failure due to levee collapse, water quality issues, power outages, and shortfalls in distribution system capacity, among other factors. EBMUD has identified a number of system upgrades and infrastructure improvements in order to improve the existing water supply and ensure system reliability; please refer to the 2010 UWMP for a detailed discussion of applicable projects. The primary factor influencing the reliability of supply is related to variations in hydrological conditions, which affects the amount of surface water available to EBMUD users from the Mokelumne River.[4] As a result, supplemental supplies are necessary to ensure a reliable source of supply during dry, multiple dry, and drought years.

Table 4.13-4 identifies projected available supply and need for supplemental supply for normal, single-dry, multiple-dry, and three-year drought periods. As demonstrated in Table 4.13-4 additional supplemental supply will be necessary to accommodate future demand during dry, multiple-dry, and three year drought conditions. Under normal climatic conditions, EBMUD has sufficient existing supplies, when accounting for increased use of recycled water and water conservation measures, to accommodate project development.

[4] Although EBMUD has a maximum water entitlement of 325 MGD from the Mokelumne River, the amount of surface water available during dry, multiple dry, and drought years is subject to variability. The complex regulatory requirements pertaining to EBMUD's existing Mokelumne River water rights reduces the reliability of this supply during dry, multiple dry, and drought years. Available supply during these periods of extent water shortages is allocated among the senior water rights, downstream fisheries, and other more senior uses.

Table 4.13-2 Projected Demand vs. Available Supply Average Annual Demand (MGD)[1]							
Use	**Calendar Year**						
	2010	**2015**	**2020**	**2025**	**2030**	**2035[1]**	**2040**
Project Demand (MGD							
Customer Demand[2]	251	266	280	291	304	308	312
Adjusted for Conservation	(26)	(32)	(43)	(49)	(56)	(59)	(62)
Adjusted for Recycled Water	(9)	(11)	(16)	(18)	(19)	(20)	(20)
Projected Demand[3]	**216**	**223**	**221**	**224**	**229**	**229**	**230**
Projected Available Supply (MGD)[4]							
Single-Dry Year (Multiple Dry Years – Year 1)							
Available Supply	211	217	215	218	223	222	222
Supplemental Supply Needed	5	6	6	7	7	8	8
Multiple Dry Years – Year 2							
Available Supply	183	189	188	190	194	194	195
Supplemental Supply Needed	21	21	21	21	22	22	22
Multiple Dry Years – Year 3							
Available Supply	183	189	188	190	183	164	44
Supplemental Supply Needed	21	21	21	21	23	53	57
Three Year Drought							
Supplemental Supply Needed (TAF)	53	54	54	55	58	93	115

Notes:
Source: East Bay Municipal Utility District, 2010 Urban Water Management Plan; Table 4-3

1) Projected demand is interpolated.
2) These values are unadjusted for conservation and non-potable water. Estimates derived from *2040 Demand Study.*
3) Demand represents the Planning Level of Demand.
4) Projected available supply data includes dry year supply deliveries from the Freeport Regional Water Project and Bayside Groundwater Project, Phase 1. Also, assumes that rationing reductions goals will be met based on the Long-Term Drought Management Program guidelines with rationing accounting for 15 percent in multiple-dry years.

According to the 2010 UWMP, EBMUD can meet customer demands through the year 2040 during normal year conditions. As a result, the available supply is considered reliable under normal conditions. The availability of supply during dry, multiple-dry, and three year drought conditions is, however, considered deficient; additional supplemental supplies beyond those provided by the Freeport Regional Water Facility and Bayside Groundwater Facility would be needed to meet projected demands.

In order to reduce the extent of demand during periods of dry, multiple-dry, and periods of extended drought, EBMUD implements a Drought Management Program, which consists of a series of actions for periods of moderate, severe, and critical shortages. The Drought Management Program is estimated to reduce demand by 10 to 15 percent depending on the severity of the drought. This program includes voluntary and mandatory measures, including water rationing. While the Drought Management Program would reduce water demand, additional supplemental supplies would still be needed to ensure the reliability of supply through 2030.[5]

According to the information contained in Table 4.13-2, as derived from the 2010 UWMP, additional supplemental supplies would be necessary to ensure the reliability of supply through 2030. During extended periods of drought, the Mokelumne River cannot meet EBMUD's projected demand even with water rationing and supplemental dry-year supplies. Specifically,

[5] The year 2030 represents the 20-year planning horizon that is required under the Urban Water Management Planning Act; additional supplemental supplies would be necessary in order to ensure supply beyond 2030. Those supplies would need to be addressed in future UWMPs.

approximately 58,000 AF would be needed over multiple dry years to accommodate demands during a three year drought period. The 2010 UWMP identifies several short-term supplemental supply measures in order to ensure the adequacy of supply during dry, multiple-dry, and drought years. EDMUD will ensure the reliability of supply by implementing short-term supplemental supply sources that include the Northern California Water Transfers and the Bayside Groundwater Project Expansion, as described above. These projects would provide approximately 15,000 AFY and 10,000 AFY, respectfully. Over a three year period these projects would provide up to 75,000 AF of supplemental supply. Beyond the required 20-year planning horizon (i.e., beyond 2030) additional long-term conceptual supplemental sources would be necessary.

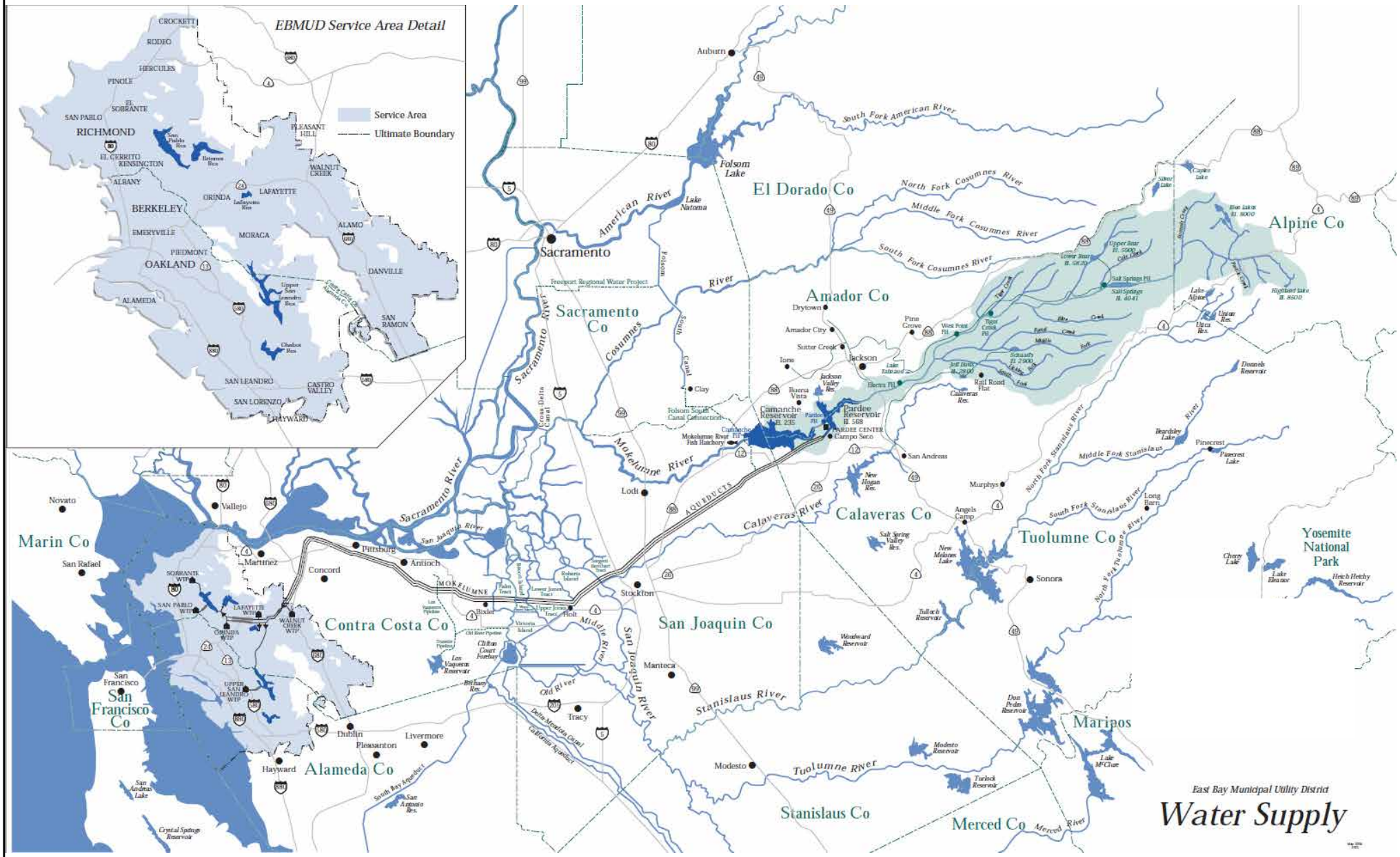
Water Distribution System

The EBMUD water supply system consists of a network of reservoirs, aqueducts, treatment facilities, pumping plants, and other distribution facilities that convey Mokelumne River from Pardee Reservoir. There are two primary dams and reservoirs that serve the EBMUD's system: the Pardee Dam and Reservoir and the Camanche Dam and Reservoir. The Pardee Dam and Reservoir are located approximately 38 miles northeast of Stockton; the Camanche Dam and Reservoir is located approximately 10 miles downstream from the Pardee Dam. These facilities provide approximately 197,950 AF and 417,120 AF of storage, respectfully. In addition, both facilities also generate hydroelectric power.[6]

Water is subsequently conveyed from the Pardee Dam and Reservoir and the Camanche Dam and Reservoir through a system of aqueducts. The approximately 91 mile Mokelumne Aqueduct System transports water to EBMUD's water treatment facilities and terminal reservoirs. Water is initially conveyed through the 2.2 mile long Pardee Tunnel and into the Mokelumne Aqueduct System, which consists of three 82 mile long pipelines. The Mokelumne Aqueducts terminate in Walnut Creek where it is subsequently transported directly to EBMUD's three in-line filtration water treatment plants or to one or more of EBMUD's terminal reservoirs. EBMUD operates five terminal reservoirs: Briones, Chabot, Lafayette, San Pablo, and Upper San Leandro reservoirs. The total maximum capacity of these facilities is 151,670 AF. Water is subsequently distributed throughout EBMUD's service area, which consists of more than 120 pressure zones. The water distribution network includes 4,100 miles of pipeline, 140 pumping stations and 170 neighborhood reservoirs (tanks storing treated drinking water) having a total capacity of 830 million gallons. Figure 4.13-2 provides a graphical depiction of EBMUD's existing water distribution network.

In addition to the main components of EBMUD's distribution system described above, EBMUD also maintains a right-of-way (R/W 1581) through the project site. This right-of-way provides access to the Green Valley Reservoir, which is located within the boundaries of the project site. The Green Valley Reservoir consists of a 2.9 million gallon concrete bar and wire stress reservoir (personal communication, David Rehnstrom, August 25, 2011). EBMUD has indicated that the integrity of this right-of-way must be maintained at all times. Any activities located within the right-of-way will need to be coordinated with EBMUD; the right-of-way may need to be relocated depending on final design-level improvement plans.

[6] The Pardee Powerhouse generates approximately 140 million kilowatt hours (kWh) while the Camanche Powerhouse generates 45 million kWh during median runoff years.



Source: EBMUD, 2003

Existing EBMUD Water Distribution System

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Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure
4.13-2

As discussed previously, the 2010 UWMP identified that there are several variables affecting water supply and system reliability. These variables include droughts and climatic variations, system failure due to levee collapse, water quality issues, power outages, and shortfalls in distribution system capacity, among other factors. Potential issues associated with the reliability of water supply were addressed previously. In order to address potential concerns related to the reliability of the system EBMUD has identified a number of system upgrades and infrastructure improvements as well as public-safety programs. These programs include seismic retrofits, transmission and water treatment improvements, dam safety programs, improved security, and similar projects and are intended to address existing system deficiencies and ensure the reliability of the distribution system.

Wastewater

The CCCSD is responsible for the collection and treatment of wastewater for approximately 462,000 residents and businesses in central Contra Costa County. The project site is located within CCCSD's sphere of influence; the site will need to be annexed into the District's service area prior to the provision of services. According to CCCSD's 2010 Collection System Master Plan Update (as "2010 Master Plan"), the District provides wastewater collection, transport, and treatment services to the cities/towns of Danville, Lafayette, Moraga, Orinda, Pleasant Hill, and Walnut Creek. In addition, the District also serves portions of the cities of Martinez and San Ramon and unincorporated portions of Contra Costa County including the communities of Alamo and Pacheco. The District also provides wastewater treatment for the City of Concord and Town of Clayton.[7] Figure 4.13-3 shows the District's service area.

The CCCSD wastewater collection system includes 1,500 miles of 4- through 102-inch diameter sewers and an estimated 130,000 private service laterals. The system also includes 18 sewage pumping stations and associated force mains. The system conveys wastewater generated in the service area to the District's Wastewater Treatment Plant (WWTP), which is located in Martinez. The WWTP has a design capacity of 53.8 million gallons per day (MGD); average treatment is currently 33.5 MGD (personal communication, Russell Leavitt, July 8, 2011). Figure 4.13-4 shows CCCSD's existing sanitary sewer network. The majority of the wastewater receives secondary treatment and is discharged into Suisun Bay. The remainder is directed to the District's Water Reclamation Facility adjacent to the plant for further treatment so that it can be used for landscape irrigation and other recycled water uses.

The 2010 Master Plan updated the District's 2000 Master Plan in order to reflect the most recent land use planning information for the service area, incorporate new flow monitoring data and flow criteria, and identify sewer system improvements that have been completed since 2000. In addition, the 2010 Master Plan evaluated the system's existing capacity and identified capital improvements to address existing system deficiencies. The 2010 Master Plan defined a system capacity as a sewer where the design peak flow is greater than 100 percent of full pipe capacity. Capital Improvement Projects (CIPs) were identified to address identified capacity deficiencies in the District's trunk and interceptor system. No capacity improvement projects were identified in the project vicinity.

[7] These communities own and operate their own collection systems, which convey wastewater to CCCSD's interceptor system and wastewater treatment plant (WWTP).

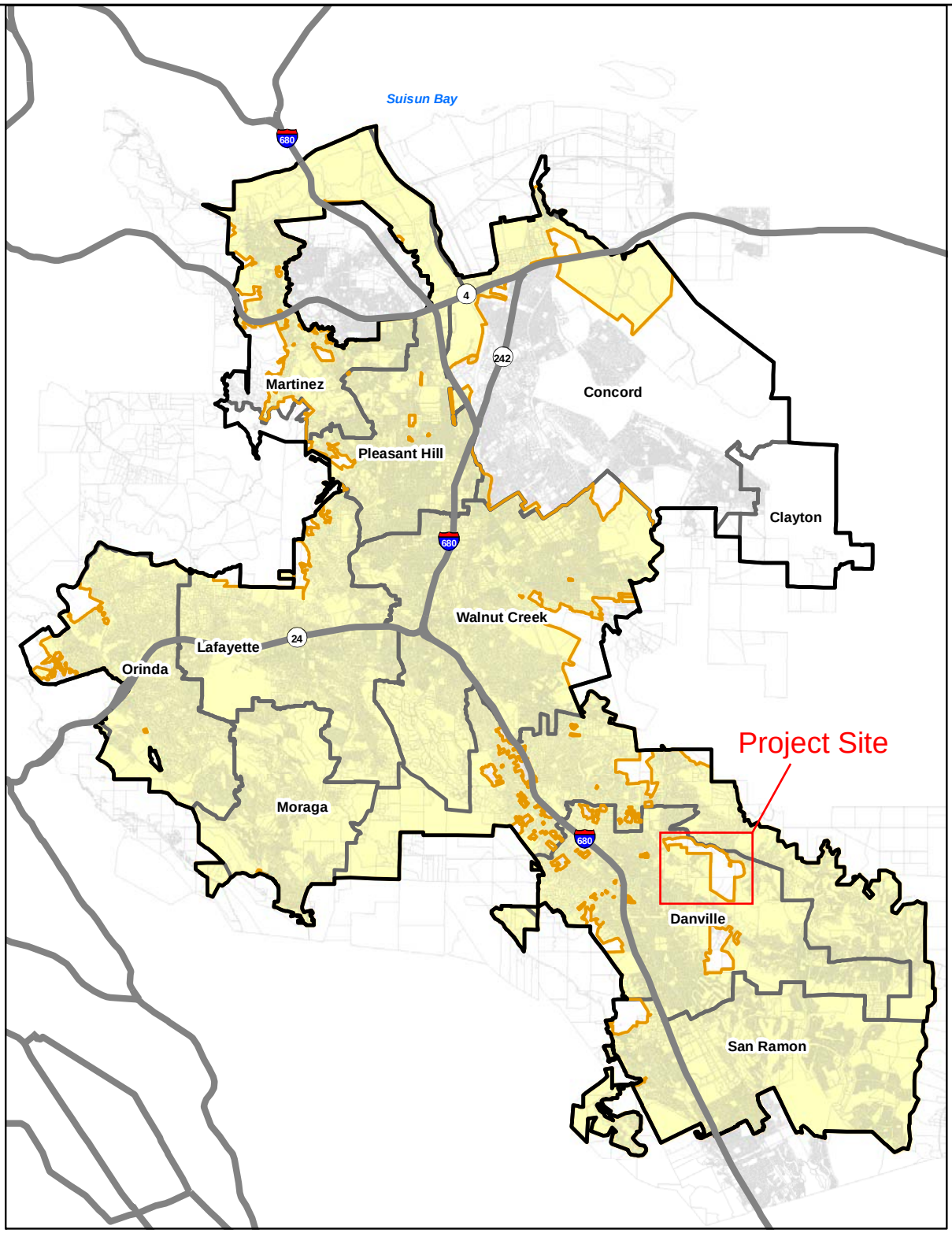


Figure 1-1: Collection System Master Plan Study Area

Legend

Service Area

- 2010 Study Area Boundary
- District Boundary
- City Sphere of Influence

CCCSD Collection System Master Plan Update 2010

N

0 5,000 10,000 20,000 Feet

Data Sources: CCCSD, Contra Costa County Mapping Information Center, 2008

RMC Water and Environment, 2010

CCCSD Service Area

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Denise Duffy and Associates, Inc.
Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure
4.13-3

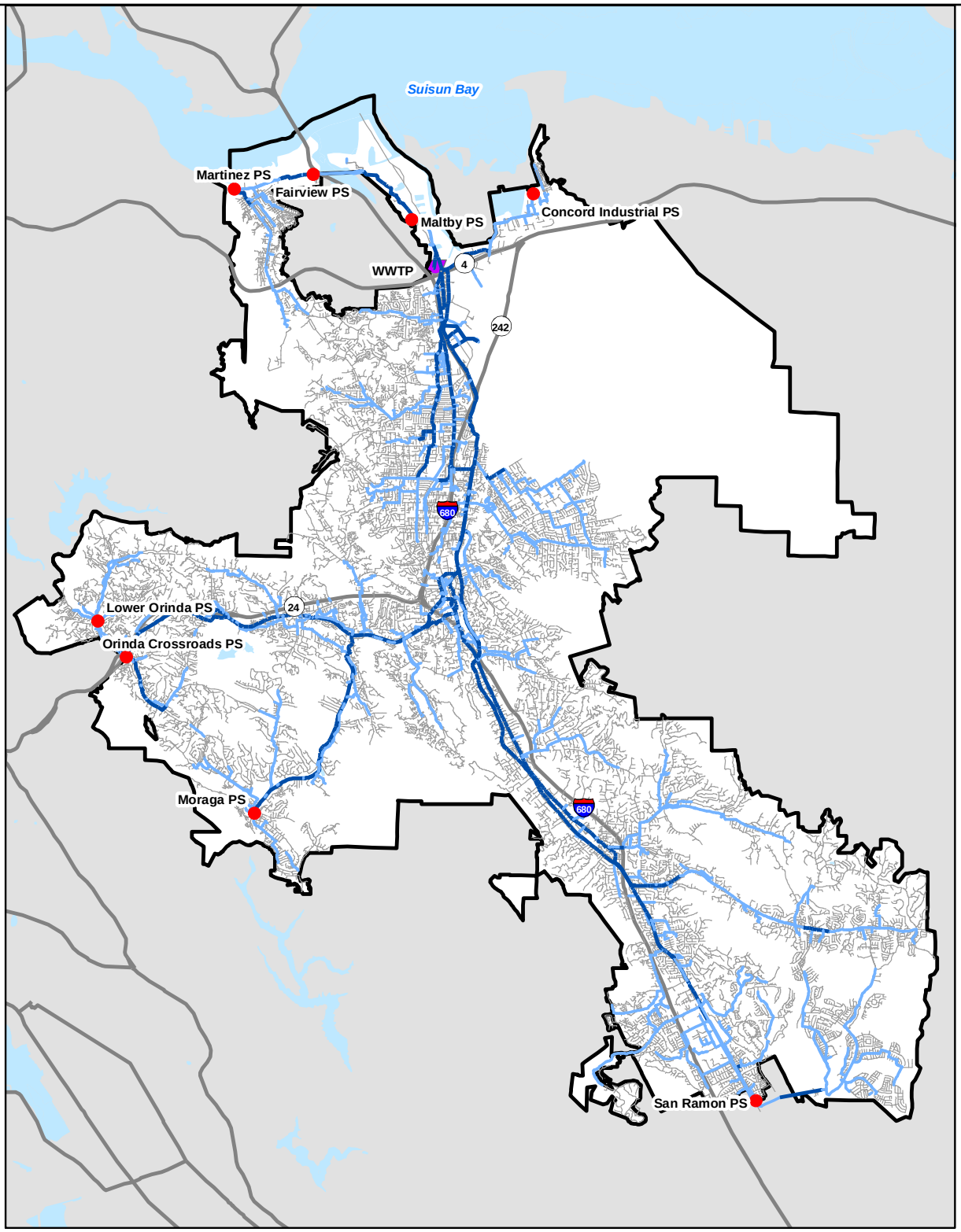


Figure 1-2: District's Collection System and Major Facilities

CCCSD Collection System Master Plan Update 2010

Legend

Study Area Boundary

Major Facilities

Major Pump Station

CCCSD WWTP

Sewer

Smaller than 10"

Trunk (10" - 24")

Interceptor (>24")

N

0 5,000 10,000 20,000 Feet

Data Sources: CCCSD, Contra Costa County Mapping Information Center, 2008

RMC Water and Environment, 2010

Existing CCCSD Sanitary Sewer Network

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Denise Duffy and Associates, Inc.
Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure 4.13-4

Solid Waste

The CCCSWA provides solid waste and residential recycling services for Contra Costa County, including the project site. Solid waste collection and recycling services are provided through franchise agreements with waste collection services. Allied Waste Services is responsible for the collection, transfer, and disposal of residential and commercial solid waste; Valley Waste Management is responsible for the collection and marketing of residential recycling, green waste and food scraps. CCCSWA's service area includes the Town of Danville, City of Lafayette, Town of Moraga, City of Orinda, and City of Walnut Creek, in addition to areas located in the unincorporated area of Contra Costa County.

Solid waste generated within CCCSWA's service area is eventually disposed of at the Keller Canyon Landfill Facility, which is owned and operated by Keller Canyon Landfill Company, a wholly-owned subsidiary of Allied Waste Industries. This facility is approximately 2,600 acres in size with a permitted disposal area of 244 acres. The site currently handles approximately 2,500 tons of solid waste per day and has a permitted daily capacity of 3,500 tons of waste per day.

Natural Gas and Electricity

Pacific Gas & Electric Co. (PG&E) provides gas and electric service to the project site. Natural gas is measured in British thermal units (Btu).[8] Electricity is measured in kilowatt hours (kwh). A kilowatt (kw) is a measure of power produced through sources of generation at 3,413 Btu/kw-hour. Most electricity is produced by consuming other primary energy sources and converting them into electricity. PG&E operates a grid distribution system that transmits electricity with a vast network of transmission and distribution lines throughout the service area to the users.

Regulatory Requirements

Town of Danville General Plan. The Town of Danville General Plan provides policies for adequate utilities and service systems. Please refer to Table 4.9-3 of the Land Use section for a detailed analysis of the project's consistency with the relevant provisions of the Town of Danville General Plan.

Thresholds of Significance

In accordance with CEQA Guidelines, a project impact would be considered significant if the project would:

- Have insufficient water supplies available to serve the project from existing entitlements and resources, or require new or expanded entitlements.
- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction or which could cause significant environmental effects.
- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.

[8] The quantity of heat necessary to raise the temperature of one pound of water one degree Fahrenheit.

- Result in a determination by the wastewater treatment provider, which serves or may serve the project, that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

- Be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs.
- Not comply with federal, state, and local statutes and regulations related to solid waste.

In addition to the thresholds of significance contained in the CEQA Guidelines, the California Supreme Court in *Vineyard Area Citizens for Responsible Growth, Inc., v. City of Rancho Cordova* (California Supreme Court Case No. 02CS01214) identified a number of additional principles related to the analysis of water supplies for projects subject to CEQA. The additional principles that are applicable to the following analysis are summarized below.

- An EIR must provide sufficient facts to allow decision makers to evaluate the costs and benefits of supplying the necessary amount of water to meet project demands.

- CEQA analysis cannot rely on merely "paper water." An EIR must identify whether the water is considered reliable and discuss why the identified water should reasonably be expected to be available. An EIR cannot rely on speculative future supplies.

- When some uncertainty regarding availability of future water supply exists, an EIR should acknowledge the degree of uncertainty, include a discussion of possible alternative sources, and identify the environmental impacts of such alternative sources.

- An EIR does not need to show that water supplies are definitely assured, because such a degree of certainty would be "unworkable, as it would require water planning to far outpace land use planning."

- An EIR analysis may rely on existing urban water management plans, so long as the project's new demand was included in the water management plan's future demand accounting.

Impacts and Mitigation

Water Supply

The following impact analysis has been prepared consistent with the principles established in *Vineyard Area Citizens for Responsible Growth, Inc., v. City of Rancho Cordova* (California Supreme Court Case No. 02CS01214) and applicable CEQA standards. Information contained in this section represents the Town's independent analysis of the project's potential impacts related to water supply. Project impacts related to groundwater overdraft and hydrology are addressed separately in Section 4.8 Hydrology and Water Quality of this EIR.

Water Demand

The water demand analysis contained in this section uses estimates that have been independently prepared by the EIR consultant in consultation with EBMUD. Projected water demand estimates were prepared using water demand factors provided by EBMUD. These demand factors are based on the typical water meter readings for customers in EBMUD's Region 3, which includes the project site. Based on existing metered data, average water use varies depending on the type and size of residential units and number of associated fixtures. Typical single-family residential units average approximately 600 GPD of water use; this includes both interior and exterior use.[9] Larger residential lots typically have a higher water demand; large-lot or estate-lots typically have a water demand of 870 GPD according to EBMUD. Table 4.13-5 identifies the project's anticipated water demand based on the water demand factors provided by EBMUD.

Table 4.13-5
Projected Water Demand

Use	Units[1]	Demand Factor (GPD)[2]	Total Demand (GPD)[3]
Single-Family Residential	63	600	37,800
"Casitas" or Second Units[4]	11	240	2,640
Large-Lot Residential	7	870	6,090
		Total Water Use:	**46,530**

Notes:
1) Project units are delineated according to product type; typical single-family residential vs. large-lot units.
2) The project site is located in EBMUD Region 3; demand factors are based on the metered data provided by EBMUD.
3) Water demand estimates are considered preliminary and may be subject to change depending on the type of residential development. Specifically, water demand may vary depending on the number of fixture units proposed as part of new units. These estimates, however, are considered adequate for the purposes of water supplying planning.
4) For the purposes of estimating anticipated water demand, the Town of Danville anticipates that the project would include up to 15% (or 11) second units. The Town considers this a conservative estimate that is above the actual experienced percentage of second units on past projects. These units would result in additional demands for public utilities. For water supply planning purposes, EBMUD has identified that second units have a residential water demand that is approximately 60% of the Single-Family Residential Demand Factor (personal communication, David Rehnstrom, May 30, 2012).

Based on the information contained in Table 4.13-5 the proposed project would generate a residential water demand of 46,530 GPD; this would represent a new residential demand within EBMUD's Ultimate Service Boundary. Although the project site is located within EBMUD's Ultimate Service Boundary, it is not located within EBMUD's current service area, and would need to be annexed into the service area. While the project would represent a new demand for residential services in an area currently not served by EBMUD, the *2040 Demand Study* and 2010 UWMP contained demand estimates for the subject site based on its existing General Plan land use designations. The *2040 Demand Study* and 2010 UWMP, which estimated future water demand using land use acreage and unit demand factors, used land use information from the approved General Plans of each of the jurisdictions within its service area. As a result, anticipated residential water use on the subject property was considered as part of the 2010 UWMP and *2040 Demand Study* (personal communication, David Rehnstrom, August 25, 2011).[10] Table 4.13-6

[9] Typical water use for a single-family residential unit is based on the metered results of residences with a 5/8-inch water meter. This is considered an appropriate size for the majority of units constructed as part of the project. A larger diameter meter will presumably be necessary for the large-lot residential units proposed as part of this project. Information was provided by EBMUD.

[10] The *2040 Demand Study* estimated future water demand using land use acreage and unit demand factors. Land use unit demand (LUD) factors were developed for each of the land uses identified within EBMUD's Ultimate Service Boundary. LUDs represent a measurement of water demand on a per acre basis (GPD/acre). The project site may be classified as ER1 according to the 2010 UWMP and *2040 Demand*

provides a comparison between the proposed project and the existing development potential utilizing the water demand factors provided by EBMUD according to the site's existing land use designations.

Table 4.13-6
Project Water Demand
Existing Land Use vs. Proposed Project

Use	Units[1]	Demand Factor (GPD)[2]	Total Demand (GPD)[3]
Existing Land Use*			
Large-Lot Residential	78	870	67,860
		Subtotal:	**67,860**
Proposed Land Use			
Single-Family Residential	63	600	37,800
"Casitas" or Second Units[4]	11	240	2,640
Large-Lot Residential	7	870	6,090
		Subtotal:	**46,530**
		Net Residential Water Use:	**(21,330)**

Notes:
1) Project units are delineated according to product type; typical single-family residential vs. large-lot units.
2) The project site is located in EBMUD Region 3; demand factors are based on the metered data provided by EBMUD.
3) Water demand estimates are considered preliminary and may be subject to change depending on the type of residential development. Specifically, water demand may vary depending on the number of fixture units proposed as part of new units. These estimates, however, are considered adequate for the purposes of water supplying planning.
4) For the purposes of estimating anticipated water demand, the Town of Danville anticipates that the project would include up to 15% (or 11) second units. The Town considers this a conservative estimate that is above the actual experienced percentage of second units on past projects. These units would nevertheless result in additional demands for public utilities. For water supply planning purposes, EBMUD has identified that second units have a residential water demand that is approximately 60% of the Single-Family Residential Demand Factor (personal communication, David Rehnstrom, May 30, 2012).
* Development potential based on the site's General Plan land use designations. (see Table 3-2 of this Draft EIR). See also Section 4.9, *Land Use and Planning*, for more discussion. Secondary/auxiliary units may also be constructed under existing conditions. Actual water demand may, therefore, exceed preliminary estimates contained in this EIR.

Based on the site's existing General Plan land use designations, projected development capacity, and water demand factors provided by EBMUD, the project site has an anticipated future water demand of approximately 67,860 GPD assuming full buildout. This estimate represents the projected water demand for the site based on the assumptions contained in the 2010 UWMP and *2040 Demand Study*. Anticipated project-generated water demand is anticipated to be less than projected water use according to the site's existing General Plan land use designations; projected future water demand associated with the project is anticipated to be approximately 21,330 GPD less than projected residential water use under the site's existing land use designation. The project, therefore, would generate less water demand than anticipated in the 2010 UWMP. While the project would generate less water demand than anticipated in the 2010 UWMP, the proposed project would nevertheless represent an increase in on-site water use.[11] In addition to operational water use, project construction would also result in the temporary use of water for dust suppression purposes and other construction-related uses. Temporary water use in connection

Study. ER1 properties have a residential density of 0 to 2.9 units/acre. The LUD for properties classified as ER1 is 1,803 GPD/acre. This site, assuming buildout according to the intensities considered in the *2040 Demand Study*, has an anticipated maximum water demand of 739,230 GPD. When factoring for the actual development capacity of the site, anticipated water demand is substantially less. For comparative purposes, the water demand factors provided by EBMUD give a more realistic estimate of anticipated water demand under existing and proposed conditions.

[11] Historical water use records are not available for the existing beef cattle operation.

with project construction is not anticipated to be significant. This would represent a negligible increase in water use and would be temporary in nature. Construction-phase water use would be considered less-than-significant.

Water Supply Availability

The California Supreme Court in *Vineyard Area Citizens for Responsible Growth, Inc., v. City of Rancho Cordova* (California Supreme Court Case No. 02CS01214) identified two important principles related to water supply analysis that are particularly pertinent to the proposed project. First, the California Supreme Court determined that an EIR cannot rely entirely on "paper water," but must identify whether the proposed supply is considered reliable and why the water should be reasonably expected to be available; an EIR cannot rely on speculative water supply projects as justification for a reliable supply. Secondly, an EIR analysis may only rely on an existing UWMP provided that the project's new demand was included in the UWMP's future demand accounting.[12]

EBMUD primarily relies on surface water supplies from the Mokelumne River. The 2010 UWMP determined that EBMUD has sufficient water supplies to meet anticipated demands within its Ultimate Service Boundary, including the project site, under normal year conditions. The 2010 UWMP identifies the existing and future sources of supply, their reliability, and efforts to reduce overall demands. In addition, EBMUD has also identified a series of extensive conservation measures to reduce projected water demand. During dry, multiple-dry, and three-year drought periods, supplemental water supplies are, however, necessary.

EBMUD has identified a number of supplemental water projects to provide additional sources of supply during dry years; these supplemental sources, which are described above, would ensure that sufficient supply is available to accommodate anticipated demands through the next 20-year planning horizon.[13] In addition, EBMUD has developed a Water Shortage Contingency Plan that contains additional requirements, depending on the severity of the shortage, which would further reduce water demand during multiple-dry years. The implementation of additional water conservation measures in combination with supplemental sources of supply would ensure that projected demand would not exceed available supply under single-dry and multi-dry years.

Currently, EBMUD contracts with the U.S. Bureau of Reclamation ("USBR") to provide supplemental water supply during dry years. As a stipulation in EBMUD's contract with USBR, EBMUD is required to obtain prior approval from USBR to serve any properties located outside of its current service area. As identified previously, the proposed project site is located outside of EBMUD's service area, although it is located within its Ultimate Service Boundary. As a result, the project site will need to be annexed into EBMUD's service area and EBMUD will need to obtain USBR approval to serve the site prior to any future water delivery. While EBMUD's contract with USBR mandates prior approval from USBR, it is important to acknowledge that the 2010 UWMP and *2040 Demand Study* contained demand estimates for the future development of the site (personal communication, David Rehnstrom, August 25, 2011). As a result, project demands were considered as part of the water supply planning conducted by EBMUD. Furthermore, the project would not result in any new or expanded demand such that additional supplemental supplies would be necessary to serve the project during dry, multiple-dry, and three-year drought periods. Sufficient supplemental supply is available to serve the development.

[12] The 2010 UWMP and *2040 Demand Study* considered residential water demand in connection with the buildout of the subject site as a large-lot/estate lot subdivision.

[13] The 2010 UWMP identified that additional long-term supplemental supplies would be necessary to meet anticipated demand beyond that planning horizon.

The UWMP anticipated buildout of the project-site based on the site's existing General Plan land use designations. Project development would not exceed the land use and/or development assumptions contained in the *2040 Demand Study* or 2010 UWMP such that the project's projected water demand was not previously considered and/or included in future demand accounting. Although the project site is located outside of EBMUD's current service area, the *2040 Demand Study* and 2010 UWMP anticipated future water demand associated within its Ultimate Service Boundary, which includes the project site. Therefore, the project's new water demand was previously considered as part of the 2010 UWMP demand forecasting.

Conclusion

For the purpose of this analysis, the proposed project would result in a significant environmental effect under CEQA if the project would increase on-site water demand beyond the demand estimates contained in the *2040 Demand Study* and 2010 UWMP. The increase demand beyond the estimate contained in the *2040 Demand Study* and 2010 UWMP could necessitate the need to secure supplemental sources of supply. Specifically, EBMUD's supply would need to be augmented by additional sources during periods of dry, multiple-dry, and periods of three-year drought if the project exceeded estimates previously developed by EBMUD as part of their water supply planning efforts. EBMUD has sufficient supplies available to meet demands during normal conditions and supplemental supplies are available to meet demands during dry, multiple dry, and periods of three-year drought.

The proposed project would not intensify and/or otherwise increase on-site water demand beyond the initial estimates developed by EBMUD. The future development of the subject property was previously considered in the *2040 Demand Study* and 2010 UWMP (personal communication, David Rehnstrom, August 25, 2011). The proposed site will, however, require annexation into EBMUD's current service area; prior approval from USBR is also required to serve the site. USBR approval is required pursuant to EBMUD's contract with USBR for supplemental supply during dry periods. The project's potential demands were, however, considered as part of the 2010 UWMP. The project will not require new or expanded sources of supply from USBR. The project's water demand was previously accounted for as part of the 2010 UWMP. No new or expanded sources of supply are necessary.

The project would not result in a significant adverse environmental effect under CEQA; the project would result in a less-than-significant impact in terms of water supply. The following measures identified below are recommended as conditions of approval to minimize water demand associated with the project to the maximum extent feasible. Implementation of the following conditions of approval are not anticipated to result in any new and/or expanded environmental effects beyond those evaluated in this EIR. These measures will minimize exterior water use to the maximum extent feasible. Development of the proposed project is not anticipated to exceed the amount of water demand projected in the 2010 UWMP or require the provision of additional sources of supply beyond those identified in the 2010 UWMP. The project would have a less-than-significant impact on water supplies; the following measures are recommended to further reduce exterior and interior water use to the maximum extent feasible.

- All landscaping proposed in connection with the proposed project shall conform to the California Model Water Efficient Landscape Ordinance (Division 2, Title 23, California Code of Regulations, Chapter 2.7, Sections 490 through 495). The project shall meet and/or exceed those standards. Prior to the issuance of any building or grading permit for each residence, the project proponent shall submit a detailed landscaping plan to the Town of Danville and the East Bay Municipal Utility District demonstrating compliance with this measure. All landscaping required by the Town shall be installed prior to issuance of an occupancy permit.

In addition, any landscaped treatments provided in connection with common public areas, entrances, pedestrian walkways, and other features shall be required to comply with the provisions of this measure.

- Prior to the issuance of any certificate of occupancy for any new residential unit constructed in this subdivision, the project proponent shall submit an irrigation and landscaping plan that demonstrates that all future landscaping associated with the proposed project will utilize evaporation transpiration controllers that include soil probes and rain sensors, subject to the review and approval of the Town of Danville and the East Bay Municipal Utility District

- Prior to the issuance of any building permit for each residential unit constructed in this subdivision, the project proponent shall submit detailed design-level drawings demonstrating that water efficiency measures will be provided in each residence consistent with the requirements of Section 31 of the East Bay Municipal Utility District Code of Regulations. No certificate of occupancy shall be issued until such time that all water efficiency measures have been installed to the satisfaction of the Town of Danville and the East Bay Municipal Utility District. The project proponent shall submit detailed evidence to the Town of Danville and East Bay Municipal Utility District documenting compliance with this measure.

Water Supply Infrastructure

The extension of water supply infrastructure to the project site is necessary in order to serve the proposed residential subdivision. These improvements include the construction of new 8-inch and 10-inch water distribution mains that would intertie into existing EBMUD infrastructure within McCauley Road, Diablo Road, and Blackhawk Road. New water supply infrastructure would be constructed within the roadway right-of-ways for the proposed access roads. Magee East would connect to existing 8-inch and 16-inch water mains in Blackhawk Road and Diablo Road, as shown in Figure 4.11-5A and Figure 4.11-5B. Magee West would connect to existing 8-inch water mains located in Diablo Road and McCauley Road, as shown in Figure 4.11-5C.

Water supply improvements proposed to serve Magee East include the construction of new 8-inch water mains and a 10-inch water main. These mains would be extended through the project site within the roadway alignment for the proposed new internal roadway network. A series of 8-inch mains would also be constructed to connect with the proposed 10-inch main, which would subsequently connect with the existing EBMUD 16-inch water main located within Diablo Road (see Figure 4.11-5a). The proposed project also includes the construction of a new 8-inch water main within the proposed access road. This water main would interconnect with an existing 8-inch main located in Blackhawk Road (see Figure 4.11-5b). The Magee West portion of the site would intertie with existing water distribution infrastructure in Diablo Road and McCauley Road, as shown in Figure 4.11-5c.

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GRAPHIC SCALE

0 100 200 300

(IN FEET)

1 inch = 100 ft.

Source: Ruggeri-Jensen-Azar, September 2011

Utility Plan - Magee East

Monterey | San Jose

Denise Duffy and Associates, Inc.

Environmental Consultants Resource Planners

947 Cass Street, Suite 5

Monterey, CA 93940

(831) 373-4341

Figure

4.13-5A

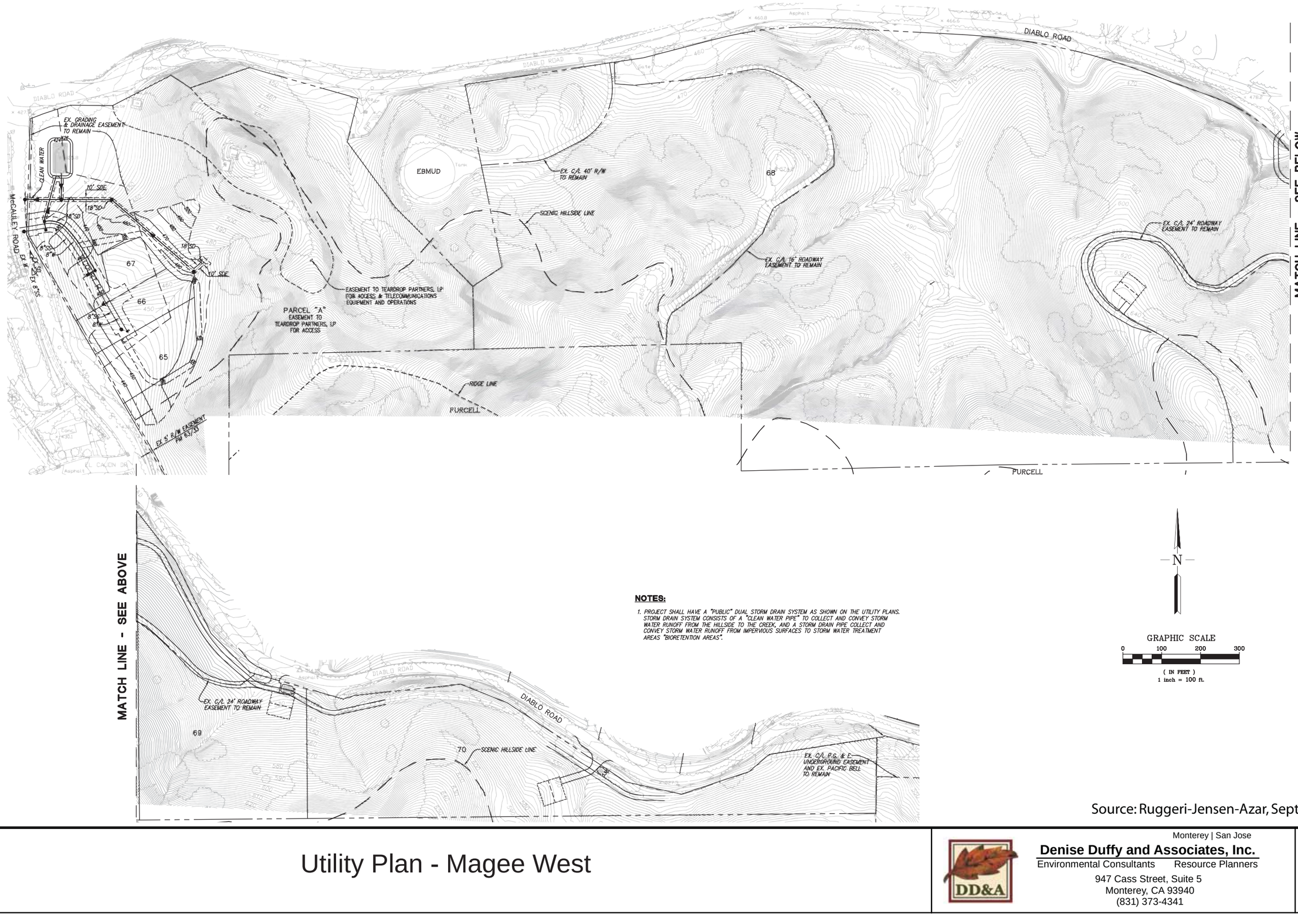


Source: Ruggeri-Jensen-Azar, September 2011

Utility Plan - Magee East

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Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure
4.13-5B



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".

Source: Ruggeri-Jensen-Azar, September 2012

Utility Plan - Magee West

Monterey | San Jose
Denise Duffy and Associates, Inc.
Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure
4.13-5C

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The proposed water distribution infrastructure would be adequate for the purposes of serving the proposed project. Existing infrastructure is anticipated to have sufficient capacity to accommodate the increased residential demands associated with the proposed project (personal communication, David Rehnstrom, January 13, 2012). Water system infrastructure improvements (e.g. extension of services to the site) will be necessary in order to accommodate demands. As described above, project development would require the installation of a number of water supply improvements in order to extend EBMUD water services to the project area. In addition to the improvements proposed by the applicant, EBMUD has also identified that additional improvements may be warranted to serve portions of the project site that are located above 650 feet. Specifically, EBMUD has identified that individual storage and pumping facilities may be necessary to serve new residences located above 650 feet (personal communication, David Rehnstrom, January 13, 2012; see also EBMUD NOP comment dated December 13, 2010 in Appendix A). The exact number of new residences located above the 650 foot elevation contour will be contingent upon the final map and location of residences. New residences that are constructed above the 650 foot elevation contour will require a Low Pressure Service Agreement with EBMUD, which typically entails the construction and installation of individual storage and pumping facilities to ensure adequate water supply. Alternatively, future residential building sites could be located outside of these areas. In light of EBMUD's comments, project-specific mitigation is necessary to ensure adequate infrastructure will be provided to serve the project. In addition, the proposed project will also be required to pay all applicable development impact and service connection fees as required by the Town of Danville and EBMUD.

Impact **Development of the proposed project would require the construction of new water infrastructure in order to serve the project. EBMUD has identified that specific improvements may be necessary to serve new uses located above the 650 foot elevation contour. These improvements are necessary to mitigate potential water supply infrastructure impacts. *This represents a potentially significant impact that can be reduced to a less-than-significant level with implementation of the following mitigation measure.***

Mitigation Measures

4.13-1 Prior to final map recordation, the applicant shall enter into a Low Pressure Service Agreement with East Bay Municipal Utility District for each residential parcel located entirely or partially above the 650 elevation contour. All appropriate water supply infrastructure, including pumping and storage facilities, shall be provided in accordance with the Low Pressure Service Agreement. For new residential parcels that are partially located above the 650 foot contour residential building envelopes may be delineated below the 650' contour to avoid the need for additional site-specific infrastructure, subject to approval by the Town of Danville. New building envelopes, if identified, shall be coordinated directly with East Bay Municipal Utility District. These facilities shall be incorporated into the final design-level infrastructure drawing for the project. The applicant shall sign and execute a Low Pressure Service Agreement prior to final map recordation. All infrastructure improvements shall be incorporated into design-level drawings.

4.13-2 Prior to the recordation of the final map for each phase of development, the applicant shall submit detailed design-level infrastructure drawings to the East Bay Municipal Utility District and the Town of Danville for review and approval. All new water supply infrastructure shall be designed in accordance with all applicable East Bay Municipal Utility District specifications. All water supply infrastructure plans shall be reviewed and approved prior to final map recordation.

4.13-3 The East Bay Municipal Utility District maintains a right-of-way (R/W 1581) through the project site, which provides access to the Green Valley Reservoir. In order to avoid potential effects to East Bay Municipal Utility District's existing operations, the final map shall clearly delineate all known easements, including East Bay Municipal Utility District's right-of-way (R/W 1581). Any and all activities proposed within the right-of-way shall be coordinated with East Bay Municipal Utility District. This easement shall be reflected in all final design-level improvement plans and appropriate notes shall also be included, subject to the review and approval of the East Bay Municipal Utility District and the Town of Danville.

Wastewater

Development of the proposed project, based on the residential demand factors utilized by the Central Contra Costa Sanitation District (CCCSD), would generate approximately 15,795 GPD of wastewater. Table 4.13-9 identifies the proposed wastewater generation estimates and residential demand rates utilized by CCCSD. All project generated wastewater would be treated at the District's Wastewater Treatment Plant, which has a treatment capacity 53.8 MGD. The proposed project would represent a significant environmental effect under CEQA if the project, due to increased wastewater generation, would necessitate the construction and/or expansion of new or existing wastewater treatment facilities.

Table 4.13-9
Wastewater Generation Estimate

Use	Dwelling Units/Units	Daily Rate (gpd/unit)[1]	Generation (GPD)	Generation (MGD)
Proposed				
Single-Family Residential	70	195	13,650	0.013
"Casitas" or Second Units[2]	11	195	2,145	0.002
		Net Total:	**15,795**	**0.015**

Source Estimates:

1. Central Contra Costa Sanitation District, Wastewater Collection System Master Plan Update, 2010; project correspondence Russell Leavitt (July, 8, 2011)
2. For the purposes of estimating anticipated utility demands, the Town of Danville anticipates that the project would include up to 15% (or 11) second units. The Town considers this a conservative estimate that is above the actual experienced percentage of secondary units on past projects. These units would result in additional demands for public utilities. As a result, this analysis conservatively estimates potential wastewater demands using the Single-Family Residential Demand Factor provided by CCCSD. Demand, however, is anticipated to be less.

The Treatment Facility currently has a treatment capacity of 53.8 MGD with current flows that average 33.5 MGD (personal communication, Russell Leavitt, July 8, 2011). The proposed project would incrementally increase, albeit insignificantly, wastewater flows to the Treatment Facility. Projected wastewater flows associated with the project would account for less than a tenth of a percent (0.04 % increase) increase of wastewater volumes being treated at this existing treatment facility. Project generated wastewater would represent a negligible increase in wastewater flows. The Treatment Facility has sufficient existing and planned capacity to accommodate increased demands generated from the proposed project and no new treatment facilities or expansion to the existing facility would be necessary (ibid.). This would represent a less-than-significant impact under CEQA.

In order to accommodate the proposed project, existing infrastructure in the project vicinity would need to be extended to serve the project and the project site would need to be annexed into CCCSD's service area. Project-specific infrastructure improvements would be necessary to meet project demands. The project proposes to install 8-inch lines within the roadway right-of-ways for the new access roads serving the project. Proposed improvements are shown in Figure 4.13-5a through Figure 4.13-5c. These new lines would intertie with existing infrastructure serving the project vicinity. The Magee East portion of the project would connect into the existing 8-inch sanitary sewer line in Blackhawk Road. Magee West would connect into an existing 15-inch main in Diablo/Blackhawk Road; the lots along McCauley Road would connect to an existing 8-inch sanitary sewer main in McCauley Road. The CCCSD have identified that the existing wastewater sewer lines serving the project vicinity have sufficient capacity to accommodate projected wastewater flow volumes (ibid.).

While the existing infrastructure serving the project area has sufficient capacity to accommodate project generated demands, the CCCSD has identified that future build-out within CCCSD's service area would result in a number of potential infrastructure deficiencies. These deficiencies are primarily related to inadequate trunk and interceptor system capacity to accommodate flow conditions (build-out) analyzed in the 2010 Collection System Master Plan Update; specific improvement projects are described in CCCSD's Capital Improvement Plan (CIP), which identifies anticipated project costs, priority projects, and guidelines for implementing the CIP. The CCCSD has established a number of impacts fees that represent a flow-based capacity charge that fund CIP projects. These fees are used for the maintenance, rehabilitation, and operation of CCCSD's facilities. The project will be required to pay all applicable CCCSD fees, as determined necessary by CCCSD.

The proposed project would not result in and/or otherwise require the construction of new or expanded infrastructure such that an adverse environmental effect would occur. The proposed project would result in the installation of project-specific infrastructure; these improvements would not result in any new physical environmental effects beyond those identified in this EIR. In addition, the CCCSD has sufficient treatment capacity to serve the project. While CCCSD has identified future capacity concerns associated with full-buildout, CCCSD has a fee collection program that goes towards identified CIP projects. The payment of sewer connection fees is considered adequate mitigation for the purposes of CEQA. The proposed project site would be required to be annexed into CCCSD's service area, but annexation would not result in any new impacts beyond those identified in this EIR. This represents a less-than-significant impact under CEQA.

Solid Waste

The project would generate additional solid waste related to the operation and construction of the proposed project. All solid waste generated by project construction and operation would be disposed of at the Keller Canyon Landfill. The landfill has a maximum permitted disposal rate of 3,500 tons per day, an existing disposal rate of approximately 2,500 tons per day, and an estimated closing date of 2030.[14] Table 4.13-10 identifies projected solid waste estimates associated with the proposed project.

[14] California Department of Resources Recycling and Recovery, Active Landfill Profile for Keller Canyon Landfill, August 22, 2011 accessed: http://www.calrecycle.ca.gov/profiles/Facility/Landfill/LFProfile1.asp?COID=7&FACID=07-AA-0032.

Table 4.13-10
Solid Waste Generation Estimate

Use	Dwelling Units/Units	Daily Rate (lbs/day)[1]	Generation (lbs/day)	Annual Solid Waste (tons/year)
Proposed Project				
Single-Family Residential	70	7.8	546	99.65
"Casitas" or Second Units[2]	11	7.8	85.8	15.65
		Total:	**631.8**	**115.3**

Source Estimates:
1. California Integrated Waste Management Board Estimated Solid Waste Generation Rates for Residential & Commercial Establishments; see also CIWMB Statewide Waste Characterization Study (2004), and CIWMB Waste Disposal and Diversion Findings for Selected Industry Groups (2006).
2. For the purposes of estimating anticipated water demand, the Town of Danville anticipates that the project would include up to 15% (or 11) second units. The Town considers this a conservative estimate that is above the actual experienced percentage of second units on past projects. These units would result in additional demands for public utilities. As a result, this analysis conservatively estimates potential solid waste demands using a Single-Family Residential Demand Factor. Demand, however, is anticipated to be less.

As shown above, the project is expected to generate approximately 631.8 lbs/day of solid waste. The Town of Danville has historically exceeded the State's mandated 50% waste diversion requirements; assuming an existing waste diversion rate of 50%, the project would generate 315.9 lbs/day of solid waste that would be disposed of at the Keller Canyon Landfill. The project would represent a negligible increase in the amount of solid waste disposed of at the Keller Canyon Landfill; there is sufficient existing capacity to accommodate solid waste generated by the project. The proposed project would therefore not require the expansion or construction of new solid waste facilities to accommodate project demands. The project would result in a less-than-significant impact on solid waste services.

Energy

According to Appendix F of the CEQA Guidelines, an EIR shall evaluate the potentially significant energy implications of a project. In addition to the requirements contained in Appendix F of the CEQA Guidelines, the Town of Danville has also identified a number of measures in the Town's Sustainability Action Plan (October 2012) that are intended to reduce energy use and associated greenhouse gas (GHG) emissions. This section specifically evaluates potential energy-related impacts, although climate change related impacts are evaluated elsewhere in this EIR. Where appropriate, mitigation has been identified to reduce the extent of energy-related impacts; applicable measures are consistent with the recommended measures contained in the Town's Sustainability Action Plan.

For the purposes of CEQA, a project would have a significant effect if it includes the wasteful, inefficient and unnecessary consumption of energy during project construction, operation, maintenance, and/or demolition activities that cannot be feasibility mitigated. The proposed project would result in both direct and indirect energy consumption. Indirect energy consumption includes: 1) energy consumed by construction vehicles and energy used for construction materials, such as asphalt, steel, concrete, pipes and manufactured or processed materials, such as lumber and metal; and 2) energy consumption related to project land uses (i.e., vehicular traffic). Direct energy demands are associated with the on-site uses. The following analysis has been prepared in accordance with the recommendations contained in Appendix F of the CEQA Guidelines; both direct and indirect energy demands are quantified and mitigation measures are recommended to reduce the extent of this impact to a less-than-significant level.

Indirect Energy Consumption

The demolition of existing on-site structures and the subsequent construction of the proposed project, including project infrastructure, would result in indirect energy consumption due to construction traffic and the use of construction materials. The primary energy demand during construction would be associated with use of gasoline- and diesel-powered mobile construction equipment and use of automobiles to transport workers and materials to and from the construction site. Electricity would also be used for construction lighting, field services, and electrically driven construction devices such as air compressors, pumps and other equipment. The project would result in indirect energy consumption as a result of post-construction traffic (i.e., operational traffic), as well as energy use in connection with the production of building materials and use of construction equipment. At this time, information regarding the type and quantity of building materials and construction electricity demand is not known. Although the proposed project would result in increased indirect energy consumption, the amount of transportation fuel and potential electricity use required for project operation is not considered an inefficient or wasteful use of energy. In addition, the proposed project itself would not cause individuals and/or site occupants to use their vehicles; vehicle use is a function of personal choice. Indirect energy use does not represent the wasteful, inefficient or unnecessary consumption of energy.

Direct Energy Consumption

The proposed project would result in direct energy consumption associated with the use and occupancy of the proposed single-family residences. The project would require a considerable amount of additional electrical energy and natural gas as compared to site's existing energy consumption. Projected electricity and natural gas requirements for the proposed project are shown in Tables 4.13-11 and 4.13-12.

CEQA requires that an EIR evaluate the potential energy impacts of a project on existing energy resources. In particular, CEQA requires an EIR to determine whether a project would result in wasteful or inefficient energy consumption. In 2008, total electricity consumption in the California was 287,782.1246 million kWh. Total energy consumption in Contra Costa County in 2010 was 9,215.17 million kWh; residential energy consumption was 2,746.97 million kWh. While the proposed project would increase electricity demand on-site as compared to existing conditions, the increased demand of 600.6 mWh does not represent a substantial increase in energy consumption necessitating the construction of new or expanded electrical facilities. PG&E has identified that it has sufficient capacity to accommodate project demand (personal communication, Marie Deplazes, June 12, 2012). According to PG&E, additional infrastructure may be necessary to serve the project depending on actual, design-level, load estimates and any changes to the existing system between now and the time of construction. Energy consumption to accommodate the proposed project would not, however, result in the wasteful, inefficient, and unnecessary consumption of energy. This represents a less-than-significant impact.

In 2008, total natural gas consumption in California was 1,299,444.072 million British thermal units (MMbtu). Total natural gas consumption in Contra Costa County in 2008 was 9,547,964 MMbtu; residential use accounted for 1,833,072 MMbtu. While the proposed project would increase the demand for natural gas on-site, the increased demand of 4,017.6 MMbtu does not represent a substantial increase in energy consumption necessitating the construction of new or expanded natural gas facilities. PG&E has identified that it has sufficient capacity to accommodate project demand (personal communication, Marie Deplazes, June 12, 2012). According to PG&E, additional infrastructure may be necessary to serve the project depending on actual, design-level, load estimates and any changes to the existing system between now and the time of construction. Project generated natural gas consumption would not, however, result in the

wasteful, inefficient, and unnecessary consumption of energy. This represents a less-than-significant impact.

Table 4.13-11
Anticipated Daily Electricity Demand

Use	Dwelling Units/Unit	Demand Factor (kWh/year)[1]	Total Electricity Use (mWh /year)[1]
Proposed Project			
Single-Family Residential	70	7,415.00	519.1
"Casitas" or Second Units[2]	11	7,415.00	81.6
		Total:	**600.6 mWh**

Source Estimations: Please note that these are rough estimates. Actual energy demand will likely vary. Estimates obtained from Residential Energy Use from California Statewide Residential Appliance Saturation Study, Tables 2-9, 2-13, 2-15, 2-4, 2-5, 2-23, 2-24.
1). Estimates obtained from the Energy Information Administration. Demand factors are provided according to the type of use.
2. For the purposes of estimating anticipated utility demands, the Town of Danville anticipates that the project would include up to 15% (or 11 units) second units. The Town considers this a conservative estimate that is above the actual experienced percentage of second units on past projects. While these units are not factored into the overall density of the Project, they would nevertheless result in additional demands for public utilities. As a result, this analysis conservatively estimates potential electricity demands using a Single-Family Residential Demand Factor. Demand is, however, anticipated to be less.

Table 4.13-12
Anticipated Daily Natural Gas Demand

Use	Dwelling Units	Demand Factor (MMBtu/unit/year)[1]	Total Natural Gas Use (MMBtu//year)[1]
Proposed Project			
Single-Family Residential	70	49.60	3,472
"Casitas" or Second Units[2]	11	49.60	545.6
		Total:	**4,017.6 MMBtu/year**

Source Estimations: Please note that these are rough estimates. Actual energy demand will likely vary. Estimates obtained from Residential Energy Use from California Statewide Residential Appliance Saturation Study, Tables 2-9, 2-13, 2-15, 2-4, 2-5, 2-23, 2-24.
1). Estimates obtained from the Energy Information Administration. Demand factors are provided according to the type of use.
2. For the purposes of estimating anticipated utility demands, the Town of Danville anticipates that the project would include up to 15% (or 11 units) second units. The Town considers this a conservative estimate that is above the actual experienced percentage of second units on past projects. These units would result in additional demands for public utilities. As a result, this analysis conservatively estimates potential natural gas demands using a Single-Family Residential Demand Factor. Demand is, however, anticipated to be less.

CEQA Guidelines Section 15126.4(a)(1)(c) and Appendix F of the CEQA Guidelines identifies that energy conservation measures should be identified within the context of an EIR when necessary in order to avoid the wasteful, inefficient or unnecessary use of energy. In order to ensure that project impacts related to increased energy consumption are minimized to the extent feasible, mitigation measures have been identified below. Moreover, the Town also implements Title 24 requirements as part of their building code to ensure that energy conservation measures are incorporated into project design. While adherence to existing Town requirements related to Title 24 compliance would generally reduce impacts, additional measures are necessary to reduce energy consumption to a less-than-significant level consistent with the requirements of CEQA.

Impact **Development of the proposed project would increase demands for electricity and natural gas consumption.** ***This represents a potentially significant impact that can be reduced to a less-than-significant level with implementation of the following mitigation measure.***

Mitigation Measures

4.13-4 In order to ensure that energy demand is reduced to avoid the wasteful or inefficient use of energy, the project proponent shall submit detailed design-level plans to the Town of Danville identifying that energy conservation measures have been incorporated into design and operation of the project, prior to the issuance of any building permit. The proponent shall implement the following or comparable energy conservation measures, including, but not limited to:

a. Final-design that takes advantage of shade, prevailing winds, landscaping and sun screens to reduce energy use. Project shall meet and/or exceed the requirements of Title 20 and Title 24.

b. Install efficient lighting and lighting control systems. Use daylight as an integral part of lighting systems in buildings.

c. Install light-colored cool pavements, and strategically placed shade trees.

d. Install energy efficient heating and cooling systems, appliances and equipment, and control systems. Including:
   - smart meters and programmable thermostats.
   - Heating, Ventilation, and Air Condition (HVAC) ducts sealing.

e. Install light emitting diodes (LEDs) for outdoor lighting.

f. Provide outdoor electrical outlets.

The project applicant may proposed substitute measures provide they achieve comparable energy use reductions as the measures proposed above. If alternative measures are proposed, the applicant shall provide detailed evidence demonstrating the measures efficacy at reducing energy demand.

Cumulative Impacts

Section 15130 of the CEQA Guidelines requires an EIR to discuss cumulative impacts of a proposed project when the project's incremental effect may be cumulatively considerable. This EIR relies on a list approach, as described in Section 5.2 of this EIR. The geographic scope for the cumulative analysis is limited to the Town of Danville, unless otherwise noted. Proposed development considered in the cumulative analysis is identified in Table 5-1 (see Section 5.0 CEQA Considerations). The following provides a detailed evaluation of cumulative impacts for each of the respective issue areas discussed above.

Water

As discussed above, the projected water demands of the project are not expected to exceed the currently available water supply and reasonably foreseeable future water supplies based on the 2010 UWMP and the analysis contained in this EIR. Projected demands can be accommodated

through the site's existing UWMP water demand projections. In addition, the implementation of recommended conditions of approval would further minimize the project's potential impacts in regard to water supply. While development of the project itself would not necessitate the procurement of additional water supplies to meet project demands, cumulative development may, under a full buildout scenario, increase demand for water resources within EBMUD's Ultimate Service Boundary. EBMUD has identified that additional long-term water supplies are needed beyond the next 20-year planning horizon to accommodate full buildout as envisioned in the *2040 Demand Study*. While additional long-term water supplies will be necessary to accommodate projected demands beyond the 20-year planning horizon, the proposed project would not contribute to a cumulatively considerably impact under CEQA. The project's demand for water supply would not contribute to a cumulatively considerable impact.

Wastewater

According to the CCCSD, the Wastewater Treatment Facility has a design capacity of 53.8 mgd with current flows that average 33.85 mgd. The proposed project in combination with other cumulative development would incrementally increase demand for wastewater services. The CCCSD has indicated that there is sufficient capacity to accommodate the proposed project in addition to other developments, although additional distribution capacity will be necessary to serve full buildout within CCCSD's service area. The increased demand for wastewater services, however, is not anticipated to exceed existing treatment capacity and CIP projects have been identified in the 2010 Collection System Master Plan Update to expand trunk and interceptor systems. The proposed project, in addition to the cumulative projects considered in this EIR, would not necessitate the expansion of treatment capacity.

Regarding cumulative impacts on the wastewater collection system, the timing and scale of cumulative buildout will influence the need for infrastructure improvements throughout the project area. The adequacy of the collection systems is evaluated intermittently on a project-by-project basis and infrastructure improvements are implemented as necessary to meet the required demand of existing and new wastewater generators. As discussed above, CCCSD has identified that the existing system is sufficient to accommodate project demands. Some system capacity issues may arise in connection with full buildout; a CIP has been prepared that identifies a number of system improvements. The payment of impact fees is considered adequate to mitigate potential impacts. Based on the anticipated wastewater flow associated with the proposed project, the existing sanitary sewer system would not be significantly impacted by buildout of the proposed project and other cumulative development. The project's incremental impacts on existing wastewater facilities it not considered cumulatively considerable when combined with other relevant projects; this represents a less-than-significant impact.

Solid Waste

Solid waste generated under the cumulative development scenario area would be collected and disposed of at the Keller Canyon Landfill. The landfill has a maximum permitted disposal rate of 3,500 tons per day, an existing disposal rate of approximately 2,000 tons per day, and an estimated closing date of 2030. Project buildout, in addition to other cumulative developments would generate a nominal amount of solid waste. Sufficient capacity exists to accommodate development under the cumulative scenario; therefore, potential development would have a less-than-significant cumulative impact on solid waste disposal services. The project's incremental impacts on existing solid waste facilities is not cumulatively considerable and the cumulative impacts to solid waste facilities is therefore considered less-than-significant.

Energy

Development of the proposed project, in conjunction with other cumulative development, would result in an increased demand for electricity and natural gas. The incremental increase in demand associated with the proposed project would represent an insignificant increase in energy consumption in the region. Development of the proposed project in combination with other area development would not significantly impact the existing natural gas system such that existing services would be disrupted and/or otherwise impacted. At the time of this EIR, PG&E has indicated that sufficient capacity is available to serve the proposed development as. As a result, development under the cumulative scenario would not result in a cumulatively considerable impact. The project would incrementally increase demands on energy supplies. The project's incremental impacts are not considered cumulatively considerable when combined with other relevant projects. The project would have a less-than-significant cumulative impact on energy supplies.

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5.0 CEQA CONSIDERATIONS

5.1 GROWTH INDUCEMENT

CEQA requires that an EIR discuss the ways in which the proposed project could foster economic or population growth or the construction of additional housing, either directly or indirectly, in the surrounding environment (CEQA Section 15126.2(d).) Included in this evaluation are elements of the project that would remove obstacles to population growth, such as unavailability of major utility capacity or infrastructure. Recognizing the inherent difficulties involved in forecasting the extent and type of development that might be fostered by a particular project, CEQA calls for a general assessment of possible growth-inducing impacts rather than a detailed analysis of a project's specific impacts on growth. Growth inducement may be considered detrimental, beneficial, or insignificant under CEQA. Typically, induced growth is considered a significant adverse impact if it:

- Provides infrastructure or capacity to accommodate growth beyond the levels currently permitted in applicable local and regional plans and policies.
- Encourages growth or a concentration of population in excess of what is planned for in the applicable general plan or other land use plan, or in projections made by regional planning agencies such as the Association of Bay Area Governments (ABAG).
- Adversely affects the ability of agencies to provide needed public services or infrastructure.
- In some other way significantly affects the environment, such as through a substantial increase in traffic congestion or deterioration of air quality.

Potential Growth Related to the Project

The Town of Danville's current population is approximately 42,000. The project would result in the ultimate development of 70 single family residential units. This housing would generate approximately 191.1 persons, based on approximately 2.73 persons per residential unit.[1] Increases in population can create additional demand for services and infrastructure, requiring construction of new facilities that may, in turn, induce growth or otherwise cause significant environmental effects. The project would result in a very small increase in the Town's population, representing a 0.45% increase. While the project would increase the number of persons occupying the site, this small increase does not constitute substantial population growth. The project would not generate any new employment, except possibly during the construction phase.

The project site is located within the Town of Danville and would not result in an expansion of urban services or the pressure to expand beyond the Town's existing Sphere of Influence. It would not open additional undeveloped land to future growth or provide expanded utility capacity to serve future development that was not already contemplated. While the project site is not in the current service area for EBMUD and CCCSD, it is located within their ultimate service boundaries, and growth associated with development of the project site was anticipated within their long-term service plans. Instead, it would facilitate the proposed development in a relatively urban setting that is provided with urban services.

[1] United States Census Bureau, Census 2010

The scale of population growth would not constitute significant or adverse growth inducement. The project would provide new infrastructure in the Town of Danville, including traffic intersection improvements, and lateral extensions of water, storm, and sanitary sewer lines. Intersection improvements would be limited to capacity improvements to offset the additional traffic volumes generated by the project. The proposed utilities and related infrastructure would be planned and sized to accommodate the project requirements, and would not include oversized components designed to facilitate other development or further extensions of utilities or services. Adequate infrastructure and public services are generally available to meet the increased demands of the project. No significant additional impacts on services (such as water, wastewater, storm drainage, flood control, police, fire, parks and recreation) are expected beyond what has been planned for by the proposed project. The additional infrastructure for the project does not exceed what is necessary to serve and/or mitigate impacts of the project, and will not provide additional capacity to accommodate significant growth.

Finally, the project does not allow for development that creates population or other growth beyond what is currently permitted under the Town of Danville 2010 General Plan and the Draft 2030 General Plan.

Based upon the above discussion, the project would not result in significant growth-inducing impacts.

5.2 CUMULATIVE IMPACTS

Section 15130 of the CEQA Guidelines requires an EIR to discuss cumulative impacts of a proposed project when the project's incremental effect is cumulatively considerable. Cumulative impacts refer to two or more individual effects that, when combined, are considerable or that compound or increase other environmental impacts. The purpose of the cumulative impact analysis is to identify and summarize the environmental impacts of the proposed project in conjunction with existing, approved, and anticipated development in the project area. Cumulative impacts associated with the project are addressed within the respective sections of this EIR.

The cumulative analysis relies on a list approach, encompassing other pending relevant developments in the Town of Danville. This list was compiled based on data provided by Town staff. These projects are identified in Table 5-1 below. The geographic scope for the cumulative analysis is within the Town of Danville, except as noted in each EIR section.[2]

Table 5-1
Cumulative Projects List

	Project Name	Street Location	Units/Use
Units in approved residential projects which were unbuilt or partially built (as of 11/01/12)			
1	Elworthy A	San Ramon Valley Blvd.	84 single family residential
2	Elworthy B	San Ramon Valley Blvd.	12 multi-family residential
3	Becker	3742 Old Blackhawk Rd.	7 single family residential
4	Casale	Camino Tassajara	5 single family residential
5	Lee	1240 Culet Ranch Rd.	4 single family residential
6	Zimmerman	30 Hidden Hills Pt.	4 single family residential
7	Hackler	1162 Lawrence Rd.	3 single family residential
8	Ryan	1475 Lawrence Rd.	3 single family residential

[2] For example, the quality analysis considers cumulative impacts on a regional basis comprising the entire air basin.

Table 5-1
Cumulative Projects List

	Project Name	Street Location	Units/Use
9	Mosle	1591 Lawrence Rd.	2 single family residential
10	Bledsoe	576 Del Amigo Rd.	2 single family residential
11	Rufino	289 El Pinto Rd.	1 single family residential
12	Rufino	289 El Pinto Rd.	1 second unit
13	B&H Ptn.	10 Margaret Ln.	1 single family residential
14	B&H Ptn.	10 Margaret Ln.	1 second unit
15	Page	40 Meadow Lake Dr.	2 single family residential
16	Corders	155 Willow Dr.	3 single family residential
17	Clawson	400 Starview Ln.	4 single family residential
18	B&L Group	210-230 Tamarind Ln.	1 single family residential
19	B&L Group	Various Tamarind Ln.	3 single family residential
20	BNB Ventures	Hartz Ave.	6 multi-family residential
21	Berney	900 Camino Ramon	9 multi-family residential
22	Berney	900 Camino Ramon	1 second unit
23	B&L Group	Tamarind Ln.	11 single family residential
24	B&L Group	Tamarind Ln.	2 second units
25	Weber	333 Hill Rd.	22 single family residential
26	Weber	333 Hill Rd.	5 second units
	Subtotal	162 single family residential units, 27 multi-family residential units, and 10 second units	
Units associated with pending planning entitlements (submitted as of 11/01/12)			
27	Kent/VanDam	2449 Tassajara Ln.	7 single family residential
28	Gross	2490 Tassajara Ln.	4 single family residential
29	McNeil	2434 Tassajara Ln.	1 single family residential
30	Manos	2460 Tassajara Ln.	2 single family residential
31	Tu	1625 Lawrence Rd.	1 single family residential
32	Castle	411 Hartz Ave.	16 multi-family residential
33	Podva	Terminus of Midland Way	20 single family residential
34	Podva	Terminus of Midland Way	2 second units
	Subtotal	35 single family residential units, 16 multi-family residential units, and 2 second units	
	TOTAL	**197 single family residential units, 43 multi-family residential units, and 12 second units**	

5.3 SIGNIFICANT UNAVOIDABLE IMPACTS

The proposed project would result in significant impacts in the following categories, as described in this EIR: aesthetics, air quality, biological resources, cultural resources, geology, hazards, water quality, noise, public services, traffic, and utilities. All project impacts can be reduced to a less-than-significant level with implementation of mitigation identified in this EIR. Therefore, the project would have no unavoidable impacts.

5.4 IRREVERSIBLE ENVIRONMENTAL CHANGES

Section 15126(f) of the State CEQA Guidelines requires EIRs to include a discussion of significant, irreversible environmental changes that would result from project implementation. CEQA Section 15126.2(c) identifies irreversible environmental changes as those involving a large commitment of nonrenewable resources or irreversible damage resulting from environmental accidents.

The project would develop residential uses on a portion of the project site. The environmental changes produced by the project would occur mainly as a result of the alteration of the physical environment from conversion of a 108 acre portion of the 410 acre project site to residential uses. This would result in long-term commitment of the developed portions of the site to urban uses. The project would also result in a permanent alteration of the site's topography from proposed grading activities.

Irreversible changes associated with the project include the use of nonrenewable resources during construction, including building materials (such as concrete and glass) and use of petroleum products. During the operational phase of the project, natural gas and electricity would be used for lighting, cooling, and heating. Because fossil fuels are currently the principal source of energy, the project would incrementally reduce existing supplies of fuel, such as oil, natural gas, and gasoline. This represents a long-term commitment to consumption of essentially nonrenewable resources. The proposed project would also require the use of other nonrenewable and/or slowly renewable resources such as lumber, sand, petrochemical construction materials, metals, and water.

6.0 ALTERNATIVES

6.1 INTRODUCTION

CEQA Guidelines §15126.6 requires the consideration of a range of reasonable alternatives to the proposed project that could feasibly attain most of the objectives of the proposed project. The Guidelines further require that the discussion focus on alternatives capable of eliminating significant adverse impacts of the project or reducing them to a less-than-significant level. The key provisions of the CEQA Guidelines regarding analysis of alternatives are presented below:

- The alternatives analysis should focus on alternatives to the project including alternative locations that are capable of avoiding or substantially lessening the significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives or would be more costly.

- The No Project alternative shall be evaluated along with its impact. The No Project analysis shall discuss the existing conditions at the time the notice of preparation is published, as well as what would reasonably be expected to occur in the foreseeable future if the project were not approved based on current plans.

- The range of alternatives required in an EIR is governed by a "rule of reason" that considers only those alternatives necessary to permit a reasoned choice. The alternatives are limited to those that would avoid or substantially lessen the significant environmental effects of the project. The CEQA Guidelines do not specify a precise number of alternatives to be evaluated in an EIR.

- For alternative locations, only locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion in the EIR.

- An EIR need not consider an alternative whose effects cannot be reasonably ascertained and whose implementation is remote and speculative.

The range of feasible alternatives analysis is intended to foster meaningful public participation and informed decision making. Among the factors that may be taken into account when addressing the feasibility of alternatives are environmental impacts, site suitability, economic viability, availability of infrastructure, general plan consistency, regulatory limitations, jurisdictional boundaries, and whether the proponent could reasonably acquire, control, or otherwise have access to an alternative site, per CEQA Guidelines §15126.6(f)(I).

An EIR must briefly describe the rationale for selection and rejection of alternatives. The lead agency may make an initial determination of which alternatives are feasible and merit in-depth consideration, and which are infeasible (see CEQA Guidelines §15126.6(f)(3)). Alternatives may be eliminated from detailed consideration in the EIR if they fail to meet project objectives, are infeasible, or do not avoid any significant environmental effects.

Alternatives Considered and Rejected

The following discussion addresses alternatives that were considered and rejected, along with the rationale, in accordance with CEQA Guidelines §15126.6(e) and 15126(f).

Previously Submitted Plans. The applicant's originally submitted plan for the project site consisted of 85 lots. The Town determined that this number of lots would exceed the existing allowable number of residential units on the site of 78 and require a General Plan amendment. The applicant submitted a new plan that comprised a total of 78 lots, with 64 lots on Magee East and 14 lots on Magee West. A similar plan, based on the earlier 78-lot configuration, is evaluated in the alternatives analysis below, since this plan remains consistent with the Town's General Plan land use and zoning designations.

Alternative Location. Other than the project site, there are no single sites remaining within the Town of Danville that could accommodate the proposed residential subdivision. The project site is recognized in the Town's General Plan as an Area of Special Concern that has the capacity to accommodate up to 78 residential units without a General Plan amendment. No other sites are located within the Town of Danville that would allow the development of a project of this scale with its unique characteristics, including the preservation of more than 300 acres in open space. For these reasons, this EIR does not examine in detail an alternative location for the proposed project.

Alternatives Selected for Further Analysis

The following section discusses the alternatives evaluated in this Draft EIR and the comparative environmental effects of each. The alternatives considered in this analysis are as follows:

1. No Project/No Build
2. No Project/Build without Subdivision
3. More Clustered Alternative/Minimum 5,000 SF Lots
4. Non-Clustered Alternative
5. Modified Design Alternative/Minimum ±20,000 SF Lots

The alternatives chosen for this analysis, beyond those mandated by CEQA, were developed to avoid or substantially reduce the significant impacts of the project. A summary of the components and rationale for each of the selected alternatives is presented below in Table 6-1.

Table 6-1
Summary of Project Alternatives

Alternative	Description	Rationale	Lot Configuration
1. No Project/No Build	Project eliminated and ranching uses maintained	Per CEQA	N/A
2. No Project/Build without Subdivision	Development without subdivision	Per CEQA	7 lots; one unit per parcel
3. More Clustered Alternative/ 5,000 SF Lots	Development of 5,000 SF lots within a smaller development footprint*	Reduce overall site disturbance	Magee West: 6 lots Magee East: 72 lots Total 78 lots (Custom lots: 3)
4. Non-Clustered Alternative	Development of primarily 5 acre lots with some 13,000 square foot lots opposite Fairway Drive, consistent with the existing General Plan land use designations	Consistent with GP designations	Magee West: 24 lots Magee East: 54 lots Total 78 lots
5. Modified Design Alternative/ ±20,000 SF Lots	Development of ±20,000 SF lots similar to surrounding residential uses*	Consistent with neighboring densities	Magee West: 20 lots Magee East: 46 lots Total 66 lots (Custom lots: 10)
*Alternative includes larger custom lots			

The following analysis describes the potential impacts of each project alternative compared to the proposed 70-lot subdivision. For those areas where the impacts are not reduced or changed from those of the proposed project, the analysis is abbreviated. A summary of the comparison of the impacts for each alternative is presented below in Table 6-2.

Table 6-2
Comparison of Impacts – Project Alternatives

Impact	No Project/ No Build	No Project/ Build	5 KSF Lot Alternative	Non-Clustered Alternative	±20 KSF Lot Alternative
Aesthetics	<	<	<	>	≥
Agricultural/Forest Resources	=	=	=	=	=
Air Quality	<	<	=	=	=
Biological Resources	<	<	<	>	=
Cultural Resources	<	<	<	>	=
Geotechnical	<	<	<	>	=
Hazards & Hazardous Materials	<	<	=	=	=
Hydrology & Water Quality	<	<	=	>	=
Land Use & Planning	>	>	=	>	=
Noise	<	<	=	>	=
Public Services & Utilities	<	<	=	>	=
Traffic	<	<	=	=	<

> Impact Greater than Project
= Impact Comparable to Project
< Impact Less than Project

6.2 SUMMARY OF PROJECT OBJECTIVES AND SIGNIFICANT IMPACTS

Objectives

The primary objectives of the project proponent, as described in 3.0 Project Description of this Draft EIR, are as follows:

- Develop a residential project that is consistent with the Town of Danville's General Plan land use designations for the site of Public and Open Space - Agricultural, Public and Open Space - General Open Space, Residential - Rural Residential, and Residential-Single Family-Low Density General Plan Land Use Designations for the site as well as the General Plan's Magee Ranch Special Concern Area language.

- Provide 70 residential lots, including 64 home sites at the east end of site south of Blackhawk Road, three custom home sites on the central portion of the site along Diablo Road, and three home sites near the southeast corner of the Diablo Road/McCauley Road intersection.

- Design the project to cluster development on the lower portions of the site to minimize visual impacts and limit disturbance on the property.

- Provide for a minimum of 10% of the 70 lots to include a second dwelling unit ("casita") to satisfy the Town's affordable housing requirements.

- Preserve approximately 302 acres of the project site as permanent open space.

- Preserve significant features of scenic hillsides and major ridgeline areas.

Significant Impacts

The proposed project would result in potentially significant impacts in the following categories, as described in this EIR: aesthetics, air quality, biological resources, cultural resources, geology, hazardous materials, water quality, noise, public services, traffic, and utilities. All project impacts can be reduced to a less-than-significant level with implementation of mitigation identified in this Draft EIR.

6.3 NO PROJECT / NO BUILD ALTERNATIVE

Description

CEQA requires the discussion of the No Project Alternative "to allow decision makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project." For the purposes of this analysis the No Project Alternative represents the "no development" scenario in which the site is left in its current generally undeveloped condition (per CEQA Guidelines Section 15126.6(e)(3)) and existing ranching uses continuing to operate. This alternative would eliminate the preservation of over 300 acres of the site in permanent open space proposed by the project.

Impacts

The No Project Alternative would avoid the adverse effects of the proposed project. The No Project Alternative would avoid the significant or potentially significant environmental impacts of the project in the following areas: aesthetics, air quality, biological resources, cultural resources, geology, hazards, water quality, noise, public services, traffic, and utilities. These impacts can be mitigated with measures identified in this EIR.

Summary

The No Project Alternative would avoid all of the environmental impacts of the proposed project. The No Project Alternative would result in the existing operation of ranching uses on the site. The No Project Alternative would fail to meet the project objectives to build a residential community on the site consistent with the existing zoning and General Plan and preserve over 300 acres in permanent open space.

6.4 NO PROJECT/BUILD WITHOUT SUBDIVISION

Description

The No Project/Build Alternative consists of eliminating the proposed subdivision and developing the project site with one residential lot per existing parcel. Since the site currently contains seven buildable parcels, this alternative would result in the construction of a total of seven residential homes on the project site. This alternative would require the provision of infrastructure to each individual parcel, including roads, water, power, and sanitary sewer. It is assumed that each lot

would require its own water well and septic system, although it may be technically possible to connect these parcels to the public system via lengthy lateral extensions. This alternative would eliminate the preservation of over 300 acres of the site in permanent open space proposed by the project.

Impacts

Aesthetics. This alternative would reduce the magnitude of visual changes compared to the proposed subdivision due to the vast reduction in lots. This would minimize the overall visual effects of the project at some locations by eliminating the majority of development on the site. However, depending on the ultimate locations of the home sites, some hillside or ridgeline development could potentially occur under this alternative. The effects from new light and glare sources would be minimal for this alternative. The overall impacts of this alternative on aesthetics would be less than those of the proposed project by reducing the magnitude of potential visual changes associated with the project although this alternative would still have some visual effects depending on the location of development.

Agricultural/Forest Resources. The project site does not contain significant agricultural or forest resources (timber) as defined by CEQA, and no further analysis is warranted.

Air Quality. This alternative would reduce air pollutant emissions in accordance with the decrease in residential units and associated vehicle trips, including decreases in regional and greenhouse gas emissions. This alternative would generate temporary emissions of diesel and dust during construction; however, fewer sensitive receptors would be affected given the decrease in units. The overall impacts of this alternative on air quality would be significantly less than those of the proposed project.

Biological Resources. This alternative would reduce the vast majority of development on the project site, decreasing impacts to riparian habitat, special status species, trees, and other biotic resources. This alternative could result in biological impacts such as tree removal from the development of access roads and extension of infrastructure improvements to serve the parcels. The overall impacts of this alternative to biological resources would still be considerably less than the proposed project.

Cultural Resources. This alternative would greatly decrease development on the site, reducing potential disturbance to cultural resources. The overall impacts of this alternative to cultural resources would be substantially less than the proposed project.

Geology/Soils. The potential geotechnical hazards affecting development of the project site would depend on the specific location of the homes on each parcel. For some of the parcels, development may be constrained by topography and other site conditions. In general, the project would expose more people to potential geologic hazards due to its larger unit count.

Hazards and Hazardous Materials. The Magee East portion of the project site may contain hazardous substances in subsurface soils that could be exposed during construction. Site characterization for each of the seven home sites would likely be required prior to construction and appropriate remediation implemented as needed. However, this alternative would potentially expose far fewer workers to potential hazards due to the larger reduction in units. The overall impacts of this alternative associated with hazards and hazardous materials would be substantially less than the proposed project.

Hydrology/Water Quality. Development under this alternative would be subject to all legal requirements to manage storm water from development (building) sites, thereby avoiding significant drainage and water quality impacts. This alternative would likely minimize potential alterations to the hydrologic regime compared to the project due to the smaller unit count. However, the hydrologic impacts of the project were determined to be less-than-significant with the project as proposed. This alternative would minimize water quality impacts by greatly reducing the overall development envelope (grading, etc.). Best management practices would avoid impacts to water quality under this alternative and the project.

Land Use. This alternative would result in limited on-site residential development. While the project would significantly reduce the extent of development compared to the proposed project, this alternative could, depending on final design, result in potential land use conflicts with applicable Town of Danville General Plan policies related to avoiding ridgeline development and the clustering of development on the flatter, less visible portions of the site.

Noise. Some lots may be affected by traffic noise along Diablo Road. In addition, this alternative would generate temporary noise during construction activities; however, fewer sensitive receptors would be affected given the decrease in units. The overall impacts of this alternative on noise would be considerably less than those of the proposed project.

Public Services & Utilities. This alternative would reduce the overall demand on services and utilities by decreasing the number of residential units on the site. This alternative would correspondingly reduce demands on police and fire services, parks, water, sanitary sewer, and solid waste disposal services, as well as energy. However, this alternative would require the provision of infrastructure to each individual parcel, including roads, water, power, and sanitary sewer. It is possible that some lots could conceivably connect to the public systems via lengthy lateral extensions assuming site constraints are minimal, but some lots may require their own water well and/or septic system. The overall public services and utilities impacts of this alternative would be less than those of the proposed project, although this alternative could require substantial site disturbance to allow for the physical provision of services.

Traffic. This alternative would reduce traffic trips in accordance with the decrease in residential units. The development of seven units would result in the generation of approximately 85 average daily vehicle trips, compared with over 1,000 for the proposed project. This would reduce and likely eliminate the traffic impacts of the project.

Summary

Overall, this alternative would lessen the environmental impacts of the project by decreasing total unit count from 70 lots to seven lots. This alternative would not be consistent with the project's objectives to develop a 70 lot residential community on the project site and preserve over 300 acres in permanent open space.

6.5. MORE CLUSTERED ALTERNATIVE/MINIMUM 5,000 S.F. LOTS

Description

This alternative consists of the development of the project site with 78 lots[1] sized a minimum of 5,000 square feet, within a smaller development footprint than the proposed project (refer to Figures 6-1A and B). This alternative would eliminate development on approximately ten acres, primarily within the south portion of Magee East, by eliminating the southernmost portion of Court F. This area of development was eliminated to provide a logical boundary for the smaller footprint scenario, primarily from an engineering perspective. This alternative comprises six lots on Magee West and 72 lots on Magee East. A total of three of these would be custom lots. This alternative is intended to reduce overall site disturbance compared with the proposed project.

Impacts

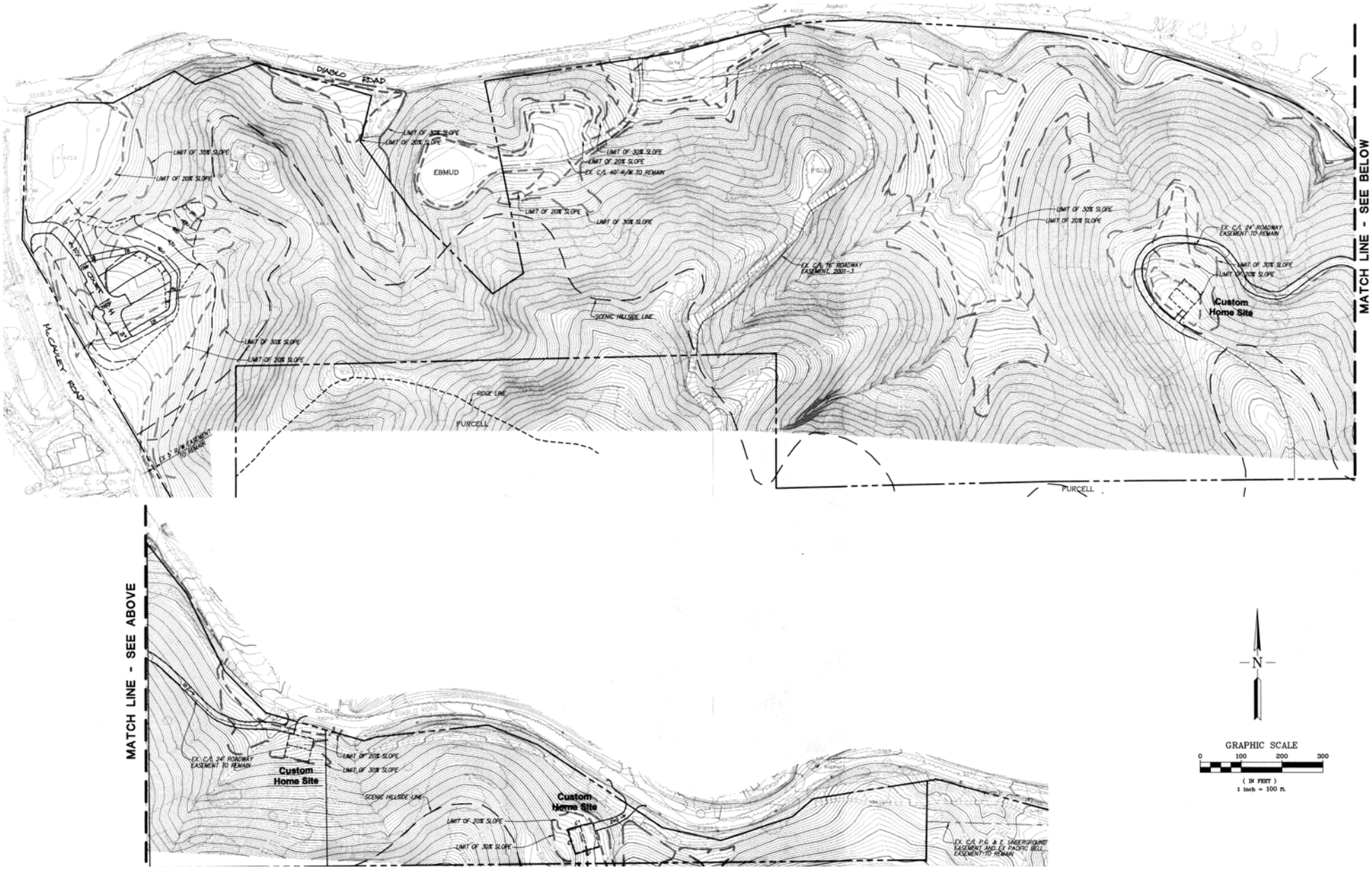
Aesthetics. This alternative would potentially decrease the visual effects of the project by reducing the development footprint and loss of undeveloped ranchland, primarily on the south portion of Magee East (due to the elimination of the south extension of Court F). Development of the reconfigured subdivision would be denser, since the minimum lot sizes on the majority of lots would be reduced from 10,000 square feet to 5,000 square feet. This may somewhat intensify visual effects at some locations. Overall the 5,000 square foot lot alternative would result in a reduction of visual impacts from distant vantage points including along Mt Diablo Scenic Boulevard in Mt Diablo State Park.

Agricultural/Forest Resources. The project site does not contain significant agricultural or forest resources (timber) as defined by CEQA, and no further analysis is warranted.

Air Quality. This alternative would result in the development of 78 lots. This would result in air pollutant emissions that may be somewhat greater but not significantly more substantial than the project due to the addition of eight residential lots and associated traffic trips and energy use. The air quality analysis prepared for the project evaluated the previous 78 lot plan. This alternative, therefore would result in regional and greenhouse gas emissions that are comparable to the proposed project. In addition, this alternative would generate temporary emissions of diesel and dust during construction that would be comparable to the proposed project. Mitigation is available to avoid these impacts to a less-than-significant level. The overall impacts of this alternative on air quality would be comparable to the proposed project.

Biological Resources. The reduced development footprint would avoid impacts where lots have been eliminated on the south portion of Magee East (where the southern extension of Court F is removed). This would avoid filling of a small existing drainage; however this drainage was not identified in the biological investigation as wetlands or Waters of the U.S. The 5,000 square foot lot alternative would still involve development on much of the site, generally comparable to the proposed project. This would include potential impacts to riparian habitat, special status species, and trees. The overall impacts of this alternative to biological resources would be somewhat less but generally comparable to those of the proposed project.

[1] The 78 lots are based on the maximum carrying capacity of the project site as allowed by the existing General Plan land use designations. This represents about 40,000 additional square feet of development area compared to a 70 lot configuration under this scenario.



Source: Ruggeri-Jensen-Azar, 2012

More Clustered Alternative/5,000 SF Lots - Magee West

Monterey | San Jose
Denise Duffy and Associates, Inc.
Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure
6-1A



Source: Ruggeri-Jensen-Azar, 2012

More Clustered Alternative/5,000 SF Lots - Magee East

Monterey | San Jose
Denise Duffy and Associates, Inc.
Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure
6-1B

Cultural Resources. Although the development footprint is reduced, this alternative would still involve development much of the site. This alternative could result in potentially fewer impacts on unknown buried archaeological resources if any exist beneath the surface where development has been eliminated. The overall impacts of this alternative to cultural resources would be somewhat less than those of the proposed project.

Geology/Soils. Since the building footprint would be smaller, the overall impacts related to geology and soils from this alternative would be somewhat reduced compared to the proposed project. This alternative would reduce the total area of disturbance and grading requirements by decreasing the development footprint. Remedial actions for landslide area #4 and possibly #3 may be avoided by the alternative due to elimination of development on the south portion of Magee East (the south extension of Court F). Potential geotechnical impacts from existing conditions on the site, including liquefaction, expansive soils, and other hazardous conditions would remain for the other portions of the project site; however, this alternative would avoid impacts to the extent that it reduces the overall development footprint. The overall impacts of this alternative associated with geology and soils would be somewhat less than the proposed project.

Hazards and Hazardous Materials. The potential for hazardous substances in onsite soils from the ranching activities and the presence of former fuel tanks and has been identified on portions of the project site (primarily Magee East). Although the development footprint under this alternative would be smaller than the proposed project, the areas identified as potentially impacted by hazardous substances would still be affected under this plan. The overall impacts related to hazardous materials and possible remediation efforts associated with this alternative would be generally comparable to those of the proposed project.

Hydrology/Water Quality. This alternative would reduce the amount of impervious area introduced onto the project site, potentially reducing the amount of storm water runoff generated compared to the proposed project. However, because development under this alternative would be subject to all legal requirements for management of storm water runoff, significant drainage and water quality impacts would be avoided. For both the proposed project and this alternative, water quality impacts would be minimized through implementation of standard best management practices. The overall hydrology and water quality impacts of this alternative would be somewhat less or generally equal to those of the proposed project.

Land Use. This alternative would conform to the Town's General Plan land use designations for the site allowing development of up to 78 residential units on the property. This alternative is also consistent with the General Plan's goals related to clustering of development in the least visually sensitive area of the site.

Noise. This alternative would result in largely the same construction and operational noise sources associated with the project due to the comparable number of residential lots. The reduced development footprint could reduce grading requirements (primarily in the south portion of Magee East) and associated noise during construction. However, this portion of the site where development has been eliminated is not located adjacent to existing sensitive receptors. In addition, the home sites within the custom lots proposed along Diablo Road would be subject to potential noise impacts requiring mitigation, similar to the proposed project. The overall noise impacts of this alternative would be generally equal to those of the proposed project.

Public Services & Utilities. This alternative would result in the demand for services and utilities that are somewhat greater than the proposed project since this alternative proposes eight additional residential lots. This includes potential impacts to school services, recreational facilities, provision of water, and energy consumption. Mitigation is available to reduce these impacts to a less-than-significant level. The overall public services and utilities impacts of this alternative would be somewhat greater than or equal to those of the proposed project.

Traffic. This alternative would add trips to the local roadway network (technically approximately 97 additional trips per day compared to the proposed project). However, since the traffic effects of the project were evaluated based on the previous site plan of 78 lots, the traffic impacts would be essentially the same. The traffic analysis identified impacts at two signalized intersections that could be mitigated to a less-than-significant level. The traffic impacts for this alternative would be equal to the proposed project.

Summary

The 5,000 SF lot alternative would lessen some impacts of the proposed development associated with site disturbance since the development footprint would be reduced. These areas include aesthetics, cultural resources, and geology. This alternative would increase impacts associated with the increase in lot/unit count in the areas of public services and utilities. For many areas, the impact is relatively unchanged due to the similar magnitude of development. This alternative is not entirely consistent with the proposed project objectives to provide larger lot sizes for the majority of proposed lots.

6.6. NON-CLUSTERED ALTERNATIVE

Description

This alternative consists of the development of the project site with 78 lots, with most lots sized a minimum of five acres (refer to Figures 6-2A and B). This alternative comprises 67 five-acre lots on the portions of the site covered by the Town's Residential – Rural Residential or Public and Open Space – Agricultural General Plan land use designations. The five acre portion of the site covered with the Town's Residential – Single Family – Low Density General Plan land use designation (opposite Fairway Drive) contains 11 lots with a minimum size of 13,000 square feet. This alternative would eliminate the preservation of over 300 acres of the site in permanent open space proposed by the project.

This alternative would not cluster development on the flatter portions of the site but rather develop the majority of the project site with five-acre "ranchettes." This alternative consists of 24 lots on Magee West and 54 lots on Magee East. The lot configuration under this alternative would not allow for preservation of large portions of the project site in open space. This alternative is being evaluated at the request of the community at the EIR scoping meeting as well as because it is the type of development that could occur on the site using zoning that is consistent with the Town's 2010 General Plan land use designations for the project site other than the P-1; Planned Unit Development District. This alternative would not conform to the Town's General Plan policies that recommend development be concentrated on the flatter less visible portions of the project site.

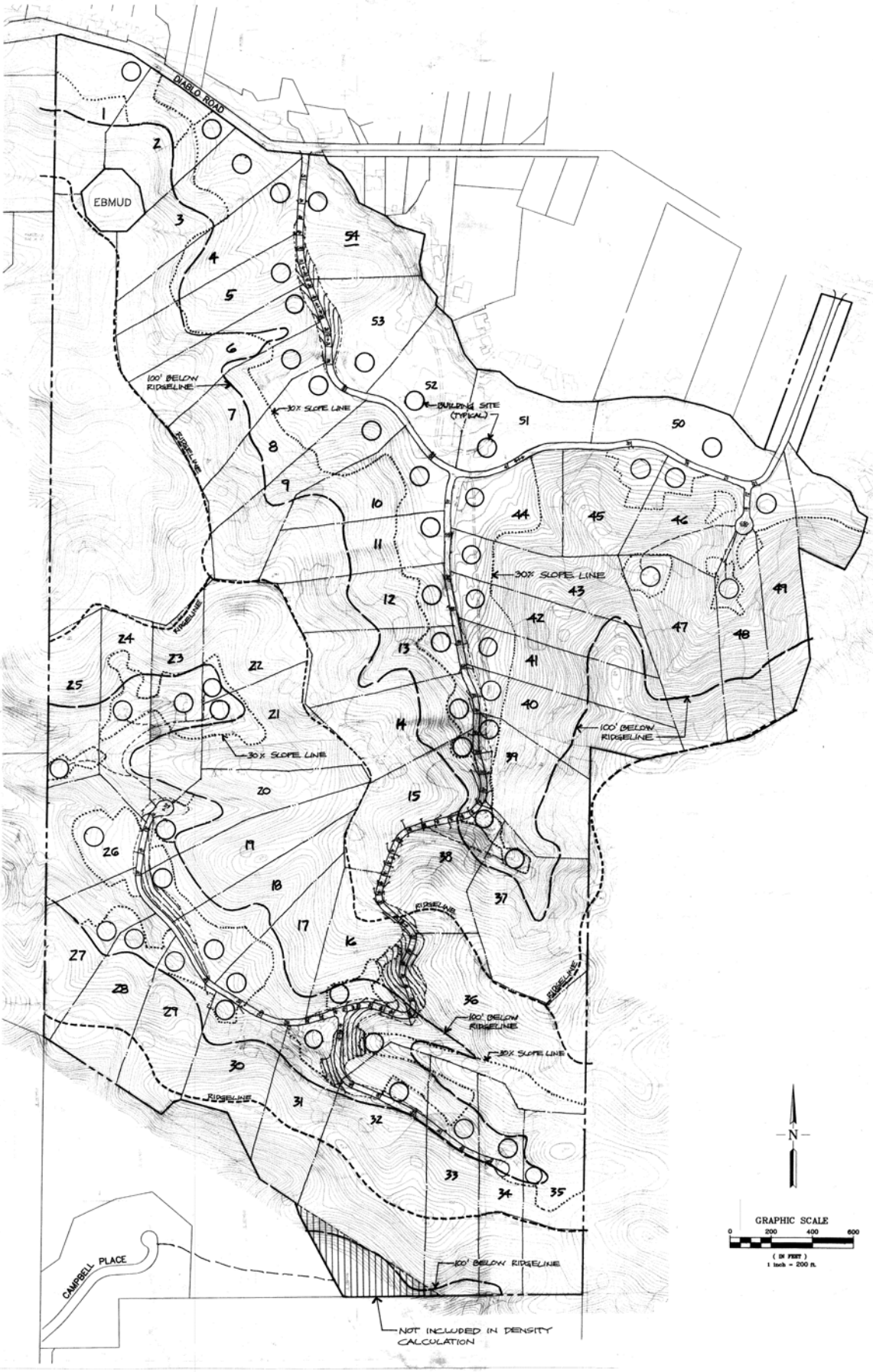


Source: Ruggeri-Jensen-Azar, 2012

Non-Clustered Alternative - Magee West

Monterey | San Jose
Denise Duffy and Associates, Inc.
Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure
6-2A



Source: Ruggeri-Jensen-Azar, 2012

Non-Clustered Alternative - Magee East

Monterey | San Jose
Denise Duffy and Associates, Inc.
Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure 6-2B

Impacts

Aesthetics. This alternative would result in substantially greater visual effects than the proposed project by spreading development throughout the majority of the 400+ acre project site. This would include 78 non-clustered home sites requiring additional grading, an extensive roadway system, and additional project infrastructure to provide service and access to each lot. This configuration would increase visual impacts from vantage points along Mt Diablo Scenic Boulevard in Mt Diablo State Park compared to the proposed project by increasing the development footprint and decreasing open space (refer to Figure 6-4). This could also increase significant ridgeline development and introduce new visual impacts in areas adjacent to the site that are unaffected under the current plan, as follows: 1) along Diablo Road, due to multiple new lots along the road and opposite Fairway Drive, 2) at McCauley Road/Diablo Road, 3) from Brightwood Lane, and 4) possibly from adjacent residential neighborhoods to the north, south, and east. The overall aesthetic/visual impacts under this alternative would be substantially greater than the proposed project.

Agricultural/Forest Resources. The project site does not contain significant agricultural or forest resources (timber) as defined by CEQA, and no further analysis is warranted.

Air Quality. This alternative would result in air pollutant emissions that may be somewhat greater but not significantly more substantial than the project due to the addition of eight residential lots and associated traffic trips and energy use. The air quality analysis prepared for the project evaluated the original 78 lot plan. This alternative, therefore would result in regional and greenhouse gas emissions that are comparable to the proposed project. In addition, this alternative would generate temporary emissions of diesel and dust during construction that would be comparable to the proposed project. Mitigation is available to avoid these impacts to a less-than-significant level. The overall impacts of this alternative on air quality would be comparable to the proposed project.

Biological Resources. This alternative would involve more widespread development on the project site, which would impact a greater area of undeveloped land. This would increase impacts to biological resources compared to the project, including additional impacts to riparian habitat, special status species, and trees. Additionally, this alternative would greatly decrease the amount of area for mitigation of impacts to biological resources including special status species and wetlands. The overall impacts of this alternative to biological resources would be substantially greater than those of the proposed project.

Cultural Resources. This alternative would involve more widespread development on the project site, which would impact a greater area of undeveloped land. This could increase impacts on unknown buried archaeological resources if any existing beneath the site's surface. Mitigation is available to avoid these impacts; however, the potential overall impacts of this alternative to cultural resources would be greater than those of the proposed project.



Proposed Project



Non-Clustered Alternative

Source: Digital Imaging Studio, 2012

Visual Simulation Comparing Non-Clustered Alternative with Project

Monterey | San Jose
Denise Duffy and Associates, Inc.
Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure
6-4

Geology/Soils. This alternative would involve more widespread development on the project site, which would impact a greater area of undeveloped land. This could increase impacts associated with geologic hazards on the site, including landslides, liquefaction, and expansive soils. More landfill and other remediation would likely be warranted which, though technically possible, is more complicated and difficult to implement. The overall impacts of this alternative associated with geology would be greater than those of the proposed project.

Hazards and Hazardous Materials. The potential for hazardous substances in onsite soils from the ranching activities and the presence of former fuel tanks and has been identified on portions of the project site (primarily Magee East). Although development for this alternative would be much more widespread, the areas of suspected hazardous material contamination would remain unchanged. The overall impacts related to hazardous materials and possible remediation efforts associated with this alternative would be generally comparable to those of the proposed project.

Hydrology/Water Quality. This alternative could increase the amount of impervious area introduced onto the project site due to the increased roadway and other infrastructure needs, potentially reducing the amount of storm water runoff compared to the proposed project. However, because development under this alternative would be subject to all legal requirements for management of storm water runoff, significant drainage and water quality impacts would be avoided. For both the proposed project and this alternative, water quality impacts would be minimized through implementation of standard best management practices. The overall hydrology and water quality impacts of this alternative would be greater or generally equal to those of the proposed project.

Land Use. The General Plan strongly discourages development as proposed in this alternative. Rather, the General Plan encourages future site development that transfers the overall number of units permitted on-site under existing zoning to less sensitive portions of the property in a more clustered pattern of development, as is proposed under the current project. This alternative would be inconsistent with the Town's General Plan policies, resulting in greater land use impacts than the project.

Noise. This alternative would result in greater construction noise sources associated with the project due to more widespread development, and grading and construction for additional roadways and other required infrastructure. In some locations, noise from operations would be introduced into areas that are not affected by the current project configuration (e.g., opposite Fairway Drive). In addition, this alternative adds multiple residential lots along Diablo Road that may be subject to potential noise impacts from traffic requiring mitigation. The overall noise impacts of this alternative would greater than those of the proposed project.

Public Services & Utilities. This alternative would result in the demand for services and utilities that are somewhat greater than the proposed project since this alternative proposes eight additional residential lots. This includes potential impacts to school services, recreational facilities, provision of water, and energy consumption. Mitigation is available to reduce these impacts to a less-than-significant level. The overall public services and utilities impacts of this alternative would be greater than or equal to those of the proposed project.

Traffic. This alternative would add trips to the local roadway network from the increase in residential lots (approximately 97 average trips per day for 78 lots compared to 70). Since the traffic effects of the proposed project were evaluated based on a previous site plan of 78 lots, the traffic impacts would be essentially the same. The traffic analysis identified impacts at two signalized intersections that could be mitigated to a less-than-significant level with available measures. The traffic impacts for this alternative would be equal to the proposed project.

Summary

This alternative would generally increase all of the environmental impacts of the project by introducing non-clustered development on the entire site. This would result in substantially greater, significant aesthetic impacts due to viewshed alteration. It would result in greater land disturbance impacts by requiring additional grading, an extensive roadway system, and additional project infrastructure to provide service and access to each lot. The overall impacts of this alternative would be substantially greater than the proposed project. This alternative would not meet the project objectives to cluster development on the flatter portions of the site and minimize grading and infrastructure requirements.

6.7 MODIFIED DESIGN ALTERNATIVE/±20,000 SF LOTS

Description

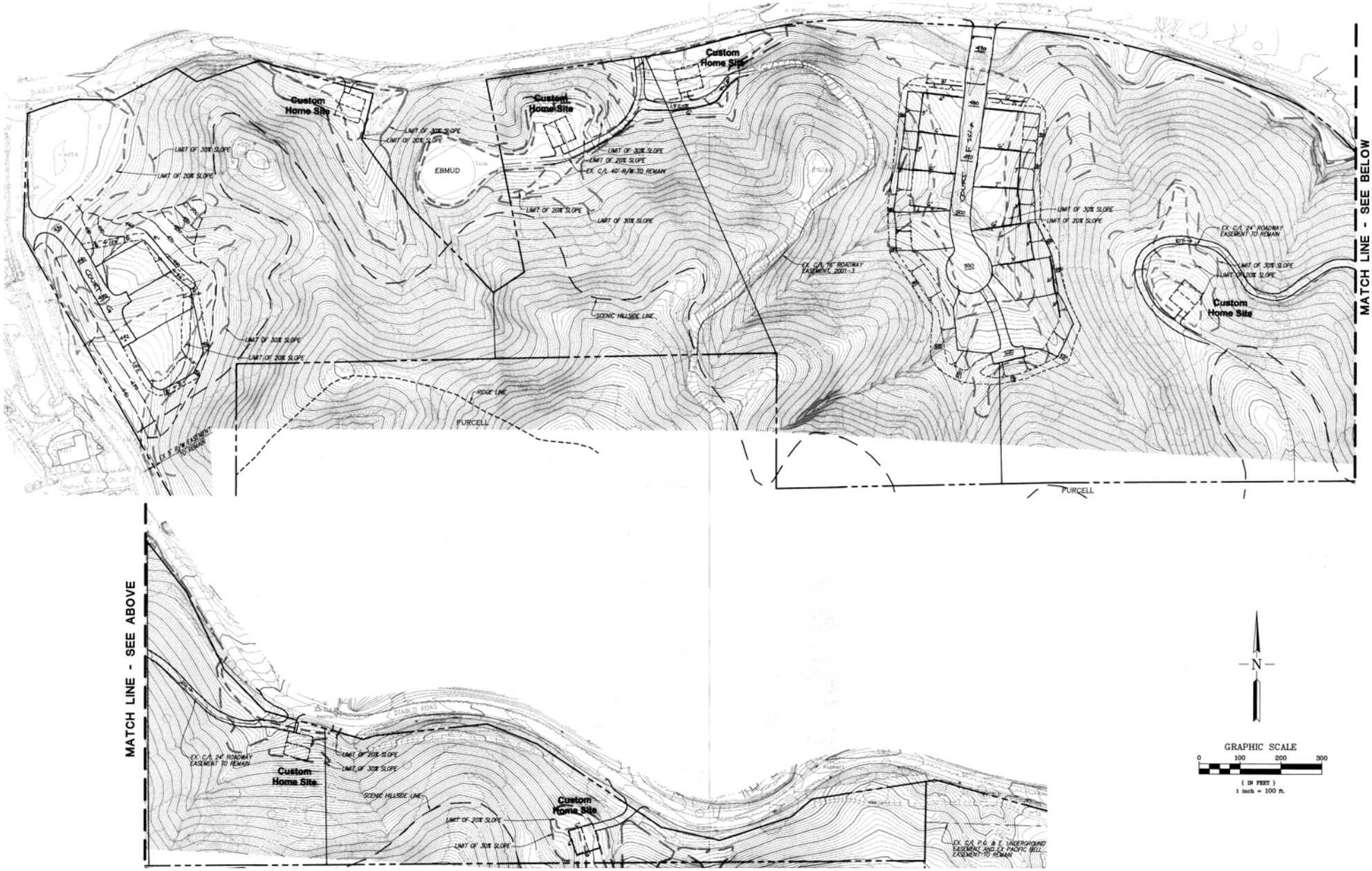
This alternative consists of developing the project site with minimum approximately 20,000 square foot lot sizes that are generally consistent with the densities of the surrounding neighborhoods. This alternative would subdivide the property into a total of 66 lots; with 20 lots on Magee West and 46 on Magee East (refer to Figures 6-3A and B). Ten of these would be custom lots. This alternative proposes 11 approximately 19,000 minimum square foot lots within Magee West opposite Fairway Drive, as allowed under the current General Plan and zoning designations. It also includes three custom lots along Diablo Road within Magee West.

Impacts

Aesthetics. This alternative would alter the visual effects of the project by expanding the minimum lot sizes on the site from 10,000 to approximately 20,000 square feet. This would result in the following changes to accommodate the larger lot sizes: 1) adding 14 lots in Magee West from a driveway off Diablo Road opposite Fairway Drive, 2) eliminating 20 lots in Magee East. The 20,000 square foot configuration would be less dense than the proposed project, but it would introduce new development along Diablo Road opposite Fairway Drive. This would alter the viewshed from this location; all other studied viewsheds would be similar to the proposed project. Overall this alternative would result in similar or slightly greater aesthetic and visual impacts than the proposed project.

Agricultural/Forest Resources. The project site does not contain significant agricultural or forest resources (timber) as defined by CEQA, and no further analysis is warranted.

Air Quality. This alternative would result in the development of 66 lots, which could somewhat reduce air pollutant emissions due to the elimination of four lots. However, this very minor reduction would not significantly decrease emissions and is expected to result in regional and greenhouse gas emissions comparable to the proposed project. In addition, this alternative would generate temporary emissions of diesel and dust during construction that would be comparable to the proposed project. Mitigation is available to avoid these impacts to a less-than-significant level. The overall impacts of this alternative on air quality would be comparable to the proposed project.

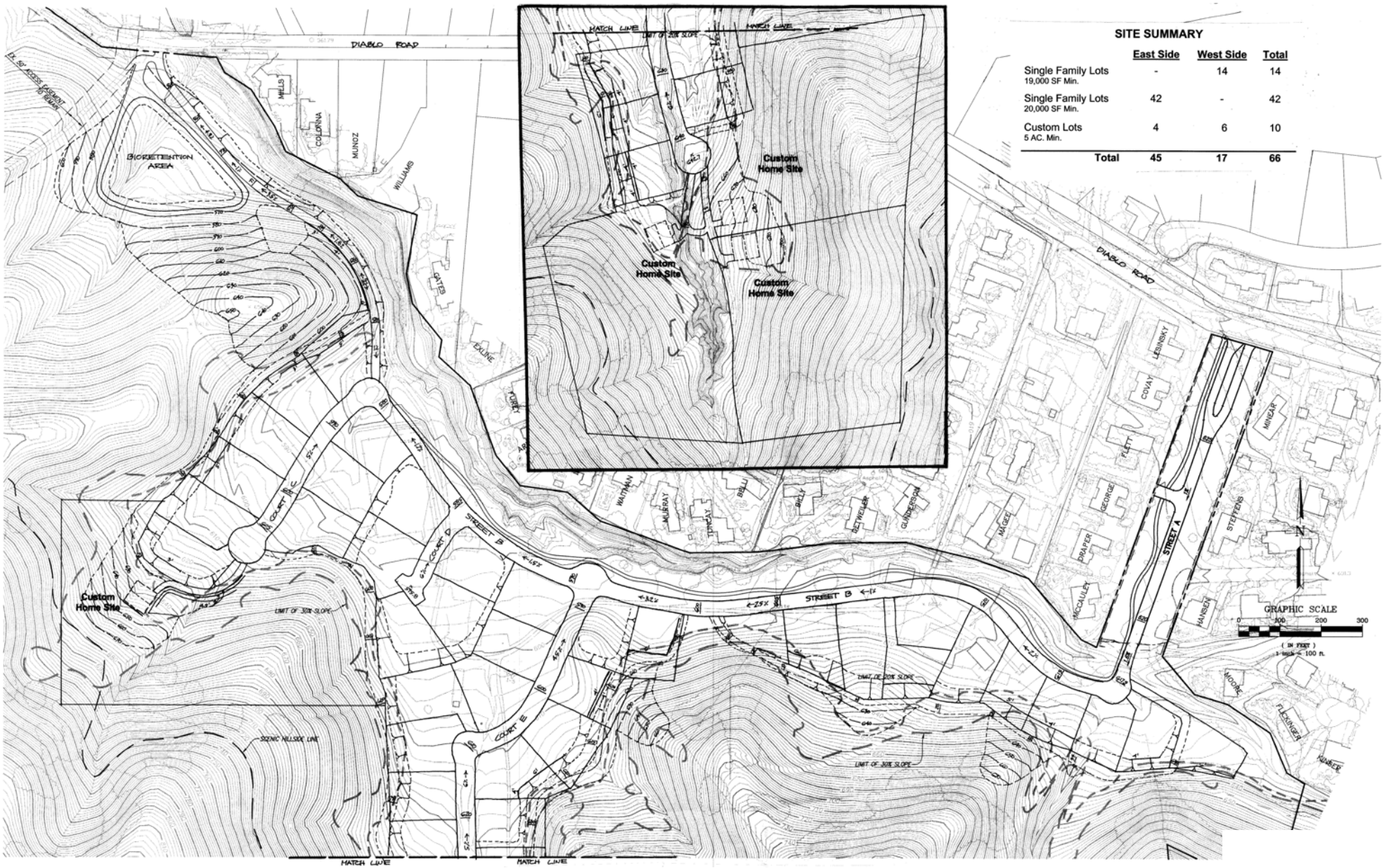


Source: Ruggeri-Jensen-Azar, 2012

Modified Design Alternative/±20,000 SF Lots - Magee West

Monterey | San Jose
Denise Duffy and Associates, Inc.
Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure
6-3A



Source: Ruggeri-Jensen-Azar, 2012

Modified Design Alternative/±20,000 SF Lots - Magee East

Monterey | San Jose
Denise Duffy and Associates, Inc.
Environmental Consultants Resource Planners
947 Cass Street, Suite 5
Monterey, CA 93940
(831) 373-4341

Figure
6-3B

Biological Resources. The development footprint would be relatively unchanged for Magee East; however, 14 additional lots on Magee West could impact additional biological resources. No wetlands are located at this location; however, additional trees would require removal primarily for access. This alternative would still involve development on much of the site, generally comparable to the proposed project including potential impacts to riparian habitat, special status species, and trees. The overall impacts of this alternative to biological resources would be generally comparable or somewhat greater than the proposed project due to the loss of additional trees.

Cultural Resources. This alternative would involve development on a somewhat larger portion of the project site. This could result in potentially greater impacts on unknown buried archaeological resources to the extent that they are present. The overall impacts of this alternative to cultural resources would be generally comparable to those of the proposed project.

Geology/Soils. The 20,000 square foot lot alternative would disturb a larger footprint by adding lots to Magee West opposite Fairway Drive. This could somewhat increase impacts associated with geologic hazards on the site, including landslides, liquefaction, and expansive soils. Mitigation is available to minimize geotechnical hazards on the site to a less-than-significant level for this alternative and the project. The overall impacts of this alternative associated with geology would be generally comparable to those of the proposed project.

Hazards and Hazardous Materials. The potential for hazardous substances in onsite soils from the ranching activities and the presence of former fuel tanks and has been identified on portions of the project site (primarily Magee East). The areas identified as potentially impacted by hazardous substances would still be affected under this alternative. The overall impacts related to hazardous materials and possible remediation efforts associated with this alternative would be comparable to those of the proposed project.

Hydrology/Water Quality. This alternative would somewhat increase amount of impervious area introduced onto the project site (in Magee West), potentially increasing the amount of storm water runoff generated compared to the proposed project. However, because development under this alternative would be subject to all legal requirements for management of storm water runoff, significant drainage and water quality impacts would be avoided. For both the proposed project and this alternative, water quality impacts would be minimized through implementation of standard best management practices. The overall hydrology and water quality impacts of this alternative would be generally comparable to those of the proposed project.

Land Use. This alternative would be consistent with the General Plan land use and zoning designations for the project site allowing for development of up to 78 residential units on the property; this alternative would also generally concentrate development on the flatter portions of the site in accordance with General Plan policies.

Noise. This alternative would result in largely the same construction and operational noise sources associated with the project. The reduced development footprint could reduce grading requirements and associated noise during construction. However, new construction would be introduced at the Diablo Road opposite Fairway Drive location. In addition, the home sites within the custom lots proposed along Diablo Road would be subject to potential noise impacts requiring mitigation, similar to the proposed project. The overall noise impacts of this alternative would generally equal to those of the proposed project.

Public Services & Utilities. This alternative would result in the demand for services and utilities that are somewhat less than the proposed project since this alternative eliminates four residential lots. The overall public services and utilities impacts of this alternative would be somewhat smaller but generally comparable to those of the proposed project.

Traffic. This alternative would slightly reduce overall trips on the local roadway network by reducing the number of lots by six. The traffic analysis identified impacts at two signalized intersections that could be mitigated to a less-than-significant level. However, the introduction of a new driveway on Diablo Road opposite Fairway Drive could introduce operational concerns at this location. The traffic impacts for this alternative would, therefore, be somewhat greater than the proposed project due to access concerns at the Diablo/Fairway driveway.

Summary

This alternative would increase impacts associated with the addition of 14 lots onto Magee West in the Diablo Road/Fairway Drive area. The overall reduction in lots, from 70 to 64, may reduce some of the project's impacts on resources and services. However, this reduction is so small to be considered negligible. This alternative would generally not fully meet the objectives of the project to develop 70 residential lots on the site, clustered primarily on the Magee East portion of the property.

6.8 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA requires that an environmentally superior alternative to the proposed project be specified, if one is identified. In general, the environmentally superior alternative is one which minimizes adverse environmental impacts while achieving the basic objectives of the project. The No Project/No Build alternative would be considered environmentally superior because all of the adverse impacts associated with the project would be avoided. In addition, the No Project/Build without Subdivision would substantially decrease impacts by reducing the number of units constructed on the site. However, neither of the No Project alternatives would satisfy the primary project objective to provide a 70-lot residential subdivision on the site in accordance with the allowable development capacity per the existing General Plan and zoning designations. In addition, CEQA Guidelines §15126.6(e)(2) states that if the environmentally superior alternative is the No Project alternative, "the EIR shall also identify an environmentally superior alternative among the other alternatives."

The Non-Clustered alternative would considerably increase environmental impacts on the site by disturbing a much more widespread area than the proposed project. The 20,000 SF Lot alternative would result in roughly similar impacts to the project, although it would introduce additional lots to the Magee West portion of the site opposite Fairway Drive, increasing impacts in that area compared to the project.

The 5,000 SF Lot alternative would lessen impacts of the project associated with overall site disturbance by reducing the development footprint and lot sizes. For some areas, the impact is relatively unchanged due to the similar magnitude of development (78 versus 70 lots). However, given its smaller footprint, the 5,000 SF Lot alternative is considered the environmentally superior alternative since it would minimize and/or otherwise reduce the extent of potential physical effects associated with the project, including impacts to aesthetics, cultural resources, and geology.

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7.0 REFERENCES

7.1 REPORT PREPARATION

TOWN OF DANVILLE
Lead Agency

David Crompton, Principal Planner
Robert Ewing, Town of Danville
Tai Williams, Town of Danville
Kevin Gailey, Town of Danville
Mike Stella, Town of Danville
Nazanin Shakerin, Town of Danville

DENISE DUFFY & ASSOCIATES, INC.
EIR Preparers

Leianne Humble, Project Manager
Tyler Potter, AICP, Senior Planner
Michael Gonzales, Assistant Planner
Matt Johnson, Associate Environmental Scientist
Jami Davis, Assistant Environmental Scientist
Terry Mihok, Administration

7.2 PERSONS AND AGENCIES CONTACTED

Wendy Baker, SummerHill Homes
Jim Clark, HortScience
Patricia Curtin, Wendel, Rosen, Black & Dean
David Crompton, Town of Danville
Marie Deplazes, Pacific Gas & Electric (PG&E)
Uri Eliahu, ENGEO
Mark Falgout, Ruggeri Jensen Azar Engineers
Ian Hardage San Ramon Valley Fire Protection District
Jeff Holmwood, Ruggeri Jensen Azar Engineers
Steve Lake, Town of Danville
Russell Leavitt, Central Contra Costa Sanitary District
Jed Magee, Magee Ranch owner
Chris Medders, Pacific Gas & Electric (PG&E)
Jeff Moule, Danville Police Department
Matt Nelson, Hexagon Transportation Consultants
Davinna Ohlson, Live Oak Associates
Tina Perault, San Ramon Valley Unified School District
David Rehnstrom, East Bay Municipal Utility District
James Reyff, Illingworth & Rodkin
Fred Svinth, Illingworth & Rodkin

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