Appendix A

Notice of Preparation and Comment Matrix

County of El Dorado

Notice of Preparation of a Draft Environmental Impact Report

and Notice of Public Scoping Meeting for the

Central El Dorado Hills Specific Plan

Date: February 20, 2013

To: Interested Parties

From: Rommel (Mel) Pabalinas, Senior Planner, County of El Dorado

Subject: Notice of Preparation of a Draft Environmental Impact Report and Notice of Public Scoping Meeting for the Central El Dorado Hills Specific Plan (File No. SP12-0002)

The County of El Dorado (County) will be the lead agency under the California Environmental Quality Act (CEQA) for preparation of an Environmental Impact Report (EIR) for the Central El Dorado Hills Specific Plan in El Dorado County. The purpose of this 30-day Notice of Preparation (NOP) and notice of public scoping meeting is to solicit comments from public agencies and interested persons regarding the scope and content of the environmental information and analyses, including the significant environmental impacts, reasonable alternatives, and mitigation measures that should be included in the Draft EIR (pursuant to CEQA Guidelines Section 15082). The location, project description, proposed entitlement requests, and potential environmental effects of the proposed Central El Dorado Hills Specific Plan are summarized in the attached materials.

Please provide written comments to **Mr. Rommel (Mel) Pabalinas, Senior Planner, at the address shown, by 5:00 p.m. on March 22, 2013**. Keep in mind that there will be another opportunity to submit detailed comments when the draft EIR is released for public review. Please mail, email or fax your comments to:

Rommel (Mel) Pabalinas, Senior Planner
El Dorado County Development Services Department, Planning Division
2850 Fairlane Court, Building C
Placerville, CA 95667
Email: rommel.pabalinas@edcgov.us
Fax: (530) 642-0508

The County will hold a public scoping meeting to provide additional information about the project and to receive verbal and written comments.

Date: Thursday, March 14, 2013
Time: 6:30 p.m. to 8:30 p.m.
Where: Oak Meadow Elementary School, Multipurpose Room, 7701 Silva Valley Parkway, El Dorado Hills, CA 95762

The scoping meeting format will be an open house; interested parties may arrive at any time during the 2-hour window to receive information on the project or provide comments.

NOTICE OF PREPARATION OF

A DRAFT ENVIRONMENTAL IMPACT REPORT (EIR)
AND NOTICE OF PUBLIC SCOPING MEETING
FOR THE
CENTRAL EL DORADO HILLS SPECIFIC PLAN

Project Information

Location: The proposed project is located in El Dorado Hills, California, an unincorporated area of El Dorado County (County) that is approximately 23 miles east of Sacramento and 20 miles west of Placerville (Figure 1, Regional Location). The proposed Central El Dorado Hills Specific Plan (CEDHSP) (project) includes two planning areas, as shown in Figure 2, Project Location: the Serrano Westside planning area east of the intersection of El Dorado Hills Boulevard and Serrano Parkway, and the Pedregal planning area west of El Dorado Hills Boulevard between Wilson and Olson Way, adjacent to the Ridgeview subdivision.

Serrano Westside is immediately north of U.S. Highway 50 (US 50) and less than 2 miles south of Folsom Lake. Existing land uses adjacent to the Serrano Westside planning area include office and retail uses to the south and west (Raley's and La Borgata) and single-family residential uses at the Serrano Community to the east. The proposed Serrano Westside development would surround the El Dorado Hills Fire Station (located on Wilson Way east of El Dorado Hills Boulevard) to the north, east, and south. Undeveloped land, an archery range, and two schools (Oak Ridge High School and Silva Valley Elementary School) are located north of the project.

The Pedregal planning area is less than 1 mile north of US 50 and less than 2 miles south of Folsom Lake. The Pedregal planning area is immediately adjacent to low-density residential uses (the existing Ridgeview neighborhood) to the west and three existing multi-family developments (the Copper Hill Apartments, El Dorado Village Apartments, and Sterling Ranch Apartments) along El Dorado Hills Boulevard to the east.

Project Description: The proposed CEDHSP, which would occur in the Serrano Westside Planning Area and Pedregal Planning Area, includes the development of up to 1,028 dwelling units, 11 acres of public facility/recreational use or 50,000 square feet of commercial use, 15 acres of public village park, and 85 acres of public parks and open space in the center of the El Dorado Hills Community. The proposed project also includes implementation of the CEDHSP and an amendment to the existing El Dorado Hills Specific Plan (EDHSP) approved in 1987 to transfer the density at Serrano Village D-1, Lots C and D to the proposed project. The approximately 155-acre Serrano Westside planning area would be an extension of the existing Serrano development with gated residential neighborhoods and would include approximately 763 dwelling units, civic or commercial, and village park development. The approximately 102-acre Pedregal planning area would include residential neighborhoods of approximately 265 dwelling units, which may or may not be gated. Table 1 shows the proposed land use designations in the Serrano Westside and Pedregal planning areas. These designations are also shown in Figure 3, Proposed Land Use Designations.

Table 1. Proposed Land Use Summary (Acres)

Land Use	Serrano Westside (% of total area)	Pedregal (% of total area)
Residential		
LDR: Low-Density Residential (1.5 Du/Ac)	-	43 (17%)
MDR-L: Medium-Density Residential – Low (5 - 8 average Du/Ac)	23 (9%)	-
MDR-H: Medium-Density Residential – High (9 - 14 average Du/Ac)	36 (14%)	-
HDR: High-Density Residential (15 - 24 average Du/Ac)	16 (6%)	13 (5%)
Civic – Limited Commercial		
C-LC: Civic Limited Commercial	11 (4%)	-
Public Facilities		
VP: Village Park	15 (6%)	-
Open Space		
OS: Open Space	46 (18%)	39 (15%)
Roads and Landscaped Lots	8 (3%)	6 (2%)
Total	256 (100%)	
Du/Ac = dwelling units per acre - = no acres		

The proposed project includes onsite and offsite infrastructure to serve the development. The EIR will analyze any related offsite infrastructure. Buildout will likely occur over several years and ultimately the timeframe be determined by housing market conditions.

Proposed Entitlement Requests: The proposed project includes an amendment to the existing EDHSP to transfer the density at Serrano Village D-1, Lots C and D to the project. Specifically, the proposed entitlements that would be required to implement the CEDHSP include: amendments to the EDHSP and County general plan, adoption and implementation of the CEDHSP, and rezoning. In addition, the project would require the County's approval of a development agreement, financing plan, and subsequent development permits and entitlements including a Development Plan and Tentative Maps. The proposed CEDHSP consists of the following requests.

- Amendment to the El Dorado Hills Specific Plan (EDHSP) consisting of: A) Transfer a total of 58.53 acres and associated EDHSP-vested density affecting portions of APN 121-040-20, 121-040-29, 121-040-31 and 121-120-22 from EDHSP area to CEDHSP area; B) Transfer a total of 1.89 acres affecting portions of APN 121-160-03 from CEDHSP area to EDHSP area.
- General Plan Amendment to:
    - Amend the General Plan Land Use Map designation of subject lands within CEDHSP from High-Density Residential (HDR) (1 - 5 Du/Ac), Multi-Family Residential (MFR) (5 - 24 Du/Ac), Commercial (C), Open Space (OS) and AP-EDHSP to Adopted Plan-Central El

Dorado Hills Specific Plan (AP-CEDHSP) and CEDHSP land use designations Low-Density Residential (LDR) (1.5 average Du/Ac), Open Space (OS), High-Density Residential (HDR) (15 - 24 average Du/Ac), Medium-Density Residential-High (MDR-H) (9 - 14 average Du/Ac), Medium-Density Residential-Low (MDR-L) (5 - 8 Du/Ac), Civic-Limited Commercial (C-LC), and Village Park (VP).
    - Amend General Plan Land Use Map designation of transferred lands within AP-EDHSP as Open Space (OS).
- Rezoning to:
    - Amend zone districts from One-Family Residential District (R1), One-Family Residential-Planned Development District (R1-PD), Limited-Multi-Family Residential District (R2), Recreational Facility (RF), and Open Space (OS) to CEDHSP zone districts Multi residential-Planned Development (RM1-PD, RM2-PD, RM3-PD), One-Family Residential-Planned Development District (R1-PD), Civic-Limited Commercial-Planned Development (C1-PD), Village Park-Planned Development (RF1-PD), Private Open Space- Planned Development (OS1-PD) and Corps Restricted-Planned Development (OS2-PD).
    - Amend zone designation of transferred lands within AP-EDHSP as Open Space (OS).
- Specific Plan for the proposed Central El Dorado Hills Specific Plan for the development of a 256-acre project site consisting of up to 1,028 dwelling units, 11 acres of public facility/recreational use or 50,000 square foot of commercial use, 15 acres of public village park, and 85 acres of private parks and open space.

Environmental Effects

Probable Environmental Effects: Based on a preliminary environmental analysis of the CEDHSP, the County has determined that the full range of issues identified in the CEQA Guidelines, listed below, shall be addressed in the EIR.

- Air Quality
- Biological Resources
- Cultural Resources
- Geology, Soils, Minerals, and Paleontology
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology, Water Quality, and Water Resources
- Land Use Planning and Agricultural Resources
- Noise and Vibration
- Population and Housing
- Public Services and Utilities
- Recreation
- Traffic and Circulation
- Visual Resources

In addition to the above areas, the Draft EIR will also evaluate the potential cumulative and growth-inducing effects of the project, as required by CEQA. Reasonably foreseeable future projects will be considered in the Draft EIR, including, but not limited to, the proposed Village of Marble Valley Specific Plan, the proposed Lime Rock Valley Specific Plan, and the proposed Dixon Ranch Residential Project. Applications have been submitted to the County for these projects, and they are currently undergoing CEQA review.

Comments and suggestions are requested regarding the environmental issues that will be analyzed in the EIR during the 30-day public comment period for the NOP.

Potential Alternatives to be addressed in the EIR: In accordance with section 15126.6 of the State CEQA Guidelines, an EIR must "describe a range of reasonable alternatives to the Project, or to the location of the Project, which would feasibly attain most the basic objectives of the Project, but would avoid or substantially lessen any of the significant effects of the Project, and evaluate the comparative merits of the alternatives." As required by CEQA, the EIR will evaluate a No Project Alternative, which will assume development of the proposed project site under the currently adopted general plan and zoning designations. Aside from the no project alternative, the County has not yet determined what additional alternatives to the project will be evaluated in the EIR. These will be identified during the environmental review process. Once selected, the alternatives will be analyzed at a qualitative level of detail in the Draft EIR for comparison against the impacts identified for the proposed project, consistent with the requirements of CEQA.

Public Scoping Meeting

The County will hold a public scoping meeting to provide additional information about the project and to receive verbal and written input on Thursday, March 14, 2013 from 6:30 p.m. to 8:30 p.m. at Oak Meadow Elementary School, Multipurpose Room, 7701 Silva Valley Parkway, El Dorado Hills, CA 95762. The scoping meeting format will be an open house; interested parties may arrive at any time during the 2-hour window to receive information on the project or provide input.

Requests for Additional Information

If you have any questions, please contact Rommel (Mel) Pabalinas at the County of El Dorado, Development Services Department, Planning Division, 2850 Fairlane Court, Building C, Placerville, CA 95667, by telephone at (530) 621-5363, or by email to rommel.pabalinas@edcgov.us.

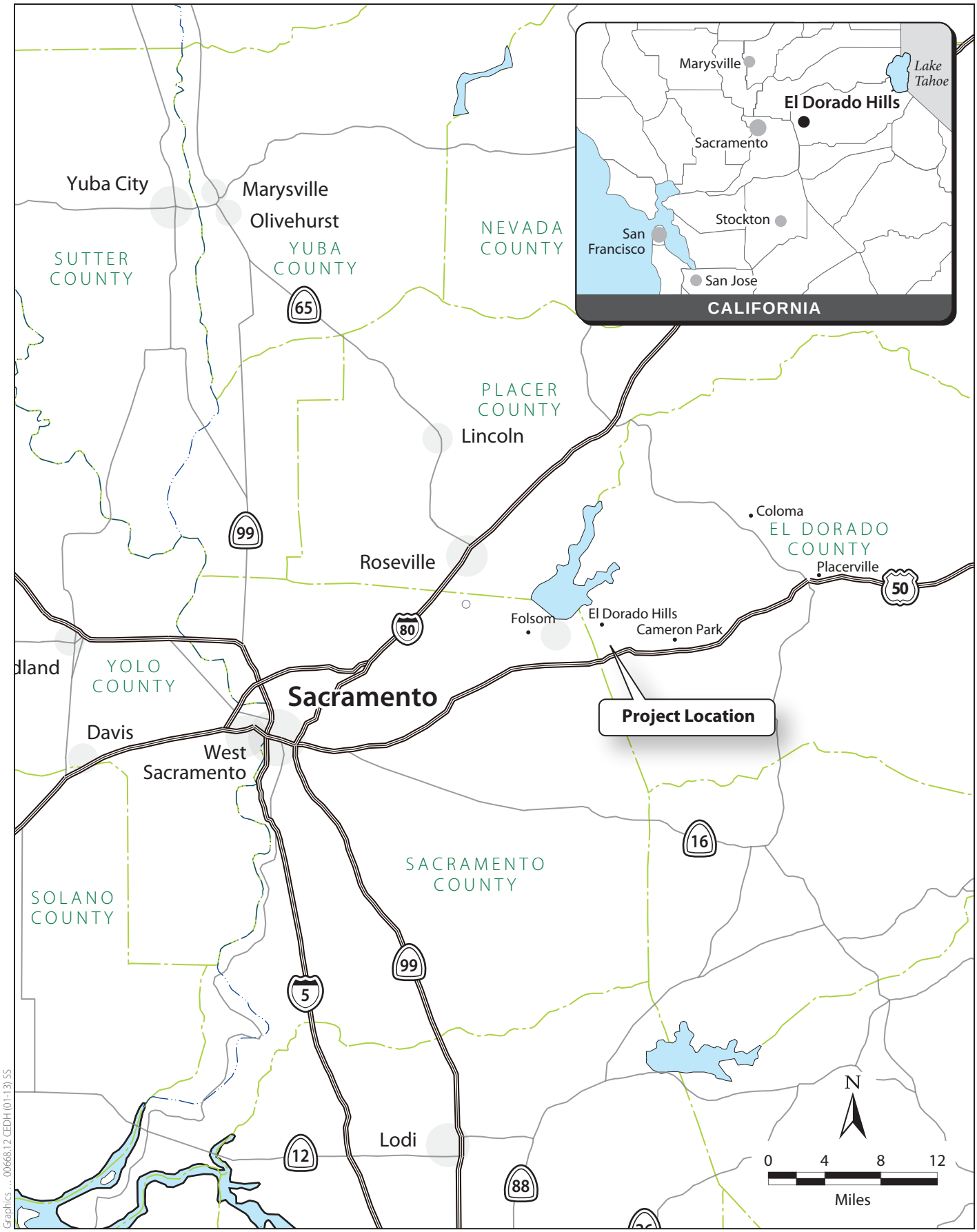

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Figure 1
Regional Location

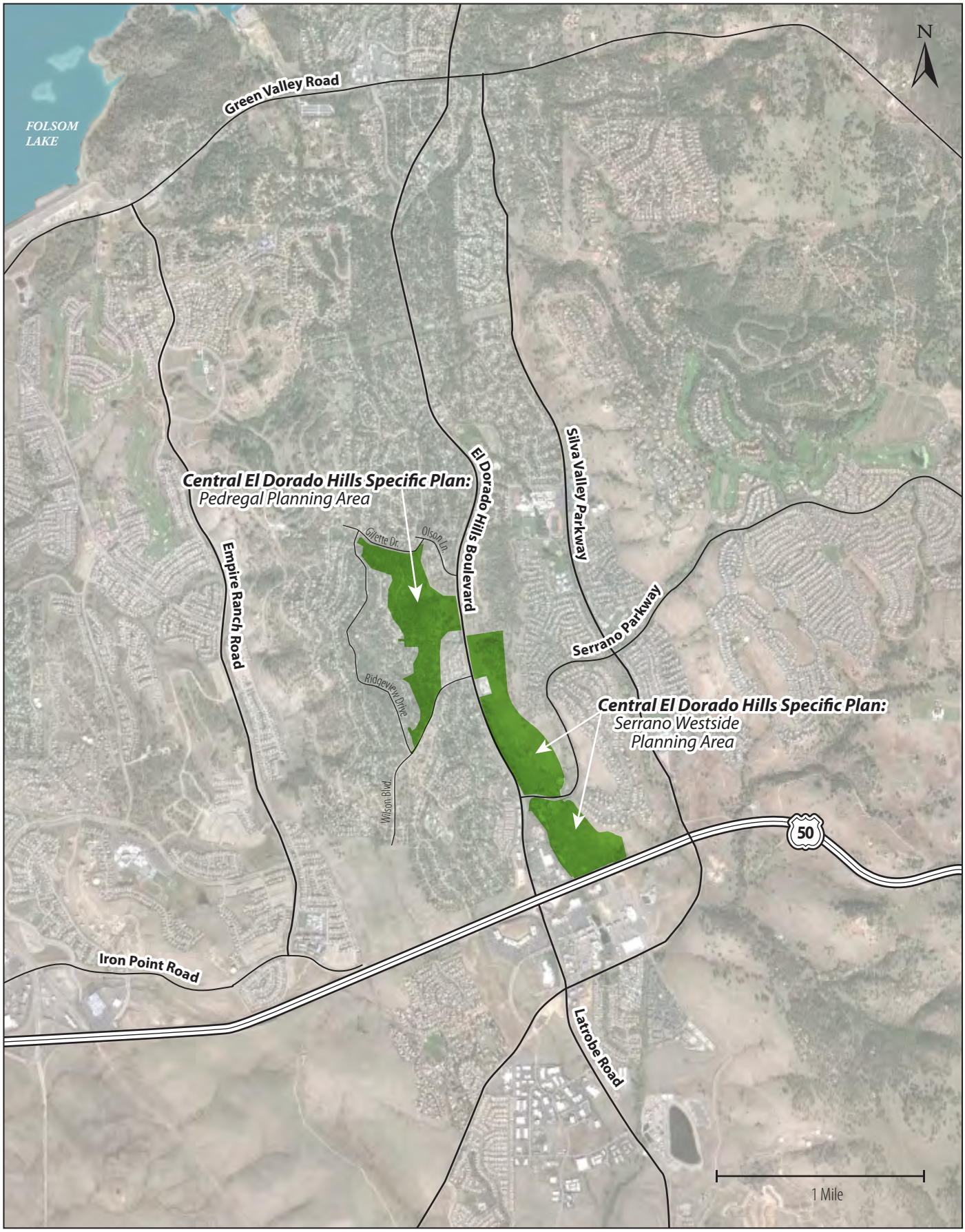

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Figure 2
Project Location

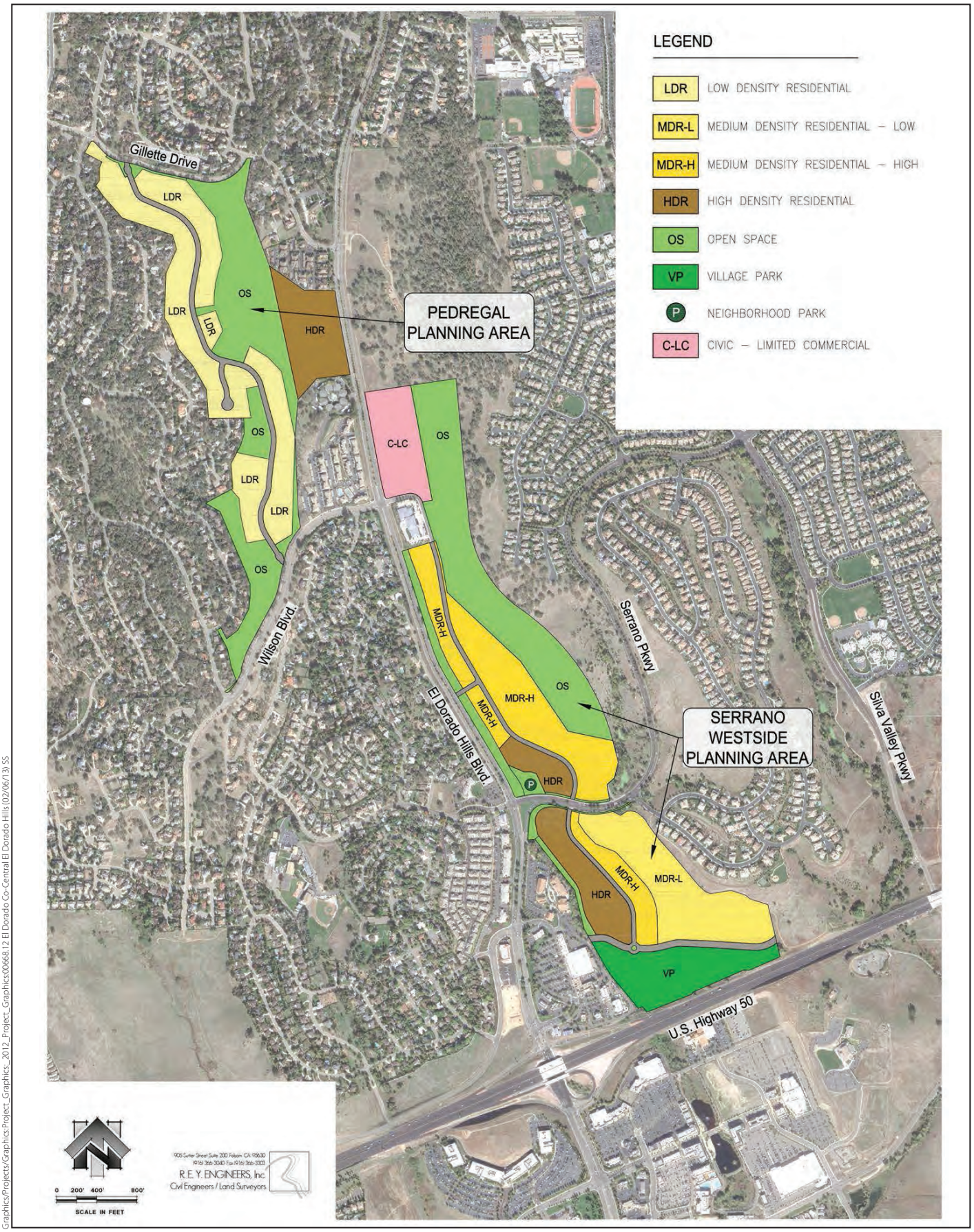

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Figure 3
Proposed Land Use Designations

Party Name (Last name, First name; Agency or Organization name)		Date Received	Party Type/ Letter	Comment Topic	Refined Topic	Section	Mitigation Measure (if applicable)
Aguilar, Alicia	Aguilar, Alicia	5/8/2013	IP132	Economy	smaller market means homes will take longer to sell/rent	Not a CEQA issue	
	Aguilar, Alicia	5/8/2013	IP132	Public Services	concern there are not enough fire/police - and lack thereof will increase insurance rates	Addressed in **Section 3.12**, Public Services and Utilities (Impact PSU-1). Insurance rates are not a CEQA issue.	
	Aguilar, Alicia	5/8/2013	IP132	Public Services	schools already filled to capacity	Addressed in **Section 3.12**, Public Services and Utilities (Impact PSU-1)	
	Aguilar, Alicia	5/8/2013	IP132	Transportation	increased schools cause increased traffic	Analysis of traffic impacts is presented in **Section 3.14**, Traffic and Circulation. Impacts TRA-1 and TRA-2 address operational traffic.	Mitigation Measure TRA-1a, TRA-1b, and TRA-2
	Aguilar, Alicia	5/8/2013	IP132	Public Services	thinks developer will need to pay for services and wonders where money will come from	Not a CEQA issue	
	Aguilar, Alicia	5/8/2013	IP132	Quality of Life	prefers open spaces, parks, trails to residential developemnt	The project includes 16 acres of parks and approximately 169 acres of open space, Class I bikeways, and paved and unpaved trails. See **Section 3.13** Recreation for discussion of parks.	
Adams Hoppe, Laura	Adams Hoppe, Laura	3/22/2013	IP061	Form Letter A		See below	
Adams, Dan	Adams, Dan	3/22/2013	IP030	Biological Resources	new housing will displace wildlife	Mitigation for impacts to any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS are addressed in **Section 3.3**, Biological Resources (Impact BIO-2, BIO-3, BIO-4, BIO-5, BIO-6, BIO-7, BIO-8, BIO-9)	Mitigation Measure BIO-2, BIO-3a, BIO-3b, BIO-4, BIO-5a, BIO-5b, BIO-5c, BIO-6, BIO-7, BIO-8a, BIO-8b, BIO-9)
	Adams, Dan	3/22/2013	IP030	Public Services	schools are already over capacity and project will make it worse	Addressed in **Section 3.12**, Public Services and Utilities (Impact PSU-1)	
	Adams, Dan	3/22/2013	IP030	Public Services	already stretched, will make it worse	Addressed in **Section 3.12**, Public Services and Utilities (Impact PSU-1)	
	Adams, Dan	3/22/2013	IP030	Crime	increased crime	Not a CEQA issue	
	Adams, Dan	3/22/2013	IP030	Recreation	green space will be reduced	The proposed project will establish open space and active recreational opportunities. Impacts to aesthetics of open space are addressed in **Section 3.1**, Aesthetics (Impact AES-3). The project includes 16 acres of parks and approximately 169 acres of open space, Class I bikeways, and paved and unpaved trails.	Mitigation Measure AES-2
	Adams, Dan	3/22/2013	IP030	Transportation	traffic will increase to unacceptable levels	Analysis of traffic impacts is presented in **Section 3.14**, Traffic and Circulation. Impacts TRA-1 and TRA-2 address operational traffic.	Mitigation Measure TRA-1a, TRA-1b, and TRA-2
	Adams, Dan	3/22/2013	IP030	Visual/Aesthetics	negative aesthetic effects	Addressed in Section 3.1, Aesthetics (Impact AES-1, AES-2, AES-3, AES-4, and AES-5) CANT FIND LETTER?	Mitigation Measure AES-2
Aguilar, Lisa	Aguilar, Lisa	3/19/2013	IP024	Zoning	concerned about change in zoning		
	Aguilar, Lisa	3/19/2013	IP024	Notification	requesting notice of this review be mailed to all EDH residents and an additional 60 days response time be added	EIR will be advertised in local newspaper and on County website; notification is in compliance with letter and intent of CEQA	
	Aguilar, Lisa	3/19/2013	IP024	Public Services	HDR will result in overuse of schools and emergency services	Addressed in **Section 3.12**, Public Services and Utilities (Impact PSU-1)	
	Aguilar, Lisa	3/19/2013	IP024	Quality of Life	HDR will negatively affect quality of life	Not a CEQA issue	
	Aguilar, Lisa	3/19/2013	IP024	Transportation	HDR will result in increased congestion	Analysis of traffic impacts is presented in **Section 3.14**, Traffic and Circulation. Impacts TRA-1 and TRA-2 address operational traffic.	Mitigation Measure TRA-1a, TRA-1b, and TRA-2
	Aguilar, Lisa	3/19/2013	IP024	Visual/Aesthetics	HDR will result in negative aesthetics	Addressed in **Section 3.1**, Aesthetics (Impact AES-1, AES-2, AES-3, AES-4, and AES-5)	Mitigation Measure AES-2

Party Name (Last name, First name; Agency or Organization name)		Date Received	Party Type/ Letter	Comment Topic	Refined Topic	Section	Mitigation Measure (if applicable)
Aguilar, Lisa	Aguilar, Lisa	3/21/2013	IP024a	Notification	The right thing to do would be individual notification to all EDH residents; because it isn't the law, doesn't mean it shouldn't be done	EIR will be advertised in local newspaper and on County website; notification is in compliance with letter and intent of CEQA; individuals requesting individual notification will be notified.	
	Aguilar, Lisa	3/21/2013	IP024a	Notification	500 feet was inadequate radius	EIR will be advertised in local newspaper and on County website; notification is in compliance with letter and intent of CEQA; individuals requesting individual notification will be notified.	
	Aguilar, Lisa	3/21/2013	IP024a	Notification	would like to be notified of future meetings	Individuals requesting individual notification will be added to the email list and notified.	
	Andrews, Rita R.	3/20/2013	IP127	Public Services	schools not conducive to apts/houses being built behind Raley's	Addressed in **Section 3.12**, Public Services and Utilities (Impact PSU-1)	
Andrews, Rita R.	Andrews, Rita R.	3/20/2013	IP127	Transportation	traffic not conducive to apartments/homes being built behind Raley's	Analysis of traffic impacts is presented in **Section 3.14**, Traffic and Circulation. Impacts TRA-1 and TRA-2 address operational traffic.	Mitigation Measure TRA-1a, TRA-1b, and TRA-2
Atkinson, Chrys and Doug	Atkinson, Chrys and Doug	3/22/2013	IP031	Biological Resources	loss of open space and animal habitat	The project includes 15 acres of parks and approximately 169 acres of open space, Class I bikeways, and paved and unpaved trails. See **Section 3.13**, Recreation. Impacts to animals and habitat addressed in **Section 3.3**, Biological Resources (Impact BIO-2, BIO-3, BIO-4, BIO-5, BIO-6, BIO-7, BIO-8, BIO-9)	Mitigation Measure BIO-2, BIO-3a, BIO-3b, BIO-4, BIO-5a, BIO-5b, BIO-5c, BIO-6, BIO-7, BIO-8a, BIO-8b, BIO-9)
Avanova, Pavel and Ericka	Avanova, Pavel and Ericka	3/22/2013	IP032	Form Letter A		See below	
Bean, Jacob	Bean, Jacob	3/22/2013	IP034	Form Letter A		See below	
Bean, Wes	Bean, Wes	3/22/2013	IP033	Zoning	opposed to medium and high density dwellings	A reduced density alternative was considered. See Chapter 4.	
	Bean, Wes			Fiscal Impact	Add to fiscal burden	Not a CEQA issue	
Bean, Wes and Sue	Bean, Wes and Sue	3/22/2013	IP033a	Zoning	will only consider single family dwellings	A reduced density alternative was considered. See Chapter 4.	
Bertram, Chris	Bertram, Chris	3/22/2013	IP035	Form Letter A		See below	
Bluette, Jennifer	Bluette, Jennifer	3/22/2013	IP036	Biological Resources	wildlife would be affected	Mitigation for impacts to on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS are addressed in **Section 3.3**, Biological Resources (Impact BIO-2, BIO-3, BIO-4, BIO-5, BIO-6, BIO-7, BIO-8, BIO-9)	Mitigation Measure BIO-2, BIO-3a, BIO-3b, BIO-4, BIO-5a, BIO-5b, BIO-5c, BIO-6, BIO-7, BIO-8a, BIO-8b, BIO-9)
	Bluette, Jennifer	3/22/2013	IP036	Visual/aesthetics	HDR in the project will change EDH to undesirable cookie cutter image like Folsom and Roseville	Impacts to Visual Resources are addressed in **Section 3.1**, Aesthetics (Impact AES-2, AES 3).	
	Bluette, Jennifer	3/22/2013	IP036	Design/Zoning	suggests encouraging LDR development that preserves trees and landscaping	The project is required by the County General Plan oak protection polices to retain 85% of the existing canopy and replace the loss of up to 14.15 acres of oak woodland. Impacts and mitigation measures are discussed in **Section 3.3**, Biological Resources (Impact BIO-1 and BIO-11).	Mitigation Measures BIO-1a, BIO-1b, BIO-1c
Bodas, Amit	Bodas, Amit	3/20/2013	IP026	Public Services	concerned about impact on schools	Addressed in **Section 3.12**, Public Services and Utilities (Impact PSU-1)	
	Bodas, Amit	3/20/2013	IP026	Visual/aesthetics	concerned about beauty, rolling hills	Addressed in **Section 3.1**, Aesthetics (Impact AES-3)	Mitigation Measure AES-2
	Bodas, Amit	3/20/2013	IP026	Transportation	concerned about increased traffic	Analysis of traffic impacts is presented in **Section 3.14**, Traffic and Circulation. Impacts TRA-1 and TRA-2 address operational traffic.	Mitigation Measure TRA-1a, TRA-1b, and TRA-2
Braile, William and Margaret	Braile, William and Margaret	3/22/2013	IP037	Economy	project would reduce property values	Not a CEQA issue	
	Braile, William and Margaret	3/22/2013	IP037	Public Services/Utilities	existing services are stretched thin	Addressed in **Section 3.12**, Public Services and Utilities (Impact PSU-1)	

Party Name (Last name, First name; Agency or Organization name)		Date Received	Party Type/ Letter	Comment Topic	Refined Topic	Section	Mitigation Measure (if applicable)
	Braile, William and Margaret	3/22/2013	IP037	Quality of Life	moved to EDH because it was an upscale neighborhood NOT in proximity to apartment complexes	Not a CEQA issue	
	Braile, William and Margaret	3/22/2013	IP037	Transportation	project would have traffic impacts, creating bottleneck on EDH Blvd and Serrano Pkwy	Analysis of traffic impacts is presented in **Section 3.14**, Traffic and Circulation. Impacts TRA-1 and TRA-2 address operational traffic.	Mitigation Measure TRA-1a, TRA-1b, and TRA-2
	Braile, William and Margaret	3/22/2013	IP037	Visual/Aesthetics	project would have negative aesthetic impacts	Addressed in **Section 3.1**, Aesthetics (Impact AES-1, AES-2, AES-3, AES-4, and AES-5)	Mitigation Measure AES-2
Brandon, Eric and Becky	Brandon, Eric and Becky	3/22/2013	IP038	Cutlural Resources	have Native Americans been contacted and will Parker pay for this or will the County?	In order to comply with SB 18 and Section 106 of the NHPA, consultation with Native Americans regarding the project has been ongoing since 2005. See **Section 3.4**, Cutlural Resources for discussion. Funding is not a CEQA issue	
	Brandon, Eric and Becky	3/22/2013	IP038	Haz/AQ	potential exposure to asbestos?	Addressed in **Section 3.2**, Air Quality (Impact AQ-5)	Mitigation Measure AQ-4a
	Brandon, Eric and Becky	3/22/2013	IP038	Noise/Pollution	[nothing further]	Pollution is addressed in **Section 3.2**, Air Quality. Noise is addressed in **Section 3.10**, Noise (Impact NOI-1 and NOI-3)	Mitigation Measures NOI-1a and NOI-1b
	Brandon, Eric and Becky	3/22/2013	IP038	Notification	Developers have not shared plan openly with and ellicted input from the entire community	This EIR will be advertised in local newspaper and on County website; notification is in compliance with letter and intent of CEQA	
	Brandon, Eric and Becky	3/22/2013	IP038	Public Services	Oak Ridge HS is already over capacity; response at public meeting from Parker was that the new HS was built in wrong location. Will Parker fund another HS.	School capacity is addressed in **Section 3.12**, Public Services and Utilities (Impact PSU-1).	
	Brandon, Eric and Becky	3/22/2013	IP038	Public Services	with new housing "units" there is bound to be additional crime - can Sheriff's Dept handle this	Police protection is addressed in **Section 3.12**, Public Services and Utilites (Impact PSU-1)	
	Brandon, Eric and Becky	3/22/2013	IP038	Public Services	who will fund additional police and fire services?	Impacts to police and fire services are addressed in **Section 3.12**, Public Services and Utilities (Impact PSU-1). Police and fire services are usually funded through local taxes.	
	Brandon, Eric and Becky	3/22/2013	IP038	Recreation	Park location is next to freeway - kids playing next to freeway - smog and traffic?	Air quality and pollutant impacts from construction and operation are addressed in **Section 3.2**, Air Quality (Impact AQ-1 - AQ-5)	
	Brandon, Eric and Becky	3/22/2013	IP038	Taxes	[nothing further]	Not a CEQA issue	
	Brandon, Eric and Becky	3/22/2013	IP038	Transportation	Increased population will increase already congested roads and highway ramps; intersection of EDH Blvd and Serrano Parkway is dangerous	Analysis of traffic impacts is presented in **Section 3.14**, Traffic and Circulation. Impacts TRA-1 and TRA-2 address operational traffic.	Mitigation Measure TRA-1a, TRA-1b, and TRA-2
	Brandon, Eric and Becky	3/22/2013	IP038	Visual/Aesthetics	EDH Blvd will become an eyesore with multiple apartment complexes and townhomes	Addressed in **Section 3.1**, Aesthetics (Impact AES-1, AES-2, AES-3, AES-4, and AES-5)	
	Brandon, Eric and Becky	3/22/2013	IP038	Water	[nothing further]	This comment is unclear, not able to address. Water quality is addressed in **Section 3.8**, Hydrology, Water Quality, and Water Resources. Water supply is addressed in **Section 3.12**, Public Services and Utilities.	
	Brandon, Eric and Becky	3/22/2013	IP038	Biological Resources	impact on wildlife	Mitigation for impacts to on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS are addressed in **Section 3.3**, Biological Resources (Impact BIO-2, BIO-3, BIO-4, BIO-5, BIO-6, BIO-7, BIO-8, BIO-9)	Mitigation Measure BIO-2, BIO-3a, BIO-3b, BIO-4, BIO-5a, BIO-5b, BIO-5c, BIO-6, BIO-7, BIO-8a, BIO-8b, BIO-9)

Party Name (Last name, First name; Agency or Organization name)		Date Received	Party Type/ Letter	Comment Topic	Refined Topic	Section	Mitigation Measure (if applicable)
	Brandon, Eric and Becky	3/22/2013	IP038	County responsibility	As reps of community, county is obliged to hold their best interests above all others - Developers plan is not in the best interest of the citizens	Not a CEQA issue	
Brown, Dale	Brown, Dale	3/22/2013	IP039	Notification	requests to be notified of public meetings and when DEIR is released	EIR will be advertised in local newspaper and on County website; notification is in compliance with letter and intent of CEQA; individuals requesting individual notification will be notified.	
	Brown, Dale	3/22/2013	IP039	Transportation	construction equipment and materials will have a negative impact on roadways	Impacts from construction on roadways will be minimized. Impacts on traffic during construction are addressed in **Section 3.14**, Traffic and Circulation.	
	Brown, Dale	3/22/2013	IP039	Design/Zoning	densities greater than 8Du/ac should not be allowed - would impact security and housing value	Not a CEQA issue	
Brown, Karen	Brown, Karen	3/22/2013	IP040	General	proposed zoning changes would have negative impact on environmental degradation	This document discusses environmental impacts and includes discussions of all resource areas required by CEQA.	
	Brown, Karen	3/22/2013	IP040	Noise	proposed zoning changes would have negative impact on noise	Addressed in **Section 3.10**, Noise (Impact NOI-1 and NOI-3)	Mitigation Measure NOI-1b
	Brown, Karen	3/22/2013	IP040	Public Services	proposed zoning changes would have negative impact on schools	School capacity is addressed in **Section 3.12**, Public Services and Utilities (Impact PSU-1).	
	Brown, Karen	3/22/2013	IP040	Crime	proposed zoning changes would have negative impact on crime	Not a CEQA issue	
	Brown, Karen	3/22/2013	IP040	Recreation	proposed zoning changes would have negative impact on loss of opportunity ot create a community space	The CEDHSP includes development of 15 acres of parks for the recreational enjoyment of the community. Impacts related to parks are discussed in **Section 3.13**, Recreation.	
	Brown, Karen	3/22/2013	IP040	Transportation	proposed zoning changes would have negative impact on traffic	Analysis of traffic impacts is presented in **Section 3.14**, Traffic and Circulation. Impacts TRA-1 and TRA-2 address operational traffic.	Mitigation Measure TRA-1a, TRA-1b, and TRA-2
	Brown, Karen	3/22/2013	IP040	Visual/Aesthetics	proposed zoning changes would have negative impact on aesthetics	Addressed in **Section 3.1**, Aesthetics (Impact AES-1, AES-2, AES-3, AES-4, and AES-5)	
	Brown, Karen	3/22/2013		Notification	requests to be notified of public meetings and when DEIR is released	EIR will be advertised in local newspaper and on County website; notification is in compliance with letter and intent of CEQA; individuals requesting individual notification will be notified.	
Buckmaster, David	Buckmaster, David	3/25/2013	IP119	Biological Resources	this area is one of the last dense oak population in EDH and is habitat to deer, turkeys, hawks; mitigation planting elsewhere has failed in the past.	The project is required by the County General Plan oak protection polices to retain 85% of the existing canopy and replace the loss of up to 14.15 acres of oak woodland. Impacts and mitigation measures are discussed in Chapter 3.3, Biological Resources (Impact BIO-1 and BIO-11).	Mitigation Measures BIO-1a, BIO-1b, BIO-1c
	Buckmaster, David	3/25/2013	IP119	General	strongly against Pedregal proposal	Comment noted	
	Buckmaster, David	3/25/2013	IP119	Transportation	Vehicle Circulation Plan is unsafe for drivers and pedestrians - access point at Gillette is unsafe.	No new access is proposed at Gillette Drive. Access is proposed from Wilson. See Figure 3.14-1. Traffic and Circulation are discussed in **Section 3.14**.	
	Buckmaster, David	3/25/2013	IP119	Transportation	additional traffic will overload intersection of Olson and EDH Blvd.	Analysis of traffic impacts is presented in **Section 3.14**, Traffic and Circulation. Impacts TRA-1 and TRA-2 address operational traffic.	Mitigation Measure TRA-1a, TRA-1b, and TRA-2
Burke, Paul	Burke, Paul	3/22/2013	IP041	Form Letter A			
Canez, Marilyn	Canez, Marilyn	3/25/2013	IP118	Biological Resources	wildlife has been forced into populated areas in the last 34 years	Mitigation for impacts to on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS are addressed in **Section 3.3**, Biological Resources (Impact BIO-2, BIO-3, BIO-4, BIO-5, BIO-6, BIO-7, BIO-8, BIO-9)	Mitigation Measure BIO-2, BIO-3a, BIO-3b, BIO-4, BIO-5a, BIO-5b, BIO-5c, BIO-6, BIO-7, BIO-8a, BIO-8b, BIO-9)

Party Name (Last name, First name; Agency or Organization name)		Date Received	Party Type/ Letter	Comment Topic	Refined Topic	Section	Mitigation Measure (if applicable)
	Canez, Marilyn	3/25/2013	IP118	Transportation	HDR will lead to increased traffic	Analysis of traffic impacts is presented in **Section 3.14**, Traffic and Circulation. Impacts TRA-1 and TRA-2 address operational traffic.	Mitigation Measure TRA-1a, TRA-1b, and TRA-2
	Canez, Marilyn	3/25/2013	IP118	Visual/Aesthetics	consider effect of HDR on beautiful area	Addressed in **Section 3.1**, Aesthetics (Impact AES-1, AES-2, AES-3, AES-4, and AES-5)	
Clanton, Heather	Clanton, Heather	3/22/2013	IP042	Public Services	EDH already has a problem with schools being close to capacity and additional housing would make it worse	School capacity is addressed in **Section 3.12**, Public Services and Utilities (Impact PSU-1).	
	Clanton, Heather			Transportation	traffic on EDH Blvd is already bad, development would make this worse	Analysis of traffic impacts is presented in **Section 3.14**, Traffic and Circulation. Impacts TRA-1 and TRA-2 address operational traffic.	Mitigation Measure TRA-1a, TRA-1b, and TRA-2
Cortez, Anthony and Lori	Cortez, Anthony and Lori	3/19/2013	IP023	Design	stongly oppose specific plan; no more building in the Ridgeview area	Comment noted	
Costello, Stacy	Costello, Stacy	3/22/2013	IP017	Design/Transportation	if project is approved, require developer to put in sidewalks, bikepaths,etc	The project proposes pedestrian and bicycle facilities that will connect and integrate with existing and planned facilities adjacent to the project. In addition, elements of the proposed project will complete planned pedestrian and bicycle facilities. Impacts and mitigation are addressed in **Section 3.14**, Traffic and Circulation (Impact TRA-6)	Mitigation Measure TRA-6
	Costello, Stacy	3/22/2013	IP017	Quality of Life	development and HDR took away charm/sense of community/increase crime in Los Banos	Not a CEQA issue	
	Costello, Stacy	3/22/2013	IP017	Utilities	Additional residences will add more stress to water supply, with climate change - dreading increase in EID rates	Impacts to water supply are addressed in **Section 3.12**, Public Services and Utilities (Impact PSU-5).	
	Costello, Stacy	3/22/2013	IP017	Visual/Aesthetics	open space is attractive - people want to invest in existing homes with good views	The project includes approximately 169 acres of open space, Class I bikeways, and paved and unpaved trails. Impacts to aesthetics addressed in **Section 3.1**, Aesthetics (Impact AES-3)	
	Costello, Stacy	3/22/2013	IP017	Design/Zoning	recommends alternative uses for space - equestrian facility, sand volleyball courts, tennis courts, ped trails, dog park	Several project alternatives that were considered but not taken forward for evaluation in this document are discussed in **Chapter 4**.	
	Costello, Stacy	3/22/2013	IP017		request right to apply future damages to developer if studies are inadequate	Not a CEQA issue	
Crockett, John H.	Crockett, John H.	3/21/2013	IP044	Recreation	Golf course was marketed as an amenity; developers should not be allowed to modify the use	Not a CEQA issue	
	Crockett, John H.			Visual/Economy	Plan would have negative impact on home values and aesthetics	Addressed in **Section 3.1**, Aesthetics (Impact AES-1, AES-2, AES-3, AES-4, and AES-5)	
Czernedi, Katherine and David	Czernedi, Katherine and David	3/21/2013	IP126	Biological Resources	what about wildlife using open space?	Mitigation for impacts to on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS are addressed in **Section 3.3**, Biological Resources (Impact BIO-2, BIO-3, BIO-4, BIO-5, BIO-6, BIO-7, BIO-8, BIO-9)	Mitigation Measure BIO-2, BIO-3a, BIO-3b, BIO-4, BIO-5a, BIO-5b, BIO-5c, BIO-6, BIO-7, BIO-8a, BIO-8b, BIO-9)
	Czernedi, Katherine and David	3/21/2013	IP126	Design	why not build at top of Serrano Pkwy - traffic can use Bass Lake Road?	Alternatives considered but not carried forward for analysis in the EIR are discussed in **Chapter 4**.	
	Czernedi, Katherine and David	3/21/2013	IP126	Transportation	will increase traffic - already bad	Analysis of traffic impacts is presented in **Section 3.14**, Traffic and Circulation. Impacts TRA-1 and TRA-2 address operational traffic.	Mitigation Measure TRA-1a, TRA-1b, and TRA-2
Davis, Linda	Davis, Linda	3/21/2013	IP124	Design	HDR should be senior housing - low crime, lower traffic, proximity of services	Alternatives considered but not carried forward for analysis in the EIR are discussed in **Chapter 4**.	

Party Name (Last name, First name; Agency or Organization name)		Date Received	Party Type/ Letter	Comment Topic	Refined Topic	Section	Mitigation Measure (if applicable)
	Davis, Linda	3/21/2013	IP124	Design	HDR for all ages should be on south side of 50.	Alternatives considered but not carried forward for analysis in the EIR are discussed in **Chapter 4**.	
	Davis, Linda	3/21/2013	IP124	Transportation	No HDR until Silva Valley Parkway interchange is complete	The interchange at Silva Valley/White Rock Road is included in the cumulative conditions transportation analysis. The US 50/Silva Parkway/White Rock Road interchange will be constructed over the next few years. Traffic and Circulation is discussed in **Section 3.14**.	
DiMauro, Rich	DiMauro, Rich	3/4/2013	IP008	Quality of Life	Q of L will be diminished	Not a CEQA issue	
	DiMauro, Rich	3/4/2013	IP008	Transportation	suggests on/off ramps at SR 50/Silva Pkwy to mitigate traffic on EDH Blvd	The interchange at Silva Valley/White Rock Road is included in the cumulative conditions transportation analysis. The US 50/Silva Parkway/White Rock Road interchange will be constructed over the next few years. Traffic and Circulation is discussed in **Section 3.14**.	
Doyel, Pat and Bob	Doyel, Pat and Bob	3/22/2013	IP045	Form Letter A			
Dryer, David	Dryer, David	3/22/2013	IP046	supports plan	Looks great, well planned out	Comment noted	
	Dryer, David			General	forwarded Brandon e-mail - NIMBY problem	Comment noted.	
Eide, Mr. and Mrs. Keith	Eide, Mr. and Mrs. Keith	3/14/2013	IP022	Design	suggest senior center, healthcare, community facility - not apartments	Alternatives considered but not carried forward for analysis in the EIR are discussed in **Chapter 4**.	
	Eide, Mr. and Mrs. Keith	3/14/2013	IP022	Visual/aesthetic	HDR will be a blight on open space	Addressed in **Section 3.1**, Aesthetics (Impact AES-1, AES-2, AES-3, AES-4, and AES-5). Additionally, the project includes 15 acres of parks and approximately 169 acres of open space, Class I bikeways, and paved and unpaved trails.	
	Eide, Mr. and Mrs. Keith	3/14/2013	IP022	Transportation	HDR will increase traffic	Analysis of traffic impacts is presented in **Section 3.14**, Traffic and Circulation. Impacts TRA-1 and TRA-2 address operational traffic.	Mitigation Measure TRA-1a, TRA-1b, and TRA-2
Eitel, Joe	Eitel, Joe	3/22/2013	IP048	Noise	sound levels are above allowed decibels and no mitigation was done during last round of building; sound walls and noise dampening pavement should be required for entire length of development on both sides EDH Blvd	Exterior and interior noise levels at new proposed uses will be in compliance with County noise standards. Impacts related to noise are addressed in **Section 3.10**, Noise (Impact NOI-1)	Mitigation Measures NOI-1a and NOI-1b
	Eitel, Joe	3/22/2013	IP048	Recreation	loss of opportunity to develop regional park; need a park for EDH residents	The CEDHSP includes development of 15 acres of parks for the recreational enjoyment of the community. Parks are discussed in **Section 3.13**, Recreation.	
	Eitel, Joe	3/22/2013	IP048	Transportation	Interchange at Silva Valley must be completed before any buildings are allowed on EDH Blvd	The interchange at Silva Valley/White Rock Road is included in the cumulative conditions transportation analysis. The US 50/Silva Parkway/White Rock Road interchange will be constructed over the next few years. Traffic and Circulation is discussed in **Section 3.14**.	
	Eitel, Joe	3/22/2013	IP048	Design/Transportation	only outlet for any housing on Wilson should be on the north end and not on Wilson; sidewalks should be constructed and ditches must be covered on both sides of EDH Blvd; pkg lot should be required for Bowmen's park	Comment noted. Traffic and Circulation is discussed in **Section 3.14**.	
	Eitel, Joe	3/22/2013	IP048	Design/Visual/zoning	no 2-story HDR should be allowed; should be 1-story 2 or 4-plex with large lawns	Comment noted.	
	Eitel, Joe	3/22/2013	IP048	Design/Zoning	last flat open space north of US50, should be preserved as zoned	The project includes 15 acres of parks and approximately 169 acres of open space, Class I bikeways, and paved and unpaved trails.	
	Eitel, Joe	3/22/2013	IP048	Form Letter A +	additional comments above		

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Evans, Chris and Mimi	Evans, Chris and Mimi	3/22/2013	IP049	Form Letter A			
Fair, Letha	Fair, Letha	3/22/2013	IP116	Design	concerned about a gate on Gillette - road is poorly maintained, noise and light would increase	The Pedregal planning area may or may not be gated and no access from Gillette Drive is proposed. See figure 3.14-1 in **Section 3.14**, Traffic and Circulation. Noise impacts are addressed in **Section 3.10**, Noise, and light impacts are addressed in **Section 3.1**, Aesthetics	
	Fair, Letha	3/22/2013	IP116	Hydrology	drainage issues	Drainage issues are addressed in **Section 3.8**, Hydrology and Water Quality (Impact WQ-3, WQ-4, WQ-5)	Mitigation Measure WQ-3 and WQ-4
	Fair, Letha	3/22/2013	IP116	Transportation	would increase traffic congestion	Analysis of traffic impacts is presented in **Section 3.14**, Traffic and Circulation. Impacts TRA-1 and TRA-2 address operational traffic.	Mitigation Measure TRA-1a, TRA-1b, and TRA-2
	Fair, Letha	3/22/2013	IP116	Visual/Aesthetics	Serrano West would be an eyesore - should be open space or parks - already have blighted commercial space in the business parks	Addressed in **Section 3.1**, Aesthetics (Impact AES-1, AES-2, AES-3, AES-4, and AES-5). Additionally, the project includes 15 acres of parks and approximately 169 acres of open space, Class I bikeways, and paved and unpaved trails.	
	Fair, Letha	3/22/2013	IP116	Design/Zoning	HDR is not appropriate use of such a visual and busy area	Comment noted.	
Forbes, Michael	Forbes, Michael	3/22/2013	IP050	Form Letter A			
Frisch, Thomas	Frisch, Thomas	3/20/2013	IP051	Transportation	would expect that this development would trigger completion of the Silva Valley I/C	The interchange at Silva Valley/White Rock Road is included in the cumulative conditions transportation analysis. The US 50/Silva Parkway/White Rock Road interchange will be constructed over the next few years. Traffic and Circulation is discussed in **Section 3.14**.	
Fultz, Jeff	Fultz, Jeff	3/22/2013	IP015	Economy	HDR would diminish home values	Not a CEQA issue	
Gallo, Sherie	Gallo, Sherie	3/21/2013	IP052	Public Services	impacts on Oakridge HS and elementary schools; suggests maybe building a high school and park on property	School capacity is addressed in **Section 3.12**, Public Services and Utilities (Impact PSU-1).	
	Gallo, Sherie	3/21/2013	IP052	Quality of Life	need to consider impact holistically, family, culture, values	Not a CEQA issue	
	Gallo, Sherie	3/21/2013	IP052	Transportation	congestion on EDH Blvd, Serrano Parkway, Bass Lake Road	Analysis of traffic impacts is presented in **Section 3.14**, Traffic and Circulation. Impacts TRA-1 and TRA-2 address operational traffic.	Mitigation Measure TRA-1a, TRA-1b, and TRA-2
Geddes, Jennifer	Geddes, Jennifer	3/22/2013	IP053	Form Letter A			
Ghio, Jenny and Dominic	Ghio, Jenny and Dominic	3/22/2013	IP054	Form Letter A			
Gomann, Stephen	Gomann, Stephen	3/22/2013	IP055	Quality of Life	project in middle of this community will ruin it	Not a CEQA issue	
	Gomann, Stephen	3/22/2013	IP055	Taxes	taxes will leave the community; more than will be generated from this project	Not a CEQA issue	
Gretzinger, Dale	Gretzinger, Dale	3/22/2013	IP112	Transportation	No development should be reviewed or proposed until current traffic conds are resolved	Analysis of traffic impacts is presented in **Section 3.14**, Traffic and Circulation. Impacts TRA-1 and TRA-2 address operational traffic.	Mitigation Measure TRA-1a, TRA-1b, and TRA-2
	Gretzinger, Dale	3/22/2013	IP112	Transportation	50/Silva Valley Pkwy interchange should be completed prior to any further development	The interchange at Silva Valley/White Rock Road is included in the cumulative conditions transportation analysis. The US 50/Silva Parkway/White Rock Road interchange will be constructed over the next few years. Traffic and Circulation is discussed in **Section 3.14**.	
	Gretzinger, Dale	3/22/2013	IP112	Visual/Aesthetics	this zoning (below) would provide more aesthetic entry point to EDH	Comment noted	
	Gretzinger, Dale	3/22/2013	IP112	Design/Zoning	HDR is okay south of Serrano Pkwy and east of Raley's but the other 2 should be MDR-L; larger parcel should be LDR - densities more appropriate to surrounding area.	Comment noted	

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Gunter, Tanya and Del	Gunter, Tanya and Del	3/22/2013	IP056	Form Letter A			
Haney, Ikey Sal	Haney, Ikey Sal	3/22/2013	IP057	Crime	stongly opposed to apartments; crime will go up; already have Section 8 on south side of 50	Not a CEQA issue	
	Haney, Ikey Sal	3/22/2013	IP057	Economy	taxes will go up	Not a CEQA issue	
	Haney, Ikey Sal	3/22/2013	IP057	Public Services	sheriff dept, schools, water department, roadways will be impacted	Addressed in **Section 3.12**, Public Services and Utilities (Impact PSU-1).	
Hauser, Nancy	Hauser, Nancy	3/25/2013	IP058	Form Letter A			
Heaphy, Bob	Heaphy, Bob	3/23/2013	IP059	Public Services	roads and schools and public services would be impacted by increased population	Addressed in **Section 3.12**, Public Services and Utilities (Impact PSU-1).	
	Heaphy, Bob	3/23/2013	IP059	Quality of Life	increased population will decrease quality of life	Not a CEQA issue	
Holloway, Mark and Jean	Holloway, Mark and Jean	3/22/2013	IP060	Transportation	Access off Gillette doesn't seem reasonable	No new access is proposed at Gillette Drive. Access is proposed from Wilson. See Figure 3.14-1. Traffic and Circulation are discussed in **Section 3.14**.	
	Holloway, Mark and Jean	3/22/2013	IP060	Transportation	Gillette is a 2-lanes, dangerous, in lousy shape	No new access is proposed at Gillette Drive. Access is proposed from Wilson. See Figure 3.14-1. Traffic and Circulation are discussed in **Section 3.14**.	
	Holloway, Mark and Jean	3/22/2013	IP060	Transportation	Olson is in terrible shape	No new access is proposed at Olson Lane or Gillette Drive. Access is proposed from Wilson. See Figure 3.14-1. Traffic and Circulation are discussed in **Section 3.14**.	
	Holloway, Mark and Jean	3/22/2013	IP060	Transportation	Olson and Gillette are county maintained roads; cannot support additional wear and tear; would need to be improved	No new access is proposed at Olson Lane or Gillette Drive. Access is proposed from Wilson. See Figure 3.14-1. Traffic and Circulation are discussed in **Section 3.14**.	
	Holloway, Mark and Jean	3/22/2013	IP060	Transportation	access point at Gillette would be dangerous	No new access is proposed at Gillette Drive. Access is proposed from Wilson. See Figure 3.14-1. Traffic and Circulation are discussed in **Section 3.14**.	
Howard, Eric and Heidi	Howard, Eric and Heidi	3/21/2013	IP062	Public Services	consider negative impact on already crowded schools	School capacity is addressed in **Section 3.12**, Public Services and Utilities (Impact PSU-1).	
	Howard, Eric and Heidi	3/21/2013	IP062	Quality of Life	unsightly housing on former golf course would diminish QoL	Not a CEQA issue	
	Howard, Eric and Heidi	3/21/2013	IP062	Transportation	concerned about traffic, noise, air pollution	Analysis of traffic impacts is presented in **Section 3.14**, Traffic and Circulation. Impacts TRA-1 and TRA-2 address operational traffic. Noise impacts are addressed in **Section 3.10**, Noise and Vibration and air quality impacts are addressed in **Section 3.2** Air Quality.	Mitigation Measure TRA-1a, TRA-1b, and TRA-2
Hughey, Shirley	Hughey, Shirley	3/22/2013	IP063	Form Letter A			
Immer, Diane	Immer, Diane	3/22/2013	IP064	Form Letter A			
Jain, Vijay	Jain, Vijay	3/21/2013	IP029	everything	HDR will have negative effects on - traffic, public resources, noise, air quality, water, wildlife, recreation, taxes	This document discusses environmental impacts and includes discussions of all resource areas required by CEQA. See responses to comments on Letter IP 25	* see IP25 - From Eric and Becky Brandon e-mail
	Jain, Vijay	3/21/2013	IP029	Public Services/Utilities	ensure adequate infrastructure exists	Addressed in **Section 3.12**, Public Services and Utilities (Impact PSU-1, PSU-3, PSU-4, PSU-6, PSU-7)	
	Jain, Vijay	3/21/2013	IP029	Recreation	already limited supply of parks will be overcrowded	The CEDHSP includes proposed development of 15 acres of parks. Impacts related to parks are discussed in **Section 3.13**, Recreation.	
	Jain, Vijay	3/21/2013	IP029	Transportation	off-highway roads to Folsom should be prioritized	Not within the scope of this EIR	
	Jain, Vijay	3/21/2013	IP029	Transportation	schools have horrible traffic for pick up and drop off	Analysis of traffic impacts is presented in **Section 3.14**, Traffic and Circulation. Impacts TRA-1 and TRA-2 address operational traffic.	Mitigation Measure TRA-1a, TRA-1b, and TRA-2

Party Name (Last name, First name; Agency or Organization name)		Date Received	Party Type/ Letter	Comment Topic	Refined Topic	Section	Mitigation Measure (if applicable)
	Jain, Vijay	3/21/2013	IP029	Transportation	traffic will be worse - and crime, noise, etc	Analysis of traffic impacts is presented in **Section 3.14**, Traffic and Circulation. Impacts TRA-1 and TRA-2 address operational traffic. Noise impacts are discussed in **Section 3.10**, Noise and Vibration. Crime is speculative and is not a CEQA issue.	Mitigation Measure TRA-1a, TRA-1b, and TRA-2
	Jain, Vijay	3/21/2013	IP029	N/A	forwarding e-mail from Rebecca Brandon encouraging public participation to oppose project	Not a comment on this project.	
Johnson, Denise M.	Johnson, Denise M.	3/22/2013	IP065	Form Letter A			
Johnson, Rod (Capitol Partners Developm	Johnson, Rod (Capitol Partners Developm	3/22/2013	IP066	Design/Public Services	density level should be reduced to limit impact on schoold and services	Impacts to schools and services are addressed in **Section 3.12**, Public Services and Utilities (Impact PSU-1, PSU-3, PSU-4, PSU-6, PSU-7)	
	Johnson, Rod (Capitol Partners Developm	3/22/2013	IP066	Quality of Life	PD needs to be more reflective on quality of life and environment	Not a CEQA issue	
	Johnson, Rod (Capitol Partners Developm	3/22/2013	IP066	Design/Transportation	density level should be reduced to limit impact on traffic	Impacts to traffic are addressed in **Section 3.14**, Traffic and Circulation (Impact TRA-1 and TRA-2)	Mitigation Measure TRA-1 and TRA-2
Joseph, Victoria	Joseph, Victoria	3/22/2013	IP067	Biological Resources	would disturb wildlife	Mitigation for impacts to on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS are addressed in **Section 3.3**, Biological Resources (Impact BIO-2, BIO-3, BIO-4, BIO-5, BIO-6, BIO-7, BIO-8, BIO-9)	Mitigation Measure BIO-2, BIO-3a, BIO-3b, BIO-4, BIO-5a, BIO-5b, BIO-5c, BIO-6, BIO-7, BIO-8a, BIO-8b, BIO-9)
	Joseph, Victoria	3/22/2013	IP067	Crime	Crime in the area is increasing; apartment complexes attract crime; Sheriff's dept not getting more funding	Not a CEQA issue. Speculative; law enforcement partially funded through taxes	
	Joseph, Victoria	3/22/2013	IP067	Public Services	schools are at capacity - not getting funding	School capacity is addressed in **Section 3.12**, Public Services and Utilities (Impact PSU-1). The school district will determine impact fees.	
	Joseph, Victoria	3/22/2013	IP067	Transportation	EDH doesn't need more traffic	Analysis of traffic impacts is presented in **Section 3.14**, Traffic and Circulation. Impacts TRA-1 and TRA-2 address operational traffic.	Mitigation Measure TRA-1a, TRA-1b, and TRA-2
	Joseph, Victoria	3/22/2013	IP067	Visual/Aesthetics	don't replace rolling hills with concrete jungle	Addressed in **Section 3.1**, Aesthetics (Impact AES-1, AES-2, AES-3, AES-4, and AES-5)	
Joyer, Rick	Joyer, Rick	3/21/2013	IP068	Air Quality	Pollution from increased traffic	Existing (2012) and cumulative (2035) traffic conditions were modeled to evaluate CO concentrations relative to the state and federal air quality standards (see Table 3.2-4). Impacts to air quality are addressed in **Section 3.2** (Impact AQ-1, AQ-3, and AQ-5)	
	Joyer, Rick	3/21/2013	IP068	Biological Resources	impacts on wildlife	Mitigation for impacts to on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS are addressed in **Section 3.3**, Biological Resources (Impact BIO-2, BIO-3, BIO-4, BIO-5, BIO-6, BIO-7, BIO-8, BIO-9)	Mitigation Measure BIO-2, BIO-3a, BIO-3b, BIO-4, BIO-5a, BIO-5b, BIO-5c, BIO-6, BIO-7, BIO-8a, BIO-8b, BIO-9)
	Joyer, Rick	3/21/2013	IP068	Demand	doesn't seem like housing is in short supply	Not a CEQA issue	
	Joyer, Rick	3/21/2013	IP068	Economy	reduced property values	Not a CEQA issue	
	Joyer, Rick	3/21/2013	IP068	Noise	Noise from increased traffic	The applicant will coordinate with the construction contractor and/or engineering team to ensure that exterior and interior noise levels at new proposed uses are in compliance with County noise standards. Impacts from noise are addressed in **Section 3.10**, Noise (Impact NOI-1, NOI-3)	Mitigation Measure NOI-1b

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	Joyer, Rick	3/21/2013	IP068	Public Services	EDH doesn't have capacity to accommodate more students into schools; at public meeting, Parker said "you'll have to build new schools"; no funding is available	School capacity is addressed in **Section 3.12**, Public Services and Utilities (Impact PSU-1). The school distric will determine impact fees.	
	Joyer, Rick	3/21/2013	IP068	Transportation	increased traffic from 1000+ new housing units, each with 1-3 cars	Analysis of traffic impacts is presented in **Section 3.14**, Traffic and Circulation. Impacts TRA-1 and TRA-2 address operational traffic.	Mitigation Measure TRA-1a, TRA-1b, and TRA-2
	Joyer, Rick	3/21/2013	IP068	County responsibility	County is "obligated to hold our best interests above all others"	Not a CEQA issue.	
Kaur, Kiren	Kaur, Kiren	3/31/2013	IP133	Transportation	EDH Blvd can not handle more traffic from HDR. Don't see how it is possible to add lanes	Analysis of traffic impacts is presented in **Section 3.14**, Traffic and Circulation. Impacts TRA-1 and TRA-2 address operational traffic.	
	Kaur, Kiren	3/31/2013	IP133	Economy	Don't see demand for more housing. Not many jobs in the area.	Not a CEQA issue	
	Kaur, Kiren	3/31/2013	IP133	Design	Not enough greenery proposed - at corner of EDH and Serrano. Houses should be moved back so they are not as visible to the street.	**Section 3.1**, Aesthetics, addresses aesthetic impacts.	
	Kaur, Kiren	3/31/2013	IP133	Design	Condos for empty nesters and new families is good, but not as many as are proposed	Alternatives considered but not carried forward for analysis in the EIR are discussed in **Chapter 4**.	
	Kaur, Kiren	3/31/2013	IP133	Recreation	including park is a good idea	Comment noted. The CEDHSP includes proposed development of 15 acres of parks for the community.	
	Kaur, Kiren	3/31/2013	IP133	Transportation	walking area and pedestrian access is a good idea	Comment noted.	
	Kaur, Kiren	3/31/2013	IP133	Design	Leaving C&D as open space and adding new development is a good idea	Comment noted	
Keenan, Larry	Keenan, Larry	3/21/2013	IP122	Design	project is too big - 1000 units is unacceptable	Alternatives considered but not carried forward for analysis in the EIR are discussed in **Chapter 4**.	
	Keenan, Larry	3/21/2013	IP122	General	approve this plan and you will rue the day as voter will not stand for it	Comment noted	
	Keenan, Larry	3/21/2013	IP122	Public Services	schools are at peak enrollment	School capacity is addressed in **Section 3.12**, Public Services and Utilities (Impact PSU-1).	
	Keenan, Larry	3/21/2013	IP122	Transportation	traffic	Analysis of traffic impacts is presented in **Section 3.14**, Traffic and Circulation. Impacts TRA-1 and TRA-2 address operational traffic.	Mitigation Measure TRA-1a, TRA-1b, and TRA-2
	Keenan, Larry	3/21/2013	IP122	Design	way too much density	Alternatives considered but not carried forward for analysis in the EIR are discussed in **Chapter 4**.	
Kelley, Teresa	Kelley, Teresa	3/22/2013	IP069	Form Letter A			
Kernazitskas, David	Kernazitskas, David	3/7/2013	IP009	Alternatives	wants reasonable alternatives proposed - but they don't exist	CEQA requires that an EIR contain a reasonable range of feasible alternatives that meet most or all project objectives while reducing or avoiding one or more significant impacts of the project. CEQA Section 15126.6 defines a reasonable range. **Chapter 4** describes the alternatives to the proposed project.	
	Kernazitskas, David	3/7/2013	IP009	Biological Resources	oak trees (heritage oaks)	The project is required by the County General Plan oak protection polices to retain 85% of the existing canopy and replace the loss of up to 14.15 acres of oak woodland. Impacts and mitigation measures are discussed in **Chapter 3.3**, Biological Resources (Impact BIO-1 and BIO-11).	Mitigation Measures BIO-1a, BIO-1b, BIO-1c

Party Name (Last name, First name; Agency or Organization name)	Date Received	Party Type/ Letter	Comment Topic	Refined Topic	Section	Mitigation Measure (if applicable)
Kernazitskas, David	3/7/2013	IP009	Biological Resources	wildlife; particularly address migration corridors, birds, road kill, driving habits of MDR and HDR dwellers	Mitigation for impacts to on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS are addressed in **Section 3.3**, Biological Resources (Impact BIO-2, BIO-3, BIO-4, BIO-5, BIO-6, BIO-7, BIO-8, BIO-9). Impacts to midgratory wildlife are discussed in Impact BIO-10.	Mitigation Measure BIO-2, BIO-3a, BIO-3b, BIO-4, BIO-5a, BIO-5b, BIO-5c, BIO-6, BIO-7, BIO-8a, BIO-8b, BIO-9)
Kernazitskas, David	3/7/2013	IP009	Biological Resources	heritage oak mitigation - no removal of heritage trees or permitting cutting of only 5%	The project is required by the County General Plan oak protection polices to retain 85% of the existing canopy and replace the loss of up to 14.15 acres of oak woodland. Impacts and mitigation measures are discussed in **Chapter 3.3**, Biological Resources (Impact BIO-1 and BIO-11).	Mitigation Measures BIO-1a, BIO-1b, BIO-1c
Kernazitskas, David	3/7/2013	IP009	Design	reduce planned expansion	Alternatives considered but not carried forward for analysis in the EIR are discussed in **Chapter 4**.	
Kernazitskas, David	3/7/2013	IP009	Design	limit single family homes to 10-20 per year; create more retail space instead of HDR	Comment noted.	
Kernazitskas, David	3/7/2013	IP009	Economy	economy can't support more home building	Not a CEQA issue	
Kernazitskas, David	3/7/2013	IP009	General	developer is trying to sneak in impacts - env impacts should be evaluated as if all units will be available now	CEQA requires that the full project be analyzed - that the project not be "piecemealed" (Section 21159.27). The analysis presented here assumes full build out.	
Kernazitskas, David	3/7/2013	IP009	Recreation	consult City to determine if pool can be upgraded or if additional pool/parks will be necessary	Impacts related to park are discussed in **Section 3.13**, Recreation. Alternatives considered but not carried forward are discussed in **Chapter 4**.	
Kernazitskas, David	3/7/2013	IP009	Transportation	increased traffic	Analysis of traffic impacts is presented in **Section 3.14**, Traffic and Circulation. Impacts TRA-1 and TRA-2 address operational traffic.	Mitigation Measure TRA-1a, TRA-1b, and TRA-2
Kernazitskas, David	3/7/2013	IP009	Transportation	increased traffic on highways	Results for freeway facilities, which are presented in Table 3.14-9, indicate that all studied freeway facility segments will operate acceptably. Traffic impacts are addressed in **Section 3.14**, Traffic and Circulation (Impact TRA-1 and TRA-2).	Mitigation Measure TRA-1a, TRA-1b, and TRA-2
Kernazitskas, David	3/7/2013	IP009	Design/Transportation	add lanes to accommodate increase traffic; make ped and bike lanes safer	Analysis of traffic impacts and discussion of pedestrian and bicycle circulation, is presented in **Section 3.14**, Traffic and Circulation. Impacts TRA-1 and TRA-2 address operational traffic.	
Kernazitskas, David	3/7/2013	IP009	Design/Transportation	extend trains and widen freeway	Not within the scope of this EIR	
Kernazitskas, David	3/7/2013	IP009	Utilities	are sewers, waste management, utilities designed to handle an additional 5000 people	Addressed in **Section 3.12**, Public Services and Utilities (Impact PSU-2, PSU-3, PSU-6)	
Kernazitskas, David	3/7/2013	IP009	Utilities	developer should be responsible for upgrading phone, sewer, electric, gas, telecom	Utilities are discussed in **Section 3.12**, Public Services and Utilities. Connections to infrastructure are presented as part of the project.	
Kernazitskas, David	3/22/2013	IP009a	Public Services	how will this affect schools, crime, infrastructure	Impacts to schools and infrastructure are addressed in **Section 3.12**, Public Services and Utilities (Impact PSU-1, PSU-2, PSU-3, PSU-4, PSU-6). Crime, however, is subjective and not a CEQA issue.	
Kernazitskas, David	3/22/2013	IP009a	Transportation	will put 2000 more cars on EDH Blvd - already congested	Analysis of traffic impacts is presented in **Section 3.14**, Traffic and Circulation. Impacts TRA-1 and TRA-2 address operational traffic.	Mitigation Measure TRA-1a, TRA-1b, and TRA-2

Party Name (Last name, First name; Agency or Organization name)		Date Received	Party Type/ Letter	Comment Topic	Refined Topic	Section	Mitigation Measure (if applicable)
	Kernazitskas, David	3/22/2013	IP009a	Visual/aesthetic	will destroy look and feel of EDH, replace open space with tracts and apts.	Addressed in **Section 3.1**, Aesthetics (Impact AES-1, AES-2, AES-3, AES-4, and AES-5). Additionally, the project includes 15 acres of parks and approximately 169 acres of open space, Class I bikeways, and paved and unpaved trails.	
Killian, Jaenalyn Jarvis	Killian, Jaenalyn Jarvis	3/2/2013	IP136	Notification	requested addition to mailing list	Added to list	
Kiskinen, Michael and Virgina Young	Kiskinen, Michael and Virgina Young	3/22/2013	IP070	Form Letter A			
Koontz, Eric	Koontz, Eric	3/21/2013	IP071	Economy	tax increase	Not a CEQA issue	
	Koontz, Eric	3/21/2013	IP071	Public Services	impact on schools; funding to build additional schools	Impacts to schools are addressed in **Section 3.12**, Public Services and Utilities (Impact PSU-1). The school district will determine impact fees.	
	Koontz, Eric	3/21/2013	IP071	Crime	HDR brings increase of crime	Speculative; not a CEQA issue	
	Koontz, Eric	3/21/2013	IP071	Transportation	no proposal to address traffic increase on EDH Blvd	The interchange at Silva Valley/White Rock Road is included in the cumulative conditions transportation analysis. The US 50/Silva Parkway/White Rock Road interchange will be constructed over the next few years. Traffic and Circulation is discussed in Section 3.14.	Mitigation Measure TRA-1a
Koontz, Eric	Koontz, Eric	3/21/2013	IP071a	Design/Transportation	On vehicle circulation plan, roads highlighted blue are not adequate for construction and new home traffic and many are private roads which are not accessible to the general public	Traffic impacts are addressed in **Section 3.14**, Traffic and Circulation	
Kriz, Patricia	Kriz, Patricia	3/27/2013	IP113	Notification	requests to receive future updates	Added to list	
Lauren, Nadine	Lauren, Nadine	12/18/2012	IP004	Haz/AQ	NOA	Impacts and mitigation proposed for Naurally Occuring Asbestosare addressed in **Section 3.2**, Air Quality (Impact AQ-4)	Mitigation Measure AQ-4a
Learned, Drew and Denise	Learned, Drew and Denise	3/22/2013	IP072	Form Letter A			
Lee, David	Lee, David		IP115	Economy	HDR will adversely affect property values	Not a CEQA issue	
	Lee, David		IP115	Land Use	HDR will destroy open space	The project includes 15 acres of parks and approximately 169 acres of open space, Class I bikeways, and paved and unpaved trails. Parks are discussed in **Section 3.13**, Recreation.	
	Lee, David	3/22/2013	IP115	Transportation	HDR will increase traffic	Analysis of traffic impacts is presented in **Section 3.14**, Traffic and Circulation. Impacts TRA-1 and TRA-2 address operational traffic.	Mitigation Measure TRA-1a, TRA-1b, and TRA-2
	Lee, David		IP115	Visual/Aesthetics	HDR will negatively affect the beauty of the area	Addressed in **Section 3.1**, Aesthetics (Impact AES-1, AES-2, AES-3, AES-4, and AES-5)	
Lieber, Joe	Lieber, Joe	3/22/2013	IP073	Form Letter A			
Link, Doug	Link, Doug	3/21/2013	IP121	Design/Recreation	more public activity greenspace or recreation space should be placed at gateway to EDH	The project includes 15 acres of parks and approximately 169 acres of open space, Class I bikeways, and paved and unpaved trails. Parks are discussed in **Section 3.13**, Recreation.	
	Link, Doug	3/21/2013	IP121	Visual/aesthetic	wall of apartments/rowhouse is not pleasing to eye/does not a good representation of EDH	Addressed in **Section 3.1**, Aesthetics (Impact AES-1, AES-2, AES-3, AES-4, and AES-5)	
Long, Scott	Long, Scott	3/22/2013	IP074	Form Letter A			
Lowrence, Kate	Lowrence, Kate	3/22/2013	IP075	Form Letter A			
Marcale, Susan and Marcel	Marcale, Susan and Marcel	3/20/2013	IP025	everything	HDR will have negative effects on - traffic, public resources, noise, air quality, water, wildlife, recreation, taxes	Impacts to these resources are addressed in **Section 3.14** (Traffic and Circulation), **3.12** (Public Services and Utilities), **3.10** (Noise), **3.2** (Air Quality), 3.8	
	Marcale, Susan and Marcel	3/20/2013	IP025	Quality of Life	opposed to seeing small town ruined like Elk Grove	Speculative; not a CEQA issue	
	Marcale, Susan and Marcel	3/20/2013	IP025	Crime	more population = more crime; HDR correlated with crime	Speculative; not a CEQA issue	

Party Name (Last name, First name; Agency or Organization name)		Date Received	Party Type/ Letter	Comment Topic	Refined Topic	Section	Mitigation Measure (if applicable)
Matson, Gregory	Matson, Gregory	3/22/2013	IP077	Form Letter A+	additional comments below		
	Matson, Gregory	3/22/2013	IP077	Crime	already seeing an increase in petty crime - scoping out houses, unlicensed solicitors; will need to move to more secure area	Speculative; not a CEQA issue	
McIntosh, Patrick and Toby	McIntosh, Patrick and Toby	3/22/2013	IP076	Form Letter A			
Miesner, Michele and Todd	Miesner, Michele and Todd	3/22/2013	IP078	Form Letter A+	additional comments below		
	Mienser, Michele	3/22/2013	IP078	Recreation/Visual	open air area that this project impacts is the last beautiful piece of land left in the city; could be our own little Central Park	The CEDHSP includes proposed development of 15 acres of parks for the community. Aesthetic impacts are addressed in **Section 3.1**, Aesthetics (Impact AES-1, AES-2, AES-3, AES-4, and AES-5).	Mitigation Measure AES-2
Misso, Paul	Misso, Paul	3/21/2013	IP123	Economy	development would be first thing visitors see - need to rebuild and maintain property values	Not a CEQA issue	
	Misso, Paul	3/21/2013	IP123	Public Services	schools - has capacity analysis been done	School capacity is addressed in **Section 3.12**, Public Services and Utilities (Impact PSU-1).	
	Misso, Paul	3/21/2013	IP123	Transportation	traffic - any plans must addess and remediate	Mitigation for traffic impacts are addressed in **Section 3.14**, Traffic and Circulation (Impact TRA-1 and TRA-2).	Mitigation Measure TRA-1a, TRA-1b, and TRA-2
Mitchell, Winifred & Roy T. Nielsen	Mitchell, Winifred & Roy T. Nielsen	3/22/2013	IP043	Biological Resources	concerned about tree removal; animal habitat - deer and smaller creatures	The project is required by the County General Plan oak protection polices to retain 85% of the existing canopy and replace the loss of up to 14.15 acres of oak woodland. Impacts and mitigation measures are discussed in **Section 3.3**, Biological Resources (Impact BIO-1 and BIO-11). Mitigation for impacts to on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS are addressed in **Section 3.3**, Biological Resources (Impact BIO-2, BIO-3, BIO-4, BIO-5, BIO-6, BIO-7, BIO-8, BIO-9).	Mitigation Measures BIO-1a, BIO-1b, BIO-1c, BIO-2, BIO-3a, BIO-3b, BIO-4, BIO-5a, BIO-5b, BIO-5c, BIO-6, BIO-7, BIO-8a, BIO-8b, BIO-9)
	Mitchell, Winifred & Roy T. Nielsen	3/22/2013	IP043	Construction Impacts	concerned about construction disruptions; noise, traffic, views	Noise impacts from construction are addressed in **Section 3.10**, Noise (Impact NOI-1, NOI-2, NOI-4, and NOI-7), aesthetic impacts from construction are addressed in **Section 3.1**, Aesthetics (Impact AES-1). Impacts on traffic from construction are temporary and is expected to have a less that significant impacton emergency access (Impact TRA-5). See **Section 3.14**, Traffic and Circulation for complete discussion.	Mitigation Measures NOI-1a, AES-1
	Mitchell, Winifred & Roy T. Nielsen	3/22/2013	IP043	Public Services	concerned about impacts on schools	Impacts to schools are addressed in **Section 3.12**, Public Services and Utilities (Impact PSU-1).	
	Mitchell, Winifred & Roy T. Nielsen	3/22/2013	IP043	Transportation	concerned about increased traffic	Analysis of traffic impacts is presented in **Section 3.14**, Traffic and Circulation. Impacts TRA-1 and TRA-2 address operational traffic.	Mitigation Measure TRA-1a, TRA-1b, and TRA-2
	Mitchell, Winifred & Roy T. Nielsen	3/22/2013	IP043	Visual/Aesthetics	concerned about destruction of the rural environment; removal of trees and impacts to existing views	Impacts to scenic resources includeing trees are addressed in **Section 3.1**, Aesthetics (Impact AES-3)	Mitigation Measure AES-2
Moreno, John	Moreno, John	3/19/2013	IP021	Biological Resources	suggests "shading/tree mitigation - 50% coverage within 5 yrs of all roadways and rooftops"	Mitigation for removal of blue oak woodland is discussed in **Section 3.3**, Biological Resources (Impact BIO-1, BIO-11 and BIO-13). County General Plan policy requires replacement for the loss of up to 14.15 acres of oak woodland at a 1:1 ratio.	Mitigation measure BIO-1a, BIO-1b, BIO-1c
	Moreno, John	3/19/2013	IP021	Design	suggests keeping club house as equestrian center	Alternatives considered but not carried forward for analysis in the EIR are discussed in C**hapter 4**.	

Party Name (Last name, First name; Agency or Organization name)	Date Received	Party Type/ Letter	Comment Topic	Refined Topic	Section	Mitigation Measure (if applicable)
Moreno, John	3/19/2013	IP021	Design	suggests Senior living north of Serrano Parkway	Alternatives considered but not carried forward for analysis in the EIR are discussed in **Chapter 4**.	
Moreno, John	3/19/2013	IP021	Phasing	Require phasing of development	Buildout of the project would likely occur over several years and would ultimately be dictated by housing market conditions. It is anticipated construction would be phased within each planning area.	
Moreno, John	3/19/2013	IP021	Design	suggests studying HDR on EDH Blvd vs. other development sites (Marble Valley)	Alternatives considered but not carried forward for analysis in the EIR are discussed in **Chapter 4**.	
Moreno, John	3/19/2013	IP021	Phasing	Phasing plans to include 75 -80% buildout	Buildout of the project would likely occur over multiple years and would ultimately be dictated by housing market conditions. It is anticipated construction would be phased within each planning area. The EIR addresses full build out of the Specific Plan.	
Moreno, John	3/19/2013	IP021	Design	suggests LEED, CalGreen and Title 24	Comment noted. See Sustainability Section of Specific Plan.	
Moreno, John	3/19/2013	IP021	Design	would like to see "sketch up" model including plan view and elevation	Plans and elevations will be available at a later date. General plans and guidelines are in the Specific Plan and have been used for evaluation of impacts in this EIR.	
Moreno, John	3/19/2013	IP021	Crime	suggests crime rate study	Not a CEQA issue	
Moreno, John	3/19/2013	IP021	Public Services	will there be a school impact fee?	Impacts to schools are addressed in **Section 3.12**, Public Services and Utilities (Impact PSU-1); however, fees are determined by the school district and are not addressed in this document.	
Moreno, John	3/19/2013	IP021	Quality of Life	suggests keeping rural living	Not a CEQA issue	
Moreno, John	3/19/2013	IP021	Transportation	suggests maintenance of streets impacted	The County remains responsible for maintenance of streets	
Moreno, John	3/19/2013	IP021	Design/Transportation	suggests realign Wilson Blvd; include turn lanes and bike lanes	Comment noted. Transportation and bicycle lanes are addressed in **Section 3.14**, Traffic and Circulation.	
Moreno, John	3/19/2013	IP021	Design/Utilities	suggests undergrounding all utilities	According to the Specific Plan, all new distribution facilities will be underground, with the exception of facilities such as transformers, switches, and other pedestal and pad-mounted equipment.	
Moreno, John	3/29/2013	IP021a	Form Letter B+ attached			
Moreno, John	3/29/2013	IP021a	Zoning	existing zoning has ided park use only east of Knight Lane - verify protocol for rezoning to housing	The existing zoning of the Pedragal planning area is residential and is discussed in **Section 3.9**, Land Use and Agriculture, and in the project description, **Chapter 2**.	
Moreno, John	3/29/2013	IP021a	Cumulative	assure CEQA reports will include new developments within 10 mile radius - using Wilson, EDH Blvd, Green Valley	Cumulative conditions addressed in the EIR are General Plan Buildout, plus reasonably forseeable projects. See **Section 5.2.1**, Cumulative Scenario for discussion.	
Moreno, John	3/29/2013	IP021a	Request for info	requests info on how to have plan come to a public vote; # of signatures needed; process to get public ballot	Not a CEQA issue	
Moreno, John	3/29/2013	IP021a	Design	Consider green design standards	Not a CEQA issue, but see Sustainability Chapter of Specific Plan.	
Moreno, John	3/29/2013	IP021a	Economy	high resident turn over will not result in taxes/fees to County; will shop at convenience - in Folsom	Speculative; not a CEQA issue	
Moreno, John	3/29/2013	IP021a	Economy	Can they request a study on tax base implications of plan?	Not a CEQA issue.	

Party Name (Last name, First name; Agency or Organization name)		Date Received	Party Type/ Letter	Comment Topic	Refined Topic	Section	Mitigation Measure (if applicable)
	Moreno, John	3/31/2013	IP021b	General	List of issues to discuss with Sup. Mikulaco - including process to put all development plans (current and future) on November ballot; economic impact report; revenue generation; taxes	Not a CEQA issue	
Mulligan, Robert	Mulligan, Robert	3/11/1988	IP129	Form Letter B			
Narnajo, Edward and Nancy	Narnajo, Edward and Nancy	3/22/2013	IP079	Form Letter A			
Neher, Donn	Neher, Donn	12/27/2012	IP005	Biological Resources	negative effect on wildlife - owls, hawks, turkeys, etc	Mitigation for impacts to on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS are addressed in **Section 3.3**, Biological Resources (Impact BIO-2 - BIO-10, BIO-15 - BIO-21).	Mitigation Measure BIO-1a, BIO-1b, BIO-1c, BIO-2, BIO-3a, BIO-3b, BIO-4, BIO-5a, BIO-5b, BIO-5c, BIO-6, BIO-7, BIO-8a, BIO-8b, BIO-9, BIO-15a, BIO-15b, BIO-16a, BIO-16-b, BIO-17a, BIO-17b)
	Neher, Donn	12/27/2012	IP005	Noise	increased traffic leads to more noise	Addressed in **Section 3.10**, Noise (Impact NOI-1 and NOI-3)	Mitigation Measure NOI-1b
	Neher, Donn	12/27/2012	IP005	Public Services	overcrowded schools	Impacts to schools are addressed in **Section 3.12**, Public Services and Utilities (Impact PSU-1).	
	Neher, Donn	12/27/2012	IP005	Public Services	stress on emergency services	Impacts to fire and police protection is addressed in **Section 3.12**, Public Services and Utilities (Impact PSU-1).	
	Neher, Donn	12/27/2012	IP005	Transportation	increased traffic	Analysis of traffic impacts is presented in **Section 3.14**, Traffic and Circulation. Impacts TRA-1 and TRA-2 address operational traffic.	Mitigation Measure TRA-1a, TRA-1b, and TRA-2
	Neher, Donn	12/27/2012	IP005	Air Quality	increased pollution	Addressed in **Section 3.2**, Air Quality (Impact AQ-1, AQ-2, AQ-3, AQ-4)	Mitigation Measure AQ-2a, AQ-2b, AQ-2c, AQ-4a)
Neher, Donn	Neher, Donn	3/14/2013	IP005a	Design	suggests open space on north and south sides of Serrano Parkway intersection for visibility/aesthetics	Visual resources are discussed in **Section 3.1**, Aesthetics	
	Neher, Donn	3/14/2013	IP005a	Design/Zoning	Replace MDRH on EDH Blvd with HDR to keep consistent with other apts on EDH Blvd	Comment noted.	
Neher, Donn	Neher, Donn	3/15/2013	IP005b	General	requests number of units	The Specific Plan proposes a total of 1,000 residential units. See **Chapter 2**.	
	Neher, Donn	3/15/2013	IP005b	Public Services	school overcrowding; funds should be set aside	Impacts to schools are addressed in **Section 3.12**, Public Services and Utilities (Impact PSU-1); however, fees are determined by the school district and are not addressed in this document.	
	Neher, Donn	3/15/2013	IP005b	Public Services	police/medical/fire; funds should be set aside	Impacts to fire and police protection is addressed in **Section 3.12**, Public Services and Utilities (Impact PSU-1). These services are generally funded through taxes.	
	Neher, Donn	3/15/2013	IP005b	Design/Transportation	suggests right-hand turn pocket from EB Serrano Pkwy to Vila Flor Pl.	This intersection is outside of the project area. Not within the scope of this EIR.	
Nielsen, Lorene	Nielsen, Lorene	3/20/2013	IP027	Form Letter B+	comment sheet with instructions for use attached		
	Nielsen, Lorene			Zoning	Pedregal not zoned for residential units - per CC&Rs; land use atty says CC&Rs stand at the County level and must be followed	The Pedregral planning area is currently zoned for residential uses. See Table 3.9-1 in **Section 3.9**, Land Use and Agriculture.	
O'Bryan, Mike and Kay	O'Bryan, Mike and Kay	3/22/2013	IP080	Form Letter A			
Otero, Eddie and Tonita	Otero, Eddie and Tonita	3/22/2013	IP081	Form Letter A			
Palmer, Heather	Palmer, Heather	3/22/2013	IP082	Form Letter A+	additional comments below		
	Palmer, Heather	3/22/2013	IP082	Public Services	schools already overcrowded; growth will be a burden on law enforcement;	Impacts to schools and police services are addressed in **Section 3.12**, Public Services and Utilities (Impact PSU-1).	
	Palmer, Heather	3/22/2013	IP082	Quality of Life	dense construction will make EDH like everywhere else	Not a CEQA issue	

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	Palmer, Heather	3/22/2013	IP082	Recreation	zone changes and building will limit recreation and open space opportunities	The CEDHSP includes proposed development of 15 acres of parks for the community and approximately 169 acres of open space, Class I bikeways, and paved and unpaved trails. See **Section 3.13**, Recreation for discussion.	
	Palmer, Heather	3/22/2013	IP082	Transportation	traffic is already bad	Analysis of traffic impacts is presented in **Section 3.14**, Traffic and Circulation. Impacts TRA-1 and TRA-2 address operational traffic.	Mitigation Measure TRA-1a, TRA-1b, and TRA-2
	Palmer, Heather	3/22/2013	IP082	Zoning	fast growth of previously carefully planned community is not good - see Natomas	Comment noted.	
Patane, Lenny	Patane, Lenny	3/14/2013	IP013	Zoning	opposes high density development	Comment noted.	
	Patane, Lenny	3/14/2013	IP013	Notification	suggestion to expand notification of residents	The EIR will be advertised in local newspaper and on County website; notification is in compliance with letter and intent of CEQA. Individuals who request to be notified will be notified of any meetings and when the EIR is available for public review.	
	Patane, Lenny	3/14/2013	IP013	Transportation/Noise	increased traffic and noise on EDH Blvd	Traffic impacts are addressed in **Section 3.14**, Traffic and Circulation (TRA-1 and TRA-2), Noise impacts are addressed in **Section 3.10,** Noise (Impact NOI-1, NOI-3, and NOI-7)	
Patane, Teresa	Patane, Teresa	3/24/2013	IP130	Design	Horrible Plans, no high density please	Comment noted.	
	Patane, Teresa	3/24/2013	IP130	Traffic	EDH has too much traffic already; new residents would be driving on EDH Blvd, not just getting on hwy at Silva Valley	The interchange at Silva Valley/White Rock Road is included in the cumulative conditions transportation analysis. The US 50/Silva Parkway/White Rock Road interchange will be constructed over the next few years. Traffic and Circulation is discussed in **Section 3.14**.	Mitigation Measure TRA-1a
	Patane, Teresa	3/24/2013	IP130	Public Services	Oak Ridge HS Is already impacted; don't need more residents in the area	Impacts to schools are addressed in **Section 3.12**, Public Services and Utilities (Impact PSU-1).	
	Patane, Teresa	3/24/2013	IP130	Public Services	More crime, more police needed, more fire services	Impacts to fire and police services are addressed in **Section 3.12**, Public Services and Utilities (Impact PSU-1). Crime is not a CEQA issue; speculative.	
	Patane, Teresa	3/24/2013	IP130	Open space	Loss of open space	The project includes 15 acres of parks and approximately 169 acres of open space, Class I bikeways, and paved and unpaved trails. See **Chapter 2**, Project Description, and **Section 3.13**, Recreation.	
	Patane, Teresa	3/24/2013	IP130	Design	Ugly plans including med and high density	Subjective. Aesthetic impacts are addressed in **Section 3.1**, Aesthetics (Impact AES-2 and AES-4).	Mitigation Measure AES-2
	Patane, Teresa	3/24/2013	IP130	Biological Resources	wildlife being pushed out	Mitigation for impacts to on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS are addressed in **Section 3.3**, Biological Resources (Impact BIO-2, BIO-3, BIO-4, BIO-5, BIO-6, BIO-7, BIO-8, BIO-9).	Mitigation Measure BIO-2, BIO-3a, BIO-3b, BIO-4, BIO-5a, BIO-5b, BIO-5c, BIO-6, BIO-7, BIO-8a, BIO-8b, BIO-9)
	Patane, Teresa	3/24/2013	IP130	Haz/AQ	health risk to residents with construction	Air quality and pollutant impacts from construction are addressed in **Section 3.2**, Air Quality (Impact AQ-1 - AQ-5)	Mitigation Measure AQ-2a, AQ-2b, AQ-2c, AQ-4a)
	Patane, Teresa	3/24/2013	IP130	General	what is the environmental impact?	This EIR addresses the full range of impacts outlined in the CEQA guidelines.	
	Patane, Teresa	3/24/2013	IP130	Notification	Expand notification area - 500 feet not far enough	EIR will be advertised in local newspaper and on County website; notification is in compliance with letter and intent of CEQA. Individuals requesting notification will be notified of any meetings and when the EIR is available for review.	

Party Name (Last name, First name; Agency or Organization name)		Date Received	Party Type/ Letter	Comment Topic	Refined Topic	Section	Mitigation Measure (if applicable)
Paullin, Suzanne and Art	Paullin, Suzanne and Art	3/21/2013	IP083	Transportation	Traffic on EDH Blvd and surrounding streets would be unacceptable.	Traffic impacts are addressed in **Section 3.14**, Traffic and Circulation (TRA-1 and TRA-2).	
Plachy, Kris	Plachy, Kris	3/21/2013	IP084	Transportation	traffic patterns can't accept additional burden	Analysis of traffic impacts is presented in **Section 3.14**, Traffic and Circulation. Impacts TRA-1 and TRA-2 address operational traffic.	
	Plachy, Kris	3/21/2013	IP084	Schools	schools and services can't accept additional burden; concerned about school overcrowding	Impacts to schools and other public servies are addressed in **Section 3.12**, Public Services and Utilities (Impact PSU-1).	
	Plachy, Kris	3/21/2013	IP084	QOL	Came to EDH for quiet neighborhoods and close community; additional housing would compromise these qualities	Not a CEQA issuel	
	Plachy, Kris	3/21/2013	IP084	Notification	concerned this project has not been widely communities.	There have been various meetings with the County andthe devlopers. EIR will be advertised in local newspaper and on County website; notification is in compliance with letter and intent of CEQA. Individuals requesting notification will be notified of any meetings and when the EIR is available for review.	
Platt, John	Platt, John	3/22/2013	IP085	Transportation	apartment complexes will have a negative impact on traffic	Analysis of traffic impacts is presented in **Section 3.14**, Traffic and Circulation. Impacts TRA-1 and TRA-2 address operational traffic.	Mitigation Measure TRA-1a, TRA-1b, and TRA-2
	Platt, John	3/22/2013	IP085	Visual/Aesthetics	apartment complexes will be the first thing that visitors see - negative visual impact	Addressed in **Section 3.1**, Aesthetics (Impact AES-1, AES-2, AES-3, AES-4, and AES-5)	
Plummer, Lisa	Plummer, Lisa	11/26/2012	IP003	Biological Resources	need more open space	Impacts to biological resources are addressed in **Section 3.3**, Biological Resources (Impacts BIO-1 - BIO-22); however, larger lots and lower density do not reduce impacts on wildlife or their habitat. The project includes 16 acres of parks and approximately 169 acres of open space.	
	Plummer, Lisa	11/26/2012	IP003	Economy	loss of tax revenue	Not a CEQA issue; speculative	
	Plummer, Lisa	11/26/2012	IP003	Economy	housing market unstable	Not a CEQA issue: speculative	
	Plummer, Lisa	11/26/2012	IP003	Economy	new people will shop outside County	Not a CEQA issue; speculative	
	Plummer, Lisa	11/26/2012	IP003	Haz/AQ	NOA	Impacts and mitigation proposed for Naurally Occuring Asbestos are addressed in **Section 3.2**, Air Quality (Impact AQ-4)	Mitigation Measure AQ-4a
	Plummer, Lisa	11/26/2012	IP003	Public Services	increased need for police	Impacts to fire and police protection is addressed in **Section 3.12**, Public Services and Utilities (Impact PSU-1). Increase in need for police is speculative and not a CEQA issue.	
	Plummer, Lisa	11/26/2012	IP003	Transportation	traffic safety/congestion	Analysis of traffic impacts is presented in **Section 3.14**, Traffic and Circulation. Impacts TRA-1 and TRA-2 address operational traffic.	Mitigation Measure TRA-1a, TRA-1b, and TRA-2
	Plummer, Lisa	11/26/2012	IP003	Transportation	road maintenance/car speeds	Road maintenance remains the responsibiliy of the County.	
Price, Jamie	Price, Jamie	3/21/2013	IP135	Public Services	how will high school accommodate all these students?	Impacts to schools are addressed in **Section 3.12**, Public Services and Utilities (Impact PSU-1).	
	Price, Jamie	3/21/2013	IP135	Transportation	traffic is already bad	Analysis of traffic impacts is presented in **Section 3.14**, Traffic and Circulation. Impacts TRA-1 and TRA-2 address operational traffic.	Mitigation Measure TRA-1a, TRA-1b, and TRA-2
	Price, Jamie	3/21/2013	IP135	Quality of Life	things he loved about EDH (no big tacky bldgs or signs, natural landscape, community founded on single-family homes) will be ruined by this project	Not a CEQA issue	
	Price, Jamie	3/21/2013	IP135		Not in favor of the project	Comment noted	

Party Name (Last name, First name; Agency or Organization name)		Date Received	Party Type/ Letter	Comment Topic	Refined Topic	Section	Mitigation Measure (if applicable)
Price, Lindell	Price, Lindell	3/22/2013	IP086	Air Quality	suggests reviewing environmental impacts of gated communities on air quality, greenhouse gas emissions	This is outside the scope of the project; impacts on air quality for the project are addressed in **Section 3.2**, Air Quality (Impacts AQ-1 - AQ-5)	Mitigation Measure AQ-2a, AQ-2b, AQ-2c, AQ-4a)
	Price, Lindell	3/22/2013	IP086	Design	requests an alternative that provides more housing, jobs, retail and services while perserving usable open space and providing public amenities - for Open Space area	Alternatives are discussed in **Chapter 4**. The No-Project Alternative and the Reduced-Wetland-Impact Alternative result in more open space.	
	Price, Lindell	3/22/2013	IP086	Design	consider alternative that reduce the need to travel out of county	Alternatives and those considered but not carried forward for analysis in the EIR are discussed in **Chapter 4**.	
	Price, Lindell	3/22/2013	IP086	Economy	analyze arrangement of proposed Civic-Limited commercial for long-term economic viability	Not a CEQA issue.	
	Price, Lindell	3/22/2013	IP086	Pop and Housing	Address impacts to jobs/housing balance - where will residents work	Housing is addressed in **Section 3.11**, Population and Housing. Where residents will work is not a CEQA issue.	
	Price, Lindell	3/22/2013	IP086	Public Services	suggests reviewing environmental impacts of gated communities on mail delivery, emergency response, etc	Impacts of the proposed project on fire and police protection is addressed in **Section 3.12**, Public Services and Utilities (Impact PSU-1). Emergency access is addressed in **Section 3.14**, Traffic (Impact TRA-5) Mail delivery is not a CEQA issue.	
	Price, Lindell	3/22/2013	IP086	Transportation	suggests reviewing environmental impacts of gated communities on traffic and circulation; assess potential of project to preclude future traffic circulation	The traffic analysis included gated communities where they are proposed. Traffic impacts are addressed in **Section 3.14**, Traffic and Circulation (TRA-1 and TRA-2)	Mitigation Measure TRA-1a, TRA-1b, and TRA-2
	Price, Lindell	3/22/2013	IP086	Transportation	address year round pre-dawn and after dark, low-stress pedestrian and bicycle access to public transit	Bicycle and pedestrian circulation and public transportation are addressed in **Section 3.14**, Traffic and Circulation.	
Price, Stanley	Price, Stanley	3/22/2013	IP087	Cultural	Include cultural resources in EIR	Cultural resources are addressed in **Section 3.4**, Cultural Resources	
	Price, Stanley	3/22/2013	IP087	Land Use	review community benefits/disadvantages of transfer of density	**Section 3.9**, Land Use discusses zoning	
	Price, Stanley	3/22/2013	IP087	Public Services	review water supply and sewer availability; include responsible party for infrastructure and ongoing costs	Impacts to water supply and sewers are addressed in **Section 3.12**, Public Services and Utilites (Impact PSU-2, PSU-3, PSU-5, PSU-6).	
	Price, Stanley	3/22/2013	IP087	Recreation	community value of closing municipal golf course; references report prepared by Florida Golf Course Consultant; consider if use of recycled water would make a difference in viability of the golf course	The golf course has been closed for 10 years and is currently not in use.	
	Price, Stanley	3/22/2013	IP087	Design/Recreation	Consider alternative community recreation use - skateboard park, velodrome, etc.	Alternatives considered but not carried forward for analysis in the EIR are discussed in **Chapter 4**.	
	Price, Stanley	3/22/2013	IP087	Transportation	review pedestrian, bicycle, and traffic circulation plan; determine good connectivity	The project proposes pedestrian and bicycle facilities that will connect and integrate with existing and planned facilities adjacent to the project. In addition, elements of the proposed project will complete planned pedestrian and bicycle facilities. More detail is located in **Section 3.14**, Traffic and Circulation.	

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	Price, Stanley	3/22/2013	IP087	Transportation??	Where would employees of build-out (retail employees, gardeners, child care, home-care) would live, where they can afford to live and VMT; consider vehicle/fuel costs and compare to projected wages	Not a CEQA issue - speculative	
Price, Travis	Price, Travis	3/21/2013	IP088	Air Quality	will add to emission	Addressed in **Section 3.2**, Air Quality (Impact AQ-1, AQ-2, AQ-3, AQ-4)	Mitigation Measure AQ-2a, AQ-2b, AQ-2c, AQ-4a
	Price, Travis	3/21/2013	IP088	Alternatives	Interested in the no-project and other alternatives	Alternatives are addressed in **Chapter 4**.	
	Price, Travis	3/21/2013	IP088	Economy	would have a negative impact on local housing market	Not a CEQA issue	
	Price, Travis	3/21/2013	IP088	Public Services	schools currently at capacity; how does county plan to handle additional infrastructure requirements?	Impacts to schools are addressed in **Section 3.12**, Public Services and Utilities (Impact PSU-1).	
	Price, Travis	3/21/2013	IP088	Transportation	will add to traffic congestion	Analysis of traffic impacts is presented in **Section 3.14**, Traffic and Circulation. Impacts TRA-1 and TRA-2 address operational traffic.	Mitigation Measure TRA-1a, TRA-1b, and TRA-2
	Price, Travis	3/21/2013	IP088	Pop and Housing	no new jobs for HDR residents	In 2008, the county's west slope had a jobs/housing ratio of 0.7 job per housing unit, indicating that many residents work outside El Dorado County (El Dorado County 2013).	
	Price, Travis	3/21/2013	IP088		If this is not approved, 1998 Marble Valley Master Plan should be reevaluated	Comments appears to be on Village of Marble Valley project	
Rahim, Claudia	Rahim, Claudia	3/22/2013	IP089	Form Letter A			
Rahim, Nazir	Rahim, Nazir	3/22/2013	IP090	Form Letter A			
Rausch, Dan	Rausch, Dan	3/14/2013	IP016	Design/Biological Resources	protection of spring so wildlife will still have access	Biological resources are addressed in **Section 3.3**.	
	Rausch, Dan	3/14/2013	IP016	Cultural	concern for archaeo site; preservation for public	Addressed in **Section 3.4**, Cultural Resources (Impacts CUL-1 - CUL-4)	Mitigation Measure CUL-1a, CUL-1b, CUL-1c, CUL-3 and CUL-4
	Rausch, Dan	3/14/2013	IP016	Design/Transportation	suggests traffic from HDR be routed to EDH Blvd to avoid Olson Lane; concerned about LOS on Olson Lane	Traffic is addressed in **Section 3.14**, Traffic and Circulation. LOS on Olson Lane is projected to remain acceptable (Table 3.14-7).	
	Rausch, Dan	3/14/2013	IP016	Transportation/Rec	concerned about parking for open space if it open to the public	Open Space will be undeveloped and will not be fenced. See discussion in **Section 3.13**, Recreation.	
Raveling, Paul	Raveling, Paul	3/20/2013	IP028	Transportation	possible that development will produce enough trips to triggler GP policies associated with TC-X (Measure Y)	All impacts on traffic can be mitigated to a less than significant level with road improvements or through traffic impact mitigation fees. See **Section 3.14**, Traffic and Circulation for discussion.	
	Raveling, Paul	3/20/2013	IP028	Transportation	concerned about traffic in the Green Valley Corridor	Analysis of traffic impacts is presented in **Section 3.14**, Traffic and Circulation. Impacts TRA-1 and TRA-2 address operational traffic.	Mitigation Measure TRA-1a, TRA-1b, and TRA-2
	Raveling, Paul	3/20/2013	IP028	Transportation	County should recognize minimum standards of GP are not entirely sufficient	Not in the scope of this EIR	
	Raveling, Paul	3/20/2013	IP028	Transportation	EIR should include other metrics,including delay time per vehicle and percentage of time spent following	Delays (measured in seconds) per vehicle with and without the project are depicted in **Section 3.4**, Traffic and Circulation, Table 3.14-7. These are standard measures for discussin traffic impacts.	
Rogers, Kristen A.	Rogers, Kristen A.	3/22/2013	IP092	Form Letter A			
Rogers, Sean	Rogers, Sean	3/22/2013	IP093	Form Letter A			
Rollins, Dave	Rollins, Dave	3/22/2013	IP094	Form Letter A			
Rollins, Jennie	Rollins, Jennie	3/22/2013	IP095	Form Letter A			
Rose, Art and Pam	Rose, Art and Pam	3/21/2013	IP125	Air Quality	what are plans for dust and asbestos mitigation during construction?	Mitigation for dust and asbestos during construction is addressed in **Section 3.2**, Air Quality (Mitigation Measure AQ-2c and AQ-4a, respectively)	Mitigation Measure AQ-2c and AQ-4a

Party Name (Last name, First name; Agency or Organization name)		Date Received	Party Type/ Letter	Comment Topic	Refined Topic	Section	Mitigation Measure (if applicable)
	Rose, Art and Pam	3/21/2013	IP125	Biological Resources	plans to preserve oak trees?	The project is required by the County General Plan oak protection polices to retain 85% of the existing canopy and replace the loss of up to 14.15 acres of oak woodland. Impacts and mitigation measures are discussed in **Section 3.3**, Biological Resources (Impact BIO-1 and BIO-11).	Mitigation Measures BIO-1a, BIO-1b, BIO-1c
	Rose, Art and Pam	3/21/2013	IP125	Construction Impacts	mitigation for noise? Parking limitations? Fencing requirements?	Mitigation for noise from construction is addressed in **Section 3.10**, Noise (Impact NOI-1, NOI-4, and NOI-7)	Mitigation Measure NOI-1a
	Rose, Art and Pam	3/21/2013	IP125	Design	will Pedregal adopt Ridgeview East CC&Rs?	Not within the scope of this EIR. Adoption of Ridgeview East CC&Rs is likely.	
	Rose, Art and Pam	3/21/2013	IP125	Design	concerned about gate community to prevent traffic from Wilson to Olsen	There is currently no direct route between Wilson and Olsen and none is proposed. **Section 3.14** addresses Traffic and Circulation.	
	Rose, Art and Pam	3/21/2013	IP125	Design	add to CC&Rs - limits on solar panels, no composition roofs, no block walls	Comment noted. Not a CEQA issue.	
	Rose, Art and Pam	3/21/2013	IP125	Hydrology	they are at top of hill; how will drainage from their property be handled?	Drainage issues are addressed in **Section 3.8**, Hydrology and Water Quality (Impact WQ-3, WQ-4, WQ-5)	Mitigation Measure WQ-3 and WQ-4
	Rose, Art and Pam	3/21/2013	IP125	Notification	Everyone in EDH is affected and should be included in meetings	EIR will be advertised in local newspaper and on County website; notification is in compliance with letter and intent of CEQA	
	Rose, Art and Pam	3/21/2013	IP125	Phasing	what part of project would start first?	It is likely the area south of Serrano Parkway would be the first portion of the project to be constructed. See Figure 9.1 in the Specific Plan.	
	Rose, Art and Pam	3/21/2013	IP125	Transportation	what are plans to mitigate traffic on EDH Blvd?	Mitigation for traffic impacts are addressed in **Section 3.14**, Traffic and Circulation (Impact TRA-1 and TRA-2). T	Mitigation Measure TRA-1
	Rose, Art and Pam	3/21/2013	IP125	Utilities	what are the easements?	Most new utility lines that would be required within the planning areas would be placed within the rights-of-way of existing roads in the planning areas, future roads that would be built as part of the proposed project, or within dedicated easements. Off-site improvements are addressed at a programmatic level. See **Chapter 2**, Project Description.	
	Rose, Art and Pam	3/21/2013	IP125	Design/Visual/aesthetic	what will be landscape requirements?	Impacts to the scenic vista are addressed in **Section 3.1**, Aesthetics (Impact AES-2).	Mitigation Measure AES-2
	Rose, Art and Pam	3/21/2013	IP125	Design/Zoning	recommend minimum lot size of 1 acre - to minimize traffic, preserve trees, reduce impacts	Comment noted. Impacts to traffic are addressed in **Section 3.14**, Traffic and Circulation, and impacts to oak trees are addressed in **Section 3.3**, Biological Resources	
Ruddy, David and Karen	Ruddy, David and Karen	3/22/2013	IP096	Crime	oppose project because of crime and below	Speculative; not a CEQA issue	
	Ruddy, David and Karen	3/22/2013	IP096	Economy	negative effects on home values	Not a CEQA issue	
	Ruddy, David and Karen	3/22/2013	IP096	Public Services	overcrowded schools	Impacts to schools are addressed in **Section 3.12**, Public Services and Utilities (Impact PSU-1).	
	Ruddy, David and Karen	3/22/2013	IP096	Transportation	increased traffic	Analysis of traffic impacts is presented in **Section 3.14**, Traffic and Circulation. Impacts TRA-1 and TRA-2 address operational traffic.	Mitigation Measure TRA-1a, TRA-1b, and TRA-2
	Ruddy, David and Karen	3/22/2013	IP096	Visual/Aesthetics	negative effects on community aesthetics	Addressed in **Section 3.1**, Aesthetics (Impact AES-1, AES-2, AES-3, AES-4, and AES-5)	
Sanders, Melissa	Sanders, Melissa	3/21/2013	IP097	Public Services	overcrowded high school	Impacts to schools is addressed in **Section 3.12**, Public Services and Utilities (Impact PSU-1).	
	Sanders, Melissa	3/21/2013	IP097	Visual/Aesthetics	EDH is most beautiful community in Sacramento area - please protect and preserve the beauty of the area	Addressed in **Section 3.1**, Aesthetics (Impact AES-1, AES-2, AES-3, AES-4, and AES-5)	
Santos, Roger and Laura	Santos, Roger and Laura	3/22/2013	IP098	Form Letter A			

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Schaefer, Adam and Colleen	Schaefer, Adam and Colleen	3/20/2013	IP128	Notification	request to be notified	Added to list	
Schultz, Kim	Schultz, Kim	3/22/2013	IP099	Form Letter A			
Sedgwick, Steve	Sedgwick, Steve	3/25/2013	IP117	Zoning	opposed to apartments where old golf course was located	Comment noted.	
Selk, Greg & Tricia	Selk, Greg & Tricia	2/18/2013	IP007	Design	rear setback limits; why 40 feet (20 feet less) adjacent to their property	Not a CEQA issue.	
	Selk, Greg & Tricia	2/18/2013	IP007	Design	height setback; their view may be impeded with the smaller setback	Not a CEQA issue.	
Selk, Greg & Tricia	Selk, Greg & Tricia	3/14/2013	IP007a	Design	rear setback limits; why 40 feet (20 feet less) adjacent to their property	Not a CEQA issue.	
	Selk, Greg & Tricia	3/14/2013	IP007a	Design	height setback; their view may be impeded with the smaller setback	Not a CEQA issue.	
	Selk, Greg & Tricia	3/14/2013	IP007a	Design	will electrical lines be placed underground?	Yes - see Specific Plan, Section 7.7, Dry Utilities	
	Selk, Greg & Tricia	3/14/2013	IP007a	Design	would like to see a rendering	Not a CEQA issue. Visual impacts are addressed in **Section 3.1**, Aesthetics.	
	Selk, Greg & Tricia	3/14/2013	IP007a	Fines	Can developer pay for damages/fines if studies are inadequate?	Not a CEQA issue.	
Shaw, Rita K	Shaw, Rita K	3/22/2013	IP091	Form Letter A+	Forwarded husband's e-mail; additional comments below		
	Shaw, Rita K	3/22/2013	IP091	Crime	already seeing an increase in petty crime - scoping out houses, unlicensed solicitors; will need to move to more secure area	Speculative; not a CEQA issue	
Simonelli, James	Simonelli, James	3/22/2013	IP100	General	concerned about proposed development of old golf course	Comment noted	
	Simonelli, James	3/22/2013	IP100	Notification	would like to be notified of future meetings; feels all residents of EDH on the north side of US 50 will be affected by proposed project	EIR will be advertised in local newspaper and on County website; notification is in compliance with letter and intent of CEQA. Individuals requesting notification will be notified of any meetings and when the EIR is available for review.	
Smith, Geoff	Smith, Geoff	3/22/2013	IP101	Economy/Quality of Life	property values and quality of life will be significantly impacted	Not a CEQA issue	
	Smith, Geoff	3/22/2013	IP101	Notification	would like to be able to view full EIR	EIR will be advertised in local newspaper and on County website; notification is in compliance with letter and intent of CEQA. Individuals requesting notification will be notified of any meetings and when the EIR is available for review.	
	Smith, Geoff	3/22/2013	IP101	Public Services	Proposed development will result in impacts to schools, grocery stores	Impacts to schools are addressed in **Section 3.12**, Public Services and Utilities (Impact PSU-1). Impacts to grocery stores are not a CEQA issue.	
	Smith, Geoff	3/22/2013	IP101	Recreation	Proposed development will result in impacts to sports fields	The 15 acres of VP land use designation and Recreational Facilities High zoning is applied to an area for a formal, developed active village park to be maintained by the El Dorado Hills CSD. **Section 3.13** addressed Recreation facilities.	
	Smith, Geoff	3/22/2013	IP101	Transportation	proposed development will make traffic intolerable	Analysis of traffic impacts is presented in **Section 3.14**, Traffic and Circulation. Impacts TRA-1 and TRA-2 address operational traffic.	Mitigation Measure TRA-1a, TRA-1b, and TRA-2
Sturch, Bill	Sturch, Bill	3/14/2013	IP014	Design/Transportation	EDH Blvd. 3 lanes both ways?	Analysis of traffic impacts is presented in **Section 3.14**, Traffic and Circulation. Impacts TRA-1 and TRA-2 address operational traffic.	Mitigation Measure TRA-1a
	Sturch, Bill	3/14/2013	IP014	Design/Transportation	Unclear on Pedregal unit access; safety concerns	VRLH is located on El Dorado Hills Boulevard. Operation of driveways providing access is discussed in **Section 3.14**, Traffic and Circulation.	

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	Sturch, Bill	3/14/2013	IP014	Design/Transportation	suggests possibly ungating new connector between Gilette and Wilson	No connection between Gillette and Wilson is proposed. See **Section 3.14**, Traffic and Circulation.	
	Sturch, Bill	3/14/2013	IP014	Design/Transportation	Suggestions for traffic circulation in Serrano Westside	A local residential street is proposed parallelling El Dorado Hills Blvd. See **Section 3.14**, Traffic and Circulation for discussion and analysis.	
	Sturch, Bill	3/14/2013	IP014	Transportation/Noise	increased traffic/noise, soundwalls	Noise related to increased traffic is discussed in **Section 3.10**, Noise, Impact NOI-1.	Mitigation Measure NOI-1b
Stead, Karen	Stead, Karen	3/22/2013	IP102	Crime	Crime would increase	Speculative; not a CEQA issue	
	Stead, Karen	3/22/2013	IP102	Economy	these problems would lead to increased funding in supporting the effects of new buildings	Not a CEQA issue	
	Stead, Karen	3/22/2013	IP102	Transportation	Traffic congestion would increase	Analysis of traffic impacts is presented in **Section 3.14**, Traffic and Circulation. Impacts TRA-1 and TRA-2 address operational traffic.	Mitigation Measure TRA-1a, TRA-1b, and TRA-2
Stone, John and LaDawn	Stone, John and LaDawn	3/22/2013	IP114	Public Services	High school is already impacted and has limited budget	Impacts to schools are addressed in **Section 3.12**, Public Services and Utilities (Impact PSU-1). The school district will determine impact fees.	
	Stone, John and LaDawn	3/22/2013	IP114	Recreation	not what community wants, especially when it takes the place of a recreaton area, green belt or open land	Alternatives considered but not carried forward for analysis in the EIR are discussed in **Chapter 4**.	
	Stone, John and LaDawn	3/22/2013	IP114	Socio-economic	will bring socio-economic diversity that will have a negative impact	Speculative; not a CEQA issue	
	Stone, John and LaDawn	3/22/2013	IP114	Transportation	HDR will increase traffic	Analysis of traffic impacts is presented in **Section 3.14**, Traffic and Circulation. Impacts TRA-1 and TRA-2 address operational traffic.	Mitigation Measure TRA-1a, TRA-1b, and TRA-2
	Stone, John and LaDawn	3/22/2013	IP114	Visual/Aesthetics	HDR will not aesthetically cheapen EDH	Comment noted.	
	Stone, John and LaDawn	6/7/2013		Notification	Requested addition of 10 people to notification list	Added to list	
Swanson, Dolores	Swanson, Dolores	3/26/2013	IP120	General	has impact to ecology been considered	Impacts to biological resources are addressed in **Section 3.3**, Biological Resources	
	Swanson, Dolores	3/26/2013	IP120	Transportation	1000 residences in DH and 30,000 south of 50 - has impact to traffic been considered	Traffic impacts resulting from the project are addressed in **Seciton 3.14**, Traffic and Circulation. Traffic impacts resulting from this proposed project, the full build out of the General Plan, and reasonbly forseeable development and transportation projects are discussed in **Chapter 5**, Other CEQA Considerations, **Section 5.2.2**.	
Tam, Mary Kay	Tam, Mary Kay	3/22/2013	IP103	Form Letter A+	additional comments below		
	Tam, Mary Kay	3/22/2013	IP103	Crime	apartment type housing tends to attract lower income individuals - which has a correlation to increased crime	Speculative; not a CEQA issue	
	Tam, Mary Kay	3/22/2013	IP103	Public Services	Sheriff's dept is already under-resources.	Impacts to fire and police services are addressed in **Section 3.12**, Public Services and Utilities (Impact PSU-1).	
Thompson, Robert	Thompson, Robert	6/13/2013	IP134	Zoning/Recreation	Opposed to rezoning, there are not enough recreational fields in EDH	The project proposes a 15-acre park that will include athletic fields. See **Section 3.13**, Recreation for a discussion of impacts to recreational facilities and parks.	
Tierney, David and Maura	Tierney, David and Maura	3/19/2013	IP020	General	Opposes rezoning of golf course for high density housing; would like to see design that is more consistent with historical recreational use	The project proposes constructing a park with athletic fields on part of the golf course parcel. See **Chapter 2**, Project Description. Also see **Section 3.13**, Recreation for a discussion of impact to recreational facilities and parks.	
	Tierney, David and Maura	3/19/2013	IP020	Demand	Is there a need for HDR units and if so, are there more appropriate locations?	Not a CEQA issue.	

Party Name (Last name, First name; Agency or Organization name)		Date Received	Party Type/ Letter	Comment Topic	Refined Topic	Section	Mitigation Measure (if applicable)
	Tierney, David and Maura	3/19/2013	IP020	Public Services	Impact on school enrollment?	Impacts to schools are addressed in **Section 3.12**, Public Services and Utilities (Impact PSU-1)	
	Tierney, David and Maura	3/19/2013	IP020	Transportation	effects on traffic?	Traffic impacts are addressed in **Section 3.14**, Traffic and Circulation (TRA-1 and TRA-2).	Mitigation Measure TRA-1 and TRA-2
	Tierney, David and Maura	3/19/2013	IP020	Visual/Aesthetics	concerned about character of EDH - HDR next to highway	Addressed in **Section 3.1**, Aesthetics (Impact AES-1, AES-2, AES-3, AES-4, and AES-5)	Mitigation Measure AES-2
Tuttle, Greg	Tuttle, Greg	11/22/2012	IP002	Biological Resources	increase in displaced predators	Mitigation for impacts to any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS are addressed in **Section 3.3**, Biological Resources (Impact BIO-2, BIO-3, BIO-4, BIO-5, BIO-6, BIO-7, BIO-8, BIO-9). Impacts to midgratory wildlife are discussed in Impact BIO-10.	Mitigation Measure BIO-2, BIO-3a, BIO-3b, BIO-4, BIO-5a, BIO-5b, BIO-5c, BIO-6, BIO-7, BIO-8a, BIO-8b, BIO-9)
	Tuttle, Greg	11/22/2012	IP002	Land Use	goes agains EDH Master Plan	Most of the proposed project is outside of the EDH Specific Plan, and all development is outside the plan area. A discussion of the relationship of the CEDHSP to other plans is presented in **Section 3.9**, Land Use and Agriculture and in **Chapter 2**, Project Description.	
	Tuttle, Greg	11/22/2012	IP002	Quality of Life	general diminished Q of L	Not a CEQA issue	
Vakil, David and Karen	Vakil, David and Karen	3/22/2013	IP104	Form Letter A			
Van Dyke, Ellen	Van Dyke, Ellen	3/21/2013	IP105	Request for info	not much specific info in NOP - is there a plan/ difficult to compare what is proposed - is there a graphic?	More specific information can be found in the CEDH Specific Plan and this DEIR	
Van Dyke, Ellen and Don	Van Dyke, Ellen and Don	3/22/2013	IP106	General	graphics in NOP do not clearly represent was trade is proposed; also a lot of detail in text that is not clarified in graphics	More specific information can be found in the CEDH Specific Plan and this DEIR	
	Van Dyke, Ellen and Don	3/22/2013	IP106	Land Use	assume that 155-acre extension of Serrano Westside planning means physically-would otherwise have issues additional acreage being used to offset oak tree and open space req. in original development agreement	Comment noted. **Chapter 2**, Project Description, includes figures and text describing the project. Oak mitigation is discussed in **Section 3.3**, Biological Resources, Impact BIO-1.	BIO-1d
	Van Dyke, Ellen and Don	3/22/2013	IP106	Land Use	commercial and HDR near freeway and other commercial uses makes sense	Comment noted	
	Van Dyke, Ellen and Don	3/22/2013	IP106	Transportation	increased traffic should be addressed in EIR	Analysis of traffic impacts is presented in **Section 3.14**, Traffic and Circulation. Impacts TRA-1 and TRA-2 address operational traffic.	Mitigation Measure TRA-1a, TRA-1b, and TRA-2
	Van Dyke, Ellen and Don	6/11/2013		Notification	requested addition of Green Valley Alliance to the mailing list	Added to list	
Vanderwall, Coleen	Vanderwall, Coleen	3/22/2013	IP107	General	Opposes development on old golf course	Comment noted	
	Vanderwall, Coleen	3/22/2013	IP107	Public Services	will make schools more overcrowded	Impacts to schools are addressed in Section 3.12, Public Services and Utilities (Impact PSU-1)	*
	Vanderwall, Coleen	3/22/2013	IP107	Transportation	will make streets more congested	Analysis of traffic impacts is presented in **Section 3.14**, Traffic and Circulation. Impacts TRA-1 and TRA-2 address operational traffic.	Mitigation Measure TRA-1a, TRA-1b, and TRA-2
	Vanderwall, Coleen	3/22/2013	IP107	Visual/Aesthetics	will replace beautiful land; discourage people from locating in EDH and encourage current residents to leave	Addressed in **Section 3.1**, Aesthetics (Impact AES-1, AES-2, AES-3, AES-4, and AES-5)	
Vanderwall, Mitch	Vanderwall, Mitch	3/22/2013	IP108	Form Letter A			
Vegh, Barbara	Vegh, Barbara	4/22/2013	IP131	Notification	requests future mailings	Added to list	
Vorster, Daniel	Vorster, Daniel	3/22/2013	IP047	Design/Zoning	HDR should be MDR	Comment noted.	

Party Name (Last name, First name; Agency or Organization name)		Date Received	Party Type/ Letter	Comment Topic	Refined Topic	Section	Mitigation Measure (if applicable)
	Vorster, Daniel	3/22/2013	IP047	Design	project should be designed around pedestrian access	The project proposes the bicycle and pedestrian facilities. See Figure 2-7 and associated text in **Chapter 2**, Project Description. Impacts related to pedestrian circulation are addressed in **Section 3.14**, Traffic and Circulation, Impacts TRA-1 and TRA-6.	
	Vorster, Daniel	3/22/2013	IP047	Design/Recreation	Develop funded parks - sand volleyball courts	Comment noted.	
	Vorster, Daniel	3/22/2013	IP047	Quality of Life	don't compromise quality of life/vision	Not a CEQA issue	
	Vorster, Daniel	3/22/2013	IP047	Visual/Aesthetics	would like to see renderings of what EDH Blvd would look like	More specific information can be found in the CEDH Specific Plan and this DEIR	
	Vorster, Daniel	3/22/2013	IP047	Design/Zoning	please do not rezone open space for residential	Comment noted. **Section 3.9**, Land Use Planning and Agricultural Resources addressed impacts related to the rezoning of parcels.	
	Vorster, Daniel	3/22/2013	IP047	Design/Zoning	CEDH will remove open space at entrance to EDH; make it an overdeveloped suburb	The proposed project will result in no net loss of open space. See **Section 3.9**, Land Use Planning and Agricultural Resources, and **Section 3.1**, Aesthetics.	
	Vorster, Daniel	3/22/2013	IP047		commenter requests the right to apply future damages to the developer if the studies are inadequate	Not a CEQA issue	
Wagner, Leslie	Wagner, Leslie	1/9/2013	IP006	Economy	decreased home values	Not a CEQA issue	
	Wagner, Leslie	1/9/2013	IP006	Haz/AQ	NOA	Impacts and mitigation proposed for Naurally Occuring Asbestosare addressed in **Section 3.2**, Air Quality (Impact AQ-4)	Mitigation Measure AQ-4a
	Wagner, Leslie	1/9/2013	IP006	Noise	construction noise	Noise impacts from construction are addressed in **Section 3.10**, Noise (Impact NOI-1, NOI-2, NOI-4, and NOI-7)	Mitigation Measure NOI-1a
	Wagner, Leslie	1/9/2013	IP006	Transportation	increased traffic; or construction traffic?	Analysis of traffic impacts is presented in **Section 3.14**, Traffic and Circulation. Impacts TRA-1, TRA-2, and TRA-5 address operational and construction traffic impacts.	Mitigation Measure TRA-1a, TRA-1b, and TRA-2
Waller, Thomas and Carole	Waller, Thomas and Carole	3/22/2013	IP109	Form Letter A			
Walters, Tammy & Jeremy	Walters, Tammy & Jeremy	3/18/2013	IP018	Quality of Life	moved to EDH to get away from low-income housing	Not a CEQA issue	
Wells, Michael	Wells, Michael	11/15/2012	IP001	Economy	decreased home values	Not a CEQA issue	
	Wells, Michael	11/15/2012	IP001	Public Services	school overcrowding	Impacts to schools are addressed in Section 3.12, Public Services and Utilities (Impact PSU-1)	
	Wells, Michael	11/15/2012	IP001	Transportation	increased accidents and traffic congestion	Analysis of traffic impacts is presented in **Section 3.14**, Traffic and Circulation. Impacts TRA-1 and TRA-2 address operational traffic.	
Wilde, Martin and Betsy	Wilde, Martin and Betsy	3/22/2013	IP110	Form Letter A			
Wise, Dawn	Wise, Dawn	3/22/2013	IP111	Form Letter A			
Wiseman, Dylan	Wiseman, Dylan	3/13/2013	IP011	Design	Pedergal CC&Rs would still allow for non-structures such as pools or sports courts to be built immediately adjacent to existing properties	Not a CEQA issue	
	Wiseman, Dylan	3/13/2013	IP011	Design	Pedergal residents might not adhere to CC&Rs; legal challenge would be only recourse	Not a CEQA issue	
	Wiseman, Dylan	3/13/2013	IP011	Design	proposes open space buffer on west side of Pedregal	Alternatives, including one that would reduce development along the western edge of the Pedregal planning area, are discussed in **Chapter 4**.	
Wornick, Michael	Wornick, Michael	3/12/2013	IP010	Economy	opposes density increase, unfair to him and other property owners	Alternatives considered but not carried forward for analysis in the EIR are discussed in **Chapter 4**.	

Party Name (Last name, First name; Agency or Organization name)		Date Received	Party Type/ Letter	Comment Topic	Refined Topic	Section	Mitigation Measure (if applicable)
	Wornick, Michael	3/12/2013	IP010	Demand	already empty apartments in EDH, EDH 5% excess supply of apts.	Project housing needs are discussed in **Section 3.11**, Population, Table 3.11-3.	
Yamaguchi, Bob	Yamaguchi, Bob	3/19/2013	IP019	General	requests topographic map of proposed development east of EDH Blvd.	Comment noted.	
	Yamaguchi, Bob	3/19/2013	IP019	Hydrology	will creek along EDH Blvd be natural and what about drainage?	Drainage issues are addressed in **Section 3.8**, Hydrology and Water Quality (Impact WQ-3, WQ-4, WQ-5). **Section 3.3**, Biological Resources, discusses impacts on biological resources.	
	Yamaguchi, Bob	3/19/2013	IP019	Notification	Why did this not receive more publicity? Should be noticed in local newspaper	EIR will be advertised in local newspaper and on County website; notification is in compliance with letter and intent of CEQA. Individuals requesting notification will be notified of any meetings and when the EIR is available for review.	
	Yamaguchi, Bob	3/19/2013	IP019	Public Services	does Brooks elementary have capacity?	Impacts to schools are addressed in **Section 3.12**, Public Services and Utilities (Impact PSU-1)	
	Yamaguchi, Bob	3/19/2013	IP019	Public Services	will additional capacity for sewer be necessary and will developer pay for it?	Addressed in **Section 3.12**, Public Services and Utilites (Impact PSU-2, PSU-3, and PSU-6).	
	Yamaguchi, Bob	3/19/2013	IP019	Public Services	adequate law enforcement to respond to any type of criminal activity?	Impacts on fire and police services are addressed in **Section 3.12**, Public Services and Utilities (Impact PSU-1)	
	Yamaguchi, Bob	3/19/2013	IP019	Transportation	what are current traffic counts and how will this affect traffic flow to elementary school?	Traffic counts and traffic impacts are addressed in **Section 3.14**, Traffic and Circulation	
	Yamaguchi, Bob	3/19/2013	IP019	Transportation	will there be ped/bicycle access to Raley's?	Offsite improvements include two new pedestrian access points along the southwestern border of the Serrano Westside planning area to connect to the existing office and retail uses at Raley's and La Borgata. See **Chapter 2**, Project Description.	
	Yamaguchi, Bob	3/25/2013	IP019a	Notification	requests deadline for comments be extended to March 29, 2013; membership in their Google group exceeds 200.	EIR will be advertised in local newspaper and on County website; notification is in compliance with letter and intent of CEQA. Individuals requesting notification will be notified of any meetings and when the EIR is available for review.	
	Yamaguchi, Bob	3/26/2013	IP019b	Design	upon examination of topographic maps provided by the County, Mr. Yamaguchi has the the following questions:	See below	
	Yamaguchi, Bob	3/26/2013	IP019b	Design	elevation of MDR-H north of Serrano Pkwy?	Design standards provided in CEDH SP.	
	Yamaguchi, Bob	3/26/2013	IP019b	Design	how tall would building be for MDH-H and the C-LC - in feet, or if that's not avaiable, in stories?	Design standards provided in CEDH SP	
	Yamaguchi, Bob	3/26/2013	IP019b	Design	Do Serrano CC&Rs include restrictions on height of cell towers or signage?	Design standards provided in CEDH SP	

Party Name (Last name, First name; Agency or Organization name)		Date Received	Party Type/ Letter	Comment Topic	Refined Topic	Section	Mitigation Measure (if applicable)
Cal Fire	Cal Fire	2/25/2013	PA1	Fire Safety	road width requirements	Impacts to emergency access are addressed in **Section 3.14**, Traffic and Circulation (Impact TRA-5). Road widths are provided in the Transportation and Circulation section of the Specific Plan.	
Sacramento Co. DWR	Sacramento Co. DWR	3/5/2013	PA2	WQ/Hydro	Deer Creek drainage; County of Sacto will want to comment on drainage section of CEQA doc	Comment Noted	
CVRWQCB	CVRWQCB	3/8/2013	PA3	WQ/Hydro	SWPPP	Comment Noted	
	CVRWQCB	3/8/2013	PA3	WQ/Hydro	storm water permits	Comment Noted	
	CVRWQCB	3/8/2013	PA3	WQ/Hydro	industrial storm permits	Comment Noted	
	CVRWQCB	3/8/2013	PA3	WQ/Hydro	404 permit	Comment Noted	
	CVRWQCB	3/8/2013	PA3	WQ/Hydro	401 permit	Comment Noted	
	CVRWQCB	3/8/2013	PA3	WQ/Hydro	waste dischrge requirements	Comment Noted	
Caltrans, D03	Caltrans D03	3/27/2013	PA4	Transportation	anticipates potential significant impacts to US 50; anticipates project will generate enough trips to require Traffic Impact Study	This study was performed in accordance with the El Dorado County Department of Transportation's Traffic Impact Study Protocols and Procedures, and the scope for analysis was developed in collaboration with Caltrans. Impacts to traffic are discussed in **Section 3.14**, Traffic and Circulation	
	Caltrans D03	3/27/2013	PA4	Transportation	would like opportunity to comment on scope of work for TIS prior to beginning of study; provides list of requests for study scope.	Comment Noted	
	Caltrans D03	3/27/2013	PA4	Transportation	requests inclusion of traffic analysis for cumulative scenarios	Cumulative impacts are discussed in **Chapter 5**, Other CEQA Considerations.	
	Caltrans D03	3/27/2013	PA4	Transportation	County should consider studying potential new local road connectsion to 50 to reduce impacts	Results for freeway facilities, which are presented in Table 3.14-9, indicate that all studied freeway facility segments will operate acceptably. This analysis is presented in **Section 3.14**, Traffic and Circulation (Impact TRA-1 and TRA-2).	Mitigation Measure TRA-1a, TRA-1b, and TRA-2
	Caltrans D03	3/27/2013	PA4	Hydrology	requests hydrological analyses be conducted including review of topos, Drainage Master Plan and requests a copy of Drainage Master Plan with back up calculations	Hydrological analysis conducted	
	Caltrans D03	3/27/2013	PA4	Transportation	Traffic Mgmt Plan may be required if traffic restrictions or detours are needed on or affect state highways.	Results for freeway facilities, which are presented in Table 3.14-9, indicate that all studied freeway facility segments will operate acceptably. This analysis is presented in **Section 3.14**, Traffic and Circulation (Impact TRA-1 and TRA-2).	Mitigation Measure TRA-1a, TRA-1b, and TRA-2
	Caltrans D03	3/27/2013	PA4	Permits	Transportation Permit is necessary if project work requires oversize or excessive load vehicles on state roadways	Comment Noted	
	Caltrans D03	3/27/2013	PA4	Permits	Encroachment permit is necessary if any work or traffic control would encroach on state ROW	Comment Noted	
	Caltrans D03	3/27/2013	PA4	Advertising	advises that no advertising signs are allowed within state ROW	Comment Noted	
	Caltrans D03	3/27/2013	PA4	Notification	Requests to be notified of further actions; provided copies	Added to list	

Party Name (Last name, First name; Agency or Organization name)	Date Received	Party Type/ Letter	Comment Topic	Refined Topic	Section	Mitigation Measure (if applicable)
Form Letter A						
			Noise	large amount of MDR and HDR will result in increased noise	Addressed in **Section 3.10**, Noise (Impact NOI-1 and NOI-3)	Mitigation Measure NOI-1b
			Notification	requests developer be asked to inform all residents who live north of US 50 within 95762 zip code of meetings by US mail.	EIR will be advertised in local newspaper and on County website; notification is in compliance with letter and intent of CEQA. Individuals who request to be notified will be notified of any meetings and of the availability of the DEIR.	
			Notification	requests to be notified of public meetings and when DEIR is released	Individuals added to list	
			Quality of Life	large amount of medium and high multifloor dwellings will negatively affect quality of life, property values, rural/suburban character of EDH	Not a CEQA issue	
			Recreation	negative impact to community as a result of the loss of the opportunity to build a regional park/rec center	The project proposes a park that includes athletic fields - see **Chapter 2**. **Section 3.13**, Recreation addresses impacts on parks and recreational facilities.	
			Transportation	large amount of MDR and HDR will result in increased traffic congestion	Analysis of traffic impacts is presented in **Section 3.14**, Traffic and Circulation. Impacts TRA-1 and TRA-2 address operational traffic.	Mitigation Measure TRA-1a, TRA-1b, and TRA-2
			Visual/Aesthetics	large amount of MDR and HDR will result in increased light pollution	Addressed in **Section 3.1**, Aesthetics (Impact AES-5)	
			Visual/Aesthetics	large amount of medium and high multifloor dwellings will negatively affect aesthetic appeal	Addressed in **Section 3.1**, Aesthetics (Impact AES-1, AES-2, AES-4, and AES-5)	
			Zoning	Opposes zoning change especially HDR west of EDH Blvd and north of Wilson	Comment noted	
			Design/Zoning	this land should be developed as open space/recreation as it was originally zoned	Alternatives considered but eliminated from further analysis are addressed in **Chapter 4**, Alternatives.	

Party Name (Last name, First name; Agency or Organization name)	Date Received	Party Type/ Letter	Comment Topic	Refined Topic	Section	Mitigation Measure (if applicable)
Form Letter B						
			Design	suggests requiring developer to abide by Cal Green Standards Tier 1 and/or 2	CEDH Specific Plan Section 8 addresses CALGreen and objectives.	
			Phasing	suggests phasing requirements	Buildout of the project would likely occur over several years and would ultimately be dictated by housing market conditions. It is anticipated construction would be phased within each planning area. See Phasing Plan in Setion 9 of the Specific Plan for details.	
			Transportation	suggests deferred maintenance program re roadways	Suggestion noted	
			Design/Transportation	suggests realign Wilson Blvd; include turn lanes and bike lanes	Suggestion noted	
			Utilities/Design	suggests all utilities be underground	All new distribution facilities will be underground, with the exception of facilities such as transformers, switches, and other pedestal and pad-mounted equipment, per Section 7 of the Specific Plan.	
			Public Services	suggests crime rate study, identifying cost and placing it on responsible party	Speculative; not a CEQA issue	
				suggests requesting right to apply future damages to developer if studies are inadequate	Not a CEQA issue	
			Public Services	concerned about school overcrowding	Impacts on schools are addressed in **Section 3.12**, Public Services and Utilities (Impact PSU-1)	
			Design/Zoning	suggests alternative - not allowing HDR within 5 miles of US 50	Alternatives considered but not carried forward for analysis in the EIR are discussed in **Chapter 4**.	
			Design/Zoning	suggests alternative - equestrian facility south of Serrano Parkway	Alternatives considered but not carried forward for analysis in the EIR are discussed in **Chapter 4**.	
			Design/Zoning	suggests HDR zoned for senior living only to reduce traffic and crime	Crime is speculative and not a CEQA issue. Alternatives considered but not carried forward for analysis in the EIR are discussed in **Chapter 4**.	
			N/A - instruction	reach out to all neighbors and supervisors	EIR will be advertised in local newspaper and on County website; notification is in compliance with letter and intent of CEQA.	
			General	don't let EDH be a view of rooftops as Serrano	Comment noted	
			Visual/aesthetic	request renderings	Design standards are provided in the CEDH Specific Plan	
			N/A - instruction	don't let vultures compromise Quality of Life	Not a CEQA issue	
			Economy	future burden will raise taxes not property values	Not a CEQA issue	
			N/A - instruction	deadline is March 22	Noted	
			Zoning	Pedregal not zoned for residential units - per CC&Rs; land use atty says CC&Rs stand at the County level and must be followed	The Pedregral planning area is currently zoned for residential uses. See Table 3.9-1 in **Section 3.9**, Land Use and Agriculture.	

Appendix B

Consistency with El Dorado County General Plan Policies

Policy Number	Policy	Project Consistency
LAND USE ELEMENT		
Goal 2.1: Land Use		
Objective 2.1.1: Community Regions		
2.1.1.1	The Communities within the County are identified as: Camino/Pollock Pines, El Dorado Hills, Cameron Park, El Dorado, Diamond Springs, Shingle Springs, and the City of Placerville and immediate surroundings.	The project site is in the El Dorado Hills Community Region.
2.1.1.2	Establish Community Regions to define those areas which are appropriate for the highest intensity of self-sustaining compact urban-type development or suburban type development within the County based on the municipal spheres of influence, availability of infrastructure, public services, major transportation corridors and travel patterns, the location of major topographic patterns and features, and the ability to provide and maintain appropriate transitions at Community Region boundaries. These boundaries shall be shown on the General Plan land use map.	The project site is in the El Dorado Hills Community Region.
2.1.1.7	Development within Community Regions, as with development elsewhere in the County, may proceed only in accordance with all applicable General Plan Policies, including those regarding infrastructure availability as set forth in the Transportation and Circulation and the Public Services and Utilities Elements. Accordingly, development in Community Regions and elsewhere will be limited in some cases until such time as adequate roadways, utilities, and other public service infrastructure become available and wildfire hazards are mitigated as required by an approved Fire Safe Plan.	The proposed project includes a Specific Plan with a plan for provision of infrastructure and public services.
Objective 2.2.5: General Policy Section		
2.2.5.21	Development projects shall be located and designed in a manner that avoids incompatibility with adjoining land uses that are permitted by the policies in effect at the time the development project is proposed. Development projects that are potentially incompatible with existing adjoining uses shall be designed in a manner that avoids any incompatibility or shall be located on a different site.	The proposed project is an infill site in El Dorado Hills. Proposed land uses are similar to surrounding developed land uses. Open space areas are proposed as a part of the project to the east between the project residential uses and the existing land uses to the east of the project site. For these reasons, the proposed land uses are compatible with adjoining land uses. The proposed Specific Plan is consistent with this policy.

Policy Number	Policy	Project Consistency
Goal 2.3: Natural Landscape Features		
Objective 2.3.2: Hillsides and Ridgelines		
2.3.2.1	Disturbance of slopes thirty (30) percent or greater shall be discouraged to minimize the visual impacts of grading and vegetation removal.	The proposed Specific Plan does not allow development on slopes greater than thirty (30) percent, and therefore is consistent with this policy.
Goal 2.8: Lighting		
Objective 2.8.1: Lighting Standards		
2.8.1.1	Development shall limit excess nighttime light and glare from parking area lighting, signage, and buildings. Consideration will be given to design features, namely directional shielding for street lighting, parking lot lighting, sport field lighting, and other significant light sources, that could reduce effects from nighttime lighting. In addition, consideration will be given to the use of automatic shutoffs or motion sensors for lighting features in rural areas to further reduce excess nighttime light.	The proposed Specific Plan Design Guidelines limit excess nighttime light and glare from parking areas, signage, and buildings. Specific Plan policies 8.20 and 8.21. The proposed Specific Plan is consistent with this policy.
TRANSPORTATION & CIRCULATION ELEMENT		
Roads and Highways Goal TC-1: To plan for and provide a unified, coordinated, and cost-efficient countywide road and highway system that ensures the safe, orderly, and efficient movement of people and goods.		
TC-1s	Notwithstanding Policy TC-1r, the County shall only add new local roads into the existing County-maintained road system if maintenance for these local roads will be provided for through a County Service Area Zone of Benefit or other similar means acceptable to the Board of Supervisors.	The proposed project includes a Specific Plan with a plan for provision of and funding for infrastructure and public services. The proposed Specific Plan is consistent with this policy.

Policy Number	Policy	Project Consistency
Levels of Service and Concurrency		
Goal TC-X: To coordinate planning and implementation of roadway improvements with new development to maintain adequate levels of service on County roads.		
TC-Xa	The following policies shall remain in effect until December 31, 2018: • Traffic from single-family residential subdivision development projects of five or more parcels of land shall not result in, or worsen, Level of Service F (gridlock, stop-and-go) traffic congestion during weekday, peak-hour periods on any highway, road, interchange or intersection in the unincorporated areas of the county. • The County shall not add any additional segments of U.S. Highway 50, or any other roads, to the County's list of roads that are allowed to operate at Level of Service F without first getting the voters' approval or by a 4/5ths vote of the Board of Supervisors. • Developer-paid traffic impact fees combined with any other available funds shall fully pay for building all necessary road capacity improvements to fully offset and mitigate all direct and cumulative traffic impacts from new development upon any highways, arterial roads and their intersections during weekday, peak-hour periods in unincorporated areas of the county. The following policies shall remain in effect until December 31, 2018: • Traffic from single-family residential subdivision development projects of five or more parcels of land shall not result in, or worsen, Level of Service F (gridlock, stop-and-go) traffic congestion during weekday, peak-hour periods on any highway, road, interchange or intersection in the unincorporated areas of the county. The County shall not add any additional segments of U.S. Highway 50, or any other roads, to the County's list of roads that are allowed to operate at Level of Service F without first getting the voters' approval or by a 4/5ths vote of the Board of Supervisors. Developer-paid traffic impact fees combined with any other available funds shall fully pay for building all necessary road capacity improvements to fully offset and mitigate all direct and cumulative traffic impacts from new development upon any highways, arterial roads and their intersections during weekday, peak-hour periods in unincorporated areas of the county.	Consistency with these policies is addressed in Section 3.14, *Traffic and Circulation,* Impacts TRA-1, TRA-2, and mitigation measures TRA-1a, -1b, -1c, -1d, and -1e. The proposed Specific Plan is consistent with this policy.
TC-Xd	Level of Service (LOS) for County-maintained roads and state highways within the unincorporated areas of the county shall not be worse than LOS E in the Community Regions or LOS D in the Rural Centers and Rural Regions except as specified in Table TC-2. The volume to capacity ratio of the roadway segments listed in Table TC-2 shall not exceed the ratio specified in that table. Level of Service will be as defined in the latest edition of the Highway Capacity Manual (Transportation Research Board, National Research Council) and calculated using the methodologies contained in that manual. Analysis periods shall be based on the professional judgment of the Department of Transportation which shall consider periods	Consistency with this policy is addressed in Section 3.14, *Traffic and Circulation,* Impacts TRA-1, TRA-2, and mitigation measures TRA-1a, -1b, -1c, -1d, and -1e. The proposed Specific Plan is consistent with this policy.

Policy Number	Policy	Project Consistency
	including, but not limited to, Weekday Average Daily Traffic (ADT), AM Peak Hour, and PM Peak hour traffic volumes.	
TC-Xe	For the purposes of this Transportation and Circulation Element, "worsen" is defined as any of the following number of project trips using a road facility at the time of issuance of a use and occupancy permit for the development project: • A 2 percent increase in traffic during the a.m. peak hour, p.m. peak hour, or daily, or • The addition of 100 or more daily trips, or • The addition of 10 or more trips during the a.m. peak hour or the p.m. peak hour.	Consistency with this policy is addressed in Section 3.14, *Traffic and Circulation,* Impacts TRA-1, TRA-2, and mitigation measures TRA-1a, -1b, -1c, -1d, and -1e. The proposed Specific Plan is consistent with this policy.
TC-Xf	At the time of approval of a tentative map for a single family residential subdivision of five or more parcels that worsens (defined as a project that triggers Policy TC-Xe [A] or [B] or [C]) traffic on the County road system, the County shall do one of the following: (1) condition the project to construct all road improvements necessary to maintain or attain Level of Service standards detailed in this Transportation and Circulation Element based on existing traffic plus traffic generated from the development plus forecasted traffic growth at 10-years from project submittal; or (2) ensure the commencement of construction of the necessary road improvements are included in the County's 10-year CIP. For all other discretionary projects that worsen (defined as a project that triggers Policy TC-Xe [A] or [B] or [C]) traffic on the County road system, the County shall do one of the following: (1) condition the project to construct all road improvements necessary to maintain or attain Level of Service standards detailed in this Transportation and Circulation Element; or (2) ensure the construction of the necessary road improvements are included in the County's 20-year CIP.	Consistency with these policies is addressed in Section 3.14, *Traffic and Circulation,* impacts TRA-1, TRA-2, and mitigation measures TRA-1a, -1b, -1c, -1d, and -1e. The proposed Specific Plan is consistent with this policy.
TC-Xg	Each development project shall dedicate right-of-way and construct or fund improvements necessary to mitigate the effects of traffic from the project. The County shall require an analysis of impacts of traffic from the development project, including impacts from truck traffic, and require dedication of needed right-of-way and construction of road facilities as a condition of the development. For road improvements that provide significant benefit to other development, the County may allow a project to fund its fair share of improvement costs through traffic impact fees or receive reimbursement from impact fees for construction of improvements beyond the project's fair share. The amount and timing of reimbursements shall be determined by the County.	Consistency with this policy is addressed in Section 3.14, *Traffic and Circulation,* Impacts TRA-1, TRA-2, and mitigation measures TRA-1a, -1b, -1c, -1d, and -1e. The proposed Specific Plan is consistent with this policy.

Policy Number	Policy	Project Consistency
Transportation Systems Management Goal TC-3: To reduce travel demand on the County's road system and maximize the operating efficiency of transportation facilities, thereby reducing the quantity of motor vehicle emissions and the amount of investment required in new or expanded facilities.		
TC-3c	The County shall encourage new development within Community Regions and Rural Centers to provide appropriate on-site facilities that encourage employees to use alternative transportation modes. The type of facilities may include bicycle parking, shower and locker facilities, and convenient access to transit, depending on the development size and location.	See Specific Plan policies 4.1, 4.4, 4.5, and 4.6 which accommodate and encourage bicycle use. The proposed Specific Plan is consistent with this policy.
Non-motorized Transportation Goal TC-4: To provide a safe, continuous, and easily accessible non-motorized transportation system that facilitates the use of the viable alternative transportation modes.		
TC-4i	Within Community Regions and Rural Centers, all development shall include pedestrian/bike paths connecting to adjacent development and to schools, parks, commercial areas and other facilities where feasible. In Rural Regions, pedestrian/bike paths shall be considered as appropriate.	The proposed Specific Plan includes a comprehensive bikeway and trail system connecting the different land uses within the project site and in El Dorado Hills. See Specific Plan policies 4.3, 4.4, 4.5, and 4.6. The proposed Specific Plan is consistent with this policy.
Goal TC-5: To provide safe, continuous, and accessible sidewalks and pedestrian facilities as a viable alternative transportation mode.		
TC-5a	Sidewalks and curbs shall be required throughout residential subdivisions, including land divisions created through the parcel map process, where any residential lot or parcel size is 10,000 square feet or less.	The proposed Specific Plan residential roadway sections include sidewalks and curbs. The proposed Specific Plan is consistent with this policy.
TC-5c	Roads adjacent to schools or parks shall have curbs and sidewalks.	The proposed Specific Plan roadway sections adjacent to parks include sidewalks and curbs. The proposed Specific Plan is consistent with this policy.

Policy Number	Policy	Project Consistency
HOUSING ELEMENT		
General Housing Policies		
Goal HO-1: To provide for housing that meets the needs of existing and future residents in all income categories.		
HO-1.1	When adopting or updating programs, procedures, or Specific Plans or other planning documents, the County shall ensure that the goals, policies, and implementation programs are developed with the consideration of achieving and maintaining the County's regional housing allocation.	The proposed Specific Plan includes MFR development helps to meet County RHNA goals. The proposed Specific Plan is consistent with this policy.
HO-1.5	The County shall direct higher density residential development to Community Regions and Rural Centers.	The proposed Specific Plan includes higher density residential development and the project site is located in the El Dorado Hills Community Region, and is consistent with this policy.
HO-1.24	The County shall encourage 2nd Dwelling Units to provide housing that is affordable to very low, low and moderate income households.	Second dwelling units are allowed in the proposed Specific Plan policy 3.7. The proposed Specific Plan is consistent with this policy.
Goal HO-5: Energy Conservation		
HO-5.1	The County shall require all new dwelling units to meet current state requirements for energy efficiency and shall encourage the retrofitting of existing units.	Specific Plan includes policies related to energy efficiency (Specific Plan policies 8.11, 8.14, 8.15, 8.16, 8.19, 8.22, and 8.23). The proposed Specific Plan is consistent with this policy.
PUBLIC SERVICES & UTILITIES ELEMENT		
Goal 5.1: Provision of Public Services		
Objective 5.1.2: Concurrency		
5.1.2.1	Prior to the approval of any discretionary development, the approving authority shall make a determination of the adequacy of the public services and utilities to be impacted by that development. Where, according to the purveyor responsible for the service or utility as provided in Table 5-1, demand is determined to exceed capacity, the approval of the development shall be conditioned to require expansion of the impacted facility or service to be available concurrent with the demand, mitigated, or a finding made that a CIP project is funded and authorized which will increase service capacity.	Section 3.12, *Public Services and Utilities,* Impacts PSU-2, PSU-3, PSU-3, PSU-4, and PSU-5 presents information supporting the type of finding required by this policy. The proposed Specific Plan is consistent with this policy.

Policy Number	Policy	Project Consistency
5.1.2.2	Provision of public services to new discretionary development shall not result in a reduction of service below minimum established standards to current users, pursuant to Table 5-1.	Section 3.12, *Public Services and Utilities,* Impacts PSU-2, PSU-3, PSU-3, PSU-4, and PSU-5 presents information supporting the type of finding required by this policy. The proposed Specific Plan is consistent with this policy.
Goal 5.2: Water Supply		
Objective 5.2.1: County-wide Water Resources Program		
5.2.1.2	An adequate quantity and quality of water for all uses, including fire protection, shall be provided for with discretionary development.	A Water Supply Assessment was prepared for the proposed Specific Plan. The conclusion of the Water Supply Assessment was that water would be available as required, as discussed in Section 3.12, *Public Services and Utilities*, Impact PSU-6. The Specific Plan is consistent with this policy.
5.2.1.3	All medium-density residential, high-density residential, multifamily residential, commercial, industrial and research and development projects shall be required to connect to public water systems when located within Community Regions and to either a public water system or to an approved private water systems in Rural Centers.	The proposed Specific Plan will be served by the El Dorado Irrigation District. The Specific Plan is consistent with this policy.
5.2.1.4	Rezoning and subdivision approvals in Community Regions or other areas dependent on public water supply shall be subject to the availability of a permanent and reliable water supply.	A Water Supply Assessment was prepared for the proposed Specific Plan. The conclusion of the Water Supply Assessment was that water would be available as required, as discussed in Section 3.12, *Public Services and Utilities*, Impact PSU-6. The Specific Plan is consistent with this policy.
5.2.1.6	Priority shall be given to discretionary developments that are infill or where there is an efficient expansion of the water supply delivery system.	The project site is an infill site. The proposed Specific Plan is consistent with this policy.
5.2.1.9	In an area served by a public water purveyor or an approved private water system, the applicant for a tentative map or for a building permit on a parcel that has not previously complied with this requirement must provide a Water Supply Assessment that contains the information that would be	A Water Supply Assessment was prepared for the proposed Specific Plan. The conclusion of the Water Supply

Policy Number	Policy	Project Consistency
	required if a water supply assessment were prepared pursuant to Water Code section 10910. In order to approve the tentative map or building permit for which the assessment was prepared the County must (a) find that by the time the first grading or building permit is issued in connection with the approval, the water supply from existing water supply facilities will be adequate to meet the highest projected demand associated with the approval on the lands in question; and (b) require that before the first grading permit or building permit is issued in connection with the approval, the applicant will have received a sufficient water meters or a comparable supply guarantee to provide adequate water supply to meet the projected demand associated with the entire approval. A water supply is adequate if the total entitled water supplies available during normal, single, dry, and multiple dry years within a 20-year projection will meet the highest projected demand associated with the approval, in addition to existing and 20-year projected future uses within the area served by the water supplier, including but not limited to, fire protection, agricultural, and industrial uses, 95% of the time, with cutbacks calculated not to exceed 20% in the remaining 5% of the time.	Assessment was that water would be available as required, as discussed in Section 3.12, *Public Services and Utilities*, Impact PSU-6. The proposed Specific Plan is consistent with this policy.
5.2.1.11	The County shall direct new development to areas where public water service already exists. In Community Regions, all new development shall connect to a public water system. In Rural Centers, all new development shall connect either to a public water system or to an approved private water system.	The proposed project is proposed to be connected to a public water system. The Specific Plan is consistent with this policy.
5.2.1.12	The County shall work with the El Dorado Irrigation District (EID) to support the continued and expanded use of recycled water, including wet-season use and storage, in new subdivisions served by the Deer Creek and El Dorado Hills Wastewater Treatment Plants. To avoid the construction impacts of installing recycled water facilities, the County shall encourage the construction of distribution lines at the same time as other utilities are installed. Facilities to consider are recycled water lines for residential landscaping, parks, schools, and other irrigation needs, and if feasible, wet-irrigation-season storage facilities.	The project may use recycled water. Consistency with this policy is addressed in Section 3.12, *Public Services and Utilities*, Impact PSU-4. The proposed Specific Plan is consistent with this policy.
Goal 5.3: Wastewater Collection and Treatment		
Objective 5.3.1: Wastewater Capacity		
5.3.1.1	High-density and multifamily residential, commercial, and industrial projects shall be required to connect to public wastewater collection facilities as a condition of approval except in Rural Centers and areas designated as Platted Lands (-PL). In the Community Region of Camino/Pollock Pines, the long term development of public sewer service shall be encouraged; however, development projects will not be required to connect to wastewater collection facilities where such connection is infeasible, based on the scale of the project. (Res. No. 298-98; 12/8/98)	The project is proposed to be served by a public wastewater system. The proposed Specific Plan is consistent with this policy.

Policy Number	Policy	Project Consistency
5.3.1.7	In Community Regions, all new development shall connect to public wastewater treatment facilities. In Community Regions where public wastewater collection facilities do not exist project applicants must demonstrate that the proposed wastewater disposal system can accommodate the highest possible demand of the project.	The project is proposed to be served by a public wastewater system. The proposed Specific Plan is consistent with this policy.
Goal 5.4: Storm Drainage		
Objective 5.4.1: Drainage and Flood Management Program		
5.4.1.1	Require storm drainage systems for discretionary development that protect public health and safety, preserve natural resources, prevent erosion of adjacent and downstream lands, prevent the increase in potential for flood hazard or damage on either adjacent, upstream or downstream properties, minimize impacts to existing facilities, meet the National Pollution Discharge Elimination System (NPDES) requirements, and preserve natural resources such as wetlands and riparian areas.	Specific Plan includes policies related to water quality and storm drainage systems (Specific Plan policies 5.2, 5.3, 5.5, 7.5, 7.6, 8.48(V). The *Central El Dorado Hills Specific Plan Drainage Analysis* was prepared for the project (Watermark Engineering 2014). The proposed Specific Plan is consistent with this policy.
5.4.1.2	Discretionary development shall protect natural drainage patterns, minimize erosion, and ensure existing facilities are not adversely impacted while retaining the aesthetic qualities of the drainage way.	Specific Plan includes policies related to drainage and erosion (Specific Plan policies 5.2, 5.5, 8.48(V). The *Central El Dorado Hills Specific Plan Drainage Analysis* was prepared for the project (Watermark Engineering 2014). The proposed Specific Plan is consistent with this policy
Goal 5.5: Solid Waste		
Objective 5.5.2: Recycling, Transformation, and Disposal Facilities		
5.5.2.1	Concurrent with the approval of new development, evidence will be required that capacity exists within the solid waste system for the processing, recycling, transformation, and disposal of solid waste.	As described in detail in Section 3.12, *Public Services and Utilities*, Impact PSU-8, capacity exists to serve the proposed project. The proposed Specific Plan is consistent with this policy.

Policy Number	Policy	Project Consistency
Goal 5.6: Gas, Electric, and Other Utility Services		
Objective 5.6.1: Provide Utility Services		
5.6.1.1	Promote and coordinate efforts with utilities for the undergrounding of existing and new utility distribution lines in accordance with current rules and regulations of the California Public Utility Commission and existing overhead power lines within scenic areas and existing Community Regions and Rural Centers.	The proposed Specific Plan requires that all utility distribution lines be located underground and is consistent with this policy.
5.6.1.2	Reserve adequate rights-of-way to facilitate expansion of services in a timely manner.	Irrevocable offers of dedication of right-of-way will offered to the County after the proposed Specific Plan is approved. The Specific Plan is consistent with this policy.
Objective 5.6.2: Encourage Energy-Efficient Development		
5.6.2.1	Require energy conserving landscaping plans for all projects requiring design review or other discretionary approval.	To save energy and water, the proposed Specific Plan requires the use of drought tolerant landscaping. The Specific Plan is consistent with this policy.
5.6.2.2	All new subdivisions should include design components that take advantage of passive or natural summer cooling and/or winter solar access, or both, when possible.	The proposed Specific Plan encourages passive natural summer cooling and winter solar access, or both, when feasible. The Specific Plan is consistent with this policy.
Goal 5.7: Emergency Services		
Objective 5.7.1: Fire Protection (Community Regions)		
5.7.1.1	Prior to approval of new development, the applicant will be required to demonstrate that adequate emergency water supply, storage, conveyance facilities, and access for fire protection either are or will be provided concurrent with development.	The Specific Plan addresses this requirement in policy 6.19 and is consistent with this policy.

Policy Number	Policy	Project Consistency
Objective 5.7.3: Law Enforcement		
5.7.3.1	Prior to approval of new development, the Sheriff's Department shall be requested to review all applications to determine the ability of the department to provide protection services. The ability to provide protection to existing development shall not be reduced below acceptable levels as a consequence of new development. Recommendations such as the need for additional equipment, facilities, and adequate access may be incorporated as conditions of approval.	Section 3.12, *Public Services and Utilities* presents information on the Sheriff's department review of the ability to provide protection services. Impact PSU-1 notes that the project will not reduce protection levels. The proposed Specific Plan is consistent with this policy.
Objective 5.7.4: Medical Emergency Services		
5.7.4.1	Prior to approval of new development, the applicant shall be required to demonstrate that adequate medical emergency services are available and that adequate emergency vehicle access will be provided concurrent with development.	Section 3.12, *Public Services and Utilities,* Impact PSU-1, presents information regarding the adequacy of emergency services. The proposed Specific Plan is consistent with this policy.
5.7.4.2	Prior to approval of new development, the Emergency Medical Services Agency shall be requested to review all applications to determine the ability of the department to provide protection services. The ability to provide protection to existing development shall not be reduced below acceptable levels as a consequence of new development. Recommendations such as the need for additional equipment, facilities, and adequate access may be incorporated as conditions of approval.	Section 3.12, *Public Services and Utilities*, Impact PSU-1, presents information regarding the adequacy of emergency services. The proposed Specific Plan is consistent with this policy.
Goal 5.8: School Services		
Objective 5.8.1: School Capacity		
5.8.1.1	School districts affected by a proposed development shall be relied on to evaluate the development's adverse impacts on school facilities or the demand therefor. No development that will result in such impacts shall be approved unless: 1. To the extent allowed by State law, the applicant and the appropriate school district(s) have entered into a written agreement regarding the mitigation of impacts to school facilities; or 2. The impacts to school facilities resulting from the development are mitigated, through conditions of approval, to the greatest extent allowed by State law.	Impacts to school facilities are discussed in Section 3.12, *Public Services and Utilities*, Impact PSU-1. The proposed Specific Plan is consistent with this policy.

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Objective 5.8.3: Child and Other Care and Day Care Programs		
5.8.3.1	Child day care facilities shall be allowed by right in commercial/office projects, in multiple family housing developments, in mixed use developments in specific plans, in employment centers, and near transit facilities.	The proposed Specific Plan allows child day care facilities by right. The proposed Specific Plan is consistent with this policy.
PUBLIC HEALTH, SAFETY & NOISE ELEMENT		
Goal 6.2: Fire Hazards		
Objective 6.2.2: Limitations to Development		
6.2.2.1	Fire Hazard Severity Zone Maps shall be consulted in the review of all projects so that standards and mitigation measures appropriate to each hazard classification can be applied. Land use densities and intensities shall be determined by mitigation measures in areas designated as high or very high fire hazard.	The proposed Specific Plan is consistent with this policy; a discussion is provided in Section 3.7, *Hazards and Hazardous Materials*, Impact HAZ-8.
6.2.2.2	The County shall preclude development in areas of high and very high wildland fire hazard or in areas identified as "urban wildland interface communities within the vicinity of Federal lands that are a high risk for wildfire," as listed in the Federal Register of August 17, 2001, unless such development can be adequately protected from wildland fire hazard, as demonstrated in a Fire Safe Plan prepared by a Registered Professional Forester (RPF) and approved by the local Fire Protection District and/or California Department of Forestry and Fire Protection.	The proposed Specific Plan is consistent with this policy; a discussion is provided in Section 3.7, *Hazards and Hazardous Materials*, Impact Haz-8.
Objective 6.2.3: Adequate Fire Protection		
6.2.3.1	As a requirement for approving new development, the County must find, based on information provided by the applicant and the responsible fire protection district that, concurrent with development, adequate emergency water flow, fire access, and firefighting personnel and equipment will be available in accordance with applicable State and local fire district standards.	The proposed Specific Plan is consistent with this policy; a discussion is provided in Section 3.7, *Hazards and Hazardous Materials*, impact HAZ-8 and in Section 3.12, *Public Services and Utilities,* Impact PSU-1.
6.2.3.2	As a requirement of new development, the applicant must demonstrate that adequate access exists, or can be provided to ensure that emergency vehicles can access the site and private vehicles can evacuate the area.	The proposed Specific Plan is consistent with this policy; a discussion is provided in Section 3.7, *Hazards and Hazardous Materials,* impact HAZ-7. The proposed Specific Plan circulation system provides adequate access for emergency vehicles.

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6.2.3.4	All new development and public works projects shall be consistent with applicable State Wildland Fire Standards and other relevant State and federal fire requirements.	The proposed Specific Plan is consistent with this policy; a discussion is provided in Section 3.7, *Hazards and Hazardous Materials*, Impact HAZ-8.
Objective 6.2.4: Area-wide Fuel Management Program		
6.2.4.1	Discretionary development within high and very high fire hazard areas shall be conditioned to designate fuel break zones that comply with fire safe requirements to benefit the new and, where possible, existing development.	The proposed Specific Plan is consistent with this policy; a discussion is provided in Section 3.7, *Hazards and Hazardous Materials*, Impact HAZ-8.
6.2.4.2	The County shall cooperate with the California Department of Forestry and Fire Protection and local fire protection districts to identify opportunities for fuel breaks in zones of high and very high fire hazard either prior to or as a component of project review.	The proposed Specific Plan is consistent with this policy; a discussion is provided in Section 3.7, *Hazards and Hazardous Materials*, Impact HAZ-8.
Goal 6.3: Geologic and Seismic Hazards		
Objective 6.3.1: Building and Site Standards		
6.3.1.1	The County shall require that all discretionary projects and all projects requiring a grading permit, or a building permit that would result in earth disturbance, that are located in areas likely to contain naturally occurring asbestos (based on mapping developed by the California Department of Conservation [DOC]) have a California-registered geologist knowledgeable about asbestos-containing formations inspect the project area for the presence of asbestos using appropriate test methods. The County shall amend the Erosion and Sediment Control Ordinance to include a section that addresses the reduction of thresholds to an appropriate level for grading permits in areas likely to contain naturally occurring asbestos (based on mapping developed by the DOC). The Department of Transportation and the County Air Quality Management District shall consider the requirement of posting a warning sign at the work site in areas likely to contain naturally occurring asbestos based on the mapping developed by the DOC.	The proposed Specific Plan area has been inspected by a California registered geologist to determine if asbestos containing soils are present on the site. Consistency with this policy is addressed in Section 3.2, *Air Quality*, Impact AQ-4d and mitigation measure AQ-4 and Section 3.7, *Hazards and Hazardous Materials,* Impacts HAZ-2 and HAZ-3. The proposed Specific Plan is consistent with this policy.
Objective 6.3.2: County-wide Seismic Hazards		
6.3.2.5	Applications for development of habitable structures shall be reviewed for potential hazards associated with steep or unstable slopes, areas susceptible to high erosion, and avalanche risk. Geotechnical studies shall be required when development may be subject to geological hazards. If hazards are identified, applicants shall be required to mitigate or avoid identified hazards as a condition of approval. If no mitigation is feasible, the project will not be approved.	The proposed Specific Plan is consistent with this policy; a discussion is provided in Section 3.5, *Geology, Soils, Minerals, and Paleontological Resources*, Impact GEO-1.

Policy Number	Policy	Project Consistency
Goal 6.4: Flood Hazards		
Objective 6.4.1: Development Regulations		
6.4.1.2	The County shall identify and delineate flood prone study areas discovered during the completion of the master drainage studies or plans.	A preliminary hydrologic and hydraulic study was prepared for the project (Watermark Engineering 2014). The proposed Specific Plan is consistent with this policy.
6.4.1.3	No new critical or high occupancy structures (e.g., schools, hospitals) shall be located in the 100-year floodplain of any river, stream, or other body of water.	No structures in the proposed Specific Plan are proposed for areas within the 100-year flood plain. The proposed Specific Plan is consistent with this policy.
6.4.1.4	Creation of new parcels which lie entirely within the 100-year floodplain as identified on the most current version of the flood insurance rate maps provided by FEMA or dam failure inundation areas as delineated in dam failure emergency response plans maintained by the County shall be prohibited.	The proposed Specific Plan does not propose development within the 100-year flood plain. The proposed Specific Plan is consistent with this policy.
6.4.1.5	New parcels which are partially within the 100-year floodplain or dam failure inundation areas as delineated in dam failure emergency response plans maintained by the County must have sufficient land available outside the FEMA or County designated 100-year floodplain or the dam inundation areas for construction of dwelling units, accessory structures, and septic systems. Discretionary applications shall be required to determine the location of the designated 100-year floodplain and identified dam failure inundation areas on the subject property.	The proposed Specific Plan does not propose development within the 100-year flood plain. The proposed Specific Plan is consistent with this policy.
Objective 6.4.2: Dam Failure Inundation		
6.4.2.2	No new critical or high occupancy structures (e.g., schools, hospitals) should be located within the inundation area resulting from failure of dams identified by the State Department of Water Resources Division of Safety of Dams.	The proposed Specific Plan is not located in any dam failure inundation zone. The proposed Specific Plan is consistent with this policy.

Policy Number	Policy	Project Consistency
Goal 6.5: Acceptable Noise Levels		
Objective 6.5.1: Protection of Noise-Sensitive Development		
6.5.1.1	Where noise-sensitive land uses are proposed in areas exposed to existing or projected exterior noise levels exceeding the levels specified in Table 6-1 or the performance standards of Table 6-2, an acoustical analysis shall be required as part of the environmental review process so that noise mitigation may be included in the project design.	Consistency with this policy is addressed in Section 3.10, *Noise*, Impacts NOI-1 and NOI-2. Impacts associated with excessive noise levels are significant and unavoidable even with implementation of mitigation measures NOI-1a, NOI-1b, and NOI-2. The proposed Specific Plan is not consistent with this policy.
6.5.1.2	Where proposed non-residential land uses are likely to produce noise levels exceeding the performance standards of Table 6-2 at existing or planned noise-sensitive uses, an acoustical analysis shall be required as part of the environmental review process so that noise mitigation may be included in the project design.	Consistency with this policy is addressed in Section 3.10, *Noise*, Impacts NOI-1 and NOI-2. Impacts associated with excessive noise levels are significant and unavoidable even with implementation of mitigation measures NOI-1a, NOI-1b, and NOI-2. The proposed Specific Plan is not consistent with this policy.
6.5.1.3	Where noise mitigation measures are required to achieve the standards of Tables 6-1 and 6-2, the emphasis of such measures shall be placed upon site planning and project design. The use of noise barriers shall be considered a means of achieving the noise standards only after all other practical design-related noise mitigation measures have been integrated into the project and the noise barriers are not incompatible with the surroundings.	Consistency with this policy is addressed in Section 3.10, *Noise*, Impact NOI-1 and mitigation measure NOI-1b. Visual effects of noise barriers are discussed in Section 3.1, Aesthetics, Impact AES-4 and mitigation measure AES-4. The proposed Specific Plan is consistent with this policy.
6.5.1.5	Setbacks shall be the preferred method of noise abatement for residential projects located along U.S. Highway 50. Noise walls shall be discouraged within the foreground viewshed of U.S. Highway 50 and shall be discouraged in favor of less intrusive noise mitigation (e.g., landscaped berms, setbacks) along other high volume roadways.	Consistency with this policy is addressed in Section 3.10, *Noise*, Impact NOI-3. No residential uses are proposed along US 50 and mitigation is not required. The proposed Specific Plan is consistent with this policy.

Policy Number	Policy	Project Consistency
6.5.1.6	New noise-sensitive uses shall not be allowed where the noise level, due to non-transportation noise sources, will exceed the noise level standards of Table 6-2 unless effective noise mitigation measures have been incorporated into the development design to achieve those standards.	Consistency with this policy is addressed in Section 3.10, *Noise*, Impact NOI-1 and mitigation measure NOI-1b. The proposed Specific Plan is consistent with this policy.
6.5.1.7	Noise created by new proposed non-transportation noise sources shall be mitigated so as not to exceed the noise level standards of Table 6-2 for noise-sensitive uses.	Consistency with this policy is addressed in Section 3.10, *Noise*, Impacts NOI-3 and NOI-4 and mitigation measures NOI-1a and NOI-1b. The proposed Specific Plan is consistent with this policy.
6.5.1.8	New development of noise sensitive land uses will not be permitted in areas exposed to existing or projected levels of noise from transportation noise sources which exceed the levels specified in Table 6-1 unless the project design includes effective mitigation measures to reduce exterior noise and noise levels in interior spaces to the levels specified in Table 6-1.	Consistency with this policy is addressed in Section 3.10, *Noise*, Impacts NOI-1 and NOI-2. Impacts associated with excessive noise levels are significant and unavoidable even with implementation of mitigation measures NOI-1a, NOI-1b, and NOI-2. The proposed Specific Plan is not consistent with this policy.
6.5.1.9	Noise created by new transportation noise sources, excluding airport expansion but including roadway improvement projects, shall be mitigated so as not to exceed the levels specified in Table 6-1 at existing noise-sensitive land uses.	Consistency with this policy is addressed in Section 3.10, *Noise*, Impact NOI-3. Impacts associated with new transportation noise associated with the proposed project would not exceed specified levels. The proposed Specific Plan is consistent with this policy.
6.5.1.11	The standards outlined in Tables, 6-4, shall apply to those activities associated with actual construction of a project as long as such construction occurs between the hours of 7 a.m. and 7 p.m., Monday through Friday, and 8 a.m. and 5 p.m. on weekends, and on federally-recognized holidays. Exceptions are allowed if it can be shown that construction beyond these times is necessary to alleviate traffic congestion and safety hazards.	Section 3.10, *Noise*, mitigation measure NOI-1, addresses a noise control plan and hours of construction. The proposed Specific Plan is consistent with this policy.

Policy Number	Policy	Project Consistency
6.5.1.12	When determining the significance of impacts and appropriate mitigation for new development projects, the following criteria shall be taken into consideration. Where existing or projected future traffic noise levels are less than 60 dBA L_{dn} at the outdoor activity areas of residential uses, an increase of more than 5 dBA L_{dn} caused by a new transportation noise source will be considered significant; Where existing or projected future traffic noise levels range between 60 and 65 dBA L_{dn} at the outdoor activity areas of residential uses, an increase of more than 3 dBA L_{dn} caused by a new transportation noise source will be considered significant; and Where existing or projected future traffic noise levels are greater than 65 dBA L_{dn} at the outdoor activity areas of residential uses, an increase of more than 1.5 dBA L_{dn} caused by a new transportation noise will be considered significant.	Section 3.10, *Noise*, Impacts NOI-1 and NOI-3, presents the evaluation required by this policy, using these standards. The proposed Specific Plan is consistent with this policy.
6.5.1.13	When determining the significance of impacts and appropriate mitigation to reduce those impacts for new development projects, including ministerial development, the following criteria shall be taken into consideration: • In areas in which ambient noise levels are in accordance with the standards in Table 6-2, increases in ambient noise levels caused by new non-transportation noise sources that exceed 5 dBA shall be considered significant; and • In areas in which ambient noise levels are not in accordance with the standards in Table 6-2, increases in ambient noise levels caused by new non-transportation noise sources that exceed 3 dBA shall be considered significant. The construction noise standards for community regions and adopted plan areas outlined in County General Plan Table 6-4 would be applicable to the project because the project area is surrounded by primarily residential land uses, and the project site is in a community region. The standards outlined in County General Plan Table 6-4 are summarized in Table 3.10-7.	Section 3.10, *Noise*, Impacts NOI-1, NOI-2 and NOI-3 and associated mitigation measures, present the evaluation required by this policy, using these standards. The proposed Specific Plan is consistent with this policy.

Policy Number	Policy	Project Consistency
Goal 6.6: Management of Hazardous Materials		
Objective 6.6.1: Regulation of Hazardous Materials		
6.6.1.2	Prior to the approval of any subdivision of land or issuing of a permit involving ground disturbance, a site investigation, performed by a Registered Environmental Assessor or other person experienced in identifying potential hazardous wastes, shall be submitted to the County for any subdivision or parcel that is located on a known or suspected contaminated site included in a list on file with the Environmental Management Department as provided by the State of California and federal agencies. If contamination is found to exist by the site investigations, it shall be corrected and remediated in compliance with applicable laws, regulations, and standards prior to the issuance of a new land use entitlement or building permit.	The proposed Specific Plan is consistent with this policy; a discussion is provided in Section 3.7, *Hazards and Hazardous Materials*, Impact HAZ-1.
Goal 6.7: Air Quality Maintenance		
Objective 6.7.2: Vehicular Emissions		
6.7.2.5	Upon reviewing projects, the County shall support and encourage the use of, and facilities for, alternative-fuel vehicles to the extent feasible. The County shall develop language to be included in County contract procedures to give preference to contractors that utilize low-emission heavy-duty vehicles.	Specific Plan policies 8.3, 8.4, and 8.5 encourage the use of alternative fuel vehicles by providing parking and encouraging charging stations. Section 3.2, *Air Quality*, Impact AQ-2b facilitates reduced emissions and Mitigation Measure AQ-2b: Utilize clean diesel-powered equipment during construction to control construction-related NOX emissions. The proposed Specific Plan is consistent with this policy.
Objective 6.7.4: Project Design and Mixed Uses		
6.7.4.1	Reduce automobile dependency by permitting mixed land use patterns which locate services such as banks, child care facilities, schools, shopping centers, and restaurants in close proximity to employment centers and residential neighborhoods.	The proposed Specific Plan includes residential uses located in close proximity to existing commercial land uses offsite, consistent with this policy.

Policy Number	Policy	Project Consistency
6.7.4.2	Promote the development of new residential uses within walking or bicycling distance to the County's larger employment centers.	The proposed Specific Plan includes residential uses located in close proximity to existing commercial land uses offsite and provides bicycle and pedestrian routes, consistent with this policy.
6.7.4.4	All discretionary development applications shall be reviewed to determine the need for pedestrian/bike paths connecting to adjacent development and to common service facilities (e.g., clustered mail boxes, bus stops, etc.).	Bike paths are proposed in the Specific Plan to be provided and connect to adjacent development. Policy 8.51(M) of the proposed specific plan prohibits the installation of open-hearth wood-burning fireplaces and policy 8.50(M) requires any pellet stove or woodstove to comply with EPA standards and local ordinances. The proposed Specific Plan is consistent with this policy.
Objective 6.7.6: Air Pollution-Sensitive Land Uses		
6.7.6.1	Ensure that new facilities in which sensitive receptors are located (e.g., schools, child care centers, playgrounds, retirement homes, and hospitals) are sited away from significant sources of air pollution.	The proposed Specific Plan is consistent with this policy; a discussion is provided in Section 3.2, *Air Quality* Impact AQ-4a, 4b, and 4c, which concluded that impacts to sensitive receptors is less than significant
6.7.6.2	New facilities in which sensitive receptors are located (e.g. residential subdivisions, schools, childcare centers, playgrounds, retirement homes, and hospitals) shall be sited away from significant sources of air pollution.	The proposed Specific Plan is consistent with this policy; a discussion is provided in Section 3.2, *Air Quality* Impact AQ-4a, 4b, and 4c, which concluded that impacts to sensitive receptors is less than significant.

Policy Number	Policy	Project Consistency
Objective 6.7.7: Construction Related, Short-Term Emissions		
6.7.7.1	The County shall consider air quality when planning the land uses and transportation systems to accommodate expected growth, and shall use the recommendations in the most recent version of the El Dorado County Air Quality Management (AQMD) Guide to Air Quality Assessment: Determining Significance of Air Quality Impacts Under the California Environmental Quality Act, to analyze potential air quality impacts (e.g., short-term construction, long-term operations, toxic and odor-related emissions) and to require feasible mitigation requirements for such impacts. The County shall also consider any new information or technology that becomes available prior to periodic updates of the Guide. The County shall encourage actions (e.g., use of light-colored roofs and retention of trees) to help mitigate heat island effects on air quality.	The proposed Specific Plan is consistent with this policy; a discussion is provided in Impact AQ-1 and AQ-2 in Section 3.2, *Air Quality*.
CONSERVATION & OPEN SPACE ELEMENT		
Goal 7.1: Soil Conservation		
Objective 7.1.1: Soils		
7.1.1.1	Conserve and maintain important agricultural soils for existing and potential agricultural and forest uses by limiting non-agricultural/non-forestry development on those soils.	The proposed Specific Plan contains no important agricultural soils (Impact LU-4 and LU-5).
Objective 7.1.2: Erosion/Sedimentation		
7.1.2.1	Development or disturbance shall be prohibited on slopes exceeding 30 percent unless necessary for access. The County may consider and allow development or disturbance on slopes 30 percent and greater when: • Reasonable use of the property would otherwise be denied. The project is necessary for the repair of existing infrastructure to avoid and mitigate hazards to the public, as determined by a California registered civil engineer or a registered engineering geologist. • Replacement or repair of existing structures would occur in substantially the same footprint. • The use is a horticultural or grazing use that utilizes "best management practices (BMPs)" recommended by the County Agricultural Commission and adopted by the Board of Supervisors. Access corridors on slopes 30 percent and greater shall have a site specific review of soil type, vegetation, drainage contour, and site placement to encourage proper site selection and mitigation. Septic systems may only be located on slopes under 30 percent. Roads needed to complete circulation/access and for emergency access may be constructed on such cross slopes if all other standards are met.	The proposed Specific Plan prohibits development on slopes of 30 percent (30%) or greater. The proposed Specific Plan is consistent with this policy.

Policy Number	Policy	Project Consistency
7.1.2.2	Discretionary and ministerial projects that require earthwork and grading, including cut and fill for roads, shall be required to minimize erosion and sedimentation, conform to natural contours, maintain natural drainage patterns, minimize impervious surfaces, and maximize the retention of natural vegetation. Specific standards for minimizing erosion and sedimentation shall be incorporated into the Zoning Ordinance.	Development of the proposed Specific Plan will include the preparation of a Stormwater Pollution Prevention Plan. Specific Plan policy 5.5 addresses BMPs that will prevent impacts associated with grading and earthwork. The proposed Specific Plan is consistent with this policy.
Goal 7.3: Water Quality and Quantity		
Objective 7.3.2: Water Quality		
7.3.2.1	Stream and lake embankments shall be protected from erosion, and streams and lakes shall be protected from excessive turbidity.	A creek is located on the project site. Section 3.8, *Hydrology, Water Quality, and Water Resources*, Impacts WQ-3 and WQ-6 address impacts to the creek and water quality. The proposed Specific Plan is consistent with this policy.
7.3.2.2	Projects requiring a grading permit shall have an erosion control program approved, where necessary.	A Stormwater Pollution Prevention Plan will be prepared for the proposed Specific Plan (See Policy 5.5). The proposed Specific Plan is consistent with this policy.
7.3.2.3	Where practical and when warranted by the size of the project, parking lot storm drainage shall include facilities to separate oils and salts from storm water in accordance with the recommendations of the Storm Water Quality Task Force's California Storm Water Best Management Practices Handbooks (1993).	The proposed Specific Plan Stormwater Master Plan complies with all state and federal mandates regarding water quality. See Specific Plan policies 5.5 and 8.48(V). The proposed Specific Plan is consistent with this policy.
Objective 7.3.3: Wetlands		
7.3.3.1	For projects that would result in the discharge of material to or that may affect the function and value of river, stream, lake, pond, or wetland features, the application shall include a delineation of all such features. For wetlands, the delineation shall be conducted using the U.S. Army Corps of Engineers (USACE) Wetland Delineation Manual.	All wetlands within the Specific Plan area have been delineated using the procedures outlined in the U.S. Army Corps of Engineers manual. More information is available in Section 3.3, *Biological Resources*, Impacts BIO-3 and

Policy Number	Policy	Project Consistency
		mitigation measures BIO-1a, BIO-1b, BIO-1c, BIO-3a, and BIO-3b. The proposed Specific Plan is consistent with this policy.
7.3.3.4	The Zoning Ordinance shall be amended to provide buffers and special setbacks for the protection of riparian areas and wetlands. The County shall encourage the incorporation of protected areas into conservation easements or natural resource protection areas. Exceptions to riparian and wetland buffer and setback requirements shall be provided to permit necessary road and bridge repair and construction, trail construction, and other recreational access structures such as docks and piers, or where such buffers deny reasonable use of the property, but only when appropriate mitigation measures and Best Management Practices are incorporated into the project. Exceptions shall also be provided for horticultural and grazing activities on agriculturally zoned lands that utilize "best management practices (BMPs)" as recommended by the County Agricultural Commission and adopted by the Board of Supervisors. Until standards for buffers and special setbacks are established in the Zoning Ordinance, the County shall apply a minimum setback of 100 feet from all perennial streams, rivers, lakes, and 50 feet from intermittent streams and wetlands. These interim standards may be modified in a particular instance if more detailed information relating to slope, soil stability, vegetation, habitat, or other site- or project-specific conditions supplied as part of the review for a specific project demonstrates that a different setback is necessary or would be sufficient to protect the particular riparian area at issue. For projects where the County allows an exception to wetland and riparian buffers, development in or immediately adjacent to such features shall be planned so that impacts on the resources are minimized. If avoidance and minimization are not feasible, the County shall make findings, based on documentation provided by the project proponent, that avoidance and minimization are infeasible.	Seasonal wetlands, perennial streams, and delineated wetlands are proposed to be included in the open space preserves or public trail corridor as a part of the Specific Plan, including policies 3.9 and 5.7, which place wetlands in open space to the greatest extent feasible. The land uses in the Specific Plan maintain the Carson Creek tributary in open space. Also discussed Section 3.3, *Biological Resources*, Impacts BIO-3 and BIO-4. The proposed Specific Plan is consistent with this policy.
7.3.3.5	Rivers, streams, lakes and ponds, and wetlands shall be integrated into new development in such a way that they enhance the aesthetic and natural character of the site while disturbance to the resource is avoided or minimized and fragmentation is limited.	Seasonal wetlands, perennial streams, and delineated wetlands are proposed to be included in the open space preserves or public trail corridor to the extent feasible as a part of the Specific Plan. Also discussed Section 3.3, *Biological Resources*, Impacts BIO-3 and BIO-4. The proposed Specific Plan is consistent with this policy.

Policy Number	Policy	Project Consistency
Objective 7.3.4: Drainage		
7.3.4.1	Natural watercourses shall be integrated into new development in such a way that they enhance the aesthetic and natural character of the site without disturbance.	Seasonal wetlands, perennial streams, and delineated wetlands would be included in the open space preserves or public trail corridor as a part of the Specific Plan. Also discussed in Section 3.3, *Biological Resources*, Impacts BIO-3 and BIO-4. The proposed Specific Plan is consistent with this policy.
7.3.4.2	Modification of natural stream beds and flow shall be regulated to ensure that adequate mitigation measures are utilized.	Seasonal wetlands, perennial streams, and delineated wetlands are proposed to be included in the open space preserves or public trail corridor as a part of the Specific Plan. Also discussed in Section 3.3, *Biological Resources*, Impacts BIO-3 and BIO-4 and in Section 3.8, *Hydrology, Water Quality and Water Resources*, Impact WQ-3. The proposed Specific Plan is consistent with this policy.
Objective 7.3.5: Water Conservation		
7.3.5.1	Drought-tolerant plant species, where feasible, shall be used for landscaping of commercial development. Where the use of drought-tolerant native plant species is feasible, they should be used instead of non-native plant species.	The proposed Specific Plan requires the use of drought tolerant plant species where feasible (Policy 8.45 [V]). The proposed Specific Plan is consistent with this policy.
7.3.5.4	Require efficient water conveyance systems in new construction. Establish a program of ongoing conversion of open ditch systems shall be considered for conversion to closed conduits, reclaimed water supplies, or both, as circumstances permit.	The proposed Specific Plan proposes the use of both potable and recycled water systems (Policies 7.1, 7.2, and 7.3). The proposed Specific Plan is consistent with this policy.

Policy Number	Policy	Project Consistency
7.3.5.5	Encourage water reuse programs to conserve raw or potable water supplies consistent with State Law.	The proposed Specific Plan includes the use of recycled water for parks and landscaped corridors (Policy 8.40[V]). The proposed Specific Plan is consistent with this policy.
Goal 7.4: Wildlife and Vegetation Resources		
Objective 7.4.1: Rare, Threatened, and Endangered Species		
7.4.1.5	Species, habitat, and natural community preservation/conservation strategies shall be prepared to protect special status plant and animal species and natural communities and habitats when discretionary development is proposed on lands with such resources unless it is determined that those resources exist, and either are or can be protected, on public lands or private Natural Resource lands.	Specific Plan Policies 5.11, 5.12, and 5.13 address special status species and an IHMP has been prepared for the project.
7.4.1.6	All development projects involving discretionary review shall be designed to avoid disturbance or fragmentation of important habitats to the extent reasonably feasible. Where avoidance is not possible, the development shall be required to fully mitigate the effects of important habitat loss and fragmentation. Mitigation shall be defined in the Integrated Natural Resources Management Plan (INRMP) (see Policy 7.4.2.8 and Implementation Measure CO-M). The County Agricultural Commission, Plant and Wildlife Technical Advisory Committee, representatives of the agricultural community, academia, and other stakeholders shall be involved and consulted in defining the important habitats of the County and in the creation and implementation of the INRMP.	The proposed project has been designed to avoid disturbance and fragmentation of important habitats. Section 3.3, *Biological Resources*, Impact BIO-1, addresses impacts to important habitats and provides associated mitigation measures. The proposed Specific Plan is consistent with this policy.
Objective 7.4.2: Identify and Protect Resources		
7.4.2.2	Where critical wildlife areas and migration corridors are identified during review of projects, the County shall protect the resources from degradation by requiring all portions of the project site that contain or influence said areas to be retained as non-disturbed natural areas through mandatory clustered development on suitable portions of the project site or other means such as density transfers if clustering cannot be achieved. The setback distance for designated or protected migration corridors shall be determined as part of the project's environmental analysis. The intent and emphasis of the Open Space land use designation and of the non-disturbance policy is to ensure continued viability of contiguous or interdependent habitat areas and the preservation of all movement corridors between related habitats. The intent of mandatory clustering is to provide a mechanism for natural resource protection while allowing appropriate development of private property. Horticultural and grazing projects on agriculturally designated lands are exempt from the restrictions placed on disturbance of natural areas when utilizing "Best Management Practices" (BMPs) recommended by the County Agricultural Commission and adopted by the Board of Supervisors when not subject to Policy 7.1.2.7.	The proposed Specific Plan Open Space Plan provides wildlife habitat corridors and has been designed to avoid disturbance and fragmentation of important habitats. The proposed Specific Plan is consistent with this policy.

Policy Number	Policy	Project Consistency
7.4.2.3	Consistent with Policy 9.1.3.1 of the Parks and Recreation Element, low impact uses such as trails and linear parks may be provided within river and stream buffers if all applicable mitigation measures are incorporated into the design.	Impacts and mitigation for impacts on riparian areas and creeks within the trail system are discussed in Section 3.3, *Biological Resources*, Impacts BIO-2 and BIO-4 and in Section 3.8, *Hydrology, Water Quality and Water Resources*, Impact WQ-3. The proposed Specific Plan is consistent with this policy.
7.4.2.4	Establish and manage wildlife habitat corridors within public parks and natural resource protection areas to allow for wildlife use. Recreational uses within these areas shall be limited to those activities that do not require grading or vegetation removal.	The proposed Specific Plan Open Space Plan provides wildlife habitat corridors. The proposed Specific Plan is consistent with this policy.
Objective 7.4.4: Forest and Oak Woodland Resources		
7.4.4.3	Utilize the clustering of development to retain the largest contiguous areas possible in wildland (undeveloped) status.	The proposed Specific Plan provides open space areas for the retention of oak woodlands. The proposed Specific Plan is consistent with this policy.
7.4.4.4	For all new development projects (not including agricultural cultivation and actions pursuant to an approved Fire Safe Plan necessary to protect existing structures, both of which are exempt from this policy) that would result in soil disturbance on parcels that (1) are over an acre and have at least 1 percent total canopy cover or (2) are less than an acre and have at least 10 percent total canopy cover by woodlands habitats as defined in this General Plan and determined from base line aerial photography or by site survey performed by a qualified biologist or licensed arborist, the County shall require one of two mitigation options: (1) the project applicant shall adhere to the tree canopy retention and replacement standards described below; or (2) the project applicant shall contribute to the County's Integrated Natural Resources Management Plan (INRMP) conservation fund described in Policy 7.4.2.8.	The proposed Specific Plan includes a tree survey, preservation, replacement plan, and Important Habitat Mitigation Plan (Policy 5.16) that complies with this requirement and is consistent with this policy

The County shall apply the following tree canopy retention standards: Percent Existing Canopy Cover	Canopy Cover to be Retained
80–100	60% of existing canopy
60–79	70% of existing canopy
40–59	80% of existing canopy
20–39	85% of existing canopy
10-19	90% of existing canopy
1-9 for parcels > 1 acre	90% of existing canopy

Policy Number	Policy	Project Consistency
	Option A Under Option A, the project applicant shall also replace woodland habitat removed at 1:1 ratio. Impacts on woodland habitat and mitigation requirements shall be addressed in a Biological Resources Study and Important Habitat Mitigation Plan as described in Policy 7.4.2.8. Woodland replacement shall be based on a formula, developed by the County, that accounts for the number of trees and acreage affected.	
7.4.4.5	Where existing individual or a group of oak trees are lost within a stand, a corridor of oak trees shall be retained that maintains continuity between all portions of the stand. The retained corridor shall have a tree density that is equal to the density of the stand.	The proposed Specific Plan includes a tree survey, preservation, replacement plan, and Important Habitat Mitigation Plan (Policy 5.16) that complies with this requirement and is consistent with this policy.
Objective 7.4.5: Native Vegetation and Landmark Trees		
7.4.5.1	A tree survey, preservation, and replacement plan shall be required to be filed with the County prior to issuance of a grading permit for discretionary permits on all high-density residential, multifamily residential, commercial, and industrial projects. To ensure that proposed replacement trees survive, a mitigation monitoring plan should be incorporated into discretionary projects when applicable and shall include provisions for necessary replacement of trees.	The proposed Specific Plan includes a tree survey, preservation, replacement plan, and Important Habitat Mitigation Plan (Policy 5.16) that complies with this requirement. The proposed Specific Plan is consistent with this policy.
Goal 7.5: Cultural Resources		
Objective 7.5.1: Protection of Cultural Heritage		
7.5.1.3	Cultural resource studies (historic, prehistoric, and paleontological resources) shall be conducted prior to approval of discretionary projects. Studies may include, but are not limited to, record searches through the North Central Information Center at California State University, Sacramento, the Museum of Paleontology, University of California, Berkeley, field surveys, subsurface testing, and/or salvage excavations. The avoidance and protection of sites shall be encouraged.	Cultural resource studies have been prepared for the proposed Specific Plan. Cultural resources studies are summarized in Section 3.4, *Cultural Resources,* Impact CUL-1 and mitigation measures CUL-1a, CUL-1b, and CUL-1c. The proposed Specific Plan is consistent with this policy.

Policy Number	Policy	Project Consistency
Goal 7.6: Open Space Conservation		
Objective 7.6.1: Importance of Open Space		
7.6.1.4	The creation of new open space areas, including Ecological Preserves, common areas of new subdivisions, and recreational areas, shall include wildfire safety planning.	The proposed Specific Plan requires the preparation of a Wildfire Safe Plan (Policy 5.3.2). The proposed Specific Plan is consistent with this policy.
PARKS & RECREATION ELEMENT		
Goal 9.1: Parks and Recreation Facilities		
Objective 9.1.1: Park Acquisition and Development		
9.1.1.1	The County shall assist in the development of regional, community, and neighborhood parks, ensure a diverse range of recreational opportunities at a regional, community, and neighborhood level, and provide park design guidelines and development standards for park development. The following national standards shall be used as guidelines for the acquisition and development of park facilities: Guidelines For Acquisition and Development of Park Facilities Park Types: Developed Regional Parks: 1.5 ac/1,000 population Community Parks: 1.5 ac/1,000 population Neighborhood Parks: 2.0 ac/1,000 population Specific Standards (Neighborhood and Community Parks) Cameron Park Community Services District: 5.0 ac/1,000 population El Dorado Hills Community Services District: 5.0 ac/1,000 population Planned Communities: 5.0 ac/1,000 population The parkland dedication/in-lieu fees shall be directed towards the purchase and funding of neighborhood and community parks.	The proposed Specific Plan provides a 15-acre Village Park. The proposed Specific Plan is consistent with this policy.
9.1.1.2	Neighborhood parks shall be primarily focused on serving walk-to or bike-to recreation needs. When possible, neighborhood parks should be adjacent to schools. Neighborhood parks are generally 2 to 10 acres in size and may include a playground, tot lot, turf areas, and picnic facilities.	The Specific Plan provides for a village park and a neighborhood park, which meet General Plan criteria, adjacent to residential development. The proposed Specific Plan is consistent with this policy.

Policy Number	Policy	Project Consistency
9.1.1.3	Community parks and recreation facilities shall provide a focal point and gathering place for the larger community. Community parks are generally 10 to 44 acres in size, are for use by all sectors and age groups, and may include multi-purpose fields, ball fields, group picnic areas, playground, tot lot, multi-purpose hardcourts, swimming pool, tennis courts, and a community center.	The Specific Plan includes a village park of approximately 15 acres that includes active and passive recreational facilities. The proposed Specific Plan is consistent with this policy.
9.1.1.5	Parkland dedicated under the Quimby Act must be suitable for active recreation uses and: • Shall have a maximum average slope of 10 percent; • Shall have sufficient access for a community or neighborhood park; and • Shall not contain significant constraints that would render the site unsuitable for development.	The proposed Specific Plan park site meets the criteria outlined in Policy 9.1.1.5. More discussion is provided in Section 3.13, *Recreation,* Impact REC-1. The proposed Specific Plan is consistent with this policy.
Objective 9.1.2: County Trails		
9.1.2.4	Evaluate every discretionary application as well as public facilities planning with regard to their ability to implement the Hiking and Equestrian Trails Master Plan and the Bikeway Master Plan.	Bike and pedestrian paths are proposed in the Specific Plan to be provided. More discussion of this issue is provided in Section 3.14, *Traffic and Circulation* (Impacts TRA-1 and TRA-6) and in the Bikeway and Trail Network in Section 4.7, Chapter 4 of the Specific Plan. The proposed Specific Plan is consistent with this policy.
9.1.2.8	Integrate and link, where possible, existing and proposed National, State, regional, County, city and local hiking, bicycle, and equestrian trails for public use.	The proposed Specific Plan provides an extensive trail system including Class I and II bikeways and paved and unpaved trails. A Class I bikeway will connect to the existing bikeway to provide continuity. More discussion of this issue is provided in Section 3.14, *Traffic and Circulation*, Impacts TRA-1 and TRA-6. The proposed Specific Plan is consistent with this policy.

Policy Number	Policy	Project Consistency
Objective 9.1.3: Incorporation of Parks and Trails		
9.1.3.1	Linear parks and trails may be incorporated along rivers, creeks, and streams wherever possible.	The proposed Specific Plan provides a trail system along the riparian corridor adjacent to the Serrano Westside planning area. The proposed Specific Plan is consistent with this policy.
Goal 9.2: Funding		
Objective 9.2.2: Quimby Act		
9.2.2.2	New development projects creating community or neighborhood parks shall provide mechanisms (e.g., homeowners associations, or benefit assessment districts) for the ongoing development, operation, and maintenance needs of these facilities if annexation to an existing parks and recreation service district/provider is not possible.	A Specific Plan homeowners association is proposed to be created. The proposed Specific Plan is consistent with this policy.
Objective 9.2.3: Grants, Fees and Contributions		
9.2.3.5	The County will encourage private sector development, operation, and maintenance of recreation facilities.	The proposed project includes development, operation, and maintenance of private parks. The proposed Specific Plan is consistent with this policy.
ECONOMIC DEVELOPMENT ELEMENT		
Goal 10.2: Public and Civic Facilities Investment		
Objective 10.2.1: Public and Civic Facilities Investment		
10.2.1.4	Require new discretionary development to pay its fair share of the costs of all civic and public and community facilities it utilizes based upon the demand for these facilities which can be attributed to new development.	The Specific Plan will include a Public Facilities Financing Plan that will require development under the Specific Plan will pay fair share for infrastructure and facilities. The Specific Plan is consistent with this policy.

Policy Number	Policy	Project Consistency
10.2.1.5	A public facilities and services financing plan that assures that costs burdens of any civic, public, and community facilities, infrastructure, ongoing services, including operations and maintenance necessitated by a development proposal, as defined below, are adequately financed to assure no net cost burden to existing residents shall be submitted with the following development applications: • Specific plans; and • All residential, commercial, and industrial projects located within a Community Region or Rural Center which exceed the following thresholds: o Residential.....50 units o Commercial.....20 acres or 100,000 square feet o Industrial.....20 acres or 250,000 square feet	The Specific Plan will include a Public Facilities Financing Plan that will require development under the Specific Plan will pay fair share for infrastructure and facilities. The Specific Plan is consistent with this policy.
10.2.1.6	Provision of new infrastructure and facilities shall be coordinated with existing infrastructure and facilities and shall maximize use of existing facilities capacity to the extent that any exists.	The County has been in contact with and will coordinate with infrastructure providers (such as EID) to maximize use of existing capacity of facilities. Off-site infrastructure needs are addressed throughout the EIR. The Specific Plan is consistent with this policy.
Objective 10.2.2: Equitable Financing Methods for Public Improvements		
10.2.2.2	Stress financing strategies that maximize the use of pay-as-you-go methods to gain the most benefit from available revenue without placing unreasonable burdens on new development. Program 10.2.2.2.1: When a project directly or indirectly impacts existing public services and/or infrastructure, it shall provide for and finance improvements consistent with the degree of impact to public services and/or infrastructure directly or indirectly attributed to the project. Cost to be borne by the project proponent shall be determined on the basis of the above described nexus and other pre-existing legally binding agreements such as development agreements.	The proposed project includes a Specific Plan with a plan for provision of and funding for infrastructure and public services. The Specific Plan is consistent with this policy.

Appendix C

Air Quality Model Output (Construction Output/Emissions)

Construction Outputs

2018 Construction

El Dorado-Mountain County County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	5.00	Dwelling Unit	6.00	9,000.00	14

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	70
Climate Zone	2			**Operational Year**	2019
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity	641.35	**CH4 Intensity**	0.029	**N2O Intensity**	0.006

1.3 User Entered Comments & Non-Default Data

Land Use - Acres from PD

Table Name	Column Name	Default Value	New Value
tblLandUse	LotAcreage	1.62	6.00

3.0 Construction Detail

Construction Phase

Phase	Phase Name	Phase Type	Start Date	End Date	Num Days	Num Days	Phase Description
1	Building Construction	Building Construction	1/1/2018	11/16/2018	5	230	
2	Architectural Coating	Architectural Coating	11/17/2018	12/14/2018	5	20	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Building Construction	Cranes	1	7.00	226	0.29

Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment	Worker Trip	Vendor Trip	Hauling Trip	Worker Trip	Vendor Trip	Hauling Trip	Worker Vehicle	Vendor	Hauling
Building Construction	9	2.00	1.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.2 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.6687	23.2608	17.5327	0.0268		1.4943	1.4943		1.4048	1.4048		2,609.939	2,609.9390	0.6387		2,623.3517
Total	**2.6687**	**23.2608**	**17.5327**	**0.0268**		**1.4943**	**1.4943**		**1.4048**	**1.4048**		**2,609.939**	**2,609.9390**	**0.6387**		**2,623.3517**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0108	0.0778	0.1732	2.1000e-	6.4900e-	1.0200e-	7.5100e-	1.8400e-	9.4000e-	2.7800e-		19.8633	19.8633	1.4000e-		19.8663
Worker	6.9200e-	6.4900e-	0.0835	2.1000e-	0.0164	1.2000e-	0.0166	4.3600e-	1.1000e-	4.4700e-		15.9471	15.9471	7.1000e-		15.9620
Total	**0.0177**	**0.0843**	**0.2567**	**4.2000e-**	**0.0229**	**1.1400e-**	**0.0241**	**6.2000e-**	**1.0500e-**	**7.2500e-**		**35.8103**	**35.8103**	**8.5000e-**		**35.8283**

3.3 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	14.0788					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.0102
Total	**14.3774**	**2.0058**	**1.8542**	**2.9700e-**		**0.1506**	**0.1506**		**0.1506**	**0.1506**		**281.4485**	**281.4485**	**0.0267**		**282.0102**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

2029 Construction

El Dorado-Mountain County County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Government (Civic Center)	50.00	1000sqft	11.00	50,000.00	0
Apartments Low Rise	150.00	Dwelling Unit	8.00	150,000.00	429

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	70
Climate Zone	2			**Operational Year**	2030
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity	641.35	**CH4 Intensity**	0.029	**N2O Intensity**	0.006

1.3 User Entered Comments & Non-Default Data

Land Use - Acres from PD

Table Name	Column Name	Default Value	New Value
tblLandUse	LotAcreage	1.15	11.00
tblLandUse	LotAcreage	9.38	8.00

3.0 Construction Detail

Construction Phase

Phase	Phase Name	Phase Type	Start Date	End Date	Num Days	Num Days	Phase Description
1	Building Construction	Building Construction	1/1/2029	12/28/2029	5	260	
2	Architectural Coating	Architectural Coating	12/1/2029	12/28/2029	5	20	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor

Architectural Coating	Air Compressors	1	6.00	78	0.48
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment	Worker Trip	Vendor Trip	Hauling Trip	Worker Trip	Vendor Trip	Hauling Trip	Worker Vehicle	Vendor	Hauling
Building Construction	9	124.00	24.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	25.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.2 Building Construction - 2029

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3615	12.4097	16.0518	0.0269		0.5250	0.5250		0.4939	0.4939		2,545.890	2,545.8905	0.5975		2,558.4386
Total	**1.3615**	**12.4097**	**16.0518**	**0.0269**		**0.5250**	**0.5250**		**0.4939**	**0.4939**		**2,545.890**	**2,545.8905**	**0.5975**		**2,558.4386**

1.75

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1569	0.9468	2.7414	5.1600e-	0.1574	0.0172	0.1746	0.0449	0.0158	0.0607		481.3255	481.3255	3.2800e-		481.3944
Worker	0.2358	0.2165	2.8835	0.0128	1.0186	7.5000e-	1.0261	0.2702	6.9600e-	0.2772		820.4403	820.4403	0.0283		821.0351
Total	**0.3927**	**1.1633**	**5.6249**	**0.0180**	**1.1760**	**0.0247**	**1.2007**	**0.3151**	**0.0228**	**0.3379**		**1,301.765**	**1,301.7658**	**0.0316**		**1,302.4295**

3.3 Architectural Coating - 2029

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	292.5844					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.7705
Total	**292.7552**	**1.1455**	**1.8091**	**2.9700e-**		**0.0515**	**0.0515**		**0.0515**	**0.0515**		**281.4481**	**281.4481**	**0.0154**		**281.7705**

293
11.9

Unmitigated Construction Off-Site

AC Re
10
250

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

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0475	0.0437	0.5814	2.5900e-	0.2054	1.5100e-	0.2069	0.0545	1.4000e-	0.0559		165.4114	165.4114	5.7100e-		165.5313
Total	**0.0475**	**0.0437**	**0.5814**	**2.5900e-**	**0.2054**	**1.5100e-**	**0.2069**	**0.0545**	**1.4000e-**	**0.0559**		**165.4114**	**165.4114**	**5.7100e-**		**165.5313**

96%
####

2028 Construction

El Dorado-Mountain County County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Low Rise	10.00	Dwelling Unit	1.00	10,000.00	29

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	70
Climate Zone	2			**Operational Year**	2030
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity	641.35	**CH4 Intensity**	0.029	**N2O Intensity**	0.006

1.3 User Entered Comments & Non-Default Data

Land Use - Acres from PD

Table Name	Column Name	Default Value	New Value
tblLandUse	LotAcreage	0.63	1.00

3.0 Construction Detail

Construction Phase

Phase	Phase Name	Phase Type	Start Date	End Date	Num Days	Num Days	Phase Description
1	Building Construction	Building Construction	1/1/2028	5/19/2028	5	100	
2	Architectural Coating	Architectural Coating	5/20/2028	5/26/2028	5	5	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Building Construction	Cranes	1	6.00	226	0.29

Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment	Worker Trip	Vendor Trip	Hauling Trip	Worker Trip	Vendor Trip	Hauling Trip	Worker Vehicle	Vendor	Hauling
Building Construction	7	7.00	1.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	1.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.2 Building Construction - 2028

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3195	10.3614	12.4112	0.0220		0.3903	0.3903		0.3765	0.3765		1,993.080	1,993.0806	0.3240		1,999.8837
Total	**1.3195**	**10.3614**	**12.4112**	**0.0220**		**0.3903**	**0.3903**		**0.3765**	**0.3765**		**1,993.080**	**1,993.0806**	**0.3240**		**1,999.8837**

1.3401

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	6.6900e-	0.0398	0.1165	2.1000e-	6.5500e-	7.1000e-	7.2700e-	1.8700e-	6.6000e-	2.5200e-		19.9958	19.9958	1.4000e-		19.9987
Worker	0.0139	0.0127	0.1681	7.2000e-	0.0575	4.2000e-	0.0579	0.0153	3.9000e-	0.0156		46.6044	46.6044	1.6400e-		46.6388
Total	**0.0206**	**0.0524**	**0.2846**	**9.3000e-**	**0.0641**	**1.1300e-**	**0.0652**	**0.0171**	**1.0500e-**	**0.0182**		**66.6002**	**66.6002**	**1.7800e-**		**66.6375**

3.3 Architectural Coating - 2028

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	62.5725					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.7705
Total	**62.7434**	**1.1455**	**1.8091**	**2.9700e-**		**0.0515**	**0.0515**		**0.0515**	**0.0515**		**281.4481**	**281.4481**	**0.0154**		**281.7705**

62.745
2.6758

Unmitigated Construction Off-Site

AC Redu
10
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4.00%

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

Worker	1.9800e-	1.8100e-	0.0240	1.0000e-	8.2100e-	6.0000e-	8.2800e-	2.1800e-	6.0000e-	2.2300e-		6.6578	6.6578	2.3000e-		6.6627
Total	**1.9800e-**	**1.8100e-**	**0.0240**	**1.0000e-**	**8.2100e-**	**6.0000e-**	**8.2800e-**	**2.1800e-**	**6.0000e-**	**2.2300e-**		**6.6578**	**6.6578**	**2.3000e-**		**6.6627**

2025 Construction

El Dorado-Mountain County County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	2.00	Dwelling Unit	2.00	3,600.00	6
Single Family Housing	5.00	Dwelling Unit	1.00	9,000.00	14
Condo/Townhouse	24.00	Dwelling Unit	3.00	24,000.00	69

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	70
Climate Zone	2			**Operational Year**	2030
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity	641.35	**CH4 Intensity**	0.029	**N2O Intensity**	0.006

1.3 User Entered Comments & Non-Default Data

Land Use - Acres from PD

Table Name	Column Name	Default Value	New Value
tblLandUse	LotAcreage	0.65	2.00
tblLandUse	LotAcreage	1.62	1.00
tblLandUse	LotAcreage	1.50	3.00

3.0 Construction Detail

Construction Phase

Phase	Phase Name	Phase Type	Start Date	End Date	Num Days	Num Days	Phase Description
1	Building Construction	Building Construction	1/1/2025	11/18/2025	5	230	
2	Architectural Coating	Architectural Coating	11/19/2025	12/16/2025	5	20	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment	Worker Trip	Vendor Trip	Hauling Trip	Worker Trip	Vendor Trip	Hauling Trip	Worker Vehicle	Vendor	Hauling
Building Construction	9	20.00	3.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	4.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.2 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3615	12.4097	16.0518	0.0269		0.5250	0.5250		0.4939	0.4939		2,545.890	2,545.8905	0.5975		2,558.4386
Total	**1.3615**	**12.4097**	**16.0518**	**0.0269**		**0.5250**	**0.5250**		**0.4939**	**0.4939**		**2,545.890**	**2,545.8905**	**0.5975**		**2,558.4386**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0219	0.1227	0.3808	6.4000e-	0.0196	2.1100e-	0.0218	5.5900e-	1.9400e-	7.5400e-		59.6128	59.6128	4.0000e-		59.6213
Worker	0.0449	0.0408	0.5347	2.0700e-	0.1643	1.1800e-	0.1655	0.0436	1.1000e-	0.0447		136.5321	136.5321	5.0500e-		136.6382
Total	**0.0667**	**0.1635**	**0.9155**	**2.7100e-**	**0.1839**	**3.2900e-**	**0.1872**	**0.0492**	**3.0400e-**	**0.0522**		**196.1449**	**196.1449**	**5.4500e-**		**196.2595**

3.3 Architectural Coating - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	57.2538					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.7705
Total	**57.4247**	**1.1455**	**1.8091**	**2.9700e-**		**0.0515**	**0.0515**		**0.0515**	**0.0515**		**281.4481**	**281.4481**	**0.0154**		**281.7705**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	8.9700e-	8.1600e-	0.1069	4.1000e-	0.0329	2.4000e-	0.0331	8.7200e-	2.2000e-	8.9400e-		27.3064	27.3064	1.0100e-		27.3277
Total	**8.9700e-**	**8.1600e-**	**0.1069**	**4.1000e-**	**0.0329**	**2.4000e-**	**0.0331**	**8.7200e-**	**2.2000e-**	**8.9400e-**		**27.3064**	**27.3064**	**1.0100e-**		**27.3277**

2024 Construction

El Dorado-Mountain County County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	5.00	Dwelling Unit	6.00	9,000.00	14
Single Family Housing	16.00	Dwelling Unit	3.00	28,800.00	46
Condo/Townhouse	24.00	Dwelling Unit	3.00	24,000.00	69

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	70
Climate Zone	2			**Operational Year**	2025
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity	641.35	**CH4 Intensity**	0.029	**N2O Intensity**	0.006

1.3 User Entered Comments & Non-Default Data

Land Use - Acres from PD

Table Name	Column Name	Default Value	New Value
tblLandUse	LotAcreage	1.62	6.00
tblLandUse	LotAcreage	5.19	3.00
tblLandUse	LotAcreage	1.50	3.00

3.0 Construction Detail

Construction Phase

Phase	Phase Name	Phase Type	Start Date	End Date	Num Days	Num Days	Phase Description
1	Building Construction	Building Construction	1/1/2024	12/27/2024	5	260	
2	Architectural Coating	Architectural Coating	11/27/2024	12/24/2024	5	20	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment	Worker Trip	Vendor Trip	Hauling Trip	Worker Trip	Vendor Trip	Hauling Trip	Worker Vehicle	Vendor	Hauling
Building Construction	9	25.00	5.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.2 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4653	13.3774	16.1332	0.0268		0.6106	0.6106		0.5744	0.5744		2,545.115	2,545.1154	0.6009		2,557.7349
Total	**1.4653**	**13.3774**	**16.1332**	**0.0268**		**0.6106**	**0.6106**		**0.5744**	**0.5744**		**2,545.115**	**2,545.1154**	**0.6009**		**2,557.7349**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0385	0.2075	0.6654	1.0700e-	0.0327	3.4900e-	0.0362	9.3100e-	3.2100e-	0.0125		99.1287	99.1287	6.7000e-		99.1427
Worker	0.0586	0.0535	0.6980	2.5900e-	0.2054	1.4700e-	0.2068	0.0545	1.3600e-	0.0558		172.5426	172.5426	6.5200e-		172.6794
Total	**0.0972**	**0.2609**	**1.3633**	**3.6600e-**	**0.2381**	**4.9600e-**	**0.2430**	**0.0638**	**4.5700e-**	**0.0684**		**271.6713**	**271.6713**	**7.1900e-**		**271.8222**

3.3 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	96.6745					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.7809
Total	**96.8553**	**1.2188**	**1.8101**	**2.9700e-**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.7809**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0117	0.0107	0.1396	5.2000e-	0.0411	2.9000e-	0.0414	0.0109	2.7000e-	0.0112		34.5085	34.5085	1.3000e-		34.5359
Total	**0.0117**	**0.0107**	**0.1396**	**5.2000e-**	**0.0411**	**2.9000e-**	**0.0414**	**0.0109**	**2.7000e-**	**0.0112**		**34.5085**	**34.5085**	**1.3000e-**		**34.5359**

2023 Construction

El Dorado-Mountain County County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	5.00	Dwelling Unit	6.00	9,000.00	14
Single Family Housing	16.00	Dwelling Unit	3.00	28,800.00	46
Condo/Townhouse	48.00	Dwelling Unit	6.00	48,000.00	137

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	70
Climate Zone	2			**Operational Year**	2024
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity	641.35	**CH4 Intensity**	0.029	**N2O Intensity**	0.006

1.3 User Entered Comments & Non-Default Data

Land Use - Acres from PD

Table Name	Column Name	Default Value	New Value
tblLandUse	LotAcreage	1.62	6.00
tblLandUse	LotAcreage	5.19	3.00
tblLandUse	LotAcreage	3.00	6.00

3.0 Construction Detail

Construction Phase

Phase	Phase Name	Phase Type	Start Date	End Date	Num Days	Num Days	Phase Description
1	Building Construction	Building Construction	1/1/2023	12/29/2023	5	260	
2	Architectural Coating	Architectural Coating	11/30/2023	12/27/2023	5	20	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment	Worker Trip	Vendor Trip	Hauling Trip	Worker Trip	Vendor Trip	Hauling Trip	Worker Vehicle	Vendor	Hauling
Building Construction	9	42.00	7.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.2 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5661	14.3126	16.2093	0.0268		0.6967	0.6967		0.6557	0.6557		2,544.626	2,544.6262	0.6044		2,557.3191
Total	**1.5661**	**14.3126**	**16.2093**	**0.0268**		**0.6967**	**0.6967**		**0.6557**	**0.6557**		**2,544.626**	**2,544.6262**	**0.6044**		**2,557.3191**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0555	0.2937	0.9614	1.4800e-	0.0457	4.8100e-	0.0505	0.0130	4.4300e-	0.0175		137.9825	137.9825	9.3000e-		138.0019
Worker	0.1036	0.0948	1.2319	4.3500e-	0.3450	2.4600e-	0.3475	0.0915	2.2800e-	0.0938		293.4800	293.4800	0.0114		293.7184
Total	**0.1591**	**0.3885**	**2.1934**	**5.8300e-**	**0.3908**	**7.2700e-**	**0.3980**	**0.1045**	**6.7100e-**	**0.1113**		**431.4625**	**431.4625**	**0.0123**		**431.7203**

3.3 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	134.2180					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8017
Total	**134.4097**	**1.3030**	**1.8111**	**2.9700e-**		**0.0708**	**0.0708**		**0.0708**	**0.0708**		**281.4481**	**281.4481**	**0.0168**		**281.8017**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0197	0.0181	0.2347	8.3000e-	0.0657	4.7000e-	0.0662	0.0174	4.3000e-	0.0179		55.9010	55.9010	2.1600e-		55.9464
Total	**0.0197**	**0.0181**	**0.2347**	**8.3000e-**	**0.0657**	**4.7000e-**	**0.0662**	**0.0174**	**4.3000e-**	**0.0179**		**55.9010**	**55.9010**	**2.1600e-**		**55.9464**

2022 Construction

El Dorado-Mountain County County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	5.00	Dwelling Unit	6.00	9,000.00	14
Single Family Housing	16.00	Dwelling Unit	3.00	28,800.00	46
Condo/Townhouse	48.00	Dwelling Unit	6.00	48,000.00	137

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	70
Climate Zone	2			**Operational Year**	2023
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity	641.35	**CH4 Intensity**	0.029	**N2O Intensity**	0.006

1.3 User Entered Comments & Non-Default Data

Land Use - Acres from PD

Table Name	Column Name	Default Value	New Value
tblLandUse	LotAcreage	1.62	6.00
tblLandUse	LotAcreage	5.19	3.00
tblLandUse	LotAcreage	3.00	6.00

3.0 Construction Detail

Construction Phase

Phase	Phase Name	Phase Type	Start Date	End Date	Num Days	Num Days	Phase Description
1	Architectural Coating	Architectural Coating	11/30/2022	12/25/2022	5	20	
2	Building Construction	Building Construction	1/1/2022	12/30/2022	5	260	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment	Worker Trip	Vendor Trip	Hauling Trip	Worker Trip	Vendor Trip	Hauling Trip	Worker Vehicle	Vendor	Hauling
Building Construction	9	42.00	7.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.2 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	134.2180					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9057
Total	**134.4602**	**1.6838**	**1.8314**	**2.9700e-**		**0.1109**	**0.1109**		**0.1109**	**0.1109**		**281.4481**	**281.4481**	**0.0218**		**281.9057**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0232	0.0217	0.2803	8.3000e-	0.0657	4.7000e-	0.0662	0.0174	4.3000e-	0.0179		58.4988	58.4988	2.4600e-		58.5505
Total	**0.0232**	**0.0217**	**0.2803**	**8.3000e-**	**0.0657**	**4.7000e-**	**0.0662**	**0.0174**	**4.3000e-**	**0.0179**		**58.4988**	**58.4988**	**2.4600e-**		**58.5505**

3.3 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6992	15.5364	16.3276	0.0268		0.8057	0.8057		0.7581	0.7581		2,543.749	2,543.7497	0.6085		2,556.5286
Total	**1.6992**	**15.5364**	**16.3276**	**0.0268**		**0.8057**	**0.8057**		**0.7581**	**0.7581**		**2,543.749**	**2,543.7497**	**0.6085**		**2,556.5286**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0589	0.3217	1.0127	1.4800e-	0.0457	5.0200e-	0.0507	0.0130	4.6200e-	0.0176		137.6243	137.6243	9.7000e-		137.6448
Worker	0.1092	0.1004	1.3036	4.3500e-	0.3450	2.4500e-	0.3475	0.0915	2.2800e-	0.0938		297.5500	297.5500	0.0118		297.7980
Total	**0.1681**	**0.4221**	**2.3163**	**5.8300e-**	**0.3907**	**7.4700e-**	**0.3982**	**0.1045**	**6.9000e-**	**0.1114**		**435.1743**	**435.1743**	**0.0128**		**435.4427**

2021 Construction

El Dorado-Mountain County County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	5.00	Dwelling Unit	6.00	9,000.00	14
Single Family Housing	10.00	Dwelling Unit	7.00	18,000.00	29
Condo/Townhouse	62.00	Dwelling Unit	7.00	62,000.00	177

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	70
Climate Zone	2			**Operational Year**	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity	641.35	**CH4 Intensity**	0.029	**N2O Intensity**	0.006

1.3 User Entered Comments & Non-Default Data

Land Use - Acres from PD

Table Name	Column Name	Default Value	New Value
tblLandUse	LotAcreage	1.62	6.00
tblLandUse	LotAcreage	3.25	7.00
tblLandUse	LotAcreage	3.88	7.00

3.0 Construction Detail

Construction Phase

Phase	Phase Name	Phase Type	Start Date	End Date	Num Days	Num Days	Phase Description
1	Architectural Coating	Architectural Coating	11/20/2021	12/15/2021	5	20	
2	Building Construction	Building Construction	1/1/2021	12/30/2021	5	260	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment	Worker Trip	Vendor Trip	Hauling Trip	Worker Trip	Vendor Trip	Hauling Trip	Worker Vehicle	Vendor	Hauling
Building Construction	9	50.00	8.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.2 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	139.2238					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3323	2.1850	1.8681	2.9700e-		0.1733	0.1733		0.1733	0.1733		281.4481	281.4481	0.0297		282.0721
Total	**139.5561**	**2.1850**	**1.8681**	**2.9700e-**		**0.1733**	**0.1733**		**0.1733**	**0.1733**		**281.4481**	**281.4481**	**0.0297**		**282.0721**

139.6
5.941

Unmitigated Construction Off-Site

AC Rec
10
250
96%
4.00%

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0393	0.0364	0.4698	1.0500e-	0.0822	6.3000e-	0.0828	0.0218	5.8000e-	0.0224		82.8644	82.8644	3.9000e-		82.9464
Total	**0.0393**	**0.0364**	**0.4698**	**1.0500e-**	**0.0822**	**6.3000e-**	**0.0828**	**0.0218**	**5.8000e-**	**0.0224**		**82.8644**	**82.8644**	**3.9000e-**		**82.9464**

3.3 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8931	17.3403	16.5376	0.0268		0.9549	0.9549		0.8979	0.8979		2,542.781	2,542.7817	0.6126		2,555.6462
Total	**1.8931**	**17.3403**	**16.5376**	**0.0268**		**0.9549**	**0.9549**		**0.8979**	**0.8979**		**2,542.781**	**2,542.7817**	**0.6126**		**2,555.6462**

2.103

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0728	0.4088	1.2218	1.6900e-	0.0522	5.8100e-	0.0580	0.0148	5.3500e-	0.0202		156.9081	156.9081	1.0900e-		156.9309
Worker	0.1372	0.1271	1.6456	5.1800e-	0.4107	2.9100e-	0.4137	0.1090	2.7000e-	0.1117		359.6239	359.6239	0.0147		359.9321
Total	**0.2100**	**0.5359**	**2.8674**	**6.8700e-**	**0.4629**	**8.7200e-**	**0.4716**	**0.1238**	**8.0500e-**	**0.1318**		**516.5319**	**516.5319**	**0.0158**		**516.8629**

2020 Construction

El Dorado-Mountain County County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	5.00	Dwelling Unit	6.00	9,000.00	14
Single Family Housing	40.00	Dwelling Unit	7.00	72,000.00	114
Condo/Townhouse	84.00	Dwelling Unit	10.00	84,000.00	240
Apartments Low Rise	115.00	Dwelling Unit	6.00	115,000.00	329

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	70
Climate Zone	2			**Operational Year**	2021
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity	641.35	**CH4 Intensity**	0.029	**N2O Intensity**	0.006

1.3 User Entered Comments & Non-Default Data

Land Use - Acres from PD

Table Name	Column Name	Default Value	New Value
tblLandUse	LotAcreage	1.62	6.00
tblLandUse	LotAcreage	12.99	7.00
tblLandUse	LotAcreage	5.25	10.00
tblLandUse	LotAcreage	7.19	6.00

3.0 Construction Detail

Construction Phase

Phase	Phase Name	Phase Type	Start Date	End Date	Num Days	Num Days	Phase Description
1	Building Construction	Building Construction	1/1/2020	12/29/2020	5	260	
2	Architectural Coating	Architectural Coating	11/10/2020	12/28/2020	5	35	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment	Worker Trip	Vendor Trip	Hauling Trip	Worker Trip	Vendor Trip	Hauling Trip	Worker Vehicle	Vendor	Hauling
Building Construction	9	159.00	26.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	32.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.2 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1113	19.0839	16.8084	0.0268		1.1128	1.1128		1.0465	1.0465		2,542.479	2,542.4799	0.6194		2,555.4880
Total	**2.1113**	**19.0839**	**16.8084**	**0.0268**		**1.1128**	**1.1128**		**1.0465**	**1.0465**		**2,542.479**	**2,542.4799**	**0.6194**		**2,555.4880**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2467	1.6136	4.1562	5.4700e-	0.1693	0.0216	0.1909	0.0482	0.0198	0.0680		507.3307	507.3307	3.5400e-		507.4049
Worker	0.4618	0.4320	5.5715	0.0165	1.3062	9.2600e-	1.3154	0.3465	8.5800e-	0.3550		1,162.664	1,162.6644	0.0489		1,163.6919
Total	**0.7085**	**2.0456**	**9.7277**	**0.0220**	**1.4755**	**0.0308**	**1.5063**	**0.3946**	**0.0284**	**0.4230**		**1,669.995**	**1,669.9950**	**0.0525**		**1,671.0968**

3.3 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	250.2900					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9057
Total	**250.5322**	**1.6838**	**1.8314**	**2.9700e-**		**0.1109**	**0.1109**		**0.1109**	**0.1109**		**281.4481**	**281.4481**	**0.0218**		**281.9057**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0929	0.0869	1.1213	3.3200e-	0.2629	1.8600e-	0.2647	0.0697	1.7300e-	0.0715		233.9954	233.9954	9.8500e-		234.2021
Total	**0.0929**	**0.0869**	**1.1213**	**3.3200e-**	**0.2629**	**1.8600e-**	**0.2647**	**0.0697**	**1.7300e-**	**0.0715**		**233.9954**	**233.9954**	**9.8500e-**		**234.2021**

2019 Construction

El Dorado-Mountain County County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	5.00	Dwelling Unit	6.00	9,000.00	14
Single Family Housing	20.00	Dwelling Unit	4.00	36,000.00	57
Condo/Townhouse	20.00	Dwelling Unit	2.00	20,000.00	57
Apartments Low Rise	115.00	Dwelling Unit	6.00	115,000.00	329

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	70
Climate Zone	2			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity	641.35	**CH4 Intensity**	0.029	**N2O Intensity**	0.006

1.3 User Entered Comments & Non-Default Data

Land Use - Acres from PD

Table Name	Column Name	Default Value	New Value
tblLandUse	LotAcreage	1.62	6.00
tblLandUse	LotAcreage	6.49	4.00
tblLandUse	LotAcreage	1.25	2.00
tblLandUse	LotAcreage	7.19	6.00

3.0 Construction Detail

Construction Phase

Phase	Phase Name	Phase Type	Start Date	End Date	Num Days	Num Days	Phase Description
1	Building Construction	Building Construction	1/1/2019	12/2/2019	5	240	
2	Architectural Coating	Architectural Coating	12/3/2019	12/30/2019	5	20	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment	Worker Trip	Vendor Trip	Hauling Trip	Worker Trip	Vendor Trip	Hauling Trip	Worker Vehicle	Vendor	Hauling
Building Construction	9	106.00	17.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	21.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.2 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3516	20.9650	17.1204	0.0268		1.2850	1.2850		1.2083	1.2083		2,580.761	2,580.7618	0.6279		2,593.9479
Total	**2.3516**	**20.9650**	**17.1204**	**0.0268**		**1.2850**	**1.2850**		**1.2083**	**1.2083**		**2,580.761**	**2,580.7618**	**0.6279**		**2,593.9479**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1707	1.2451	2.8260	3.5500e-	0.1105	0.0163	0.1268	0.0314	0.0150	0.0464		335.9199	335.9199	2.4100e-		335.9704
Worker	0.3321	0.3121	4.0203	0.0110	0.8708	6.2200e-	0.8770	0.2310	5.7600e-	0.2367		806.7963	806.7963	0.0346		807.5232
Total	**0.5028**	**1.5572**	**6.8463**	**0.0145**	**0.9812**	**0.0225**	**1.0037**	**0.2624**	**0.0207**	**0.2831**		**1,142.716**	**1,142.7161**	**0.0370**		**1,143.4936**

3.3 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	281.5763					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		281.9473
Total	**281.8427**	**1.8354**	**1.8413**	**2.9700e-**		**0.1288**	**0.1288**		**0.1288**	**0.1288**		**281.4481**	**281.4481**	**0.0238**		**281.9473**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0658	0.0618	0.7965	2.1800e-	0.1725	1.2300e-	0.1737	0.0458	1.1400e-	0.0469		159.8370	159.8370	6.8600e-		159.9810
Total	**0.0658**	**0.0618**	**0.7965**	**2.1800e-**	**0.1725**	**1.2300e-**	**0.1737**	**0.0458**	**1.1400e-**	**0.0469**		**159.8370**	**159.8370**	**6.8600e-**		**159.9810**

2030 Construction

El Dorado-Mountain County County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Low Rise	140.00	Dwelling Unit	7.00	140,000.00	400

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	70
Climate Zone	2			**Operational Year**	2030
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity	641.35	**CH4 Intensity**	0.029	**N2O Intensity**	0.006

1.3 User Entered Comments & Non-Default Data

Land Use - Acres from PD

Table Name	Column Name	Default Value	New Value
tblLandUse	LotAcreage	8.75	7.00

3.0 Construction Detail

Construction Phase

Phase	Phase Name	Phase Type	Start Date	End Date	Num Days	Num Days	Phase Description
1	Building Construction	Building Construction	1/1/2030	11/18/2030	5	230	
2	Architectural Coating	Architectural Coating	11/19/2030	12/16/2030	5	20	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Building Construction	Cranes	1	7.00	226	0.29

Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment	Worker Trip	Vendor Trip	Hauling Trip	Worker Trip	Vendor Trip	Hauling Trip	Worker Vehicle	Vendor	Hauling
Building Construction	9	101.00	15.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.2 Building Construction - 2030

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3041	7.9179	16.1313	0.0308		0.1476	0.1476		0.1476	0.1476		2,884.830	2,884.8300	0.1158		2,887.2617
Total	**1.3041**	**7.9179**	**16.1313**	**0.0308**		**0.1476**	**0.1476**		**0.1476**	**0.1476**		**2,884.830**	**2,884.8300**	**0.1158**		**2,887.2617**

1.5841

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0959	0.5865	1.6793	3.2300e-	0.0984	0.0108	0.1092	0.0281	9.9100e-	0.0380		301.0841	301.0841	2.0600e-		301.1273
Worker	0.1841	0.1701	2.2794	0.0105	0.8297	6.1200e-	0.8358	0.2201	5.6800e-	0.2258		664.6920	664.6920	0.0226		665.1657
Total	**0.2800**	**0.7566**	**3.9586**	**0.0137**	**0.9281**	**0.0169**	**0.9450**	**0.2481**	**0.0156**	**0.2637**		**965.7761**	**965.7761**	**0.0246**		**966.2930**

3.3 Architectural Coating - 2030

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	219.0038					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1308	0.8563	1.7977	2.9700e-		0.0203	0.0203		0.0203	0.0203		281.4481	281.4481	0.0114		281.6873
Total	**219.1345**	**0.8563**	**1.7977**	**2.9700e-**		**0.0203**	**0.0203**		**0.0203**	**0.0203**		**281.4481**	**281.4481**	**0.0114**		**281.6873**

219.17
8.9275

Unmitigated Construction Off-Site

AC Red
10
250
96%
4.00%

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

Worker	0.0365	0.0337	0.4514	2.0700e-	0.1643	1.2100e-	0.1655	0.0436	1.1300e-	0.0447		131.6222	131.6222	4.4700e-		131.7160
Total	**0.0365**	**0.0337**	**0.4514**	**2.0700e-**	**0.1643**	**1.2100e-**	**0.1655**	**0.0436**	**1.1300e-**	**0.0447**		**131.6222**	**131.6222**	**4.4700e-**		**131.7160**

Pedregal Mult-Family In Tract

El Dorado-Mountain County County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Low Rise	200.00	Dwelling Unit	11.00	200,000.00	572

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	70
Climate Zone	2			**Operational Year**	2025
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity	641.35	**CH4 Intensity**	0.029	**N2O Intensity**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - site preparation, grading, underground utilities, and paving
Land Use - Acres from PD
Construction Phase - 2028 schedule
Off-road Equipment - Equipment from client
Grading - Acres from PD

Table Name	Column Name	Default Value	New Value
tblGrading	AcresOfGrading	75.00	11.00
tblLandUse	LotAcreage	12.50	11.00
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.36	0.36
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders
tblProjectCharacteristics	OperationalYear	2014	2025
tblTripsAndVMT	HaulingTripNumber	0.00	2.00

3.0 Construction Detail

Construction Phase

Phase	Phase Name	Phase Type	Start Date	End Date	Num Days	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2028	1/14/2028	5	10	
2	Grading	Grading	1/15/2028	2/25/2028	5	30	
3	Underground Utilties	Trenching	2/26/2028	7/12/2028	5	98	
4	Paving	Paving	7/13/2028	8/9/2028	5	20	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Grading	Scrapers	2	8.00	361	0.48
Underground Utilties	Excavators	4	8.00	162	0.38
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Underground Utilties	Rubber Tired Loaders	3	8.00	199	0.36

Trips and VMT

Phase Name	Offroad Equipment	Worker Trip	Vendor Trip	Hauling Trip	Worker Trip	Vendor Trip	Hauling Trip	Worker Vehicle	Vendor	Hauling
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Underground Utilties	7	18.00	0.00	2.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.2 Site Preparation - 2028

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	2.5083	23.5257	24.8879	0.0392		1.0293	1.0293		0.9470	0.9470		3,793.840	3,793.8403	1.2270		3,819.6074
Total	**2.5083**	**23.5257**	**24.8879**	**0.0392**	**18.0663**	**1.0293**	**19.0956**	**9.9307**	**0.9470**	**10.8776**		**3,793.840**	**3,793.8403**	**1.2270**		**3,819.6074**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0357	0.0326	0.4322	1.8600e-	0.1479	1.0800e-	0.1490	0.0392	1.0100e-	0.0402		119.8400	119.8400	4.2100e-		119.9284
Total	**0.0357**	**0.0326**	**0.4322**	**1.8600e-**	**0.1479**	**1.0800e-**	**0.1490**	**0.0392**	**1.0100e-**	**0.0402**		**119.8400**	**119.8400**	**4.2100e-**		**119.9284**

3.3 Grading - 2028

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.4109	0.0000	6.4109	3.3522	0.0000	3.3522			0.0000			0.0000
Off-Road	3.0022	27.2606	31.3515	0.0618		1.1867	1.1867		1.0918	1.0918		5,982.352	5,982.3526	1.9348		6,022.9837
Total	**3.0022**	**27.2606**	**31.3515**	**0.0618**	**6.4109**	**1.1867**	**7.5976**	**3.3522**	**1.0918**	**4.4440**		**5,982.352**	**5,982.3526**	**1.9348**		**6,022.9837**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0397	0.0362	0.4802	2.0700e-	0.1643	1.2000e-	0.1655	0.0436	1.1200e-	0.0447		133.1556	133.1556	4.6800e-		133.2537
Total	**0.0397**	**0.0362**	**0.4802**	**2.0700e-**	**0.1643**	**1.2000e-**	**0.1655**	**0.0436**	**1.1200e-**	**0.0447**		**133.1556**	**133.1556**	**4.6800e-**		**133.2537**

3.4 Underground Utilties - 2028

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3645	10.5289	17.7837	0.0398		0.4314	0.4314		0.3969	0.3969		3,852.249	3,852.2493	1.2459		3,878.4131
Total	**1.3645**	**10.5289**	**17.7837**	**0.0398**		**0.4314**	**0.4314**		**0.3969**	**0.3969**		**3,852.249**	**3,852.2493**	**1.2459**		**3,878.4131**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	3.3000e-	2.4300e-	8.3900e-	1.0000e-	3.4000e-	5.0000e-	3.9000e-	9.0000e-	4.0000e-	1.4000e-		1.1808	1.1808	1.0000e-		1.1810
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0357	0.0326	0.4322	1.8600e-	0.1479	1.0800e-	0.1490	0.0392	1.0100e-	0.0402		119.8400	119.8400	4.2100e-		119.9284
Total	**0.0360**	**0.0350**	**0.4406**	**1.8700e-**	**0.1482**	**1.1300e-**	**0.1493**	**0.0393**	**1.0500e-**	**0.0404**		**121.0208**	**121.0208**	**4.2200e-**		**121.1094**

3.5 Paving - 2028

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8973	8.4215	14.2781	0.0223		0.4109	0.4109		0.3781	0.3781		2,159.796	2,159.7967	0.6985		2,174.4656
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.8973**	**8.4215**	**14.2781**	**0.0223**		**0.4109**	**0.4109**		**0.3781**	**0.3781**		**2,159.796**	**2,159.7967**	**0.6985**		**2,174.4656**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0297	0.0272	0.3602	1.5500e-	0.1232	9.0000e-	0.1241	0.0327	8.4000e-	0.0335		99.8667	99.8667	3.5100e-		99.9403
Total	**0.0297**	**0.0272**	**0.3602**	**1.5500e-**	**0.1232**	**9.0000e-**	**0.1241**	**0.0327**	**8.4000e-**	**0.0335**		**99.8667**	**99.8667**	**3.5100e-**		**99.9403**

Pedregal Single Family Custom In Tract

El Dorado-Mountain County County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	37.00	Dwelling Unit	45.00	66,600.00	106

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	70
Climate Zone	2			**Operational Year**	2025
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity	641.35	**CH4 Intensity**	0.029	**N2O Intensity**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - site preparation, grading, underground utilities, and paving
Land Use - Acres from PD
Construction Phase - Scaled days to 2016-2017 schedule
Off-road Equipment - Equipment from client
Grading - Acres from PD

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	75.00	145.00
tblConstructionPhase	NumDays	55.00	107.00
tblConstructionPhase	NumDays	30.00	58.00
tblGrading	AcresOfGrading	362.50	45.00
tblLandUse	LotAcreage	12.01	45.00
tblOffRoadEquipment	LoadFactor	0.36	0.37
tblOffRoadEquipment	LoadFactor	0.38	0.45
tblOffRoadEquipment	OffRoadEquipmentType	Tractors/Loaders/Backhoes	Rubber Tired Loaders
tblOffRoadEquipment	OffRoadEquipmentType	Welders	Excavators
tblProjectCharacteristics	OperationalYear	2014	2025
tblTripsAndVMT	VendorTripNumber	0.00	2.00

3.0 Construction Detail

Construction Phase

Phase	Phase Name	Phase Type	Start Date	End Date	Num Days	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2016	3/22/2016	5	58	
2	Grading	Grading	3/23/2016	10/11/2016	5	145	
3	Underground Utilities	Trenching	10/12/2016	2/24/2017	5	98	
4	Paving	Paving	2/25/2017	7/25/2017	5	107	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	2	8.00	162	0.38
Paving	Pavers	2	8.00	125	0.42
Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Underground Utilities	Rubber Tired Loaders	3	8.00	199	0.37
Grading	Graders	1	8.00	174	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	130	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Grading	Scrapers	2	8.00	361	0.48
Underground Utilities	Excavators	4	8.00	162	0.45

Trips and VMT

Phase Name	Offroad Equipment	Worker Trip	Vendor Trip	Hauling Trip	Worker Trip	Vendor Trip	Hauling Trip	Worker Vehicle	Vendor	Hauling
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Underground Utilities	7	18.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.2 Site Preparation - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000

Off-Road	5.0771	54.6323	41.1053	0.0391		2.9387	2.9387		2.7036	2.7036		4,065.005	4,065.0053	1.2262		4,090.7544
Total	**5.0771**	**54.6323**	**41.1053**	**0.0391**	**18.0663**	**2.9387**	**21.0049**	**9.9307**	**2.7036**	**12.6343**		**4,065.005**	**4,065.0053**	**1.2262**		**4,090.7544**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0806	0.0738	0.9563	1.8900e-	0.1479	1.1800e-	0.1491	0.0392	1.0800e-	0.0403		155.2844	155.2844	7.7500e-		155.4472
Total	**0.0806**	**0.0738**	**0.9563**	**1.8900e-**	**0.1479**	**1.1800e-**	**0.1491**	**0.0392**	**1.0800e-**	**0.0403**		**155.2844**	**155.2844**	**7.7500e-**		**155.4472**

3.3 Grading - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.3512	0.0000	6.3512	3.3458	0.0000	3.3458			0.0000			0.0000
Off-Road	6.4795	74.8137	49.1374	0.0617		3.5842	3.5842		3.2975	3.2975		6,414.980	6,414.9807	1.9350		6,455.6154
Total	**6.4795**	**74.8137**	**49.1374**	**0.0617**	**6.3512**	**3.5842**	**9.9355**	**3.3458**	**3.2975**	**6.6433**		**6,414.980**	**6,414.9807**	**1.9350**		**6,455.6154**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0895	0.0820	1.0625	2.1000e-	0.1643	1.3100e-	0.1656	0.0436	1.2000e-	0.0448		172.5383	172.5383	8.6100e-		172.7191
Total	**0.0895**	**0.0820**	**1.0625**	**2.1000e-**	**0.1643**	**1.3100e-**	**0.1656**	**0.0436**	**1.2000e-**	**0.0448**		**172.5383**	**172.5383**	**8.6100e-**		**172.7191**

3.4 Underground Utilities - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.3708	40.9157	21.8972	0.0440		1.7124	1.7124		1.5754	1.5754		4,567.027	4,567.0278	1.3776		4,595.9569
Total	**3.3708**	**40.9157**	**21.8972**	**0.0440**		**1.7124**	**1.7124**		**1.5754**	**1.5754**		**4,567.027**	**4,567.0278**	**1.3776**		**4,595.9569**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

Vendor	0.0271	0.1801	0.3996	4.1000e-	0.0129	2.7600e-	0.0157	3.6700e-	2.5400e-	6.2100e-		40.2789	40.2789	3.3000e-		40.2858
Worker	0.0806	0.0738	0.9563	1.8900e-	0.1479	1.1800e-	0.1491	0.0392	1.0800e-	0.0403		155.2844	155.2844	7.7500e-		155.4472
Total	**0.1077**	**0.2539**	**1.3559**	**2.3000e-**	**0.1608**	**3.9400e-**	**0.1647**	**0.0429**	**3.6200e-**	**0.0465**		**195.5633**	**195.5633**	**8.0800e-**		**195.7330**

3.4 Underground Utilities - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1677	37.5508	21.7261	0.0440		1.5672	1.5672		1.4418	1.4418		4,496.009	4,496.0093	1.3776		4,524.9382
Total	**3.1677**	**37.5508**	**21.7261**	**0.0440**		**1.5672**	**1.5672**		**1.4418**	**1.4418**		**4,496.009**	**4,496.0093**	**1.3776**		**4,524.9382**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0244	0.1669	0.3785	4.1000e-	0.0130	2.3900e-	0.0154	3.6800e-	2.2000e-	5.8800e-		40.1602	40.1602	3.1000e-		40.1667
Worker	0.0708	0.0655	0.8456	1.8900e-	0.1479	1.1300e-	0.1490	0.0392	1.0400e-	0.0403		149.1559	149.1559	7.0300e-		149.3035
Total	**0.0952**	**0.2324**	**1.2241**	**2.3000e-**	**0.1608**	**3.5200e-**	**0.1644**	**0.0429**	**3.2400e-**	**0.0461**		**189.3161**	**189.3161**	**7.3400e-**		**189.4701**

3.5 Paving - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9074	20.2964	14.7270	0.0223		1.1384	1.1384		1.0473	1.0473		2,281.058	2,281.0588	0.6989		2,295.7360
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.9074**	**20.2964**	**14.7270**	**0.0223**		**1.1384**	**1.1384**		**1.0473**	**1.0473**		**2,281.058**	**2,281.0588**	**0.6989**		**2,295.7360**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0590	0.0546	0.7046	1.5700e-	0.1232	9.4000e-	0.1242	0.0327	8.7000e-	0.0336		124.2966	124.2966	5.8600e-		124.4196
Total	**0.0590**	**0.0546**	**0.7046**	**1.5700e-**	**0.1232**	**9.4000e-**	**0.1242**	**0.0327**	**8.7000e-**	**0.0336**		**124.2966**	**124.2966**	**5.8600e-**		**124.4196**

Trails-Wetlands

El Dorado-Mountain County County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	1.00	Acre	1.00	43,560.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	70
Climate Zone	2			**Operational Year**	2030
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity	641.35	**CH4 Intensity**	0.029	**N2O Intensity**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -
Land Use - Acres from PD
Construction Phase - -
Off-road Equipment - -
Off-road Equipment - -

Table Name	Column Name	Default Value	New Value
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00

2.0 Emissions Summary

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	0.4713	4.2592	5.1901	8.0800e-	0.1479	0.2673	0.4152	0.0392	0.2459	0.2851	0.0000	733.1594	733.1594	0.2001	0.0000	737.3613
2021	0.4239	3.8374	5.1129	8.0800e-	0.1479	0.2246	0.3725	0.0392	0.2066	0.2459	0.0000	731.2647	731.2647	0.1999	0.0000	735.4630
2024	0.3301	2.9350	4.9737	8.1000e-	0.1479	0.1340	0.2819	0.0392	0.1233	0.1625	0.0000	727.7641	727.7641	0.1999	0.0000	731.9618
2025	0.3046	2.7069	4.9405	8.1100e-	0.1479	0.1093	0.2571	0.0392	0.1005	0.1398	0.0000	726.9906	726.9906	0.1999	0.0000	731.1891
Total	**2.2533**	**20.2448**	**30.2425**	**0.0486**	**0.8872**	**1.0691**	**1.9563**	**0.2353**	**0.9836**	**1.2190**	**0.0000**	**4,378.108**	**4,378.1083**	**1.1997**	**0.0000**	**4,403.3015**

6 acres of roads north of Serrano Parkway

El Dorado-Mountain County County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	6.00	Acre	6.00	261,360.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	70
Climate Zone	2			**Operational Year**	2025
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - site preparation, grading, underground utilities, and paving

Land Use - Acres from PD - Changed on 8/26/2015. Revisions to phasing table by Alice Tackett, from 10 acres to 12 acres. Assuming 6 acres in 2016-2017 and 6 acres in 2019, per previous schedule.

Construction Phase - 2019 schedule

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	30.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Paving	Paving	6/1/2019	7/12/2019	5	30	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.2 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4259	14.9353	14.3652	0.0223		0.8094	0.8094		0.7447	0.7447		2,208.9731	2,208.9731	0.6989		2,223.6499
Paving	0.5240					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.9499**	**14.9353**	**14.3652**	**0.0223**		**0.8094**	**0.8094**		**0.7447**	**0.7447**		**2,208.9731**	**2,208.9731**	**0.6989**		**2,223.6499**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0470	0.0442	0.5689	1.5500e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		114.1693	114.1693	4.9000e-003		114.2721
Total	**0.0470**	**0.0442**	**0.5689**	**1.5500e-003**	**0.1232**	**8.8000e-004**	**0.1241**	**0.0327**	**8.1000e-004**	**0.0335**		**114.1693**	**114.1693**	**4.9000e-003**		**114.2721**

6 acres of roads

El Dorado-Mountain County County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	6.00	Acre	6.00	261,360.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	70
Climate Zone	2			**Operational Year**	2025
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - site preparation, grading, underground utilities, and paving

Land Use - Acres from PD - Changed on 8/26/2015. Revisions to phasing table by Alice Tackett, from 10 acres to 12 acres. Assuming 6 acres in 2016-2017 and 6 acres in 2019, per previous schedule.

Construction Phase - 2016-2017 schedule

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	30.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description

1	Paving	Paving	12/15/2016	1/25/2017	5	30	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.2 Paving - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.0898	22.3859	14.8176	0.0223		1.2610	1.2610		1.1601	1.1601		2,316.3767	2,316.3767	0.6987		2,331.0495
Paving	0.5240					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.6138**	**22.3859**	**14.8176**	**0.0223**		**1.2610**	**1.2610**		**1.1601**	**1.1601**		**2,316.3767**	**2,316.3767**	**0.6987**		**2,331.0495**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

Worker	0.0671	0.0615	0.7969	1.5700e-003	0.1232	9.9000e-004	0.1242	0.0327	9.0000e-004	0.0336		129.4037	129.4037	6.4600e-003		129.5393
Total	**0.0671**	**0.0615**	**0.7969**	**1.5700e-003**	**0.1232**	**9.9000e-004**	**0.1242**	**0.0327**	**9.0000e-004**	**0.0336**		**129.4037**	**129.4037**	**6.4600e-003**		**129.5393**

3.2 Paving - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9074	20.2964	14.7270	0.0223		1.1384	1.1384		1.0473	1.0473		2,281.0588	2,281.0588	0.6989		2,295.7360
Paving	0.5240					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.4314**	**20.2964**	**14.7270**	**0.0223**		**1.1384**	**1.1384**		**1.0473**	**1.0473**		**2,281.0588**	**2,281.0588**	**0.6989**		**2,295.7360**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0590	0.0546	0.7046	1.5700e-003	0.1232	9.4000e-004	0.1242	0.0327	8.7000e-004	0.0336		124.2966	124.2966	5.8600e-003		124.4196
Total	**0.0590**	**0.0546**	**0.7046**	**1.5700e-003**	**0.1232**	**9.4000e-004**	**0.1242**	**0.0327**	**8.7000e-004**	**0.0336**		**124.2966**	**124.2966**	**5.8600e-003**		**124.4196**

Village Park

El Dorado-Mountain County County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	15.00	Acre	15.00	653,400.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	70
Climate Zone	2			**Operational Year**	2030
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity	641.35	**CH4 Intensity**	0.029	**N2O Intensity**	0.006

1.3 User Entered Comments & Non-Default Data

Land Use - Acres from PD

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	250.00

3.0 Construction Detail

Construction Phase

Phase	Phase Name	Phase Type	Start Date	End Date	Num Days	Num Days	Phase Description
1	Site Preparation	Site Preparation	6/1/2022	5/16/2023	5	250	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40

Trips and VMT

Phase Name	Offroad Equipment	Worker Trip	Vendor Trip	Hauling Trip	Worker Trip	Vendor Trip	Hauling Trip	Worker Vehicle	Vendor	Hauling
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.2 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.2212	32.6496	29.9722	0.0391		1.5473	1.5473		1.4236	1.4236		3,791.755	3,791.7552	1.2263		3,817.5081
Total	**3.2212**	**32.6496**	**29.9722**	**0.0391**	**18.0663**	**1.5473**	**19.6136**	**9.9307**	**1.4236**	**11.3542**		**3,791.755**	**3,791.7552**	**1.2263**		**3,817.5081**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0468	0.0430	0.5587	1.8600e-	0.1479	1.0500e-	0.1489	0.0392	9.8000e-	0.0402		127.5214	127.5214	5.0600e-		127.6277
Total	**0.0468**	**0.0430**	**0.5587**	**1.8600e-**	**0.1479**	**1.0500e-**	**0.1489**	**0.0392**	**9.8000e-**	**0.0402**		**127.5214**	**127.5214**	**5.0600e-**		**127.6277**

3.2 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.0157	29.9342	28.8193	0.0392		1.3907	1.3907		1.2795	1.2795		3,793.953	3,793.9535	1.2270		3,819.7214
Total	**3.0157**	**29.9342**	**28.8193**	**0.0392**	**18.0663**	**1.3907**	**19.4570**	**9.9307**	**1.2795**	**11.2102**		**3,793.953**	**3,793.9535**	**1.2270**		**3,819.7214**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0444	0.0406	0.5280	1.8600e-	0.1479	1.0500e-	0.1489	0.0392	9.8000e-	0.0402		125.7772	125.7772	4.8600e-		125.8793
Total	**0.0444**	**0.0406**	**0.5280**	**1.8600e-**	**0.1479**	**1.0500e-**	**0.1489**	**0.0392**	**9.8000e-**	**0.0402**		**125.7772**	**125.7772**	**4.8600e-**		**125.8793**

Westside - Condo - Townhome North In Tract

El Dorado-Mountain County County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Condo/Townhouse	84.00	Dwelling Unit	10.00	84,000.00	240

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	70
Climate Zone	2			**Operational Year**	2025
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity	641.35	**CH4 Intensity**	0.029	**N2O Intensity**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - site preparation, grading, underground utilities, and paving
Land Use - Acres from PD
Construction Phase - 2019 schedule
Off-road Equipment - Equipment from client

Table Name	Column Name	Default Value	New Value
tblGrading	AcresOfGrading	50.00	10.00
tblLandUse	LotAcreage	5.25	10.00
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.36	0.36
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders
tblProjectCharacteristics	OperationalYear	2014	2025
tblTripsAndVMT	HaulingTripNumber	0.00	2.00

3.0 Construction Detail

Construction Phase

Phase	Phase Name	Phase Type	Start Date	End Date	Num Days	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2019	1/14/2019	5	10	
2	Grading	Grading	1/15/2019	2/11/2019	5	20	
3	Underground Utilities	Trenching	2/12/2019	6/27/2019	5	98	
4	Paving	Paving	6/28/2019	7/25/2019	5	20	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Scrapers	2	8.00	361	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Underground Utilities	Excavators	4	8.00	162	0.38
Underground Utilities	Rubber Tired Loaders	3	8.00	199	0.36
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment	Worker Trip	Vendor Trip	Hauling Trip	Worker Trip	Vendor Trip	Hauling Trip	Worker Vehicle	Vendor	Hauling
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Underground Utilities	7	18.00	0.00	2.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.0188	42.5046	34.8088	0.0391		2.1505	2.1505		1.9784	1.9784		3,876.723	3,876.7233	1.2266		3,902.4810
Total	**4.0188**	**42.5046**	**34.8088**	**0.0391**	**18.0663**	**2.1505**	**20.2167**	**9.9307**	**1.9784**	**11.9091**		**3,876.723**	**3,876.7233**	**1.2266**		**3,902.4810**

Unmitigated Construction Off-Site

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

Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0564	0.0530	0.6827	1.8700e-	0.1479	1.0600e-	0.1489	0.0392	9.8000e-	0.0402		137.0031	137.0031	5.8800e-		137.1266
Total	**0.0564**	**0.0530**	**0.6827**	**1.8700e-**	**0.1479**	**1.0600e-**	**0.1489**	**0.0392**	**9.8000e-**	**0.0402**		**137.0031**	**137.0031**	**5.8800e-**		**137.1266**

3.3 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	4.8912	54.1978	40.2888	0.0617		2.5049	2.5049		2.3045	2.3045		6,111.312	6,111.3121	1.9336		6,151.9167
Total	**4.8912**	**54.1978**	**40.2888**	**0.0617**	**6.5523**	**2.5049**	**9.0573**	**3.3675**	**2.3045**	**5.6720**		**6,111.312**	**6,111.3121**	**1.9336**		**6,151.9167**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0627	0.0589	0.7586	2.0700e-	0.1643	1.1700e-	0.1655	0.0436	1.0900e-	0.0447		152.2257	152.2257	6.5300e-		152.3629
Total	**0.0627**	**0.0589**	**0.7586**	**2.0700e-**	**0.1643**	**1.1700e-**	**0.1655**	**0.0436**	**1.0900e-**	**0.0447**		**152.2257**	**152.2257**	**6.5300e-**		**152.3629**

3.4 Underground Utilities - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.2533	25.3188	18.4120	0.0398		1.0114	1.0114		0.9305	0.9305		3,935.679	3,935.6794	1.2452		3,961.8287
Total	**2.2533**	**25.3188**	**18.4120**	**0.0398**		**1.0114**	**1.0114**		**0.9305**	**0.9305**		**3,935.679**	**3,935.6794**	**1.2452**		**3,961.8287**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	5.0000e-	4.1200e-	0.0120	1.0000e-	3.4000e-	4.0000e-	3.8000e-	9.0000e-	4.0000e-	1.3000e-		1.1373	1.1373	1.0000e-		1.1375
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0564	0.0530	0.6827	1.8700e-	0.1479	1.0600e-	0.1489	0.0392	9.8000e-	0.0402		137.0031	137.0031	5.8800e-		137.1266
Total	**0.0569**	**0.0571**	**0.6947**	**1.8800e-**	**0.1482**	**1.1000e-**	**0.1493**	**0.0393**	**1.0200e-**	**0.0403**		**138.1405**	**138.1405**	**5.8900e-**		**138.2641**

3.5 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4259	14.9353	14.3652	0.0223		0.8094	0.8094		0.7447	0.7447		2,208.973	2,208.9731	0.6989		2,223.6499
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.4259**	**14.9353**	**14.3652**	**0.0223**		**0.8094**	**0.8094**		**0.7447**	**0.7447**		**2,208.973**	**2,208.9731**	**0.6989**		**2,223.6499**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0470	0.0442	0.5689	1.5500e-	0.1232	8.8000e-	0.1241	0.0327	8.1000e-	0.0335		114.1693	114.1693	4.9000e-		114.2721
Total	**0.0470**	**0.0442**	**0.5689**	**1.5500e-**	**0.1232**	**8.8000e-**	**0.1241**	**0.0327**	**8.1000e-**	**0.0335**		**114.1693**	**114.1693**	**4.9000e-**		**114.2721**

Westside - Single Family Detached Product In Tract

El Dorado-Mountain County County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	123.00	Dwelling Unit	23.00	221,400.00	352

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	70
Climate Zone	2			**Operational Year**	2025
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity	641.35	**CH4 Intensity**	0.029	**N2O Intensity**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - site preparation, grading, underground utilities, and paving
Land Use - Acres from PD
Construction Phase - 2017-2018 schedule
Off-road Equipment - Equipment from client
Grading - Acres from PD

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	PhaseEndDate	2/9/2018	2/8/2018
tblConstructionPhase	PhaseStartDate	9/27/2017	9/26/2017
tblGrading	AcresOfGrading	87.50	23.00
tblLandUse	LotAcreage	39.94	23.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	3.00
tblOffRoadEquipment	PhaseName		Underground Utiltiies
tblOffRoadEquipment	PhaseName		Underground Utiltiies
tblProjectCharacteristics	OperationalYear	2014	2025
tblTripsAndVMT	HaulingTripNumber	0.00	2.00

3.0 Construction Detail

Construction Phase

Phase	Phase Name	Phase Type	Start Date	End Date	Num Days	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/26/2017	8/8/2017	5	10	
2	Grading	Grading	8/9/2017	9/26/2017	5	35	
3	Underground Utiltiies	Trenching	9/26/2017	2/8/2018	5	98	
4	Paving	Paving	2/9/2018	3/8/2018	5	20	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Scrapers	2	8.00	361	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Underground Utiltiies	Excavators	4	8.00	162	0.38
Underground Utiltiies	Rubber Tired Loaders	3	8.00	199	0.36
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment	Worker Trip	Vendor Trip	Hauling Trip	Worker Trip	Vendor Trip	Hauling Trip	Worker Vehicle	Vendor	Hauling
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Underground Utiltiies	7	18.00	0.00	2.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.2 Site Preparation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.8382	51.7535	39.3970	0.0391		2.7542	2.7542		2.5339	2.5339		4,003.085	4,003.0859	1.2265		4,028.8432
Total	**4.8382**	**51.7535**	**39.3970**	**0.0391**	**18.0663**	**2.7542**	**20.8205**	**9.9307**	**2.5339**	**12.4646**		**4,003.085**	**4,003.0859**	**1.2265**		**4,028.8432**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0708	0.0655	0.8456	1.8900e-	0.1479	1.1300e-	0.1490	0.0392	1.0400e-	0.0403		149.1559	149.1559	7.0300e-		149.3035
Total	**0.0708**	**0.0655**	**0.8456**	**1.8900e-**	**0.1479**	**1.1300e-**	**0.1490**	**0.0392**	**1.0400e-**	**0.0403**		**149.1559**	**149.1559**	**7.0300e-**		**149.3035**

3.3 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.7190	0.0000	6.7190	3.3855	0.0000	3.3855			0.0000			0.0000
Off-Road	6.0991	69.5920	46.8050	0.0617		3.3172	3.3172		3.0518	3.0518		6,313.369	6,313.3690	1.9344		6,353.9915
Total	**6.0991**	**69.5920**	**46.8050**	**0.0617**	**6.7190**	**3.3172**	**10.0362**	**3.3855**	**3.0518**	**6.4373**		**6,313.369**	**6,313.3690**	**1.9344**		**6,353.9915**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0787	0.0727	0.9395	2.1000e-	0.1643	1.2600e-	0.1656	0.0436	1.1500e-	0.0447		165.7288	165.7288	7.8100e-		165.8927
Total	**0.0787**	**0.0727**	**0.9395**	**2.1000e-**	**0.1643**	**1.2600e-**	**0.1656**	**0.0436**	**1.1500e-**	**0.0447**		**165.7288**	**165.7288**	**7.8100e-**		**165.8927**

3.4 Underground Utiltiies - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.8616	34.0904	19.0561	0.0396		1.4045	1.4045		1.2921	1.2921		4,044.964	4,044.9649	1.2394		4,070.9917
Total	**2.8616**	**34.0904**	**19.0561**	**0.0396**		**1.4045**	**1.4045**		**1.2921**	**1.2921**		**4,044.964**	**4,044.9649**	**1.2394**		**4,070.9917**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	5.7000e-	4.6100e-	0.0133	1.0000e-	4.5000e-	5.0000e-	5.0000e-	1.2000e-	4.0000e-	1.6000e-		1.1382	1.1382	1.0000e-		1.1383
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0708	0.0655	0.8456	1.8900e-	0.1479	1.1300e-	0.1490	0.0392	1.0400e-	0.0403		149.1559	149.1559	7.0300e-		149.3035

Total	**0.0714**	**0.0701**	**0.8589**	**1.9000e-**	**0.1483**	**1.1800e-**	**0.1495**	**0.0393**	**1.0800e-**	**0.0404**		**150.2941**	**150.2941**	**7.0400e-**		**150.4418**

3.4 Underground Utiltiies - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.4499	28.3570	18.5381	0.0396		1.1469	1.1469		1.0552	1.0552		3,980.369	3,980.3697	1.2391		4,006.3917
Total	**2.4499**	**28.3570**	**18.5381**	**0.0396**		**1.1469**	**1.1469**		**1.0552**	**1.0552**		**3,980.369**	**3,980.3697**	**1.2391**		**4,006.3917**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	5.2000e-	4.3200e-	0.0124	1.0000e-	9.8000e-	4.0000e-	1.0200e-	2.5000e-	4.0000e-	2.9000e-		1.1323	1.1323	1.0000e-		1.1325
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0623	0.0584	0.7513	1.8900e-	0.1479	1.0900e-	0.1490	0.0392	1.0100e-	0.0402		143.5236	143.5236	6.4100e-		143.6583
Total	**0.0628**	**0.0627**	**0.7637**	**1.9000e-**	**0.1489**	**1.1300e-**	**0.1500**	**0.0395**	**1.0500e-**	**0.0405**		**144.6559**	**144.6559**	**6.4200e-**		**144.7907**

3.5 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6114	17.1628	14.4944	0.0223		0.9386	0.9386		0.8635	0.8635		2,245.269	2,245.2695	0.6990		2,259.9481
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.6114**	**17.1628**	**14.4944**	**0.0223**		**0.9386**	**0.9386**		**0.8635**	**0.8635**		**2,245.269**	**2,245.2695**	**0.6990**		**2,259.9481**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0519	0.0487	0.6261	1.5700e-	0.1232	9.1000e-	0.1241	0.0327	8.4000e-	0.0335		119.6030	119.6030	5.3500e-		119.7152
Total	**0.0519**	**0.0487**	**0.6261**	**1.5700e-**	**0.1232**	**9.1000e-**	**0.1241**	**0.0327**	**8.4000e-**	**0.0335**		**119.6030**	**119.6030**	**5.3500e-**		**119.7152**

Westside Mult-Familv South In Tract

El Dorado-Mountain County County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Low Rise	230.00	Dwelling Unit	13.00	230,000.00	658

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	70
Climate Zone	2			**Operational Year**	2025
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity	641.35	**CH4 Intensity**	0.029	**N2O Intensity**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - site preparation, grading, underground utilities, and paving
Land Use - Acres from PD
Construction Phase - 2018 schedule
Off-road Equipment - Equipment from client
Grading - Acres from PD

Table Name	Column Name	Default Value	New Value
tblGrading	AcresOfGrading	75.00	13.00
tblLandUse	LotAcreage	14.38	13.00
tblOffRoadEquipment	LoadFactor	0.36	0.36
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblProjectCharacteristics	OperationalYear	2014	2025
tblTripsAndVMT	HaulingTripNumber	0.00	2.00

3.0 Construction Detail

Construction Phase

Phase	Phase Name	Phase Type	Start Date	End Date	Num Days	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2018	1/12/2018	5	10	
2	Grading	Grading	1/13/2018	2/23/2018	5	30	
3	Underground Utilties	Trenching	2/24/2018	7/11/2018	5	98	
4	Paving	Paving	7/12/2018	8/8/2018	5	20	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Scrapers	2	8.00	361	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Underground Utilties	Rubber Tired Loaders	3	8.00	199	0.36
Underground Utilties	Excavators	4	8.00	162	0.38
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment	Worker Trip	Vendor Trip	Hauling Trip	Worker Trip	Vendor Trip	Hauling Trip	Worker Vehicle	Vendor	Hauling
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Underground Utilties	7	18.00	0.00	2.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.2 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.2921	45.6088	36.2346	0.0391		2.3654	2.3654		2.1762	2.1762		3,939.773	3,939.7731	1.2265		3,965.5297
Total	**4.2921**	**45.6088**	**36.2346**	**0.0391**	**18.0663**	**2.3654**	**20.4317**	**9.9307**	**2.1762**	**12.1069**		**3,939.773**	**3,939.7731**	**1.2265**		**3,965.5297**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0623	0.0584	0.7513	1.8900e-	0.1479	1.0900e-	0.1490	0.0392	1.0100e-	0.0402		143.5236	143.5236	6.4100e-		143.6583
Total	**0.0623**	**0.0584**	**0.7513**	**1.8900e-**	**0.1479**	**1.0900e-**	**0.1490**	**0.0392**	**1.0100e-**	**0.0402**		**143.5236**	**143.5236**	**6.4100e-**		**143.6583**

3.3 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.4816	0.0000	6.4816	3.3599	0.0000	3.3599			0.0000			0.0000
Off-Road	5.2895	59.5338	42.3068	0.0617		2.7880	2.7880		2.5650	2.5650		6,212.804	6,212.8042	1.9341		6,253.4209
Total	**5.2895**	**59.5338**	**42.3068**	**0.0617**	**6.4816**	**2.7880**	**9.2697**	**3.3599**	**2.5650**	**5.9248**		**6,212.804**	**6,212.8042**	**1.9341**		**6,253.4209**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0692	0.0649	0.8347	2.1000e-	0.1643	1.2100e-	0.1655	0.0436	1.1200e-	0.0447		159.4706	159.4706	7.1300e-		159.6203
Total	**0.0692**	**0.0649**	**0.8347**	**2.1000e-**	**0.1643**	**1.2100e-**	**0.1655**	**0.0436**	**1.1200e-**	**0.0447**		**159.4706**	**159.4706**	**7.1300e-**		**159.6203**

3.4 Underground Utilties - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.4622	28.4988	18.6308	0.0398		1.1526	1.1526		1.0604	1.0604		4,000.271	4,000.2716	1.2453		4,026.4237
Total	**2.4622**	**28.4988**	**18.6308**	**0.0398**		**1.1526**	**1.1526**		**1.0604**	**1.0604**		**4,000.271**	**4,000.2716**	**1.2453**		**4,026.4237**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	5.2000e-	4.3200e-	0.0124	1.0000e-	3.4000e-	4.0000e-	3.8000e-	9.0000e-	4.0000e-	1.3000e-		1.1323	1.1323	1.0000e-		1.1325
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0623	0.0584	0.7513	1.8900e-	0.1479	1.0900e-	0.1490	0.0392	1.0100e-	0.0402		143.5236	143.5236	6.4100e-		143.6583
Total	**0.0628**	**0.0627**	**0.7637**	**1.9000e-**	**0.1482**	**1.1300e-**	**0.1493**	**0.0393**	**1.0500e-**	**0.0404**		**144.6559**	**144.6559**	**6.4200e-**		**144.7907**

3.5 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6114	17.1628	14.4944	0.0223		0.9386	0.9386		0.8635	0.8635		2,245.269	2,245.2695	0.6990		2,259.9481
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.6114**	**17.1628**	**14.4944**	**0.0223**		**0.9386**	**0.9386**		**0.8635**	**0.8635**		**2,245.269**	**2,245.2695**	**0.6990**		**2,259.9481**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0519	0.0487	0.6261	1.5700e-	0.1232	9.1000e-	0.1241	0.0327	8.4000e-	0.0335		119.6030	119.6030	5.3500e-		119.7152
Total	**0.0519**	**0.0487**	**0.6261**	**1.5700e-**	**0.1232**	**9.1000e-**	**0.1241**	**0.0327**	**8.4000e-**	**0.0335**		**119.6030**	**119.6030**	**5.3500e-**		**119.7152**

Westside Mult-Familv North In Tract

El Dorado-Mountain County County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Low Rise	100.00	Dwelling Unit	5.00	100,000.00	286

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	70
Climate Zone	2			**Operational Year**	2025
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity	641.35	**CH4 Intensity**	0.029	**N2O Intensity**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - site preparation, grading, underground utilities, and paving
Land Use - Acres from PD
Construction Phase - 2027 schedule
Off-road Equipment - Equipment from client
Grading - Acres from PD

Table Name	Column Name	Default Value	New Value
tblGrading	AcresOfGrading	4.00	5.00
tblLandUse	LotAcreage	6.25	5.00
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.36	0.36
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders
tblProjectCharacteristics	OperationalYear	2014	2025
tblTripsAndVMT	HaulingTripNumber	0.00	2.00

3.0 Construction Detail

Construction Phase

Phase	Phase Name	Phase Type	Start Date	End Date	Num Days	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2027	1/7/2027	5	5	
2	Grading	Grading	1/8/2027	1/19/2027	5	8	
3	Underground Utiltiies	Trenching	1/20/2027	6/4/2027	5	98	
4	Paving	Paving	6/5/2027	6/30/2027	5	18	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Underground Utiltiies	Excavators	4	8.00	162	0.38
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Underground Utiltiies	Rubber Tired Loaders	3	8.00	199	0.36
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment	Worker Trip	Vendor Trip	Hauling Trip	Worker Trip	Vendor Trip	Hauling Trip	Worker Vehicle	Vendor	Hauling
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Underground Utiltiies	7	18.00	0.00	2.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.2 Site Preparation - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	2.5083	23.5257	24.8879	0.0392		1.0293	1.0293		0.9470	0.9470		3,793.840	3,793.8403	1.2270		3,819.6074
Total	**2.5083**	**23.5257**	**24.8879**	**0.0392**	**18.0663**	**1.0293**	**19.0956**	**9.9307**	**0.9470**	**10.8776**		**3,793.840**	**3,793.8403**	**1.2270**		**3,819.6074**

Unmitigated Construction Off-Site

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

Category	lb/day											lb/day				
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0371	0.0339	0.4466	1.8600e-	0.1479	1.0800e-	0.1489	0.0392	1.0000e-	0.0402		120.7075	120.7075	4.3100e-		120.7980
Total	**0.0371**	**0.0339**	**0.4466**	**1.8600e-**	**0.1479**	**1.0800e-**	**0.1489**	**0.0392**	**1.0000e-**	**0.0402**		**120.7075**	**120.7075**	**4.3100e-**		**120.7980**

3.3 Grading - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.6849	0.0000	6.6849	3.3818	0.0000	3.3818			0.0000			0.0000
Off-Road	1.6413	14.8099	19.6541	0.0298		0.6861	0.6861		0.6312	0.6312		2,883.114	2,883.1144	0.9325		2,902.6960
Total	**1.6413**	**14.8099**	**19.6541**	**0.0298**	**6.6849**	**0.6861**	**7.3710**	**3.3818**	**0.6312**	**4.0130**		**2,883.114**	**2,883.1144**	**0.9325**		**2,902.6960**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0310	0.0282	0.3722	1.5500e-	0.1232	9.0000e-	0.1241	0.0327	8.3000e-	0.0335		100.5896	100.5896	3.5900e-		100.6650
Total	**0.0310**	**0.0282**	**0.3722**	**1.5500e-**	**0.1232**	**9.0000e-**	**0.1241**	**0.0327**	**8.3000e-**	**0.0335**		**100.5896**	**100.5896**	**3.5900e-**		**100.6650**

3.4 Underground Utiltiies - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3645	10.5289	17.7837	0.0398		0.4314	0.4314		0.3969	0.3969		3,852.249	3,852.2493	1.2459		3,878.4131
Total	**1.3645**	**10.5289**	**17.7837**	**0.0398**		**0.4314**	**0.4314**		**0.3969**	**0.3969**		**3,852.249**	**3,852.2493**	**1.2459**		**3,878.4131**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	3.3000e-	2.4500e-	8.5500e-	1.0000e-	3.4000e-	5.0000e-	3.9000e-	9.0000e-	4.0000e-	1.3000e-		1.1728	1.1728	1.0000e-		1.1730
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0371	0.0339	0.4466	1.8600e-	0.1479	1.0800e-	0.1489	0.0392	1.0000e-	0.0402		120.7075	120.7075	4.3100e-		120.7980
Total	**0.0375**	**0.0363**	**0.4552**	**1.8700e-**	**0.1482**	**1.1300e-**	**0.1493**	**0.0393**	**1.0400e-**	**0.0404**		**121.8803**	**121.8803**	**4.3200e-**		**121.9710**

3.5 Paving - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8973	8.4215	14.2781	0.0223		0.4109	0.4109		0.3781	0.3781		2,159.796	2,159.7967	0.6985		2,174.4656
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.8973**	**8.4215**	**14.2781**	**0.0223**		**0.4109**	**0.4109**		**0.3781**	**0.3781**		**2,159.796**	**2,159.7967**	**0.6985**		**2,174.4656**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0310	0.0282	0.3722	1.5500e-	0.1232	9.0000e-	0.1241	0.0327	8.3000e-	0.0335		100.5896	100.5896	3.5900e-		100.6650
Total	**0.0310**	**0.0282**	**0.3722**	**1.5500e-**	**0.1232**	**9.0000e-**	**0.1241**	**0.0327**	**8.3000e-**	**0.0335**		**100.5896**	**100.5896**	**3.5900e-**		**100.6650**

Westside Half Plex In Tract

El Dorado-Mountain County County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Condo/Townhouse	142.00	Dwelling Unit	17.00	142,000.00	406

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	70
Climate Zone	2			**Operational Year**	2025
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity	641.35	**CH4 Intensity**	0.029	**N2O Intensity**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - site preparation, grading, underground utilities, and paving
Land Use - Acres from PD
Construction Phase - 2019 schedule
Off-road Equipment - Equipment from client

Table Name	Column Name	Default Value	New Value
tblGrading	AcresOfGrading	75.00	17.00
tblLandUse	LotAcreage	8.88	17.00
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.36	0.36
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders
tblProjectCharacteristics	OperationalYear	2014	2025
tblTripsAndVMT	HaulingTripNumber	0.00	2.00

3.0 Construction Detail

Construction Phase

Phase	Phase Name	Phase Type	Start Date	End Date	Num Days	Num Days	Phase Description
1	Site Preparation	Site Preparation	5/24/2019	6/6/2019	5	10	
2	Grading	Grading	6/7/2019	7/18/2019	5	30	
3	Underground Utilities	Trenching	7/19/2019	12/3/2019	5	98	
4	Paving	Paving	12/4/2019	12/31/2019	5	20	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Scrapers	2	8.00	361	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Underground Utilities	Excavators	4	8.00	162	0.38
Underground Utilities	Rubber Tired Loaders	3	8.00	199	0.36
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment	Worker Trip	Vendor Trip	Hauling Trip	Worker Trip	Vendor Trip	Hauling Trip	Worker Vehicle	Vendor	Hauling
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Underground Utilities	7	18.00	0.00	2.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.0188	42.5046	34.8088	0.0391		2.1505	2.1505		1.9784	1.9784		3,876.723	3,876.7233	1.2266		3,902.4810
Total	**4.0188**	**42.5046**	**34.8088**	**0.0391**	**18.0663**	**2.1505**	**20.2167**	**9.9307**	**1.9784**	**11.9091**		**3,876.723**	**3,876.7233**	**1.2266**		**3,902.4810**

Unmitigated Construction Off-Site

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

Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0564	0.0530	0.6827	1.8700e-	0.1479	1.0600e-	0.1489	0.0392	9.8000e-	0.0402		137.0031	137.0031	5.8800e-		137.1266
Total	**0.0564**	**0.0530**	**0.6827**	**1.8700e-**	**0.1479**	**1.0600e-**	**0.1489**	**0.0392**	**9.8000e-**	**0.0402**		**137.0031**	**137.0031**	**5.8800e-**		**137.1266**

3.3 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.6230	0.0000	6.6230	3.3751	0.0000	3.3751			0.0000			0.0000
Off-Road	4.8912	54.1978	40.2888	0.0617		2.5049	2.5049		2.3045	2.3045		6,111.312	6,111.3121	1.9336		6,151.9167
Total	**4.8912**	**54.1978**	**40.2888**	**0.0617**	**6.6230**	**2.5049**	**9.1280**	**3.3751**	**2.3045**	**5.6797**		**6,111.312**	**6,111.3121**	**1.9336**		**6,151.9167**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0627	0.0589	0.7586	2.0700e-	0.1643	1.1700e-	0.1655	0.0436	1.0900e-	0.0447		152.2257	152.2257	6.5300e-		152.3629
Total	**0.0627**	**0.0589**	**0.7586**	**2.0700e-**	**0.1643**	**1.1700e-**	**0.1655**	**0.0436**	**1.0900e-**	**0.0447**		**152.2257**	**152.2257**	**6.5300e-**		**152.3629**

3.4 Underground Utilities - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.2533	25.3188	18.4120	0.0398		1.0114	1.0114		0.9305	0.9305		3,935.679	3,935.6794	1.2452		3,961.8287
Total	**2.2533**	**25.3188**	**18.4120**	**0.0398**		**1.0114**	**1.0114**		**0.9305**	**0.9305**		**3,935.679**	**3,935.6794**	**1.2452**		**3,961.8287**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	5.0000e-	4.1200e-	0.0120	1.0000e-	3.4000e-	4.0000e-	3.8000e-	9.0000e-	4.0000e-	1.3000e-		1.1373	1.1373	1.0000e-		1.1375
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0564	0.0530	0.6827	1.8700e-	0.1479	1.0600e-	0.1489	0.0392	9.8000e-	0.0402		137.0031	137.0031	5.8800e-		137.1266
Total	**0.0569**	**0.0571**	**0.6947**	**1.8800e-**	**0.1482**	**1.1000e-**	**0.1493**	**0.0393**	**1.0200e-**	**0.0403**		**138.1405**	**138.1405**	**5.8900e-**		**138.2641**

3.5 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4259	14.9353	14.3652	0.0223		0.8094	0.8094		0.7447	0.7447		2,208.973	2,208.9731	0.6989		2,223.6499
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.4259**	**14.9353**	**14.3652**	**0.0223**		**0.8094**	**0.8094**		**0.7447**	**0.7447**		**2,208.973**	**2,208.9731**	**0.6989**		**2,223.6499**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0470	0.0442	0.5689	1.5500e-	0.1232	8.8000e-	0.1241	0.0327	8.1000e-	0.0335		114.1693	114.1693	4.9000e-		114.2721
Total	**0.0470**	**0.0442**	**0.5689**	**1.5500e-**	**0.1232**	**8.8000e-**	**0.1241**	**0.0327**	**8.1000e-**	**0.0335**		**114.1693**	**114.1693**	**4.9000e-**		**114.2721**

Westside - Condo - Townhome Product In Tract

El Dorado-Mountain County County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Condo/Townhouse	84.00	Dwelling Unit	10.00	84,000.00	240

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	70
Climate Zone	2			**Operational Year**	2025
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity	641.35	**CH4 Intensity**	0.029	**N2O Intensity**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - site preparation, grading, underground utilities, and paving
Land Use - Acres from PD
Construction Phase - 2018 schedule
Off-road Equipment - Equipment from client
Grading - Acres from PD

Table Name	Column Name	Default Value	New Value
tblGrading	AcresOfGrading	50.00	10.00
tblLandUse	LotAcreage	5.25	10.00
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders
tblProjectCharacteristics	OperationalYear	2014	2025
tblTripsAndVMT	HaulingTripNumber	0.00	2.00

3.0 Construction Detail

Construction Phase

Phase	Phase Name	Phase Type	Start Date	End Date	Num Days	Num Days	Phase Description
1	Site Preparation	Site Preparation	3/9/2018	3/22/2018	5	10	
2	Grading	Grading	3/23/2018	4/19/2018	5	20	
3	Underground Utilities	Trenching	4/20/2018	9/4/2018	5	98	
4	Paving	Paving	9/5/2018	10/2/2018	5	20	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Underground Utilities	Excavators	4	8.00	162	0.38
Underground Utilities	Rubber Tired Loaders	3	8.00	199	0.36
Grading	Excavators	2	8.00	162	0.38
Paving	Pavers	2	8.00	125	0.42
Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Graders	1	8.00	174	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	130	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Grading	Scrapers	2	8.00	361	0.48

Trips and VMT

Phase Name	Offroad Equipment	Worker Trip	Vendor Trip	Hauling Trip	Worker Trip	Vendor Trip	Hauling Trip	Worker Vehicle	Vendor	Hauling
Underground Utilities	7	18.00	0.00	2.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.2 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.2921	45.6088	36.2346	0.0391		2.3654	2.3654		2.1762	2.1762		3,939.773	3,939.7731	1.2265		3,965.5297
Total	**4.2921**	**45.6088**	**36.2346**	**0.0391**	**18.0663**	**2.3654**	**20.4317**	**9.9307**	**2.1762**	**12.1069**		**3,939.773**	**3,939.7731**	**1.2265**		**3,965.5297**

Unmitigated Construction Off-Site

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

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0623	0.0584	0.7513	1.8900e-	0.1479	1.0900e-	0.1490	0.0392	1.0100e-	0.0402		143.5236	143.5236	6.4100e-		143.6583
Total	**0.0623**	**0.0584**	**0.7513**	**1.8900e-**	**0.1479**	**1.0900e-**	**0.1490**	**0.0392**	**1.0100e-**	**0.0402**		**143.5236**	**143.5236**	**6.4100e-**		**143.6583**

3.3 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	5.2895	59.5338	42.3068	0.0617		2.7880	2.7880		2.5650	2.5650		6,212.804	6,212.8042	1.9341		6,253.4209
Total	**5.2895**	**59.5338**	**42.3068**	**0.0617**	**6.5523**	**2.7880**	**9.3404**	**3.3675**	**2.5650**	**5.9325**		**6,212.804**	**6,212.8042**	**1.9341**		**6,253.4209**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0692	0.0649	0.8347	2.1000e-	0.1643	1.2100e-	0.1655	0.0436	1.1200e-	0.0447		159.4706	159.4706	7.1300e-		159.6203
Total	**0.0692**	**0.0649**	**0.8347**	**2.1000e-**	**0.1643**	**1.2100e-**	**0.1655**	**0.0436**	**1.1200e-**	**0.0447**		**159.4706**	**159.4706**	**7.1300e-**		**159.6203**

3.4 Underground Utilities - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.4499	28.3570	18.5381	0.0396		1.1469	1.1469		1.0552	1.0552		3,980.369	3,980.3697	1.2391		4,006.3917
Total	**2.4499**	**28.3570**	**18.5381**	**0.0396**		**1.1469**	**1.1469**		**1.0552**	**1.0552**		**3,980.369**	**3,980.3697**	**1.2391**		**4,006.3917**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	5.2000e-	4.3200e-	0.0124	1.0000e-	3.4000e-	4.0000e-	3.8000e-	9.0000e-	4.0000e-	1.3000e-		1.1323	1.1323	1.0000e-		1.1325
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0623	0.0584	0.7513	1.8900e-	0.1479	1.0900e-	0.1490	0.0392	1.0100e-	0.0402		143.5236	143.5236	6.4100e-		143.6583
Total	**0.0628**	**0.0627**	**0.7637**	**1.9000e-**	**0.1482**	**1.1300e-**	**0.1493**	**0.0393**	**1.0500e-**	**0.0404**		**144.6559**	**144.6559**	**6.4200e-**		**144.7907**

3.5 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6114	17.1628	14.4944	0.0223		0.9386	0.9386		0.8635	0.8635		2,245.269	2,245.2695	0.6990		2,259.9481
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.6114**	**17.1628**	**14.4944**	**0.0223**		**0.9386**	**0.9386**		**0.8635**	**0.8635**		**2,245.269**	**2,245.2695**	**0.6990**		**2,259.9481**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0519	0.0487	0.6261	1.5700e-	0.1232	9.1000e-	0.1241	0.0327	8.4000e-	0.0335		119.6030	119.6030	5.3500e-		119.7152
Total	**0.0519**	**0.0487**	**0.6261**	**1.5700e-**	**0.1232**	**9.1000e-**	**0.1241**	**0.0327**	**8.4000e-**	**0.0335**		**119.6030**	**119.6030**	**5.3500e-**		**119.7152**

Annual Operational Outputs

2030 Operation

El Dorado-Mountain County County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Government (Civic Center)	50.00	1000sqft	11.00	50,000.00	0
City Park	15.00	Acre	15.00	653,400.00	0
Apartments Low Rise	390.00	Dwelling Unit	21.00	390,000.00	1115
Condo/Townhouse	310.00	Dwelling Unit	37.00	310,000.00	887
Single Family Housing	160.00	Dwelling Unit	68.00	288,000.00	458

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	70
Climate Zone	2			**Operational Year**	2030
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity	641.35	**CH4 Intensity**	0.029	**N2O Intensity**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Modeling for criteria pollutants only - no construction
Land Use - Acres from PD
Construction Phase - No construction
Vehicle Trips - Trip rates from F&P (includes internalization)
Woodstoves - All restricted to natural gas per Policy 8.51. Hearth numbers provided by the County
Area Mitigation - All NG Hearth = Policy 8.80/8.51
Energy Mitigation - Exceed Title 24 = Policy 8.11

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	200.00	1.00
tblConstructionPhase	PhaseEndDate	1/1/2016	10/6/2016
tblFireplaces	NumberGas	214.50	234.00
tblFireplaces	NumberGas	170.50	186.00
tblFireplaces	NumberGas	88.00	118.00

tblFireplaces	NumberWood	136.50	156.00
tblFireplaces	NumberWood	108.50	124.00
tblFireplaces	NumberWood	56.00	79.00
tblLandUse	LotAcreage	1.15	11.00
tblLandUse	LotAcreage	24.38	21.00
tblLandUse	LotAcreage	19.38	37.00
tblLandUse	LotAcreage	51.95	68.00
tblProjectCharacteristics	OperationalYear	2014	2030
tblVehicleTrips	ST_TR	7.16	6.23
tblVehicleTrips	ST_TR	1.59	36.55
tblVehicleTrips	ST_TR	7.16	9.05
tblVehicleTrips	ST_TR	10.08	9.05
tblVehicleTrips	SU_TR	6.07	6.23
tblVehicleTrips	SU_TR	1.59	36.55
tblVehicleTrips	SU_TR	6.07	9.05
tblVehicleTrips	SU_TR	8.77	9.05
tblVehicleTrips	WD_TR	6.59	6.23
tblVehicleTrips	WD_TR	1.59	36.55
tblVehicleTrips	WD_TR	6.59	9.05
tblVehicleTrips	WD_TR	27.92	11.04
tblVehicleTrips	WD_TR	9.57	9.05

2.0 Emissions Summary

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	52.9892	0.8159	70.8652	3.7500e-		1.5965	1.5965		1.5839	1.5839	0.0000	19,123.06	19,123.063	0.4858	0.3483	19,241.222
Energy	0.4671	4.0032	1.7857	0.0255		0.3227	0.3227		0.3227	0.3227		5,095.274	5,095.2743	0.0977	0.0934	5,126.2833
Mobile	18.8706	25.7778	158.4622	0.6430	45.1463	0.5727	45.7190	12.0506	0.5293	12.5798		44,818.16	44,818.163	1.2886		44,845.223
Total	**72.3269**	**30.5969**	**231.1131**	**0.6723**	**45.1463**	**2.4919**	**47.6382**	**12.0506**	**2.4359**	**14.4864**	**0.0000**	**69,036.50**	**69,036.501**	**1.8721**	**0.4417**	**69,212.729**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	18.8706	25.7778	158.4622	0.6430	45.1463	0.5727	45.7190	12.0506	0.5293	12.5798		44,818.16	44,818.163	1.2886		44,845.223
Unmitigated	18.8706	25.7778	158.4622	0.6430	45.1463	0.5727	45.7190	12.0506	0.5293	12.5798		44,818.16	44,818.163	1.2886		44,845.223

4.2 Trip Summary Information

	Average Daily Trip Rate	Unmitigated	Mitigated

Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	2,429.70	2,429.70	2429.70	6,959,979	6,959,979
City Park	548.25	548.25	548.25	1,170,433	1,170,433
Condo/Townhouse	2,805.50	2,805.50	2805.50	8,036,474	8,036,474
Government (Civic Center)	552.00	0.00	0.00	753,731	753,731
Single Family Housing	1,448.00	1,448.00	1448.00	4,147,858	4,147,858
Total	7,783.45	7,231.45	7,231.45	21,068,475	21,068,475

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	10.80	7.30	7.50	42.60	21.00	36.40	86	11	3
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Condo/Townhouse	10.80	7.30	7.50	42.60	21.00	36.40	86	11	3
Government (Civic Center)	9.50	7.30	7.30	75.00	20.00	5.00	50	34	16
Single Family Housing	10.80	7.30	7.50	42.60	21.00	36.40	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.469477	0.079991	0.186504	0.151219	0.071320	0.011060	0.012674	0.000972	0.001429	0.000748	0.009138	0.000721	0.004747

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas	0.4671	4.0032	1.7857	0.0255		0.3227	0.3227		0.3227	0.3227		5,095.274	5,095.2743	0.0977	0.0934	5,126.2833
NaturalGas	0.5346	4.5821	2.0461	0.0292		0.3693	0.3693		0.3693	0.3693		5,831.653	5,831.6534	0.1118	0.1069	5,867.1439

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGa	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Condo/Townhouse	18610	0.2007	1.7150	0.7298	0.0110		0.1387	0.1387		0.1387	0.1387		2,189.4143	2,189.414	0.0420	0.0401	2,202.7388
Government (Civic	2369.86	0.0256	0.2323	0.1952	1.3900e-		0.0177	0.0177		0.0177	0.0177		278.8074	278.8074	5.3400e-	5.1100e-	280.5042

Single Family	14093.9	0.1520	1.2989	0.5527	8.2900e-		0.1050	0.1050		0.1050	0.1050		1,658.1090	1,658.109	0.0318	0.0304	1,668.2000
Apartments Low	14495.2	0.1563	1.3358	0.5684	8.5300e-		0.1080	0.1080		0.1080	0.1080		1,705.3226	1,705.322	0.0327	0.0313	1,715.7009
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.5346**	**4.5821**	**2.0461**	**0.0292**		**0.3693**	**0.3693**		**0.3693**	**0.3693**		**5,831.6534**	**5,831.653**	**0.1118**	**0.1069**	**5,867.1438**

Mitigated

	NaturalGa	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Condo/Townhouse	16.1945	0.1747	1.4924	0.6351	9.5300e-		0.1207	0.1207		0.1207	0.1207		1,905.2315	1,905.231	0.0365	0.0349	1,916.8264
Government (Civic	2.02404	0.0218	0.1984	0.1667	1.1900e-		0.0151	0.0151		0.0151	0.0151		238.1225	238.1225	4.5600e-	4.3700e-	239.5717
Single Family	12.37	0.1334	1.1400	0.4851	7.2800e-		0.0922	0.0922		0.0922	0.0922		1,455.2944	1,455.294	0.0279	0.0267	1,464.1511
Apartments Low	12.7213	0.1372	1.1724	0.4989	7.4800e-		0.0948	0.0948		0.0948	0.0948		1,496.6259	1,496.625	0.0287	0.0274	1,505.7341
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.4671**	**4.0032**	**1.7858**	**0.0255**		**0.3227**	**0.3227**		**0.3227**	**0.3227**		**5,095.2743**	**5,095.274**	**0.0977**	**0.0934**	**5,126.2833**

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	52.9892	0.8159	70.8652	3.7500e-		1.5965	1.5965		1.5839	1.5839	0.0000	19,123.06	19,123.063	0.4858	0.3483	19,241.222
Unmitigated	1,616.8267	21.5030	1,967.126	0.6370		265.9386	265.9386		265.9310	265.9310	27,585.27	11,520.71	39,105.987	22.1888	2.2305	40,263.400

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural	12.9348					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer	36.1960					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1,565.5787	20.6871	1,896.355	0.6333		265.5451	265.5451		265.5375	265.5375	27,585.27	11,392.94	38,978.217	22.0671	2.2305	40,133.074
Landscaping	2.1172	0.8158	70.7702	3.7500e-		0.3935	0.3935		0.3935	0.3935		127.7692	127.7692	0.1218		130.3261
Total	**1,616.8267**	**21.5030**	**1,967.126**	**0.6371**		**265.9386**	**265.9386**		**265.9310**	**265.9310**	**27,585.27**	**11,520.71**	**39,105.987**	**22.1888**	**2.2305**	**40,263.400**

Mitigated

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

Architectural	12.9348					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer	36.1960					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.7412	8.0000e-	0.0950	0.0000		1.2030	1.2030		1.1904	1.1904	0.0000	18,995.29	18,995.294	0.3641	0.3483	19,110.896
Landscaping	2.1172	0.8158	70.7702	3.7500e-		0.3935	0.3935		0.3935	0.3935		127.7692	127.7692	0.1218		130.3261
Total	**52.9892**	**0.8159**	**70.8652**	**3.7500e-**		**1.5965**	**1.5965**		**1.5839**	**1.5839**	**0.0000**	**19,123.06**	**19,123.063**	**0.4858**	**0.3483**	**19,241.222**

2029 Operation

El Dorado-Mountain County County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Low Rise	240.00	Dwelling Unit	13.00	240,000.00	686
Condo/Townhouse	310.00	Dwelling Unit	37.00	310,000.00	887
Single Family Housing	160.00	Dwelling Unit	68.00	288,000.00	458
City Park	15.00	Acre	15.00	653,400.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	70
Climate Zone	2			**Operational Year**	2025
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity	641.35	**CH4 Intensity**	0.029	**N2O Intensity**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Modeling for criteria pollutants only - no construction
Land Use - Acres from PD
Construction Phase - No construction
Vehicle Trips - Trip rates from F&P (includes internalization)
Woodstoves - All restricted to natural gas per Policy 8.51. Hearth numbers provided by the County
Area Mitigation - All NG Hearth = Policy 8.80/8.51
Energy Mitigation - Exceed Title 24 = Policy 8.11

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	200.00	1.00
tblFireplaces	NumberGas	132.00	144.00
tblFireplaces	NumberGas	170.50	186.00
tblFireplaces	NumberGas	88.00	118.00
tblFireplaces	NumberWood	84.00	96.00
tblFireplaces	NumberWood	108.50	124.00

tblFireplaces	NumberWood	56.00	79.00
tblLandUse	LotAcreage	15.00	13.00
tblLandUse	LotAcreage	19.38	37.00
tblLandUse	LotAcreage	51.95	68.00
tblProjectCharacteristics	OperationalYear	2014	2025
tblVehicleTrips	ST_TR	7.16	6.23
tblVehicleTrips	ST_TR	7.16	9.05
tblVehicleTrips	ST_TR	10.08	9.05
tblVehicleTrips	ST_TR	1.59	36.55
tblVehicleTrips	SU_TR	6.07	6.23
tblVehicleTrips	SU_TR	6.07	9.05
tblVehicleTrips	SU_TR	8.77	9.05
tblVehicleTrips	SU_TR	1.59	36.55
tblVehicleTrips	WD_TR	6.59	6.23
tblVehicleTrips	WD_TR	6.59	9.05
tblVehicleTrips	WD_TR	9.57	9.05
tblVehicleTrips	WD_TR	1.59	36.55

2.0 Emissions Summary

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	46.4548	0.6742	58.6010	3.0900e-		1.3266	1.3266		1.3160	1.3160	0.0000	15,924.29	15,924.299	0.4042	0.2900	16,022.690
Energy	0.3925	3.3539	1.4272	0.0214		0.2712	0.2712		0.2712	0.2712		4,281.526	4,281.5265	0.0821	0.0785	4,307.5832
Mobile	17.5463	26.5713	149.7405	0.5315	37.2572	0.4899	37.7471	9.9441	0.4526	10.3967		38,080.56	38,080.560	1.2100		38,105.968
Total	**64.3936**	**30.5993**	**209.7687**	**0.5560**	**37.2572**	**2.0877**	**39.3448**	**9.9441**	**2.0398**	**11.9839**	**0.0000**	**58,286.38**	**58,286.385**	**1.6962**	**0.3685**	**58,436.243**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	17.5463	26.5713	149.7405	0.5315	37.2572	0.4899	37.7471	9.9441	0.4526	10.3967		38,080.56	38,080.560	1.2100		38,105.968
Unmitigated	17.5463	26.5713	149.7405	0.5315	37.2572	0.4899	37.7471	9.9441	0.4526	10.3967		38,080.56	38,080.560	1.2100		38,105.968

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	1,495.20	1,495.20	1495.20	4,283,064	4,283,064
Condo/Townhouse	2,805.50	2,805.50	2805.50	8,036,474	8,036,474
Single Family Housing	1,448.00	1,448.00	1448.00	4,147,858	4,147,858

City Park	548.25	548.25	548.25	1,170,433	1,170,433
Total	6,296.95	6,296.95	6,296.95	17,637,829	17,637,829

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	10.80	7.30	7.50	42.60	21.00	36.40	86	11	3
Condo/Townhouse	10.80	7.30	7.50	42.60	21.00	36.40	86	11	3
Single Family Housing	10.80	7.30	7.50	42.60	21.00	36.40	86	11	3
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.466229	0.079815	0.185269	0.155747	0.072128	0.010996	0.012034	0.000950	0.001399	0.000772	0.009087	0.000733	0.004841

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas	0.3925	3.3539	1.4272	0.0214		0.2712	0.2712		0.2712	0.2712		4,281.526	4,281.5265	0.0821	0.0785	4,307.5832
NaturalGas	0.4489	3.8360	1.6323	0.0245		0.3101	0.3101		0.3101	0.3101		4,896.952	4,896.9527	0.0939	0.0898	4,926.7547

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGa	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Condo/Townhouse	18610	0.2007	1.7150	0.7298	0.0110		0.1387	0.1387		0.1387	0.1387		2,189.4143	2,189.414	0.0420	0.0401	2,202.7388
Single Family	14093.9	0.1520	1.2989	0.5527	8.2900e-		0.1050	0.1050		0.1050	0.1050		1,658.1090	1,658.109	0.0318	0.0304	1,668.2000
Apartments Low	8920.15	0.0962	0.8221	0.3498	5.2500e-		0.0665	0.0665		0.0665	0.0665		1,049.4293	1,049.429	0.0201	0.0192	1,055.8160
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.4489**	**3.8359**	**1.6323**	**0.0245**		**0.3101**	**0.3101**		**0.3101**	**0.3101**		**4,896.9527**	**4,896.952**	**0.0939**	**0.0898**	**4,926.7547**

Mitigated

	NaturalGa	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Condo/Townhouse	16.1945	0.1747	1.4924	0.6351	9.5300e-		0.1207	0.1207		0.1207	0.1207		1,905.2315	1,905.231	0.0365	0.0349	1,916.8264
Single Family	12.37	0.1334	1.1400	0.4851	7.2800e-		0.0922	0.0922		0.0922	0.0922		1,455.2944	1,455.294	0.0279	0.0267	1,464.1511
Apartments Low	7.8285	0.0844	0.7215	0.3070	4.6100e-		0.0583	0.0583		0.0583	0.0583		921.0006	921.0006	0.0177	0.0169	926.6056
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.3925**	**3.3539**	**1.4272**	**0.0214**		**0.2712**	**0.2712**		**0.2712**	**0.2712**		**4,281.5265**	**4,281.526**	**0.0821**	**0.0785**	**4,307.5832**

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	46.4548	0.6742	58.6010	3.0900e-		1.3266	1.3266		1.3160	1.3160	0.0000	15,924.29	15,924.299	0.4042	0.2900	16,022.690
Unmitigated	1,348.7709	17.8807	1,636.523	0.5259		221.2582	221.2582		221.2518	221.2518	22,940.86	9,592.534	32,533.397	18.3207	1.8577	33,494.008

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural	11.3316					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer	31.9160					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1,303.7662	17.2066	1,578.001	0.5228		220.9334	220.9334		220.9271	220.9271	22,940.86	9,487.058	32,427.922	18.2197	1.8577	33,386.412
Landscaping	1.7572	0.6741	58.5219	3.0900e-		0.3247	0.3247		0.3247	0.3247		105.4754	105.4754	0.1010		107.5966
Total	**1,348.7709**	**17.8807**	**1,636.523**	**0.5259**		**221.2582**	**221.2582**		**221.2518**	**221.2518**	**22,940.86**	**9,592.534**	**32,533.397**	**18.3207**	**1.8577**	**33,494.008**

Mitigated

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural	11.3316					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer	31.9160					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.4501	7.0000e-	0.0791	0.0000		1.0019	1.0019		0.9913	0.9913	0.0000	15,818.82	15,818.823	0.3032	0.2900	15,915.094
Landscaping	1.7572	0.6741	58.5219	3.0900e-		0.3247	0.3247		0.3247	0.3247		105.4754	105.4754	0.1010		107.5966
Total	**46.4548**	**0.6742**	**58.6010**	**3.0900e-**		**1.3266**	**1.3266**		**1.3160**	**1.3160**	**0.0000**	**15,924.29**	**15,924.299**	**0.4042**	**0.2900**	**16,022.690**

2026-2028 Operation

El Dorado-Mountain County County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Low Rise	230.00	Dwelling Unit	13.00	230,000.00	658
Condo/Townhouse	310.00	Dwelling Unit	37.00	310,000.00	887
Single Family Housing	160.00	Dwelling Unit	68.00	288,000.00	458
City Park	15.00	Acre	15.00	653,400.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	70
Climate Zone	2			**Operational Year**	2025
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity	641.35	**CH4 Intensity**	0.029	**N2O Intensity**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Modeling for criteria pollutants only - no construction
Land Use - Acres from PD
Construction Phase - No construction
Vehicle Trips - Trip rates from F&P (includes internalization)
Woodstoves - All restricted to natural gas per Policy 8.51. Hearth numbers provided by the County
Area Mitigation - All NG Hearth = Policy 8.80/8.51
Energy Mitigation - Exceed Title 24 = Policy 8.11

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	200.00	1.00
tblFireplaces	NumberGas	126.50	138.00
tblFireplaces	NumberGas	170.50	186.00
tblFireplaces	NumberGas	88.00	118.00
tblFireplaces	NumberWood	80.50	92.00
tblFireplaces	NumberWood	108.50	124.00

tblFireplaces	NumberWood	56.00	79.00
tblLandUse	LotAcreage	14.38	13.00
tblLandUse	LotAcreage	19.38	37.00
tblLandUse	LotAcreage	51.95	68.00
tblProjectCharacteristics	OperationalYear	2014	2025
tblVehicleTrips	ST_TR	7.16	6.23
tblVehicleTrips	ST_TR	7.16	9.05
tblVehicleTrips	ST_TR	10.08	9.05
tblVehicleTrips	ST_TR	1.59	36.55
tblVehicleTrips	SU_TR	6.07	6.23
tblVehicleTrips	SU_TR	6.07	9.05
tblVehicleTrips	SU_TR	8.77	9.05
tblVehicleTrips	SU_TR	1.59	36.55
tblVehicleTrips	WD_TR	6.59	6.23
tblVehicleTrips	WD_TR	6.59	9.05
tblVehicleTrips	WD_TR	9.57	9.05
tblVehicleTrips	WD_TR	1.59	36.55

2.0 Emissions Summary

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	46.1110	0.6647	57.7757	3.0500e-		1.3086	1.3086		1.2982	1.2982	0.0000	15,711.04	15,711.048	0.3987	0.2861	15,808.122
Energy	0.3890	3.3238	1.4144	0.0212		0.2687	0.2687		0.2687	0.2687		4,243.151	4,243.1515	0.0813	0.0778	4,268.9746
Mobile	17.3715	26.3031	148.2302	0.5261	36.8802	0.4850	37.3652	9.8435	0.4480	10.2915		37,695.47	37,695.471	1.1977		37,720.623
Total	**63.8714**	**30.2916**	**207.4203**	**0.5504**	**36.8802**	**2.0623**	**38.9425**	**9.8435**	**2.0150**	**11.8584**	**0.0000**	**57,649.67**	**57,649.671**	**1.6778**	**0.3639**	**57,797.719**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	17.3715	26.3031	148.2302	0.5261	36.8802	0.4850	37.3652	9.8435	0.4480	10.2915		37,695.47	37,695.471	1.1977		37,720.623
Unmitigated	17.3715	26.3031	148.2302	0.5261	36.8802	0.4850	37.3652	9.8435	0.4480	10.2915		37,695.47	37,695.471	1.1977		37,720.623

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	1,432.90	1,432.90	1432.90	4,104,603	4,104,603

Condo/Townhouse	2,805.50	2,805.50	2805.50	8,036,474	8,036,474
Single Family Housing	1,448.00	1,448.00	1448.00	4,147,858	4,147,858
City Park	548.25	548.25	548.25	1,170,433	1,170,433
Total	6,234.65	6,234.65	6,234.65	17,459,368	17,459,368

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	10.80	7.30	7.50	42.60	21.00	36.40	86	11	3
Condo/Townhouse	10.80	7.30	7.50	42.60	21.00	36.40	86	11	3
Single Family Housing	10.80	7.30	7.50	42.60	21.00	36.40	86	11	3
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.466229	0.079815	0.185269	0.155747	0.072128	0.010996	0.012034	0.000950	0.001399	0.000772	0.009087	0.000733	0.004841

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas	0.3890	3.3238	1.4144	0.0212		0.2687	0.2687		0.2687	0.2687		4,243.151	4,243.1515	0.0813	0.0778	4,268.9746
NaturalGas	0.4449	3.8017	1.6177	0.0243		0.3074	0.3074		0.3074	0.3074		4,853.226	4,853.2264	0.0930	0.0890	4,882.7624

5.2 Energy by Land Use - NaturalGas
Unmitigated

	NaturalGa	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Condo/Townhouse	18610	0.2007	1.7150	0.7298	0.0110		0.1387	0.1387		0.1387	0.1387		2,189.4143	2,189.414	0.0420	0.0401	2,202.7388
Single Family	14093.9	0.1520	1.2989	0.5527	8.2900e-		0.1050	0.1050		0.1050	0.1050		1,658.1090	1,658.109	0.0318	0.0304	1,668.2000
Apartments Low	8548.48	0.0922	0.7878	0.3352	5.0300e-		0.0637	0.0637		0.0637	0.0637		1,005.7031	1,005.703	0.0193	0.0184	1,011.8236
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.4449**	**3.8017**	**1.6177**	**0.0243**		**0.3074**	**0.3074**		**0.3074**	**0.3074**		**4,853.2264**	**4,853.226**	**0.0930**	**0.0890**	**4,882.7624**

Mitigated

	NaturalGa	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Condo/Townhouse	16.1945	0.1747	1.4924	0.6351	9.5300e-		0.1207	0.1207		0.1207	0.1207		1,905.2315	1,905.231	0.0365	0.0349	1,916.8264
Single Family	12.37	0.1334	1.1400	0.4851	7.2800e-		0.0922	0.0922		0.0922	0.0922		1,455.2944	1,455.294	0.0279	0.0267	1,464.1511
Apartments Low	7.50232	0.0809	0.6914	0.2942	4.4100e-		0.0559	0.0559		0.0559	0.0559		882.6255	882.6255	0.0169	0.0162	887.9971
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.3890**	**3.3238**	**1.4144**	**0.0212**		**0.2687**	**0.2687**		**0.2687**	**0.2687**		**4,243.1515**	**4,243.151**	**0.0813**	**0.0778**	**4,268.9746**

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	46.1110	0.6647	57.7757	3.0500e-		1.3086	1.3086		1.2982	1.2982	0.0000	15,711.04	15,711.048	0.3987	0.2861	15,808.122
Unmitigated	1,330.9923	17.6392	1,614.475	0.5185		218.2795	218.2795		218.2732	218.2732	22,631.23	9,463.989	32,095.225	18.0628	1.8328	33,042.715

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural	11.2459					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer	31.7020					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1,286.3120	16.9746	1,556.777	0.5155		217.9593	217.9593		217.9531	217.9531	22,631.23	9,360.000	31,991.235	17.9632	1.8328	32,936.634
Landscaping	1.7324	0.6646	57.6977	3.0500e-		0.3201	0.3201		0.3201	0.3201		103.9899	103.9899	0.0996		106.0812
Total	**1,330.9923**	**17.6392**	**1,614.475**	**0.5185**		**218.2795**	**218.2795**		**218.2732**	**218.2732**	**22,631.23**	**9,463.989**	**32,095.225**	**18.0628**	**1.8328**	**33,042.715**

Mitigated

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural	11.2459					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer	31.7020					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.4307	7.0000e-	0.0780	0.0000		0.9885	0.9885		0.9780	0.9780	0.0000	15,607.05	15,607.058	0.2991	0.2861	15,702.040
Landscaping	1.7324	0.6646	57.6977	3.0500e-		0.3201	0.3201		0.3201	0.3201		103.9899	103.9899	0.0996		106.0812
Total	**46.1110**	**0.6647**	**57.7757**	**3.0500e-**		**1.3086**	**1.3086**		**1.2982**	**1.2982**	**0.0000**	**15,711.04**	**15,711.048**	**0.3987**	**0.2861**	**15,808.122**

2025 Operation

El Dorado-Mountain County County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Low Rise	230.00	Dwelling Unit	13.00	230,000.00	658
Condo/Townhouse	286.00	Dwelling Unit	34.00	286,000.00	818
Single Family Housing	153.00	Dwelling Unit	65.00	275,400.00	438
City Park	15.00	Acre	15.00	653,400.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	70
Climate Zone	2			**Operational Year**	2025
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity	641.35	**CH4 Intensity**	0.029	**N2O Intensity**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Modeling for criteria pollutants only - no construction
Land Use - Acres from PD
Construction Phase - No construction
Vehicle Trips - Trip rates from F&P (includes internalization)
Woodstoves - All restricted to natural gas per Policy 8.51. Hearth numbers provided by the County
Area Mitigation - All NG Hearth = Policy 8.80/8.51
Energy Mitigation - Exceed Title 24 = Policy 8.11

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	200.00	1.00
tblFireplaces	NumberGas	126.50	138.00
tblFireplaces	NumberGas	157.30	172.00
tblFireplaces	NumberGas	84.15	113.00
tblFireplaces	NumberWood	80.50	92.00
tblFireplaces	NumberWood	100.10	114.00

tblFireplaces	NumberWood	53.55	75.00
tblLandUse	LotAcreage	14.38	13.00
tblLandUse	LotAcreage	17.88	34.00
tblLandUse	LotAcreage	49.68	65.00
tblProjectCharacteristics	OperationalYear	2014	2025
tblVehicleTrips	ST_TR	7.16	6.23
tblVehicleTrips	ST_TR	7.16	9.05
tblVehicleTrips	ST_TR	10.08	9.05
tblVehicleTrips	ST_TR	1.59	36.55
tblVehicleTrips	SU_TR	6.07	6.23
tblVehicleTrips	SU_TR	6.07	9.05
tblVehicleTrips	SU_TR	8.77	9.05
tblVehicleTrips	SU_TR	1.59	36.55
tblVehicleTrips	WD_TR	6.59	6.23
tblVehicleTrips	WD_TR	6.59	9.05
tblVehicleTrips	WD_TR	9.57	9.05
tblVehicleTrips	WD_TR	1.59	36.55

2.0 Emissions Summary

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	44.8732	0.6352	55.2171	2.9100e-		1.2502	1.2502		1.2402	1.2402	0.0000	15,007.62	15,007.620	0.3809	0.2733	15,100.347
Energy	0.3696	3.1584	1.3440	0.0202		0.2554	0.2554		0.2554	0.2554		4,031.980	4,031.9806	0.0773	0.0739	4,056.5185
Mobile	16.5845	25.0958	141.4288	0.5019	35.1826	0.4627	35.6453	9.3904	0.4275	9.8178		35,961.33	35,961.333	1.1427		35,985.330
Total	**61.8273**	**28.8894**	**197.9899**	**0.5249**	**35.1826**	**1.9682**	**37.1508**	**9.3904**	**1.9230**	**11.3134**	**0.0000**	**55,000.93**	**55,000.934**	**1.6009**	**0.3472**	**55,142.197**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	16.5845	25.0958	141.4288	0.5019	35.1826	0.4627	35.6453	9.3904	0.4275	9.8178		35,961.33	35,961.333	1.1427		35,985.330
Unmitigated	16.5845	25.0958	141.4288	0.5019	35.1826	0.4627	35.6453	9.3904	0.4275	9.8178		35,961.33	35,961.333	1.1427		35,985.330

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	1,432.90	1,432.90	1432.90	4,104,603	4,104,603
Condo/Townhouse	2,588.30	2,588.30	2588.30	7,414,296	7,414,296
Single Family Housing	1,384.65	1,384.65	1384.65	3,966,389	3,966,389

City Park	548.25	548.25	548.25	1,170,433	1,170,433
Total	5,954.10	5,954.10	5,954.10	16,655,721	16,655,721

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	10.80	7.30	7.50	42.60	21.00	36.40	86	11	3
Condo/Townhouse	10.80	7.30	7.50	42.60	21.00	36.40	86	11	3
Single Family Housing	10.80	7.30	7.50	42.60	21.00	36.40	86	11	3
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.466229	0.079815	0.185269	0.155747	0.072128	0.010996	0.012034	0.000950	0.001399	0.000772	0.009087	0.000733	0.004841

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas	0.3696	3.1584	1.3440	0.0202		0.2554	0.2554		0.2554	0.2554		4,031.980	4,031.9806	0.0773	0.0739	4,056.5185
NaturalGas	0.4227	3.6121	1.5371	0.0231		0.2920	0.2920		0.2920	0.2920		4,611.181	4,611.1811	0.0884	0.0845	4,639.2440

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGa	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Condo/Townhouse	17169.2	0.1852	1.5823	0.6733	0.0101		0.1279	0.1279		0.1279	0.1279		2,019.9113	2,019.911	0.0387	0.0370	2,032.2041
Single Family	13477.3	0.1453	1.2420	0.5285	7.9300e-		0.1004	0.1004		0.1004	0.1004		1,585.5667	1,585.566	0.0304	0.0291	1,595.2162
Apartments Low	8548.48	0.0922	0.7878	0.3352	5.0300e-		0.0637	0.0637		0.0637	0.0637		1,005.7031	1,005.703	0.0193	0.0184	1,011.8236
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.4227**	**3.6121**	**1.5371**	**0.0231**		**0.2920**	**0.2920**		**0.2920**	**0.2920**		**4,611.1811**	**4,611.181**	**0.0884**	**0.0845**	**4,639.2440**

Mitigated

	NaturalGa	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Condo/Townhouse	14.9407	0.1611	1.3769	0.5859	8.7900e-		0.1113	0.1113		0.1113	0.1113		1,757.7297	1,757.729	0.0337	0.0322	1,768.4270
Single Family	11.8288	0.1276	1.0901	0.4639	6.9600e-		0.0881	0.0881		0.0881	0.0881		1,391.6253	1,391.625	0.0267	0.0255	1,400.0945
Apartments Low	7.50232	0.0809	0.6914	0.2942	4.4100e-		0.0559	0.0559		0.0559	0.0559		882.6255	882.6255	0.0169	0.0162	887.9971
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.3696**	**3.1584**	**1.3440**	**0.0202**		**0.2554**	**0.2554**		**0.2554**	**0.2554**		**4,031.9806**	**4,031.980**	**0.0773**	**0.0739**	**4,056.5185**

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	44.8732	0.6352	55.2171	2.9100e-		1.2502	1.2502		1.2402	1.2402	0.0000	15,007.62	15,007.620	0.3809	0.2733	15,100.347
Unmitigated	1,268.8323	16.8123	1,538.540	0.4956		208.0059	208.0059		207.9999	207.9999	21,569.27	9,057.031	30,626.309	17.2631	1.7466	31,530.279

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural	10.9322					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer	30.9187					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1,225.3257	16.1772	1,483.398	0.4927		207.6999	207.6999		207.6939	207.6939	21,569.27	8,957.647	30,526.924	17.1679	1.7466	31,428.896
Landscaping	1.6557	0.6352	55.1426	2.9100e-		0.3060	0.3060		0.3060	0.3060		99.3848	99.3848	0.0952		101.3835
Total	**1,268.8323**	**16.8123**	**1,538.540**	**0.4956**		**208.0059**	**208.0059**		**207.9999**	**207.9999**	**21,569.27**	**9,057.031**	**30,626.309**	**17.2631**	**1.7466**	**31,530.279**

Mitigated

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural	10.9322					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer	30.9187					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.3666	6.0000e-	0.0745	0.0000		0.9442	0.9442		0.9343	0.9343	0.0000	14,908.23	14,908.235	0.2857	0.2733	14,998.964
Landscaping	1.6557	0.6352	55.1426	2.9100e-		0.3060	0.3060		0.3060	0.3060		99.3848	99.3848	0.0952		101.3835
Total	**44.8732**	**0.6352**	**55.2171**	**2.9100e-**		**1.2502**	**1.2502**		**1.2402**	**1.2402**	**0.0000**	**15,007.62**	**15,007.620**	**0.3809**	**0.2733**	**15,100.347**

2024 Operation

El Dorado-Mountain County County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Low Rise	230.00	Dwelling Unit	13.00	230,000.00	658
Condo/Townhouse	262.00	Dwelling Unit	31.00	262,000.00	749
Single Family Housing	132.00	Dwelling Unit	56.00	237,600.00	378
City Park	15.00	Acre	15.00	653,400.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	70
Climate Zone	2			**Operational Year**	2024
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity	641.35	**CH4 Intensity**	0.029	**N2O Intensity**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Modeling for criteria pollutants only - no construction
Land Use - Acres from PD
Construction Phase - No construction
Vehicle Trips - Trip rates from F&P (includes internalization)
Woodstoves - All restricted to natural gas per Policy 8.51. Hearth numbers provided by the County
Area Mitigation - All NG Hearth = Policy 8.80/8.51
Energy Mitigation - Exceed Title 24 = Policy 8.11

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	200.00	1.00
tblFireplaces	NumberGas	126.50	138.00
tblFireplaces	NumberGas	144.10	157.00
tblFireplaces	NumberGas	72.60	97.00
tblFireplaces	NumberWood	80.50	92.00
tblFireplaces	NumberWood	91.70	105.00

tblFireplaces	NumberWood	46.20	65.00
tblLandUse	LotAcreage	14.38	13.00
tblLandUse	LotAcreage	16.38	31.00
tblLandUse	LotAcreage	42.86	56.00
tblProjectCharacteristics	OperationalYear	2014	2024
tblVehicleTrips	ST_TR	7.16	6.23
tblVehicleTrips	ST_TR	7.16	9.05
tblVehicleTrips	ST_TR	10.08	9.05
tblVehicleTrips	ST_TR	1.59	36.55
tblVehicleTrips	SU_TR	6.07	6.23
tblVehicleTrips	SU_TR	6.07	9.05
tblVehicleTrips	SU_TR	8.77	9.05
tblVehicleTrips	SU_TR	1.59	36.55
tblVehicleTrips	WD_TR	6.59	6.23
tblVehicleTrips	WD_TR	6.59	9.05
tblVehicleTrips	WD_TR	9.57	9.05
tblVehicleTrips	WD_TR	1.59	36.55

2.0 Emissions Summary

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	42.8156	0.5930	51.5299	2.7200e-		1.1624	1.1624		1.1531	1.1531	0.0000	13,942.11	13,942.111	0.3544	0.2539	14,028.264
Energy	0.3386	2.8932	1.2312	0.0185		0.2339	0.2339		0.2339	0.2339		3,693.471	3,693.4714	0.0708	0.0677	3,715.9492
Mobile	15.9210	24.5968	136.4475	0.4672	32.7176	0.4346	33.1522	8.7323	0.4015	9.1339		33,756.57	33,756.574	1.0995		33,779.664
Total	**59.0751**	**28.0830**	**189.2086**	**0.4884**	**32.7176**	**1.8309**	**34.5485**	**8.7323**	**1.7886**	**10.5209**	**0.0000**	**51,392.15**	**51,392.157**	**1.5247**	**0.3216**	**51,523.878**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	15.9210	24.5968	136.4475	0.4672	32.7176	0.4346	33.1522	8.7323	0.4015	9.1339		33,756.57	33,756.574	1.0995		33,779.664
Unmitigated	15.9210	24.5968	136.4475	0.4672	32.7176	0.4346	33.1522	8.7323	0.4015	9.1339		33,756.57	33,756.574	1.0995		33,779.664

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	1,432.90	1,432.90	1432.90	4,104,603	4,104,603
Condo/Townhouse	2,371.10	2,371.10	2371.10	6,792,117	6,792,117

Single Family Housing	1,194.60	1,194.60	1194.60	3,421,983	3,421,983
City Park	548.25	548.25	548.25	1,170,433	1,170,433
Total	5,546.85	5,546.85	5,546.85	15,489,136	15,489,136

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	10.80	7.30	7.50	42.60	21.00	36.40	86	11	3
Condo/Townhouse	10.80	7.30	7.50	42.60	21.00	36.40	86	11	3
Single Family Housing	10.80	7.30	7.50	42.60	21.00	36.40	86	11	3
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.464546	0.079708	0.185557	0.156960	0.072575	0.010939	0.011912	0.000946	0.001396	0.000774	0.009091	0.000733	0.004862

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas	0.3386	2.8932	1.2312	0.0185		0.2339	0.2339		0.2339	0.2339		3,693.471	3,693.4714	0.0708	0.0677	3,715.9492
NaturalGas	0.3872	3.3088	1.4080	0.0211		0.2675	0.2675		0.2675	0.2675		4,224.051	4,224.0513	0.0810	0.0774	4,249.7581

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGa	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Condo/Townhouse	15728.5	0.1696	1.4495	0.6168	9.2500e-		0.1172	0.1172		0.1172	0.1172		1,850.4083	1,850.408	0.0355	0.0339	1,861.6695
Single Family	11627.5	0.1254	1.0716	0.4560	6.8400e-		0.0866	0.0866		0.0866	0.0866		1,367.9399	1,367.939	0.0262	0.0251	1,376.2650
Apartments Low	8548.48	0.0922	0.7878	0.3352	5.0300e-		0.0637	0.0637		0.0637	0.0637		1,005.7031	1,005.703	0.0193	0.0184	1,011.8236
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.3872**	**3.3088**	**1.4080**	**0.0211**		**0.2675**	**0.2675**		**0.2675**	**0.2675**		**4,224.0513**	**4,224.051**	**0.0810**	**0.0774**	**4,249.7581**

Mitigated

	NaturalGa	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Condo/Townhouse	13.6869	0.1476	1.2614	0.5367	8.0500e-		0.1020	0.1020		0.1020	0.1020		1,610.2279	1,610.227	0.0309	0.0295	1,620.0275
Single Family	10.2053	0.1101	0.9405	0.4002	6.0000e-		0.0760	0.0760		0.0760	0.0760		1,200.6179	1,200.617	0.0230	0.0220	1,207.9247
Apartments Low	7.50232	0.0809	0.6914	0.2942	4.4100e-		0.0559	0.0559		0.0559	0.0559		882.6255	882.6255	0.0169	0.0162	887.9971
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.3386**	**2.8932**	**1.2312**	**0.0185**		**0.2339**	**0.2339**		**0.2339**	**0.2339**		**3,693.4714**	**3,693.471**	**0.0708**	**0.0677**	**3,715.9492**

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	42.8156	0.5930	51.5299	2.7200e-		1.1624	1.1624		1.1531	1.1531	0.0000	13,942.11	13,942.111	0.3544	0.2539	14,028.264
Unmitigated	1,184.0218	15.6771	1,434.610	0.4622		193.9468	193.9468		193.9412	193.9412	20,112.13	8,393.876	28,506.009	16.1011	1.6276	29,348.678

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural	10.4025					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer	29.5962					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1,142.4757	15.0842	1,383.150	0.4595		193.6616	193.6616		193.6560	193.6560	20,112.13	8,301.176	28,413.309	16.0121	1.6276	29,254.110
Landscaping	1.5474	0.5929	51.4607	2.7200e-		0.2852	0.2852		0.2852	0.2852		92.6999	92.6999	0.0890		94.5679
Total	**1,184.0217**	**15.6771**	**1,434.610**	**0.4622**		**193.9468**	**193.9468**		**193.9412**	**193.9412**	**20,112.13**	**8,393.876**	**28,506.009**	**16.1011**	**1.6276**	**29,348.678**

Mitigated

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural	10.4025					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer	29.5962					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.2695	6.0000e-	0.0693	0.0000		0.8771	0.8771		0.8679	0.8679	0.0000	13,849.41	13,849.411	0.2655	0.2539	13,933.697
Landscaping	1.5474	0.5929	51.4607	2.7200e-		0.2852	0.2852		0.2852	0.2852		92.6999	92.6999	0.0890		94.5679
Total	**42.8156**	**0.5930**	**51.5299**	**2.7200e-**		**1.1624**	**1.1624**		**1.1531**	**1.1531**	**0.0000**	**13,942.11**	**13,942.111**	**0.3544**	**0.2539**	**14,028.264**

2023 Operation

El Dorado-Mountain County County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Low Rise	230.00	Dwelling Unit	13.00	230,000.00	658
Condo/Townhouse	214.00	Dwelling Unit	26.00	214,000.00	612
Single Family Housing	111.00	Dwelling Unit	46.00	199,800.00	317

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	70
Climate Zone	2			**Operational Year**	2023
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity	641.35	**CH4 Intensity**	0.029	**N2O Intensity**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Modeling for criteria pollutants only - no construction
Land Use - Acres from PD
Construction Phase - No construction
Vehicle Trips - Trip rates from F&P (includes internalization)
Woodstoves - All restricted to natural gas per Policy 8.51. Hearth numbers provided by the County
Area Mitigation - All NG Hearth = Policy 8.80/8.51
Energy Mitigation - Exceed Title 24 = Policy 8.11

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	100.00	1.00
tblConstructionPhase	PhaseEndDate	1/1/2016	5/19/2016
tblFireplaces	NumberGas	126.50	138.00
tblFireplaces	NumberGas	117.70	128.00
tblFireplaces	NumberGas	61.05	82.00
tblFireplaces	NumberWood	80.50	92.00
tblFireplaces	NumberWood	74.90	86.00

tblFireplaces	NumberWood	38.85	54.00
tblLandUse	LotAcreage	14.38	13.00
tblLandUse	LotAcreage	13.38	26.00
tblLandUse	LotAcreage	36.04	46.00
tblProjectCharacteristics	OperationalYear	2014	2023
tblVehicleTrips	ST_TR	7.16	6.23
tblVehicleTrips	ST_TR	7.16	9.05
tblVehicleTrips	ST_TR	10.08	9.05
tblVehicleTrips	SU_TR	6.07	6.23
tblVehicleTrips	SU_TR	6.07	9.05
tblVehicleTrips	SU_TR	8.77	9.05
tblVehicleTrips	WD_TR	6.59	6.23
tblVehicleTrips	WD_TR	6.59	9.05
tblVehicleTrips	WD_TR	9.57	9.05

2.0 Emissions Summary

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	21.8013	0.5280	45.8598	2.4200e-		1.0314	1.0314		1.0232	1.0232	0.0000	12,364.79	12,364.799	0.3147	0.2252	12,441.212
Energy	0.2940	2.5125	1.0692	0.0160		0.2031	0.2031		0.2031	0.2031		3,207.460	3,207.4604	0.0615	0.0588	3,226.9805
Mobile	13.1203	20.9470	114.9120	0.3781	26.4667	0.3550	26.8217	7.0639	0.3279	7.3918		27,577.23	27,577.234	0.9226		27,596.609
Total	**35.2157**	**23.9875**	**161.8410**	**0.3965**	**26.4667**	**1.5895**	**28.0562**	**7.0639**	**1.5542**	**8.6181**	**0.0000**	**43,149.49**	**43,149.493**	**1.2988**	**0.2840**	**43,264.802**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	13.1203	20.9470	114.9120	0.3781	26.4667	0.3550	26.8217	7.0639	0.3279	7.3918		27,577.23	27,577.234	0.9226		27,596.609
Unmitigated	13.1203	20.9470	114.9120	0.3781	26.4667	0.3550	26.8217	7.0639	0.3279	7.3918		27,577.23	27,577.234	0.9226		27,596.609

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	1,432.90	1,432.90	1432.90	4,104,603	4,104,603
Condo/Townhouse	1,936.70	1,936.70	1936.70	5,547,760	5,547,760
Single Family Housing	1,004.55	1,004.55	1004.55	2,877,576	2,877,576
Total	4,374.15	4,374.15	4,374.15	12,529,939	12,529,939

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	10.80	7.30	7.50	42.60	21.00	36.40	86	11	3
Condo/Townhouse	10.80	7.30	7.50	42.60	21.00	36.40	86	11	3
Single Family Housing	10.80	7.30	7.50	42.60	21.00	36.40	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.462790	0.079681	0.185763	0.158133	0.073100	0.010921	0.011773	0.000952	0.001395	0.000777	0.009098	0.000736	0.004882

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas	0.2940	2.5125	1.0692	0.0160		0.2031	0.2031		0.2031	0.2031		3,207.460	3,207.4604	0.0615	0.0588	3,226.9805
NaturalGas	0.3362	2.8728	1.2225	0.0183		0.2323	0.2323		0.2323	0.2323		3,667.418	3,667.4184	0.0703	0.0672	3,689.7377

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGa	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family	9777.66	0.1055	0.9011	0.3834	5.7500e-		0.0729	0.0729		0.0729	0.0729		1,150.3131	1,150.313	0.0221	0.0211	1,157.3137
Apartments Low	8548.48	0.0922	0.7878	0.3352	5.0300e-		0.0637	0.0637		0.0637	0.0637		1,005.7031	1,005.703	0.0193	0.0184	1,011.8236
Condo/Townhouse	12846.9	0.1386	1.1839	0.5038	7.5600e-		0.0957	0.0957		0.0957	0.0957		1,511.4022	1,511.402	0.0290	0.0277	1,520.6003
Total		**0.3362**	**2.8728**	**1.2225**	**0.0183**		**0.2323**	**0.2323**		**0.2323**	**0.2323**		**3,667.4184**	**3,667.418**	**0.0703**	**0.0672**	**3,689.7377**

Mitigated

	NaturalGa	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family	8.58169	0.0926	0.7909	0.3365	5.0500e-		0.0639	0.0639		0.0639	0.0639		1,009.6105	1,009.610	0.0194	0.0185	1,015.7548
Apartments Low	7.50232	0.0809	0.6914	0.2942	4.4100e-		0.0559	0.0559		0.0559	0.0559		882.6255	882.6255	0.0169	0.0162	887.9971
Condo/Townhouse	11.1794	0.1206	1.0303	0.4384	6.5800e-		0.0833	0.0833		0.0833	0.0833		1,315.2243	1,315.224	0.0252	0.0241	1,323.2286
Total		**0.2940**	**2.5125**	**1.0692**	**0.0160**		**0.2031**	**0.2031**		**0.2031**	**0.2031**		**3,207.4604**	**3,207.460**	**0.0615**	**0.0588**	**3,226.9805**

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	21.8013	0.5280	45.8598	2.4200e-		1.0314	1.0314		1.0232	1.0232	0.0000	12,364.79	12,364.799	0.3147	0.2252	12,441.212
Unmitigated	1,032.3959	13.8940	1,271.125	0.4111		171.8315	171.8315		171.8266	171.8266	17,822.53	7,451.858	25,274.392	14.3206	1.4416	26,022.004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural	5.5184					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer	13.7773					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1,011.7205	13.3660	1,225.327	0.4087		171.5780	171.5780		171.5731	171.5731	17,822.53	7,369.411	25,191.945	14.2413	1.4416	25,937.892
Landscaping	1.3798	0.5279	45.7984	2.4200e-		0.2535	0.2535		0.2535	0.2535		82.4465	82.4465	0.0793		84.1115
Total	**1,032.3959**	**13.8940**	**1,271.125**	**0.4111**		**171.8315**	**171.8315**		**171.8266**	**171.8266**	**17,822.53**	**7,451.858**	**25,274.392**	**14.3206**	**1.4416**	**26,022.004**

Mitigated

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural	5.5184					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer	13.7773					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.1259	5.0000e-	0.0614	0.0000		0.7779	0.7779		0.7697	0.7697	0.0000	12,282.35	12,282.352	0.2354	0.2252	12,357.101
Landscaping	1.3798	0.5279	45.7984	2.4200e-		0.2535	0.2535		0.2535	0.2535		82.4465	82.4465	0.0793		84.1115
Total	**21.8013**	**0.5280**	**45.8598**	**2.4200e-**		**1.0314**	**1.0314**		**1.0232**	**1.0232**	**0.0000**	**12,364.79**	**12,364.799**	**0.3147**	**0.2252**	**12,441.212**

2022 Operation

El Dorado-Mountain County County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Low Rise	230.00	Dwelling Unit	13.00	230,000.00	658
Condo/Townhouse	166.00	Dwelling Unit	20.00	166,000.00	475
Single Family Housing	90.00	Dwelling Unit	37.00	162,000.00	257

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	70
Climate Zone	2			**Operational Year**	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity	641.35	**CH4 Intensity**	0.029	**N2O Intensity**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Modeling for criteria pollutants only - no construction
Land Use - Acres from PD
Construction Phase - No construction
Vehicle Trips - Trip rates from F&P (includes internalization)
Woodstoves - All restricted to natural gas per Policy 8.51. Hearth numbers provided by the County
Area Mitigation - All NG Hearth = Policy 8.80/8.51
Energy Mitigation - Exceed Title 24 = Policy 8.11

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	70.00	1.00
tblFireplaces	NumberGas	126.50	138.00
tblFireplaces	NumberGas	91.30	100.00
tblFireplaces	NumberGas	49.50	66.00
tblFireplaces	NumberWood	80.50	92.00
tblFireplaces	NumberWood	58.10	66.00
tblFireplaces	NumberWood	31.50	44.00

tblLandUse	LotAcreage	14.38	13.00
tblLandUse	LotAcreage	10.38	20.00
tblLandUse	LotAcreage	29.22	37.00
tblProjectCharacteristics	OperationalYear	2014	2022
tblVehicleTrips	ST_TR	7.16	6.23
tblVehicleTrips	ST_TR	7.16	9.05
tblVehicleTrips	ST_TR	10.08	9.05
tblVehicleTrips	SU_TR	6.07	6.23
tblVehicleTrips	SU_TR	6.07	9.05
tblVehicleTrips	SU_TR	8.77	9.05
tblVehicleTrips	WD_TR	6.59	6.23
tblVehicleTrips	WD_TR	6.59	9.05
tblVehicleTrips	WD_TR	9.57	9.05

2.0 Emissions Summary

2.2 Overall Operational

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	18.9187	0.4630	40.1924	2.1200e-		0.9004	0.9004		0.8933	0.8933	0.0000	10,787.49	10,787.490	0.2750	0.1965	10,854.164
Energy	0.2495	2.1318	0.9072	0.0136		0.1724	0.1724		0.1724	0.1724		2,721.449	2,721.4494	0.0522	0.0499	2,738.0117
Mobile	11.6930	19.1867	103.4627	0.3244	22.6879	0.3110	22.9989	6.0553	0.2872	6.3425		23,914.47	23,914.475	0.8258		23,931.818
Total	**30.8612**	**21.7815**	**144.5623**	**0.3401**	**22.6879**	**1.3838**	**24.0717**	**6.0553**	**1.3528**	**7.4081**	**0.0000**	**37,423.41**	**37,423.415**	**1.1530**	**0.2463**	**37,523.994**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	11.6930	19.1867	103.4627	0.3244	22.6879	0.3110	22.9989	6.0553	0.2872	6.3425		23,914.47	23,914.475	0.8258		23,931.818
Unmitigated	11.6930	19.1867	103.4627	0.3244	22.6879	0.3110	22.9989	6.0553	0.2872	6.3425		23,914.47	23,914.475	0.8258		23,931.818

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	1,432.90	1,432.90	1432.90	4,104,603	4,104,603
Condo/Townhouse	1,502.30	1,502.30	1502.30	4,303,402	4,303,402
Single Family Housing	814.50	814.50	814.50	2,333,170	2,333,170
Total	3,749.70	3,749.70	3,749.70	10,741,175	10,741,175

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	10.80	7.30	7.50	42.60	21.00	36.40	86	11	3
Condo/Townhouse	10.80	7.30	7.50	42.60	21.00	36.40	86	11	3
Single Family Housing	10.80	7.30	7.50	42.60	21.00	36.40	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.460731	0.079507	0.186932	0.159008	0.073518	0.010872	0.011639	0.000951	0.001389	0.000778	0.009045	0.000739	0.004892

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas	0.2495	2.1318	0.9072	0.0136		0.1724	0.1724		0.1724	0.1724		2,721.449	2,721.4494	0.0522	0.0499	2,738.0117
NaturalGas	0.2852	2.4368	1.0369	0.0156		0.1970	0.1970		0.1970	0.1970		3,110.785	3,110.7855	0.0596	0.0570	3,129.7172

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGa	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family	7927.83	0.0855	0.7306	0.3109	4.6600e-		0.0591	0.0591		0.0591	0.0591		932.6863	932.6863	0.0179	0.0171	938.3625
Apartments Low	8548.48	0.0922	0.7878	0.3352	5.0300e-		0.0637	0.0637		0.0637	0.0637		1,005.7031	1,005.703	0.0193	0.0184	1,011.8236
Condo/Townhouse	9965.37	0.1075	0.9184	0.3908	5.8600e-		0.0743	0.0743		0.0743	0.0743		1,172.3961	1,172.396	0.0225	0.0215	1,179.5311
Total		**0.2852**	**2.4368**	**1.0369**	**0.0156**		**0.1970**	**0.1970**		**0.1970**	**0.1970**		**3,110.7855**	**3,110.785**	**0.0596**	**0.0570**	**3,129.7172**

Mitigated

	NaturalGa	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family	6.95813	0.0750	0.6412	0.2729	4.0900e-		0.0518	0.0518		0.0518	0.0518		818.6031	818.6031	0.0157	0.0150	823.5850
Apartments Low	7.50232	0.0809	0.6914	0.2942	4.4100e-		0.0559	0.0559		0.0559	0.0559		882.6255	882.6255	0.0169	0.0162	887.9971

Condo/Townhouse	8.67188	0.0935	0.7992	0.3401	5.1000e-		0.0646	0.0646		0.0646	0.0646		1,020.2208	1,020.220	0.0196	0.0187	1,026.4296
Total		**0.2495**	**2.1318**	**0.9072**	**0.0136**		**0.1724**	**0.1724**		**0.1724**	**0.1724**		**2,721.4494**	**2,721.449**	**0.0522**	**0.0499**	**2,738.0117**

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	18.9187	0.4630	40.1924	2.1200e-		0.9004	0.9004		0.8933	0.8933	0.0000	10,787.49	10,787.490	0.2750	0.1965	10,854.164
Unmitigated	898.9018	12.1108	1,107.643	0.3600		149.7162	149.7162		149.7119	149.7119	15,532.93	6,509.843	22,042.778	12.5401	1.2555	22,695.334

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural	4.7829					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer	11.9412					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	880.9653	11.6478	1,067.504	0.3579		149.4944	149.4944		149.4901	149.4901	15,532.93	6,437.647	21,970.581	12.4704	1.2555	22,621.675
Landscaping	1.2124	0.4629	40.1388	2.1200e-		0.2218	0.2218		0.2218	0.2218		72.1965	72.1965	0.0697		73.6591
Total	**898.9018**	**12.1108**	**1,107.643**	**0.3600**		**149.7162**	**149.7162**		**149.7119**	**149.7119**	**15,532.93**	**6,509.843**	**22,042.778**	**12.5401**	**1.2555**	**22,695.334**

Mitigated

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural	4.7829					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer	11.9412					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.9822	4.0000e-	0.0536	0.0000		0.6786	0.6786		0.6715	0.6715	0.0000	10,715.29	10,715.294	0.2054	0.1965	10,780.505
Landscaping	1.2124	0.4629	40.1388	2.1200e-		0.2218	0.2218		0.2218	0.2218		72.1965	72.1965	0.0697		73.6591
Total	**18.9187**	**0.4630**	**40.1924**	**2.1200e-**		**0.9004**	**0.9004**		**0.8933**	**0.8933**	**0.0000**	**10,787.49**	**10,787.490**	**0.2750**	**0.1965**	**10,854.164**

2021 Operation

El Dorado-Mountain County County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	75.00	Dwelling Unit	29.00	135,000.00	215
Condo/Townhouse	104.00	Dwelling Unit	12.00	104,000.00	297
Apartments Low Rise	230.00	Dwelling Unit	13.00	230,000.00	658

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	70
Climate Zone	2			**Operational Year**	2021
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity	641.35	**CH4 Intensity**	0.029	**N2O Intensity**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Modeling for criteria pollutants only - no construction
Land Use - Acres from PD
Construction Phase - No construction
Vehicle Trips - Trip rates from F&P (includes internalization)
Woodstoves - All restricted to natural gas per Policy 8.51. Hearth numbers provided by the County
Area Mitigation - All NG Hearth = Policy 8.80/8.51
Energy Mitigation - Exceed Title 24 = Policy 8.11

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	70.00	1.00
tblFireplaces	NumberGas	41.25	54.00
tblFireplaces	NumberGas	126.50	138.00
tblFireplaces	NumberGas	57.20	62.00
tblFireplaces	NumberWood	26.25	36.00
tblFireplaces	NumberWood	80.50	92.00
tblFireplaces	NumberWood	36.40	42.00

tblLandUse	LotAcreage	24.35	29.00
tblLandUse	LotAcreage	6.50	12.00
tblLandUse	LotAcreage	14.38	13.00
tblProjectCharacteristics	OperationalYear	2014	2021
tblVehicleTrips	ST_TR	10.08	9.05
tblVehicleTrips	ST_TR	7.16	6.23
tblVehicleTrips	ST_TR	7.16	9.05
tblVehicleTrips	SU_TR	8.77	9.05
tblVehicleTrips	SU_TR	6.07	6.23
tblVehicleTrips	SU_TR	6.07	9.05
tblVehicleTrips	WD_TR	9.57	9.05
tblVehicleTrips	WD_TR	6.59	6.23
tblVehicleTrips	WD_TR	6.59	9.05

2.0 Emissions Summary

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	15.9043	0.3904	33.8612	1.7800e-		0.7551	0.7551		0.7491	0.7491	0.0000	9,039.581	9,039.5814	0.2310	0.1646	9,095.4615
Energy	0.2020	1.7264	0.7347	0.0110		0.1396	0.1396		0.1396	0.1396		2,203.969	2,203.9693	0.0422	0.0404	2,217.3822
Mobile	9.9468	16.7535	89.3896	0.2644	18.4714	0.2574	18.7288	4.9299	0.2376	5.1675		19,716.57	19,716.577	0.7061		19,731.405
Total	**26.0532**	**18.8704**	**123.9855**	**0.2772**	**18.4714**	**1.1520**	**19.6235**	**4.9299**	**1.1263**	**6.0562**	**0.0000**	**30,960.12**	**30,960.127**	**0.9793**	**0.2050**	**31,044.249**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	9.9468	16.7535	89.3896	0.2644	18.4714	0.2574	18.7288	4.9299	0.2376	5.1675		19,716.57	19,716.577	0.7061		19,731.405
Unmitigated	9.9468	16.7535	89.3896	0.2644	18.4714	0.2574	18.7288	4.9299	0.2376	5.1675		19,716.57	19,716.577	0.7061		19,731.405

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	678.75	678.75	678.75	1,944,308	1,944,308
Apartments Low Rise	1,432.90	1,432.90	1432.90	4,104,603	4,104,603
Condo/Townhouse	941.20	941.20	941.20	2,696,107	2,696,107
Total	3,052.85	3,052.85	3,052.85	8,745,019	8,745,019

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	42.60	21.00	36.40	86	11	3
Apartments Low Rise	10.80	7.30	7.50	42.60	21.00	36.40	86	11	3
Condo/Townhouse	10.80	7.30	7.50	42.60	21.00	36.40	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.458534	0.079358	0.188129	0.159824	0.074059	0.010841	0.011515	0.000947	0.001384	0.000779	0.008989	0.000740	0.004901

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas	0.2020	1.7264	0.7347	0.0110		0.1396	0.1396		0.1396	0.1396		2,203.969	2,203.9693	0.0422	0.0404	2,217.3822
NaturalGas	0.2308	1.9720	0.8392	0.0126		0.1594	0.1594		0.1594	0.1594		2,517.454	2,517.4549	0.0483	0.0462	2,532.7757

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGa	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family	6606.53	0.0713	0.6088	0.2591	3.8900e-		0.0492	0.0492		0.0492	0.0492		777.2386	777.2386	0.0149	0.0143	781.9687
Apartments Low	8548.48	0.0922	0.7878	0.3352	5.0300e-		0.0637	0.0637		0.0637	0.0637		1,005.7031	1,005.703	0.0193	0.0184	1,011.8236
Condo/Townhouse	6243.36	0.0673	0.5754	0.2448	3.6700e-		0.0465	0.0465		0.0465	0.0465		734.5132	734.5132	0.0141	0.0135	738.9833
Total		**0.2308**	**1.9720**	**0.8392**	**0.0126**		**0.1594**	**0.1594**		**0.1594**	**0.1594**		**2,517.4549**	**2,517.454**	**0.0483**	**0.0462**	**2,532.7757**

Mitigated

	NaturalGa	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family	5.79844	0.0625	0.5344	0.2274	3.4100e-		0.0432	0.0432		0.0432	0.0432		682.1693	682.1693	0.0131	0.0125	686.3208
Apartments Low	7.50232	0.0809	0.6914	0.2942	4.4100e-		0.0559	0.0559		0.0559	0.0559		882.6255	882.6255	0.0169	0.0162	887.9971
Condo/Townhouse	5.43298	0.0586	0.5007	0.2131	3.2000e-		0.0405	0.0405		0.0405	0.0405		639.1745	639.1745	0.0123	0.0117	643.0644
Total		**0.2020**	**1.7265**	**0.7347**	**0.0110**		**0.1396**	**0.1396**		**0.1396**	**0.1396**		**2,203.9693**	**2,203.969**	**0.0422**	**0.0404**	**2,217.3822**

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	15.9043	0.3904	33.8612	1.7800e-		0.7551	0.7551		0.7491	0.7491	0.0000	9,039.581	9,039.5814	0.2310	0.1646	9,095.4615
Unmitigated	756.4839	10.1930	932.2088	0.3030		125.9957	125.9957		125.9921	125.9921	13,072.21	5,439.581	18,511.799	10.5528	1.0559	19,060.743

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural	4.0201					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer	10.0366					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	741.4026	9.8026	898.3924	0.3012		125.8093	125.8093		125.8057	125.8057	13,072.21	5,378.823	18,451.041	10.4939	1.0559	18,998.748
Landscaping	1.0246	0.3904	33.8163	1.7800e-		0.1864	0.1864		0.1864	0.1864		60.7579	60.7579	0.0589		61.9944
Total	**756.4839**	**10.1930**	**932.2088**	**0.3030**		**125.9957**	**125.9957**		**125.9921**	**125.9921**	**13,072.21**	**5,439.581**	**18,511.799**	**10.5528**	**1.0559**	**19,060.743**

Mitigated

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural	4.0201					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer	10.0366					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.8231	4.0000e-	0.0449	0.0000		0.5687	0.5687		0.5627	0.5627	0.0000	8,978.823	8,978.8235	0.1721	0.1646	9,033.4672
Landscaping	1.0246	0.3904	33.8163	1.7800e-		0.1864	0.1864		0.1864	0.1864		60.7579	60.7579	0.0589		61.9944
Total	**15.9043**	**0.3904**	**33.8612**	**1.7800e-**		**0.7551**	**0.7551**		**0.7491**	**0.7491**	**0.0000**	**9,039.581**	**9,039.5814**	**0.2310**	**0.1646**	**9,095.4615**

2020 Operation

El Dorado-Mountain County County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	30.00	Dwelling Unit	16.00	54,000.00	86
Condo/Townhouse	20.00	Dwelling Unit	2.00	20,000.00	57
Apartments Low Rise	115.00	Dwelling Unit	6.00	115,000.00	329

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	70
Climate Zone	2			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity	641.35	**CH4 Intensity**	0.029	**N2O Intensity**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Modeling for criteria pollutants only - no construction
Land Use - Acres from PD
Construction Phase - No construction
Vehicle Trips - Trip rates from F&P (includes internalization)
Woodstoves - All restricted to natural gas per Policy 8.51. Hearth numbers provided by the County
Area Mitigation - All NG Hearth = Policy 8.80/8.51
Energy Mitigation - Exceed Title 24 = Policy 8.11

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	1.00
tblFireplaces	NumberGas	16.50	24.00
tblFireplaces	NumberGas	63.25	69.00
tblFireplaces	NumberGas	11.00	12.00
tblFireplaces	NumberWood	10.50	16.00
tblFireplaces	NumberWood	40.25	46.00
tblFireplaces	NumberWood	7.00	8.00

tblLandUse	LotAcreage	9.74	16.00
tblLandUse	LotAcreage	1.25	2.00
tblLandUse	LotAcreage	7.19	6.00
tblProjectCharacteristics	OperationalYear	2014	2020
tblVehicleTrips	ST_TR	10.08	9.05
tblVehicleTrips	ST_TR	7.16	6.23
tblVehicleTrips	ST_TR	7.16	9.05
tblVehicleTrips	SU_TR	8.77	9.05
tblVehicleTrips	SU_TR	6.07	6.23
tblVehicleTrips	SU_TR	6.07	9.05
tblVehicleTrips	WD_TR	9.57	9.05
tblVehicleTrips	WD_TR	6.59	6.23
tblVehicleTrips	WD_TR	6.59	9.05

2.0 Emissions Summary

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	6.4202	0.1580	13.6765	7.2000e-		0.3098	0.3098		0.3073	0.3073	0.0000	3,730.393	3,730.3935	0.0949	0.0679	3,753.4488
Energy	0.0767	0.6557	0.2790	4.1900e-		0.0530	0.0530		0.0530	0.0530		837.0986	837.0986	0.0160	0.0154	842.1931
Mobile	3.9874	7.0067	36.4055	0.1014	7.0727	0.1032	7.1759	1.8877	0.0952	1.9829		7,654.367	7,654.3674	0.2848		7,660.3490
Total	**10.4844**	**7.8204**	**50.3610**	**0.1063**	**7.0727**	**0.4660**	**7.5387**	**1.8877**	**0.4556**	**2.3432**	**0.0000**	**12,221.85**	**12,221.859**	**0.3958**	**0.0833**	**12,255.990**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.9874	7.0067	36.4055	0.1014	7.0727	0.1032	7.1759	1.8877	0.0952	1.9829		7,654.367	7,654.3674	0.2848		7,660.3490
Unmitigated	3.9874	7.0067	36.4055	0.1014	7.0727	0.1032	7.1759	1.8877	0.0952	1.9829		7,654.367	7,654.3674	0.2848		7,660.3490

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	271.50	271.50	271.50	777,723	777,723
Apartments Low Rise	716.45	716.45	716.45	2,052,302	2,052,302
Condo/Townhouse	181.00	181.00	181.00	518,482	518,482
Total	1,168.95	1,168.95	1,168.95	3,348,507	3,348,507

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	42.60	21.00	36.40	86	11	3
Apartments Low Rise	10.80	7.30	7.50	42.60	21.00	36.40	86	11	3
Condo/Townhouse	10.80	7.30	7.50	42.60	21.00	36.40	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.456027	0.079225	0.189471	0.160757	0.074654	0.010795	0.011376	0.000953	0.001380	0.000780	0.008930	0.000740	0.004913

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas	0.0767	0.6557	0.2790	4.1900e-		0.0530	0.0530		0.0530	0.0530		837.0986	837.0986	0.0160	0.0154	842.1931
NaturalGas	0.0875	0.7481	0.3183	4.7700e-		0.0605	0.0605		0.0605	0.0605		954.9995	954.9995	0.0183	0.0175	960.8115

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGa	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family	2642.61	0.0285	0.2435	0.1036	1.5500e-		0.0197	0.0197		0.0197	0.0197		310.8954	310.8954	5.9600e-	5.7000e-	312.7875
Apartments Low	4274.24	0.0461	0.3939	0.1676	2.5100e-		0.0319	0.0319		0.0319	0.0319		502.8515	502.8515	9.6400e-	9.2200e-	505.9118
Condo/Townhouse	1200.65	0.0130	0.1107	0.0471	7.1000e-		8.9500e-	8.9500e-		8.9500e-	8.9500e-		141.2525	141.2525	2.7100e-	2.5900e-	142.1122
Total		**0.0875**	**0.7481**	**0.3183**	**4.7700e-**		**0.0605**	**0.0605**		**0.0605**	**0.0605**		**954.9995**	**954.9995**	**0.0183**	**0.0175**	**960.8115**

Mitigated

	NaturalGa	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family	2.31938	0.0250	0.2138	0.0910	1.3600e-		0.0173	0.0173		0.0173	0.0173		272.8677	272.8677	5.2300e-	5.0000e-	274.5283
Apartments Low	3.75116	0.0405	0.3457	0.1471	2.2100e-		0.0280	0.0280		0.0280	0.0280		441.3128	441.3128	8.4600e-	8.0900e-	443.9985
Condo/Townhouse	1.0448	0.0113	0.0963	0.0410	6.1000e-		7.7800e-	7.7800e-		7.7800e-	7.7800e-		122.9182	122.9182	2.3600e-	2.2500e-	123.6662

Total		**0.0767**	**0.6557**	**0.2790**	**4.1800e-**		**0.0530**	**0.0530**		**0.0530**	**0.0530**		**837.0986**	**837.0986**	**0.0161**	**0.0153**	**842.1931**

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	6.4202	0.1580	13.6765	7.2000e-		0.3098	0.3098		0.3073	0.3073	0.0000	3,730.393	3,730.3935	0.0949	0.0679	3,753.4488
Unmitigated	311.2800	4.1818	382.8143	0.1222		51.7539	51.7539		51.7524	51.7524	5,364.136	2,248.040	7,612.1771	4.2584	0.4350	7,836.4384

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural	1.6200					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer	4.0446					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	305.1994	4.0238	369.1563	0.1215		51.6788	51.6788		51.6773	51.6773	5,364.136	2,223.529	7,587.6660	4.2345	0.4350	7,811.4254
Landscaping	0.4159	0.1580	13.6580	7.2000e-		0.0751	0.0751		0.0751	0.0751		24.5111	24.5111	0.0239		25.0131
Total	**311.2800**	**4.1818**	**382.8143**	**0.1222**		**51.7539**	**51.7539**		**51.7524**	**51.7524**	**5,364.136**	**2,248.040**	**7,612.1771**	**4.2584**	**0.4350**	**7,836.4384**

Mitigated

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural	1.6200					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer	4.0446					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.3397	2.0000e-	0.0185	0.0000		0.2347	0.2347		0.2322	0.2322	0.0000	3,705.882	3,705.8824	0.0710	0.0679	3,728.4357
Landscaping	0.4159	0.1580	13.6580	7.2000e-		0.0751	0.0751		0.0751	0.0751		24.5111	24.5111	0.0239		25.0131
Total	**6.4202**	**0.1580**	**13.6765**	**7.2000e-**		**0.3098**	**0.3098**		**0.3073**	**0.3073**	**0.0000**	**3,730.393**	**3,730.3935**	**0.0949**	**0.0679**	**3,753.4488**

2019 Operation

El Dorado-Mountain County County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	5.00	Dwelling Unit	6.00	9,000.00	14

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	70
Climate Zone	2			**Operational Year**	2019
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity	641.35	**CH4 Intensity**	0.029	**N2O Intensity**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Modeling for criteria pollutants only - no construction
Land Use - Acres from PD
Construction Phase - No construction
Vehicle Trips - Trip rates from F&P (includes internalization)
Woodstoves - All restricted to natural gas per Policy 8.51. Hearth numbers provided by the County
Area Mitigation - All NG Hearth = Policy 8.80/8.51
Energy Mitigation - Exceed Title 24 = Policy 8.11

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	1.00
tblFireplaces	NumberGas	2.75	6.00
tblFireplaces	NumberWood	1.75	4.00
tblLandUse	LotAcreage	1.62	6.00
tblProjectCharacteristics	OperationalYear	2014	2019
tblVehicleTrips	ST_TR	10.08	9.05
tblVehicleTrips	SU_TR	8.77	9.05
tblVehicleTrips	WD_TR	9.57	9.05

2.0 Emissions Summary

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.3019	4.8000e-	0.4156	2.0000e-		0.0157	0.0157		0.0155	0.0155	0.0000	212.5075	212.5075	4.7900e-	3.8800e-	213.8115
Energy	4.1700e-	0.0356	0.0152	2.3000e-		2.8800e-	2.8800e-		2.8800e-	2.8800e-		45.4780	45.4780	8.7000e-	8.3000e-	45.7547
Mobile	0.1625	0.2957	1.5040	3.9200e-	0.2738	4.2100e-	0.2780	0.0731	3.8800e-	0.0769		306.8120	306.8120	0.0117		307.0573
Total	**0.4685**	**0.3361**	**1.9348**	**4.1700e-**	**0.2738**	**0.0228**	**0.2965**	**0.0731**	**0.0223**	**0.0954**	**0.0000**	**564.7974**	**564.7974**	**0.0173**	**4.7100e-**	**566.6235**

4.0 Operational Detail - Mobile

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.1625	0.2957	1.5040	3.9200e-	0.2738	4.2100e-	0.2780	0.0731	3.8800e-	0.0769		306.8120	306.8120	0.0117		307.0573
Unmitigated	0.1625	0.2957	1.5040	3.9200e-	0.2738	4.2100e-	0.2780	0.0731	3.8800e-	0.0769		306.8120	306.8120	0.0117		307.0573

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	45.25	45.25	45.25	129,621	129,621
Total	45.25	45.25	45.25	129,621	129,621

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	42.60	21.00	36.40	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.456583	0.078851	0.189597	0.160849	0.074758	0.010700	0.011077	0.000966	0.001372	0.000777	0.008826	0.000741	0.004904

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas	4.1700e-	0.0356	0.0152	2.3000e-		2.8800e-	2.8800e-		2.8800e-	2.8800e-		45.4780	45.4780	8.7000e-	8.3000e-	45.7547
NaturalGas	4.7500e-	0.0406	0.0173	2.6000e-		3.2800e-	3.2800e-		3.2800e-	3.2800e-		51.8159	51.8159	9.9000e-	9.5000e-	52.1313

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGa	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family	440.435	4.7500e-	0.0406	0.0173	2.6000e-		3.2800e-	3.2800e-		3.2800e-	3.2800e-		51.8159	51.8159	9.9000e-	9.5000e-	52.1313
Total		**4.7500e-**	**0.0406**	**0.0173**	**2.6000e-**		**3.2800e-**	**3.2800e-**		**3.2800e-**	**3.2800e-**		**51.8159**	**51.8159**	**9.9000e-**	**9.5000e-**	**52.1313**

Mitigated

	NaturalGa	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family	0.386563	4.1700e-	0.0356	0.0152	2.3000e-		2.8800e-	2.8800e-		2.8800e-	2.8800e-		45.4780	45.4780	8.7000e-	8.3000e-	45.7547
Total		**4.1700e-**	**0.0356**	**0.0152**	**2.3000e-**		**2.8800e-**	**2.8800e-**		**2.8800e-**	**2.8800e-**		**45.4780**	**45.4780**	**8.7000e-**	**8.3000e-**	**45.7547**

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.3019	4.8000e-	0.4156	2.0000e-		0.0157	0.0157		0.0155	0.0155	0.0000	212.5075	212.5075	4.7900e-	3.8800e-	213.8115
Unmitigated	17.6123	0.2184	20.5097	3.7000e-		2.7923	2.7923		2.7922	2.7922	282.4548	127.8016	410.2563	0.1302	0.0249	420.6952

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Consumer	0.1926					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	17.3299	0.2136	20.0951	3.6800e-		2.7900	2.7900		2.7899	2.7899	282.4548	127.0588	409.5136	0.1295	0.0249	419.9371
Landscaping	0.0127	4.8000e-	0.4146	2.0000e-		2.2700e-	2.2700e-		2.2700e-	2.2700e-		0.7428	0.7428	7.3000e-		0.7581
Architectural	0.0771					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**17.6123**	**0.2184**	**20.5097**	**3.7000e-**		**2.7923**	**2.7923**		**2.7922**	**2.7922**	**282.4548**	**127.8016**	**410.2563**	**0.1302**	**0.0249**	**420.6952**

Mitigated

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Consumer	0.1926					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0194	0.0000	1.0600e-	0.0000		0.0134	0.0134		0.0133	0.0133	0.0000	211.7647	211.7647	4.0600e-	3.8800e-	213.0535
Landscaping	0.0127	4.8000e-	0.4146	2.0000e-		2.2700e-	2.2700e-		2.2700e-	2.2700e-		0.7428	0.7428	7.3000e-		0.7581
Architectural	0.0771					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.3018**	**4.8000e-**	**0.4156**	**2.0000e-**		**0.0157**	**0.0157**		**0.0155**	**0.0155**	**0.0000**	**212.5075**	**212.5075**	**4.7900e-**	**3.8800e-**	**213.8115**

Full Buildout Operations

El Dorado Westside Operations (2035)

El Dorado-Mountain County County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Government (Civic Center)	50.00	1000sqft	11.00	50,000.00	0
Other Asphalt Surfaces	7.00	Acre	7.00	217,800.00	0
City Park	15.00	Acre	15.00	653,400.00	0
Apartments Low Rise	330.00	Dwelling Unit	16.00	330,000.00	944
Condo/Townhouse	310.00	Dwelling Unit	37.00	310,000.00	887
Single Family Housing	123.00	Dwelling Unit	23.00	221,400.00	352

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	70
Climate Zone	2			**Operational Year**	2035
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity	290	**CH4 Intensity**	0.029	**N2O Intensity**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Updated 2020 PG&E RPS-adjusted emission factor
Land Use - Acrages from PD
Vehicle Trips - Trip rates from F&P
Woodstoves - All restricted to natural gas per Policy 8.51. Hearth numbers provided by the County (1,037 total for westside + pedregal)
Water And Wastewater - Water rates from WSA
Area Mitigation - All NG Hearth = Policy 8.80/8.51
Energy Mitigation - Exceed Title 24 = Policy 8.11
Water Mitigation - Water reduction = Policy 8.36; Irrigation systems = Policy 8.43

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Interior	1381800	2025540
tblFireplaces	NumberGas	181.50	198.00
tblFireplaces	NumberGas	170.50	186.00

tblFireplaces	NumberGas	67.65	74.00
tblFireplaces	NumberWood	115.50	132.00
tblFireplaces	NumberWood	108.50	124.00
tblFireplaces	NumberWood	43.05	49.00
tblLandUse	LandUseSquareFeet	304,920.00	217,800.00
tblLandUse	LotAcreage	1.15	11.00
tblLandUse	LotAcreage	20.63	16.00
tblLandUse	LotAcreage	19.38	37.00
tblLandUse	LotAcreage	39.94	23.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblProjectCharacteristics	OperationalYear	2014	2035
tblVehicleTrips	ST_TR	7.16	6.23
tblVehicleTrips	ST_TR	1.59	36.55
tblVehicleTrips	ST_TR	7.16	9.05
tblVehicleTrips	ST_TR	10.08	9.05
tblVehicleTrips	SU_TR	6.07	6.23
tblVehicleTrips	SU_TR	1.59	36.55
tblVehicleTrips	SU_TR	6.07	9.05
tblVehicleTrips	SU_TR	8.77	9.05
tblVehicleTrips	WD_TR	6.59	6.23
tblVehicleTrips	WD_TR	1.59	36.55
tblVehicleTrips	WD_TR	6.59	9.05
tblVehicleTrips	WD_TR	27.92	11.04
tblVehicleTrips	WD_TR	9.57	9.05
tblWater	IndoorWaterUseRate	21,500,828.46	10,552,372.68
tblWater	IndoorWaterUseRate	20,197,747.94	23,542,982.98
tblWater	IndoorWaterUseRate	9,932,984.29	4,311,275.09
tblWater	IndoorWaterUseRate	8,013,945.15	11,799,471.26
tblWater	OutdoorWaterUseRate	13,554,870.11	8,889,226.98
tblWater	OutdoorWaterUseRate	17,872,220.24	15,299,213.37
tblWater	OutdoorWaterUseRate	12,733,362.83	19,832,404.14
tblWater	OutdoorWaterUseRate	6,087,958.12	3,546,371.44
tblWater	OutdoorWaterUseRate	0.00	6,075,499.89
tblWater	OutdoorWaterUseRate	5,052,269.77	9,939,771.99
tblWaterMitigation	PercentReductionInFlowBathroomFauc	32	0
tblWaterMitigation	PercentReductionInFlowKitchenFaucet	18	0

2.0 Emissions Summary

2.2 Overall Operational

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

Area	56.7811	0.7238	62.8153	3.3200e-		1.3724	1.3724		1.3617	1.3617	0.0000	16,271.00	16,271.008	0.4176	0.2962	16,371.607
Energy	0.4151	3.5592	1.5968	0.0226		0.2868	0.2868		0.2868	0.2868		4,528.487	4,528.4874	0.0868	0.0830	4,556.0470
Mobile	15.1794	19.8133	131.3005	0.5828	40.8672	0.5063	41.3735	10.9098	0.4680	11.3778		40,141.69	40,141.699	1.0616		40,163.992
Total	**72.3756**	**24.0963**	**195.7126**	**0.6088**	**40.8672**	**2.1656**	**43.0327**	**10.9098**	**2.1165**	**13.0262**	**0.0000**	**60,941.19**	**60,941.194**	**1.5660**	**0.3792**	**61,091.647**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	15.1794	19.8133	131.3005	0.5828	40.8672	0.5063	41.3735	10.9098	0.4680	11.3778		40,141.69	40,141.699	1.0616		40,163.992
Unmitigated	15.1794	19.8133	131.3005	0.5828	40.8672	0.5063	41.3735	10.9098	0.4680	11.3778		40,141.69	40,141.699	1.0616		40,163.992

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	2,055.90	2,055.90	2055.90	5,889,213	5,889,213
City Park	548.25	548.25	548.25	1,170,433	1,170,433
Condo/Townhouse	2,805.50	2,805.50	2805.50	8,036,474	8,036,474
Government (Civic Center)	552.00	0.00	0.00	753,731	753,731
Other Asphalt Surfaces	0.00	0.00	0.00		
Single Family Housing	1,113.15	1,113.15	1113.15	3,188,666	3,188,666
Total	7,074.80	6,522.80	6,522.80	19,038,517	19,038,517

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	10.80	7.30	7.50	42.60	21.00	36.40	86	11	3
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Condo/Townhouse	10.80	7.30	7.50	42.60	21.00	36.40	86	11	3
Government (Civic Center)	9.50	7.30	7.30	75.00	20.00	5.00	50	34	16
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Single Family Housing	10.80	7.30	7.50	42.60	21.00	36.40	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.470511	0.079702	0.184986	0.151012	0.071590	0.010888	0.013668	0.001015	0.001470	0.000717	0.009140	0.000700	0.004603

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas	0.4151	3.5592	1.5968	0.0226		0.2868	0.2868		0.2868	0.2868		4,528.487	4,528.4874	0.0868	0.0830	4,556.0470
NaturalGas	0.4754	4.0762	1.8309	0.0259		0.3284	0.3284		0.3284	0.3284		5,185.858	5,185.8583	0.0994	0.0951	5,217.4186

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGa	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Condo/Townhouse	18610	0.2007	1.7150	0.7298	0.0110		0.1387	0.1387		0.1387	0.1387		2,189.4143	2,189.414	0.0420	0.0401	2,202.7388
Government (Civic	2369.86	0.0256	0.2323	0.1952	1.3900e-		0.0177	0.0177		0.0177	0.0177		278.8074	278.8074	5.3400e-	5.1100e-	280.5042
Other Asphalt	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Single Family	10834.7	0.1168	0.9985	0.4249	6.3700e-		0.0807	0.0807		0.0807	0.0807		1,274.6713	1,274.671	0.0244	0.0234	1,282.4287
Apartments Low	12265.2	0.1323	1.1303	0.4810	7.2100e-		0.0914	0.0914		0.0914	0.0914		1,442.9653	1,442.965	0.0277	0.0265	1,451.7469
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.4754**	**4.0762**	**1.8309**	**0.0259**		**0.3284**	**0.3284**		**0.3284**	**0.3284**		**5,185.8583**	**5,185.858**	**0.0994**	**0.0951**	**5,217.4186**

Mitigated

	NaturalGa	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Condo/Townhouse	16.1945	0.1747	1.4924	0.6351	9.5300e-		0.1207	0.1207		0.1207	0.1207		1,905.2315	1,905.231	0.0365	0.0349	1,916.8264
Government (Civic	2.02404	0.0218	0.1984	0.1667	1.1900e-		0.0151	0.0151		0.0151	0.0151		238.1225	238.1225	4.5600e-	4.3700e-	239.5717
Other Asphalt	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Single Family	9.50944	0.1026	0.8764	0.3729	5.5900e-		0.0709	0.0709		0.0709	0.0709		1,118.7576	1,118.757	0.0214	0.0205	1,125.5662
Apartments Low	10.7642	0.1161	0.9920	0.4221	6.3300e-		0.0802	0.0802		0.0802	0.0802		1,266.3758	1,266.375	0.0243	0.0232	1,274.0827
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.4151**	**3.5592**	**1.5968**	**0.0226**		**0.2868**	**0.2868**		**0.2868**	**0.2868**		**4,528.4874**	**4,528.487**	**0.0868**	**0.0830**	**4,556.0470**

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	56.7811	0.7238	62.8153	3.3200e-		1.3724	1.3724		1.3617	1.3617	0.0000	16,271.00	16,271.008	0.4176	0.2962	16,371.607
Unmitigated	1,386.1938	18.4183	1,681.148	0.5652		227.1442	227.1442		227.1377	227.1377	23,611.81	9,812.184	33,424.002	19.6782	1.8953	34,424.798

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural	15.2762					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer	38.1476					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1,330.8938	17.6946	1,618.413	0.5619		226.7951	226.7951		226.7886	226.7886	23,611.81	9,698.823	33,310.641	19.5703	1.8953	34,309.170
Landscaping	1.8762	0.7238	62.7345	3.3200e-		0.3491	0.3491		0.3491	0.3491		113.3612	113.3612	0.1079		115.6279
Total	**1,386.1938**	**18.4183**	**1,681.148**	**0.5652**		**227.1442**	**227.1442**		**227.1377**	**227.1377**	**23,611.81**	**9,812.184**	**33,424.002**	**19.6782**	**1.8953**	**34,424.798**

Mitigated

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural	15.2762					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer	38.1476					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.4811	7.0000e-	0.0808	0.0000		1.0233	1.0233		1.0126	1.0126	0.0000	16,157.64	16,157.647	0.3097	0.2962	16,255.979
Landscaping	1.8762	0.7238	62.7345	3.3200e-		0.3491	0.3491		0.3491	0.3491		113.3612	113.3612	0.1079		115.6279
Total	**56.7812**	**0.7238**	**62.8153**	**3.3200e-**		**1.3724**	**1.3724**		**1.3617**	**1.3617**	**0.0000**	**16,271.00**	**16,271.008**	**0.4176**	**0.2962**	**16,371.607**

Pedregal Operations (2035)

El Dorado-Mountain County County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	5.00	Acre	5.00	392,040.00	0
Apartments Low Rise	200.00	Dwelling Unit	13.00	200,000.00	572
Single Family Housing	37.00	Dwelling Unit	45.00	66,600.00	106

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	70
Climate Zone	2			**Operational Year**	2035
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity	290	**CH4 Intensity**	0.029	**N2O Intensity**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Updated 2020 PG&E RPS-adjusted emission factor
Land Use - Acrages from PD
Woodstoves - All restricted to natural gas per Policy 8.51. Hearth numbers provided by the County (1,037 total for westside + pedregal)
Water And Wastewater - Water rates from WSA
Area Mitigation - All NG Hearth = Policy 8.80/8.51
Energy Mitigation - Exceed Title 24 = Policy 8.11
Water Mitigation - Water reduction = Policy 8.36; Irrigation systems = Policy 8.43
Vehicle Trips - Trip rates from F&P

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	70.00	1.00
tblFireplaces	NumberGas	110.00	120.00
tblFireplaces	NumberGas	20.35	44.00
tblFireplaces	NumberWood	70.00	80.00
tblFireplaces	NumberWood	12.95	30.00
tblLandUse	LandUseSquareFeet	217,800.00	392,040.00

tblLandUse	LotAcreage	12.50	13.00
tblLandUse	LotAcreage	12.01	45.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblProjectCharacteristics	OperationalYear	2014	2035
tblVehicleTrips	ST_TR	7.16	6.65
tblVehicleTrips	ST_TR	10.08	9.52
tblVehicleTrips	SU_TR	6.07	6.65
tblVehicleTrips	SU_TR	8.77	9.52
tblVehicleTrips	WD_TR	6.59	6.65
tblVehicleTrips	WD_TR	9.57	9.52
tblWater	IndoorWaterUseRate	13,030,805.12	6,395,377.38
tblWater	IndoorWaterUseRate	2,410,698.95	5,915,724.07
tblWater	OutdoorWaterUseRate	8,215,072.80	5,387,410.29
tblWater	OutdoorWaterUseRate	1,519,788.47	4,983,354.52

2.0 Emissions Summary

2.2 Overall Operational

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	19.9838	0.2248	19.5136	1.0300e-		0.4759	0.4759		0.4721	0.4721	0.0000	5,837.560	5,837.5609	0.1447	0.1064	5,873.5770
Energy	0.1012	0.8648	0.3680	5.5200e-		0.0699	0.0699		0.0699	0.0699		1,104.037	1,104.0373	0.0212	0.0202	1,110.7563
Mobile	3.6615	4.9022	32.5179	0.1451	10.1827	0.1253	10.308	2.7183	0.1158	2.8342		9,990.210	9,990.2107	0.2637		9,995.7473
Total	**23.7465**	**5.9919**	**52.3995**	**0.1516**	**10.1827**	**0.6711**	**10.8538**	**2.7183**	**0.6578**	**3.3761**	**0.0000**	**16,931.80**	**16,931.809**	**0.4295**	**0.1266**	**16,980.080**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.6615	4.9022	32.5179	0.1451	10.1827	0.1253	10.3080	2.7183	0.1158	2.8342		9,990.210	9,990.2107	0.2637		9,995.7473
Unmitigated	3.6615	4.9022	32.5179	0.1451	10.1827	0.1253	10.3080	2.7183	0.1158	2.8342		9,990.210	9,990.2107	0.2637		9,995.7473

4.2 Trip Summary Information

	Average Daily Trip Rate	Unmitigated	Mitigated

Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	1,330.00	1,330.00	1330.00	3,809,842	3,809,842
Other Asphalt Surfaces	0.00	0.00	0.00		
Single Family Housing	352.24	352.24	352.24	1,009,006	1,009,006
Total	1,682.24	1,682.24	1,682.24	4,818,848	4,818,848

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	10.80	7.30	7.50	42.60	21.00	36.40	86	11	3
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Single Family Housing	10.80	7.30	7.50	42.60	21.00	36.40	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.470511	0.079702	0.184986	0.151012	0.071590	0.010888	0.013668	0.001015	0.001470	0.000717	0.009140	0.000700	0.004603

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.2 Energy by Land Use - NaturalGas

	NaturalGa	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family	2.86056	0.0309	0.2636	0.1122	1.6800e-		0.0213	0.0213		0.0213	0.0213		336.5368	336.5368	6.4500e-	6.1700e-	338.5849
Apartments Low	6.52375	0.0704	0.6012	0.2558	3.8400e-		0.0486	0.0486		0.0486	0.0486		767.5005	767.5005	0.0147	0.0141	772.1714
Other Asphalt	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.1012**	**0.8648**	**0.3680**	**5.5200e-**		**0.0699**	**0.0699**		**0.0699**	**0.0699**		**1,104.0373**	**1,104.037**	**0.0212**	**0.0202**	**1,110.7563**

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural	4.7744					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer	14.0949					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000

Hearth	0.5319	2.0000e-	0.0290	0.0000		0.3675	0.3675		0.3636	0.3636	0.0000	5,802.352	5,802.3529	0.1112	0.1064	5,837.6651
Landscaping	0.5826	0.2248	19.4846	1.0300e-		0.1084	0.1084		0.1084	0.1084		35.2080	35.2080	0.0335		35.9119
Total	**19.9838**	**0.2248**	**19.5136**	**1.0300e-**		**0.4759**	**0.4759**		**0.4720**	**0.4720**	**0.0000**	**5,837.560**	**5,837.5609**	**0.1447**	**0.1064**	**5,873.5770**

El Dorado Westside Operations (2035)

El Dorado-Mountain County County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Government (Civic Center)	50.00	1000sqft	11.00	50,000.00	0
Other Asphalt Surfaces	7.00	Acre	7.00	217,800.00	0
City Park	15.00	Acre	15.00	653,400.00	0
Apartments Low Rise	330.00	Dwelling Unit	16.00	330,000.00	944
Condo/Townhouse	310.00	Dwelling Unit	37.00	310,000.00	887
Single Family Housing	123.00	Dwelling Unit	23.00	221,400.00	352

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	70
Climate Zone	2			**Operational Year**	2035
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity	290	**CH4 Intensity**	0.029	**N2O Intensity**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Updated 2020 PG&E RPS-adjusted emission factor
Land Use - Acrages from PD
Vehicle Trips - Trip rates from F&P
Woodstoves - All restricted to natural gas per Policy 8.51. Hearth numbers provided by the County (1,037 total for westside + pedregal)
Water And Wastewater - Water rates from WSA
Area Mitigation - All NG Hearth = Policy 8.80/8.51
Energy Mitigation - Exceed Title 24 = Policy 8.11
Water Mitigation - Water reduction = Policy 8.36; Irrigation systems = Policy 8.43

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Interior	1381800	2025540
tblFireplaces	NumberGas	181.50	198.00
tblFireplaces	NumberGas	170.50	186.00

tblFireplaces	NumberGas	67.65	74.00
tblFireplaces	NumberWood	115.50	132.00
tblFireplaces	NumberWood	108.50	124.00
tblFireplaces	NumberWood	43.05	49.00
tblLandUse	LandUseSquareFeet	304,920.00	217,800.00
tblLandUse	LotAcreage	1.15	11.00
tblLandUse	LotAcreage	20.63	16.00
tblLandUse	LotAcreage	19.38	37.00
tblLandUse	LotAcreage	39.94	23.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblProjectCharacteristics	OperationalYear	2014	2035
tblVehicleTrips	ST_TR	7.16	6.23
tblVehicleTrips	ST_TR	1.59	36.55
tblVehicleTrips	ST_TR	7.16	9.05
tblVehicleTrips	ST_TR	10.08	9.05
tblVehicleTrips	SU_TR	6.07	6.23
tblVehicleTrips	SU_TR	1.59	36.55
tblVehicleTrips	SU_TR	6.07	9.05
tblVehicleTrips	SU_TR	8.77	9.05
tblVehicleTrips	WD_TR	6.59	6.23
tblVehicleTrips	WD_TR	1.59	36.55
tblVehicleTrips	WD_TR	6.59	9.05
tblVehicleTrips	WD_TR	27.92	11.04
tblVehicleTrips	WD_TR	9.57	9.05
tblWater	IndoorWaterUseRate	21,500,828.46	10,552,372.68
tblWater	IndoorWaterUseRate	20,197,747.94	23,542,982.98
tblWater	IndoorWaterUseRate	9,932,984.29	4,311,275.09
tblWater	IndoorWaterUseRate	8,013,945.15	11,799,471.26
tblWater	OutdoorWaterUseRate	13,554,870.11	8,889,226.98
tblWater	OutdoorWaterUseRate	17,872,220.24	15,299,213.37
tblWater	OutdoorWaterUseRate	12,733,362.83	19,832,404.14
tblWater	OutdoorWaterUseRate	6,087,958.12	3,546,371.44
tblWater	OutdoorWaterUseRate	0.00	6,075,499.89
tblWater	OutdoorWaterUseRate	5,052,269.77	9,939,771.99
tblWaterMitigation	PercentReductionInFlowBathroomFauc	32	0
tblWaterMitigation	PercentReductionInFlowKitchenFaucet	18	0

2.0 Emissions Summarv

2.2 Overall Operational

Unmitigated Operational

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

Category	tons/yr										MT/yr					
Area	64.4854	0.7906	72.0011	0.0233		9.3300	9.3300		9.3298	9.3298	878.2315	369.9992	1,248.23	0.7367	0.0705	1,285.5556
Energy	0.0868	0.7439	0.3341	4.7300e-		0.0599	0.0599		0.0599	0.0599	0.0000	1,397.476	1,397.48	0.0704	0.0269	1,407.2895
Mobile	2.3961	3.8738	22.2029	0.0967	7.0202	0.0906	7.1107	1.8806	0.0837	1.9643	0.0000	6,071.038	6,071.0388	0.1723	0.0000	6,074.6567
Waste						0.0000	0.0000		0.0000	0.0000	135.7380	0.0000	135.7380	8.0219	0.0000	304.1977
Water						0.0000	0.0000		0.0000	0.0000	15.9281	65.0085	80.9366	1.6425	0.0400	127.8202
Total	**66.9682**	**5.4083**	**94.5381**	**0.1247**	**7.0202**	**9.4805**	**16.5007**	**1.8806**	**9.4734**	**11.3540**	**1,029.897**	**7,903.522**	**8,933.4203**	**10.6437**	**0.1374**	**9,199.5197**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	9.9794	0.0651	5.6494	3.0000e-		0.0734	0.0734		0.0729	0.0729	0.0000	610.2324	610.2324	0.0203	0.011	614.0749
Energy	0.0758	0.6496	0.2914	4.1300e-		0.0523	0.0523		0.0523	0.0523	0.0000	1,278.884	1,278.88	0.0673	0.0247	1,287.9518
Mobile	2.3961	3.8738	22.2029	0.0967	7.0202	0.0906	7.1107	1.8806	0.0837	1.9643	0.0000	6,071.038	6,071.0388	0.1723	0.0000	6,074.6567
Waste						0.0000	0.0000		0.0000	0.0000	135.7380	0.0000	135.7380	8.0219	0.0000	304.1977
Water						0.0000	0.0000		0.0000	0.0000	12.7425	55.4737	68.2161	1.3143	0.0321	105.7526
Total	**12.4513**	**4.5885**	**28.1438**	**0.1011**	**7.0202**	**0.2163**	**7.2365**	**1.8806**	**0.2090**	**2.0896**	**148.4805**	**8,015.628**	**8,164.1093**	**9.5961**	**0.0678**	**8,386.6336**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.3961	3.8738	22.2029	0.0967	7.0202	0.0906	7.1107	1.8806	0.0837	1.9643	0.0000	6,071.038	6,071.0388	0.1723	0.0000	6,074.6567
Unmitigated	2.3961	3.8738	22.2029	0.0967	7.0202	0.0906	7.1107	1.8806	0.0837	1.9643	0.0000	6,071.038	6,071.0388	0.1723	0.0000	6,074.6567

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	2,055.90	2,055.90	2055.90	5,889,213	5,889,213
City Park	548.25	548.25	548.25	1,170,433	1,170,433
Condo/Townhouse	2,805.50	2,805.50	2805.50	8,036,474	8,036,474
Government (Civic Center)	552.00	0.00	0.00	753,731	753,731
Other Asphalt Surfaces	0.00	0.00	0.00		
Single Family Housing	1,113.15	1,113.15	1113.15	3,188,666	3,188,666
Total	7,074.80	6,522.80	6,522.80	19,038,517	19,038,517

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	10.80	7.30	7.50	42.60	21.00	36.40	86	11	3
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Condo/Townhouse	10.80	7.30	7.50	42.60	21.00	36.40	86	11	3
Government (Civic Center)	9.50	7.30	7.30	75.00	20.00	5.00	50	34	16
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Single Family Housing	10.80	7.30	7.50	42.60	21.00	36.40	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.470511	0.079702	0.184986	0.151012	0.071590	0.010888	0.013668	0.001015	0.001470	0.000717	0.009140	0.000700	0.004603

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	529.1422	529.1422	0.0529	0.0110	533.6472
Electricity						0.0000	0.0000		0.0000	0.0000	0.0000	538.8993	538.8993	0.0539	0.0112	543.4873
NaturalGas	0.0758	0.6496	0.2914	4.1300e-		0.0523	0.0523		0.0523	0.0523	0.0000	749.7419	749.7419	0.0144	0.0138	754.3047
NaturalGas	0.0868	0.7439	0.3341	4.7300e-		0.0599	0.0599		0.0599	0.0599	0.0000	858.5770	858.5770	0.0165	0.0157	863.8022

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGa	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Condo/Townhouse	6.79266e+	0.0366	0.3130	0.1332	2.0000e-		0.0253	0.0253		0.0253	0.0253	0.0000	362.4821	362.4821	6.9500e-	6.6500e-	364.6881
Government (Civic	865000	4.6600e-	0.0424	0.0356	2.5000e-		3.2200e-	3.2200e-		3.2200e-	3.2200e-	0.0000	46.1597	46.1597	8.8000e-	8.5000e-	46.4406
Other Asphalt	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family	3.95467e+	0.0213	0.1822	0.0775	1.1600e-		0.0147	0.0147		0.0147	0.0147	0.0000	211.0361	211.0361	4.0400e-	3.8700e-	212.3205
Apartments Low	4.4768e+0	0.0241	0.2063	0.0878	1.3200e-		0.0167	0.0167		0.0167	0.0167	0.0000	238.8991	238.8991	4.5800e-	4.3800e-	240.3530
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0868**	**0.7439**	**0.3341**	**4.7300e-**		**0.0599**	**0.0599**		**0.0599**	**0.0599**	**0.0000**	**858.5770**	**858.5770**	**0.0165**	**0.0158**	**863.8022**

Mitigated

	NaturalGa	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Condo/Townhouse	5.91098e+	0.0319	0.2724	0.1159	1.7400e-		0.0220	0.0220		0.0220	0.0220	0.0000	315.4325	315.4325	6.0500e-	5.7800e-	317.3521
Government (Civic	738775	3.9800e-	0.0362	0.0304	2.2000e-		2.7500e-	2.7500e-		2.7500e-	2.7500e-	0.0000	39.4239	39.4239	7.6000e-	7.2000e-	39.6638
Other Asphalt	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family	3.47095e+	0.0187	0.1599	0.0681	1.0200e-		0.0129	0.0129		0.0129	0.0129	0.0000	185.2229	185.2229	3.5500e-	3.4000e-	186.3501
Apartments Low	3.92893e+	0.0212	0.1810	0.0770	1.1600e-		0.0146	0.0146		0.0146	0.0146	0.0000	209.6627	209.6627	4.0200e-	3.8400e-	210.9387
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0758**	**0.6496**	**0.2914**	**4.1400e-**		**0.0523**	**0.0523**		**0.0523**	**0.0523**	**0.0000**	**749.7419**	**749.7419**	**0.0144**	**0.0137**	**754.3047**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low	1.25079e+	164.5315	0.0165	3.4000e-	165.9323
City Park	0	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	1.37271e+	180.5689	0.0181	3.7400e-	182.1062
Government (Civic	558500	73.4661	7.3500e-	1.5200e-	74.0916
Other Asphalt	0	0.0000	0.0000	0.0000	0.0000
Single Family	914788	120.3328	0.0120	2.4900e-	121.3573
Total		**538.8993**	**0.0539**	**0.0112**	**543.4873**

Mitigated

	Electricity	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low	1.23356e+	162.2644	0.0162	3.3600e-	163.6458
City Park	0	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	1.35871e+	178.7268	0.0179	3.7000e-	180.2485
Government (Civic	529025	69.5889	6.9600e-	1.4400e-	70.1814
Other Asphalt	0	0.0000	0.0000	0.0000	0.0000
Single Family	901326	118.5621	0.0119	2.4500e-	119.5715
Total		**529.1422**	**0.0529**	**0.0110**	**533.6472**

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	9.9794	0.0651	5.6494	3.0000e-		0.0734	0.0734		0.0729	0.0729	0.0000	610.2324	610.2324	0.0203	0.0110	614.0749
Unmitigated	64.4854	0.7906	72.0011	0.0233		9.3300	9.3300		9.3298	9.3298	878.2315	369.9992	1,248.2307	0.7367	0.0705	1,285.5556

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural	2.7879					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer	6.9619					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	54.5667	0.7255	66.3550	0.0230		9.2986	9.2986		9.2983	9.2983	878.2315	360.7436	1,238.9751	0.7279	0.0705	1,276.1150
Landscaping	0.1689	0.0651	5.6461	3.0000e-		0.0314	0.0314		0.0314	0.0314	0.0000	9.2556	9.2556	8.8100e-	0.0000	9.4406
Total	**64.4854**	**0.7906**	**72.0011**	**0.0233**		**9.3300**	**9.3300**		**9.3298**	**9.3298**	**878.2315**	**369.9992**	**1,248.2307**	**0.7367**	**0.0705**	**1,285.5556**

Mitigated

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural	2.7879					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer	6.9619					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0607	0.0000	3.3100e-	0.0000		0.0420	0.0420		0.0415	0.0415	0.0000	600.9768	600.9768	0.0115	0.0110	604.6343
Landscaping	0.1689	0.0651	5.6461	3.0000e-		0.0314	0.0314		0.0314	0.0314	0.0000	9.2556	9.2556	8.8100e-	0.0000	9.4406
Total	**9.9794**	**0.0651**	**5.6494**	**3.0000e-**		**0.0734**	**0.0734**		**0.0729**	**0.0729**	**0.0000**	**610.2324**	**610.2324**	**0.0203**	**0.0110**	**614.0749**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy
Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	68.2161	1.3143	0.0321	105.7526
Unmitigated	80.9366	1.6425	0.0400	127.8202

7.2 Water by Land Use

Unmitigated

	Indoor/Out	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low	10.5524 /	14.9512	0.3450	8.3600e-	24.7878
City Park	0 / 15.2992	7.0437	7.0000e-	1.5000e-	7.1037
Condo/Townhouse	23.543 /	33.3571	0.7697	0.0187	55.3030
Government (Civic	4.31128 /	6.0692	0.1410	3.4100e-	10.0876
Other Asphalt	0 / 6.0755	2.7971	2.8000e-	6.0000e-	2.8210
Single Family	11.7995 /	16.7182	0.3858	9.3500e-	27.7172
Total		**80.9366**	**1.6425**	**0.0400**	**127.8202**

Mitigated

	Indoor/Out	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low	8.4419 /	12.2776	0.2760	6.6900e-	20.1496
City Park	0 / 15.2992	7.0437	7.0000e-	1.5000e-	7.1037
Condo/Townhouse	18.8344 /	27.3922	0.6159	0.0149	44.9549
Government (Civic	3.44902 /	4.9768	0.1128	2.7300e-	8.1926
Other Asphalt	0 / 6.0755	2.7971	2.8000e-	6.0000e-	2.8210
Single Family	9.43958 /	13.7286	0.3087	7.4800e-	22.5309
Total		**68.2161**	**1.3143**	**0.0320**	**105.7526**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Unmitigated	135.7380	8.0219	0.0000	304.1977
Mitigated	135.7380	8.0219	0.0000	304.1977

8.2 Waste by Land Use

Unmitigated

	Waste	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low	151.8	30.8140	1.8211	0.0000	69.0562
City Park	1.29	0.2619	0.0155	0.0000	0.5868
Condo/Townhouse	142.6	28.9465	1.7107	0.0000	64.8710
Government (Civic	285	57.8524	3.4190	0.0000	129.6510

Other Asphalt	0	0.0000	0.0000	0.0000	0.0000
Single Family	88	17.8632	1.0557	0.0000	40.0326
Total		**135.7380**	**8.0219**	**0.0000**	**304.1977**

Mitigated

	Waste	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low	151.8	30.8140	1.8211	0.0000	69.0562
City Park	1.29	0.2619	0.0155	0.0000	0.5868
Condo/Townhouse	142.6	28.9465	1.7107	0.0000	64.8710
Government (Civic	285	57.8524	3.4190	0.0000	129.6510
Other Asphalt	0	0.0000	0.0000	0.0000	0.0000
Single Family	88	17.8632	1.0557	0.0000	40.0326
Total		**135.7380**	**8.0219**	**0.0000**	**304.1977**

El Dorado Westside Operations Mobile Source with No Internalization (2035)

El Dorado-Mountain County County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Government (Civic Center)	50.00	1000sqft	11.00	50,000.00	0
Other Asphalt Surfaces	7.00	Acre	7.00	217,800.00	0
City Park	15.00	Acre	15.00	653,400.00	0
Apartments Low Rise	330.00	Dwelling Unit	16.00	330,000.00	944
Condo/Townhouse	310.00	Dwelling Unit	37.00	310,000.00	887
Single Family Housing	123.00	Dwelling Unit	23.00	221,400.00	352

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	70
Climate Zone	2			**Operational Year**	2035
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity	290	**CH4 Intensity**	0.029	**N2O Intensity**	0.006

1.3 User Entered Comments & Non-Default Data

Vehicle Trips - Trip rates from F&P

Table Name	Column Name	Default Value	New Value
tblVehicleTrips	ST_TR	7.16	6.65
tblVehicleTrips	ST_TR	1.59	36.55
tblVehicleTrips	ST_TR	7.16	9.52
tblVehicleTrips	ST_TR	10.08	9.52
tblVehicleTrips	SU_TR	6.07	6.65
tblVehicleTrips	SU_TR	1.59	36.55
tblVehicleTrips	SU_TR	6.07	9.52
tblVehicleTrips	SU_TR	8.77	9.52
tblVehicleTrips	WD_TR	6.59	6.65
tblVehicleTrips	WD_TR	1.59	36.55

tblVehicleTrips	WD_TR	6.59	9.52
tblVehicleTrips	WD_TR	27.92	11.04
tblVehicleTrips	WD_TR	9.57	9.52

2.2 Overall Operational

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mobile	2.5162	4.0721	23.3365	0.1016	7.3815	0.0952	7.4767	1.9774	0.0880	2.0654	0.0000	6,383.208	6,383.2088	0.1811	0.0000	6,387.0125

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.5162	4.0721	23.3365	0.1016	7.3815	0.0952	7.4767	1.9774	0.0880	2.0654	0.0000	6,383.208	6,383.2088	0.1811	0.0000	6,387.0125
Unmitigated	2.5162	4.0721	23.3365	0.1016	7.3815	0.0952	7.4767	1.9774	0.0880	2.0654	0.0000	6,383.208	6,383.2088	0.1811	0.0000	6,387.0125

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	2,194.50	2,194.50	2194.50	6,286,239	6,286,239
City Park	548.25	548.25	548.25	1,170,433	1,170,433
Condo/Townhouse	2,951.20	2,951.20	2951.20	8,453,838	8,453,838
Government (Civic Center)	552.00	0.00	0.00	753,731	753,731
Other Asphalt Surfaces	0.00	0.00	0.00		
Single Family Housing	1,170.96	1,170.96	1170.96	3,354,265	3,354,265
Total	7,416.91	6,864.91	6,864.91	20,018,506	20,018,506

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	10.80	7.30	7.50	42.60	21.00	36.40	86	11	3
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Condo/Townhouse	10.80	7.30	7.50	42.60	21.00	36.40	86	11	3
Government (Civic Center)	9.50	7.30	7.30	75.00	20.00	5.00	50	34	16
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Single Family Housing	10.80	7.30	7.50	42.60	21.00	36.40	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.470511	0.079702	0.184986	0.151012	0.071590	0.010888	0.013668	0.001015	0.001470	0.000717	0.009140	0.000700	0.004603

Pedregal Operations (2035)

El Dorado-Mountain County County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	5.00	Acre	5.00	392,040.00	0
Apartments Low Rise	200.00	Dwelling Unit	13.00	200,000.00	572
Single Family Housing	37.00	Dwelling Unit	45.00	66,600.00	106

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	70
Climate Zone	2			**Operational Year**	2035
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity	290	**CH4 Intensity**	0.029	**N2O Intensity**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Updated 2020 PG&E RPS-adjusted emission factor
Land Use - Acrages from PD
Woodstoves - All restricted to natural gas per Policy 8.51. Hearth numbers provided by the County (1,037 total for westside + pedregal)
Water And Wastewater - Water rates from WSA
Area Mitigation - All NG Hearth = Policy 8.80/8.51
Energy Mitigation - Exceed Title 24 = Policy 8.11
Water Mitigation - Water reduction = Policy 8.36; Irrigation systems = Policy 8.43
Vehicle Trips - Trip rates from F&P

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	70.00	1.00
tblFireplaces	NumberGas	110.00	120.00
tblFireplaces	NumberGas	20.35	44.00
tblFireplaces	NumberWood	70.00	80.00
tblFireplaces	NumberWood	12.95	30.00
tblLandUse	LandUseSquareFeet	217,800.00	392,040.00

tblLandUse	LotAcreage	12.50	13.00
tblLandUse	LotAcreage	12.01	45.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblProjectCharacteristics	OperationalYear	2014	2035
tblVehicleTrips	ST_TR	7.16	6.65
tblVehicleTrips	ST_TR	10.08	9.52
tblVehicleTrips	SU_TR	6.07	6.65
tblVehicleTrips	SU_TR	8.77	9.52
tblVehicleTrips	WD_TR	6.59	6.65
tblVehicleTrips	WD_TR	9.57	9.52
tblWater	IndoorWaterUseRate	13,030,805.12	6,395,377.38
tblWater	IndoorWaterUseRate	2,410,698.95	5,915,724.07
tblWater	OutdoorWaterUseRate	8,215,072.80	5,387,410.29
tblWater	OutdoorWaterUseRate	1,519,788.47	4,983,354.52

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	23.1369	0.2761	25.3316	7.2500e-		3.3057	3.3057		3.3056	3.3056	309.0216	132.0492	441.0708	0.2292	0.0254	453.7597
Energy	0.0210	0.1798	0.0765	1.1500e-		0.0145	0.0145		0.0145	0.0145	0.0000	344.1835	344.1835	0.0176	6.6300e-	346.6081
Mobile	0.5907	0.9748	5.5739	0.0244	1.7769	0.0228	1.7997	0.4760	0.0211	0.4971	0.0000	1,535.017	1,535.02	0.0435	0	1,535.9311
Waste						0.0000	0.0000		0.0000	0.0000	24.0544	0.0000	24.0544	1.4216	0.0000	53.9075
Water						0.0000	0.0000		0.0000	0.0000	3.9057	13.5374	17.4431	0.4025	9.7500e-	28.9191
Total	**23.7486**	**1.4308**	**30.9820**	**0.0328**	**1.7769**	**3.3430**	**5.1199**	**0.4760**	**3.3412**	**3.8172**	**336.9818**	**2,024.787**	**2,361.7697**	**2.1143**	**0.0418**	**2,419.1254**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	3.5179	0.0202	1.7548	9.0000e-		0.0248	0.0248		0.0247	0.0247	0.0000	218.6907	218.6907	6.87E-03	3.96E-03	220.0616
Energy	0.0185	0.1578	0.0672	1.0100e-		0.0128	0.0128		0.0128	0.0128	0.0000	316.7928	316.7928	0.0169	6.12E-03	319.0461
Mobile	0.5907	0.9748	5.5739	0.0244	1.7769	0.0228	1.7997	0.4760	0.0211	0.4971	0.0000	1,535.017	1,535.0179	0.0435	0.0000	1,535.9311
Waste						0.0000	0.0000		0.0000	0.0000	24.0544	0.0000	24.0544	1.4216	0.0000	53.9075
Water						0.0000	0.0000		0.0000	0.0000	3.1246	11.1993	14.3239	0.3221	7.8100e-	23.5078
Total	**4.1270**	**1.1529**	**7.3958**	**0.0255**	**1.7769**	**0.0604**	**1.8373**	**0.4760**	**0.0585**	**0.5345**	**27.1790**	**2,081.700**	**2,108.8797**	**1.8109**	**0.0179**	**2,152.4541**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.5907	0.9748	5.5739	0.0244	1.7769	0.0228	1.7997	0.4760	0.0211	0.4971	0.0000	1,535.017	1,535.0179	0.0435	0.0000	1,535.9311
Unmitigated	0.5907	0.9748	5.5739	0.0244	1.7769	0.0228	1.7997	0.4760	0.0211	0.4971	0.0000	1,535.017	1,535.0179	0.0435	0.0000	1,535.9311

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	1,330.00	1,330.00	1330.00	3,809,842	3,809,842
Other Asphalt Surfaces	0.00	0.00	0.00		
Single Family Housing	352.24	352.24	352.24	1,009,006	1,009,006
Total	1,682.24	1,682.24	1,682.24	4,818,848	4,818,848

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	10.80	7.30	7.50	42.60	21.00	36.40	86	11	3
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Single Family Housing	10.80	7.30	7.50	42.60	21.00	36.40	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.470511	0.079702	0.184986	0.151012	0.071590	0.010888	0.013668	0.001015	0.001470	0.000717	0.009140	0.000700	0.004603

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	134.0071	134.0071	0.0134	2.7700e-	135.1480

Electricity						0.0000	0.0000		0.0000	0.0000	0.0000	135.9137	135.9137	0.0136	2.8100e-	137.0709
NaturalGas	0.0185	0.1578	0.0672	1.0100e-		0.0128	0.0128		0.0128	0.0128	0.0000	182.7858	182.7858	3.5000e-	3.3500e-	183.8982
NaturalGas	0.0210	0.1798	0.0765	1.1500e-		0.0145	0.0145		0.0145	0.0145	0.0000	208.2697	208.2697	3.9900e-	3.8200e-	209.5372

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGa	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family	1.18962e+	6.4100e-	0.0548	0.0233	3.5000e-		4.4300e-	4.4300e-		4.4300e-	4.4300e-	0.0000	63.4824	63.4824	1.2200e-	1.1600e-	63.8688
Apartments Low	2.71321e+	0.0146	0.1250	0.0532	8.0000e-		0.0101	0.0101		0.0101	0.0101	0.0000	144.7873	144.7873	2.7800e-	2.6500e-	145.6685
Other Asphalt	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0210**	**0.1798**	**0.0765**	**1.1500e-**		**0.0145**	**0.0145**		**0.0145**	**0.0145**	**0.0000**	**208.2697**	**208.2697**	**4.0000e-**	**3.8100e-**	**209.5372**

Mitigated

	NaturalGa	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family	1.04411e+	5.6300e-	0.0481	0.0205	3.1000e-		3.8900e-	3.8900e-		3.8900e-	3.8900e-	0.0000	55.7175	55.7175	1.0700e-	1.0200e-	56.0565
Apartments Low	2.38117e+	0.0128	0.1097	0.0467	7.0000e-		8.8700e-	8.8700e-		8.8700e-	8.8700e-	0.0000	127.0683	127.0683	2.4400e-	2.3300e-	127.8416
Other Asphalt	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0185**	**0.1578**	**0.0672**	**1.0100e-**		**0.0128**	**0.0128**		**0.0128**	**0.0128**	**0.0000**	**182.7858**	**182.7858**	**3.5100e-**	**3.3500e-**	**183.8982**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low	758056	99.7160	9.9700e-	2.0600e-	100.5650
Other Asphalt	0	0.0000	0.0000	0.0000	0.0000
Single Family	275180	36.1977	3.6200e-	7.5000e-	36.5059
Total		**135.9137**	**0.0136**	**2.8100e-**	**137.0709**

Mitigated

	Electricity	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low	747611	98.3420	9.8300e-	2.0300e-	99.1793
Other Asphalt	0	0.0000	0.0000	0.0000	0.0000
Single Family	271131	35.6650	3.5700e-	7.4000e-	35.9687
Total		**134.0071**	**0.0134**	**2.7700e-**	**135.1480**

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	3.5179	0.0202	1.7548	9.0000e-		0.0248	0.0248		0.0247	0.0247	0.0000	218.6907	218.6907	6.8700e-	3.9600e-	220.0616
Unmitigated	23.1369	0.2761	25.3316	7.2500e-		3.3057	3.3057		3.3056	3.3056	309.0216	132.0492	441.0708	0.2292	0.0254	453.7597

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural	0.8713					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer	2.5723					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	19.6408	0.2559	23.5780	7.1600e-		3.2959	3.2959		3.2958	3.2958	309.0216	129.1746	438.1962	0.2264	0.0254	450.8276
Landscaping	0.0524	0.0202	1.7536	9.0000e-		9.7600e-	9.7600e-		9.7600e-	9.7600e-	0.0000	2.8746	2.8746	2.7400e-	0.0000	2.9321
Total	**23.1369**	**0.2761**	**25.3316**	**7.2500e-**		**3.3057**	**3.3057**		**3.3056**	**3.3056**	**309.0216**	**132.0492**	**441.0708**	**0.2292**	**0.0254**	**453.7597**

Mitigated

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural	0.8713					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer	2.5723					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0218	0.0000	1.1900e-	0.0000		0.0151	0.0151		0.0149	0.0149	0.0000	215.8161	215.8161	4.1400e-	3.9600e-	217.1295
Landscaping	0.0524	0.0202	1.7536	9.0000e-		9.7600e-	9.7600e-		9.7600e-	9.7600e-	0.0000	2.8746	2.8746	2.7400e-	0.0000	2.9321
Total	**3.5179**	**0.0202**	**1.7548**	**9.0000e-**		**0.0248**	**0.0248**		**0.0247**	**0.0247**	**0.0000**	**218.6907**	**218.6907**	**6.8800e-**	**3.9600e-**	**220.0616**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy
Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	14.3239	0.3221	7.8100e-	23.5078
Unmitigated	17.4431	0.4025	9.7500e-	28.9191

7.2 Water by Land Use

Unmitigated

	Indoor/Out	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low	6.39538 /	9.0614	0.2091	5.0700e-	15.0229
Other Asphalt	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family	5.91572 /	8.3818	0.1934	4.6900e-	13.8962
Total		**17.4431**	**0.4025**	**9.7600e-**	**28.9191**

Mitigated

	Indoor/Out	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low	5.1163 /	7.4410	0.1673	4.0600e-	12.2119
Other Asphalt	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family	4.73258 /	6.8829	0.1548	3.7500e-	11.2960
Total		**14.3239**	**0.3221**	**7.8100e-**	**23.5078**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Unmitigated	24.0544	1.4216	0.0000	53.9075
Mitigated	24.0544	1.4216	0.0000	53.9075

8.2 Waste by Land Use

Unmitigated

	Waste	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low	92	18.6752	1.1037	0.0000	41.8523
Other Asphalt	0	0.0000	0.0000	0.0000	0.0000
Single Family	26.5	5.3793	0.3179	0.0000	12.0553
Total		**24.0544**	**1.4216**	**0.0000**	**53.9075**

Mitigated

	Waste	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low	92	18.6752	1.1037	0.0000	41.8523
Other Asphalt	0	0.0000	0.0000	0.0000	0.0000
Single Family	26.5	5.3793	0.3179	0.0000	12.0553
Total		**24.0544**	**1.4216**	**0.0000**	**53.9075**

El Dorado Westside Operations (2035) (NAT)

El Dorado-Mountain County County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Government (Civic Center)	50.00	1000sqft	11.00	50,000.00	0
Other Asphalt Surfaces	5.00	Acre	5.00	217,800.00	0
City Park	15.00	Acre	15.00	653,400.00	0
Apartments Low Rise	330.00	Dwelling Unit	18.06	330,000.00	944
Condo/Townhouse	310.00	Dwelling Unit	36.00	310,000.00	887
Single Family Housing	123.00	Dwelling Unit	23.00	221,400.00	352

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	70
Climate Zone	2			**Operational Year**	2035
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity	393	**CH4 Intensity**	0.029	**N2O Intensity**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Updated PG&E non-RPS-adjusted emission factor (last year with actual data = 2011)
Land Use - Acrages from PD
Vehicle Trips - Trip rates from F&P
Vechicle Emission Factors - Non-Pavley/LCFS emission factors (from Users Guide Appendix D)
Woodstoves - Hearth numbers provided by the County (1,037 total for westside + pedregal)
Energy Use - Historic data used per AQMD guidance
Water And Wastewater - Water rates from WSA

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Interior	1381800	2025540
tblFireplaces	NumberGas	181.50	198.00
tblFireplaces	NumberGas	170.50	186.00
tblFireplaces	NumberGas	67.65	74.00

tblFireplaces	NumberWood	115.50	132.00
tblFireplaces	NumberWood	108.50	124.00
tblFireplaces	NumberWood	43.05	49.00
tblLandUse	LotAcreage	1.15	11.00
tblLandUse	LotAcreage	20.63	18.06
tblLandUse	LotAcreage	19.38	36.00
tblLandUse	LotAcreage	39.94	23.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	393
tblProjectCharacteristics	OperationalYear	2014	2035
tblVehicleEF	LDA	202.27	340.26
tblVehicleEF	LDA	44.13	73.83
tblVehicleEF	LDT1	243.33	395.39
tblVehicleEF	LDT1	53.57	86.16
tblVehicleEF	LDT2	315.15	462.50
tblVehicleEF	LDT2	69.02	100.96
tblVehicleEF	MDV	417.11	592.22
tblVehicleEF	MDV	91.50	128.99
tblVehicleTrips	ST_TR	7.16	6.65
tblVehicleTrips	ST_TR	1.59	36.55
tblVehicleTrips	ST_TR	7.16	9.52
tblVehicleTrips	ST_TR	10.08	9.52
tblVehicleTrips	SU_TR	6.07	6.65
tblVehicleTrips	SU_TR	1.59	36.55
tblVehicleTrips	SU_TR	6.07	9.52
tblVehicleTrips	SU_TR	8.77	9.52
tblVehicleTrips	WD_TR	6.59	6.65
tblVehicleTrips	WD_TR	1.59	36.55
tblVehicleTrips	WD_TR	6.59	9.52
tblVehicleTrips	WD_TR	27.92	11.04
tblVehicleTrips	WD_TR	9.57	9.52
tblWater	IndoorWaterUseRate	21,500,828.46	10,552,372.68
tblWater	IndoorWaterUseRate	20,197,747.94	23,542,982.98
tblWater	IndoorWaterUseRate	9,932,984.29	4,311,275.09
tblWater	IndoorWaterUseRate	8,013,945.15	11,799,471.26
tblWater	OutdoorWaterUseRate	13,554,870.11	8,889,226.98
tblWater	OutdoorWaterUseRate	17,872,220.24	15,299,213.37
tblWater	OutdoorWaterUseRate	12,733,362.83	19,832,404.14
tblWater	OutdoorWaterUseRate	6,087,958.12	3,546,371.44
tblWater	OutdoorWaterUseRate	0.00	6,075,499.89
tblWater	OutdoorWaterUseRate	5,052,269.77	9,939,771.99

2.0 Emissions Summary

2.2 Overall Operational

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	64.4854	0.7906	72.0011	0.0233		9.3300	9.3300		9.3298	9.3298	878.2315	369.9991	1,248.23	0.7367	0.0705	1,285.5556
Energy	0.0933	0.8002	0.3609	5.0900e-		0.0645	0.0645		0.0645	0.0645	0.0000	1,672.145	1,672.15	0.0730	0.0284	1,682.4692
Mobile	2.5162	4.0721	23.3365	0.1016	7.3815	0.0952	7.4767	1.9774	0.0880	2.0654	0.0000	9,071.751	9,071.75	0.1811	0	9,075.5550
Waste						0.0000	0.0000		0.0000	0.0000	135.7380	0.0000	135.7380	8.0219	0.0000	304.1977
Water						0.0000	0.0000		0.0000	0.0000	15.9281	88.0977	104.0258	1.6425	0.0400	150.9094
Total	**67.0949**	**5.6629**	**95.6984**	**0.1301**	**7.3815**	**9.4897**	**16.8712**	**1.9774**	**9.4822**	**11.4596**	**1,029.897**	**11,201.99**	**12,231.891**	**10.6552**	**0.1388**	**12,498.686**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.5162	4.0721	23.3365	0.1016	7.3815	0.0952	7.4767	1.9774	0.0880	2.0654	0.0000	9,071.751	9,071.7513	0.1811	0.0000	9,075.5550
Unmitigated	2.5162	4.0721	23.3365	0.1016	7.3815	0.0952	7.4767	1.9774	0.0880	2.0654	0.0000	9,071.751	9,071.7513	0.1811	0.0000	9,075.5550

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	2,194.50	2,194.50	2194.50	6,286,239	6,286,239
City Park	548.25	548.25	548.25	1,170,433	1,170,433
Condo/Townhouse	2,951.20	2,951.20	2951.20	8,453,838	8,453,838
Government (Civic Center)	552.00	0.00	0.00	753,731	753,731
Other Asphalt Surfaces	0.00	0.00	0.00		
Single Family Housing	1,170.96	1,170.96	1170.96	3,354,265	3,354,265
Total	7,416.91	6,864.91	6,864.91	20,018,506	20,018,506

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	10.80	7.30	7.50	42.60	21.00	36.40	86	11	3
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Condo/Townhouse	10.80	7.30	7.50	42.60	21.00	36.40	86	11	3
Government (Civic Center)	9.50	7.30	7.30	75.00	20.00	5.00	50	34	16
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Single Family Housing	10.80	7.30	7.50	42.60	21.00	36.40	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.470511	0.079702	0.184986	0.151012	0.071590	0.010888	0.013668	0.001015	0.001470	0.000717	0.009140	0.000700	0.004603

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: Y

5.2 Energy by Land Use - NaturalGas

	NaturalGa	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Condo/Townhouse	7.23508e+	0.0390	0.3334	0.1419	2.1300e-		0.0270	0.0270		0.0270	0.0270	0.0000	386.0913	386.0913	7.4000e-	7.0800e-	388.4410
Government (Civic	1.0025e+0	5.4100e-	0.0491	0.0413	2.9000e-		3.7300e-	3.7300e-		3.7300e-	3.7300e-	0.0000	53.4972	53.4972	1.0300e-	9.8000e-	53.8228
Other Asphalt	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family	4.31298e+	0.0233	0.1987	0.0846	1.2700e-		0.0161	0.0161		0.0161	0.0161	0.0000	230.1571	230.1571	4.4100e-	4.2200e-	231.5578
Apartments Low	4.75172e+	0.0256	0.2190	0.0932	1.4000e-		0.0177	0.0177		0.0177	0.0177	0.0000	253.5697	253.5697	4.8600e-	4.6500e-	255.1129
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0933**	**0.8002**	**0.3609**	**5.0900e-**		**0.0645**	**0.0645**		**0.0645**	**0.0645**	**0.0000**	**923.3152**	**923.3152**	**0.0177**	**0.0169**	**928.9344**

5.3 Energy by Land Use - Electricity

	Electricity	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low	1.27898e+	227.9929	0.0168	3.4800e-	229.4252
City Park	0	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	1.39561e+	248.7846	0.0184	3.8000e-	250.3476
Government (Civic	585000	104.2832	7.7000e-	1.5900e-	104.9383
Other Asphalt	0	0.0000	0.0000	0.0000	0.0000
Single Family	941142	167.7697	0.0124	2.5600e-	168.8237
Total		**748.8303**	**0.0553**	**0.0114**	**753.5348**

6.0 Area Detail

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural	2.7879					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer	6.9619					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	54.5667	0.7255	66.3550	0.0230		9.2986	9.2986		9.2983	9.2983	878.2315	360.7436	1,238.9751	0.7279	0.0705	1,276.1150
Landscaping	0.1689	0.0651	5.6461	3.0000e-		0.0314	0.0314		0.0314	0.0314	0.0000	9.2555	9.2555	8.8100e-	0.0000	9.4406
Total	**64.4854**	**0.7906**	**72.0011**	**0.0233**		**9.3300**	**9.3300**		**9.3298**	**9.3298**	**878.2315**	**369.9991**	**1,248.2307**	**0.7367**	**0.0705**	**1,285.5556**

7.0 Water Detail

	Indoor/Out	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low	10.5524 /	19.0725	0.3450	8.3600e-	28.9090
City Park	0 / 15.2992	9.5454	7.0000e-	1.5000e-	9.6054
Condo/Townhouse	23.543 /	42.5518	0.7697	0.0187	64.4977
Government (Civic	4.31128 /	7.7390	0.1410	3.4100e-	11.7574
Other Asphalt	0 / 6.0755	3.7906	2.8000e-	6.0000e-	3.8144
Single Family	11.7995 /	21.3265	0.3858	9.3500e-	32.3255
Total		**104.0258**	**1.6425**	**0.0400**	**150.9094**

8.0 Waste Detail

8.1 Mitigation Measures Waste

	Waste	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low	151.8	30.8140	1.8211	0.0000	69.0562
City Park	1.29	0.2619	0.0155	0.0000	0.5868
Condo/Townhouse	142.6	28.9465	1.7107	0.0000	64.8710
Government (Civic	285	57.8524	3.4190	0.0000	129.6510
Other Asphalt	0	0.0000	0.0000	0.0000	0.0000
Single Family	88	17.8632	1.0557	0.0000	40.0326
Total		**135.7380**	**8.0219**	**0.0000**	**304.1977**

Pedregal Operations (2035) (NAT)

El Dorado-Mountain County County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	9.00	Acre	9.00	392,040.00	0
Apartments Low Rise	200.00	Dwelling Unit	10.94	200,000.00	572
Single Family Housing	37.00	Dwelling Unit	45.00	66,600.00	106

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	70
Climate Zone	2			**Operational Year**	2035
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity	393	**CH4 Intensity**	0.029	**N2O Intensity**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Updated PG&E non-RPS-adjusted emission factor (latest year with actual data = 2011)
Land Use - Acrages from PD
Vehicle Trips - Trip rates from F&P
Vechicle Emission Factors - Non-Pavley/LCFS CO2 emission factors
Woodstoves - Hearth numbers provided by the County (1,037 total for westside + pedregal)
Energy Use - Historic data for NAT checked per AQMD guidance.
Water And Wastewater - Water rates from WSA

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	70.00	1.00
tblFireplaces	NumberGas	110.00	120.00
tblFireplaces	NumberGas	20.35	44.00
tblFireplaces	NumberWood	70.00	80.00
tblFireplaces	NumberWood	12.95	30.00
tblLandUse	LotAcreage	12.50	10.94
tblLandUse	LotAcreage	12.01	45.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	393
tblProjectCharacteristics	OperationalYear	2014	2035
tblVehicleEF	LDA	202.27	340.26
tblVehicleEF	LDA	44.13	73.83
tblVehicleEF	LDT1	243.33	395.39
tblVehicleEF	LDT1	53.57	86.16
tblVehicleEF	LDT2	315.15	462.50
tblVehicleEF	LDT2	69.02	100.96
tblVehicleEF	MDV	417.11	592.22
tblVehicleEF	MDV	91.50	128.99
tblVehicleTrips	ST_TR	7.16	6.65
tblVehicleTrips	ST_TR	10.08	9.52
tblVehicleTrips	SU_TR	6.07	6.65
tblVehicleTrips	SU_TR	8.77	9.52
tblVehicleTrips	WD_TR	6.59	6.65
tblVehicleTrips	WD_TR	9.57	9.52
tblWater	IndoorWaterUseRate	13,030,805.12	6,395,377.38
tblWater	IndoorWaterUseRate	2,410,698.95	5,915,724.07
tblWater	OutdoorWaterUseRate	8,215,072.80	5,387,410.29
tblWater	OutdoorWaterUseRate	1,519,788.47	4,983,354.52

2.0 Emissions Summary

2.2 Overall Operational

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	23.1369	0.2761	25.3316	7.2500e-		3.3057	3.3057		3.3056	3.3056	309.0216	132.0493	441.0709	0.2292	0.0254	453.7597
Energy	0.0225	0.1925	0.0819	1.2300e-		0.0156	0.0156		0.0156	0.0156	0.0000	411.5576	411.5576	0.0182	6.9700e-	414.0994
Mobile	0.5907	0.9748	5.5739	0.0244	1.7769	0.0228	1.7997	0.4760	0.0211	0.4971	0.0000	2,181.536	2,181.54	0.0435	0.0000	2,182.4492
Waste						0.0000	0.0000		0.0000	0.0000	24.0544	0.0000	24.0544	1.4216	0.0000	53.9075
Water						0.0000	0.0000		0.0000	0.0000	3.9057	18.3455	22.2512	0.4025	9.7500e-	33.7272
Total	**23.7501**	**1.4434**	**30.9874**	**0.0329**	**1.7769**	**3.3440**	**5.1209**	**0.4760**	**3.3422**	**3.8182**	**336.9818**	**2,743.488**	**3,080.4702**	**2.1149**	**0.0421**	**3,137.9430**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

Mitigated	0.5907	0.9748	5.5739	0.0244	1.7769	0.0228	1.7997	0.4760	0.0211	0.4971	0.0000	2,181.536	2,181.5360	0.0435	0.0000	2,182.4492
Unmitigated	0.5907	0.9748	5.5739	0.0244	1.7769	0.0228	1.7997	0.4760	0.0211	0.4971	0.0000	2,181.536	2,181.5360	0.0435	0.0000	2,182.4492

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	1,330.00	1,330.00	1330.00	3,809,842	3,809,842
Other Asphalt Surfaces	0.00	0.00	0.00		
Single Family Housing	352.24	352.24	352.24	1,009,006	1,009,006
Total	1,682.24	1,682.24	1,682.24	4,818,848	4,818,848

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	10.80	7.30	7.50	42.60	21.00	36.40	86	11	3
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Single Family Housing	10.80	7.30	7.50	42.60	21.00	36.40	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.470511	0.079702	0.184986	0.151012	0.071590	0.010888	0.013668	0.001015	0.001470	0.000717	0.009140	0.000700	0.004603

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: Y

	NaturalGa	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family	1.2974e+0	7.0000e-	0.0598	0.0254	3.8000e-		4.8300e-	4.8300e-		4.8300e-	4.8300e-	0.0000	69.2342	69.2342	1.3300e-	1.2700e-	69.6556
Apartments Low	2.87983e+	0.0155	0.1327	0.0565	8.5000e-		0.0107	0.0107		0.0107	0.0107	0.0000	153.6786	153.6786	2.9500e-	2.8200e-	154.6139
Other Asphalt	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0225**	**0.1925**	**0.0819**	**1.2300e-**		**0.0156**	**0.0156**		**0.0156**	**0.0156**	**0.0000**	**222.9128**	**222.9128**	**4.2800e-**	**4.0900e-**	**224.2694**

5.3 Energy by Land Use - Electricity

	Electricity	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low	775138	138.1775	0.0102	2.1100e-	139.0456
Other Asphalt	0	0.0000	0.0000	0.0000	0.0000
Single Family	283108	50.4673	3.7200e-	7.7000e-	50.7844

Total		**188.6448**	**0.0139**	**2.8800e-**	**189.8299**

6.0 Area Detail

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural	0.8713					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer	2.5723					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	19.6408	0.2559	23.5780	7.1600e-		3.2959	3.2959		3.2958	3.2958	309.0216	129.1746	438.1962	0.2264	0.0254	450.8276
Landscaping	0.0524	0.0202	1.7537	9.0000e-		9.7600e-	9.7600e-		9.7600e-	9.7600e-	0.0000	2.8747	2.8747	2.7400e-	0.0000	2.9322
Total	**23.1369**	**0.2761**	**25.3316**	**7.2500e-**		**3.3057**	**3.3057**		**3.3056**	**3.3056**	**309.0216**	**132.0493**	**441.0709**	**0.2292**	**0.0254**	**453.7597**

7.0 Water Detail

	Indoor/Out	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low	6.39538 /	11.5591	0.2091	5.0700e-	17.5206
Other Asphalt	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family	5.91572 /	10.6921	0.1934	4.6900e-	16.2066
Total		**22.2512**	**0.4025**	**9.7600e-**	**33.7272**

8.0 Waste Detail

	Waste	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low	92	18.6752	1.1037	0.0000	41.8523
Other Asphalt	0	0.0000	0.0000	0.0000	0.0000
Single Family	26.5	5.3793	0.3179	0.0000	12.0553
Total		**24.0544**	**1.4216**	**0.0000**	**53.9075**

Road Construction Emissions Model
Data Entry Worksheet

Version 7.1.5.1

Note: Required data input sections have a yellow background.
Optional data input sections have a blue background. Only areas with a yellow or blue background can be modified. Program defaults have a white background.
The user is required to enter information in cells C10 through C25.

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

Input Type

Project Name	Park Drive Extension	
Construction Start Year	2017	Enter a Year between 2009 and 2025 (inclusive)
Project Type	1	1 New Road Construction 2 Road Widening 3 Bridge/Overpass Construction
Project Construction Time	6.00	months
Predominant Soil/Site Type: Enter 1, 2, or 3	1	1. Sand Gravel 2. Weathered Rock-Earth 3. Blasted Rock
Project Length	0.23	miles
Total Project Area	3.00	acres
Maximum Area Disturbed/Day	0.75	acres
Water Trucks Used?	1	1. Yes 2. No
Soil Imported	0.00	yd^3/day
Soil Exported	0.00	yd^3/day
Average Truck Capacity	20	yd^3 (assume 20 if unknown)

To begin a new project, click this button to clear data previously entered. This button will only work if you opted not to disable macros when loading this spreadsheet.

The remaining sections of this sheet contain areas that can be modified by the user, although those modifications are optional.

Note: The program's estimates of construction period phase length can be overridden in cells C34 through C37.

Construction Periods	User Override of Construction Months	Program Calculated Months	2005	%	2006	%	2007
Grubbing/Land Clearing		0.60	0.00	0.00	0.00	0.00	0.00
Grading/Excavation		2.40	0.00	0.00	0.00	0.00	0.00
Drainage/Utilities/Sub-Grade		2.10	0.00	0.00	0.00	0.00	0.00
Paving		0.90	0.00	0.00	0.00	0.00	0.00
Totals	0.00	6.00					

Soil Hauling Emissions

User Input	User Override of Soil Hauling Defaults	Default Values
Miles/round trip	0.00	30
Round trips/day	0.00	0
Vehicle miles traveled/day (calculated)		0

Hauling Emissions	ROG	NOx	CO	PM10	PM2.5	CO2
Emission rate (grams/mile)	0.15	7.43	0.65	0.16	0.09	1652.56
Emission rate (grams/trip)	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day	0.00	0.00	0.00	0.00	0.00	0.00
Tons per contruction period	0.00	0.00	0.00	0.00	0.00	0.00

Worker commute default values can be overridden in cells C60 through C65.

Worker Commute Emissions

	User Override of Worker Commute Default Values	Default Values
Miles/ one-way trip		20
One-way trips/day		2
No. of employees: Grubbing/Land Clearing		4
No. of employees: Grading/Excavation		16
No. of employees: Drainage/Utilities/Sub-Grade		14
No. of employees: Paving		10

	ROG	NOx	CO	PM10	PM2.5	CO2
Emission rate - Grubbing/Land Clearing (grams/mile)	0.133	0.172	1.555	0.047	0.020	443.765
Emission rate - Grading/Excavation (grams/mile)	0.133	0.172	1.555	0.047	0.020	443.765
Emission rate - Draining/Utilities/Sub-Grade (gr/mile)	0.133	0.172	1.555	0.047	0.020	443.765
Emission rate - Paving (grams/mile)	0.133	0.172	1.555	0.047	0.020	443.765
Emission rate - Grubbing/Land Clearing (grams/trip)	0.457	0.287	3.779	0.004	0.003	95.644
Emission rate - Grading/Excavation (grams/trip)	0.457	0.287	3.779	0.004	0.003	95.644
Emission rate - Draining/Utilities/Sub-Grade (gr/trip)	0.457	0.287	3.779	0.004	0.003	95.644
Emission rate - Paving (grams/trip)	0.457	0.287	3.779	0.004	0.003	95.644
Pounds per day - Grubbing/Land Clearing	0.051	0.062	0.576	0.016	0.007	148.199
Tons per const. Period - Grub/Land Clear	0.000	0.000	0.004	0.000	0.000	0.978
Pounds per day - Grading/Excavation	0.223	0.267	2.497	0.067	0.028	642.194
Tons per const. Period - Grading/Excavation	0.006	0.007	0.066	0.002	0.001	16.954
Pounds per day - Drainage/Utilities/Sub-Grade	0.188	0.226	2.113	0.057	0.024	543.395
Tons per const. Period - Drain/Util/Sub-Grade	0.004	0.005	0.049	0.001	0.001	12.552
Pounds per day - Paving	0.137	0.165	1.537	0.041	0.017	395.196
Tons per const. Period - Paving	0.001	0.002	0.015	0.000	0.000	3.912
tons per construction period	0.012	0.014	0.134	0.004	0.002	34.397

Water Truck Emissions

	User Override of Default # Water Trucks	Program Estimate of Number of Water Trucks	User Override of Truck Miles Traveled/Day	Default Values Miles Traveled/Day
Grubbing/Land Clearing - Exhaust		1		40
Grading/Excavation - Exhaust		1		40
Drainage/Utilities/Subgrade		1		40

	ROG	NOx	CO	PM10	PM2.5	CO2
Emission rate - Grubbing/Land Clearing (grams/mile)	0.15	7.43	0.65	0.16	0.09	1652.56
Emission rate - Grading/Excavation (grams/mile)	0.15	7.43	0.65	0.16	0.09	1652.56
Emission rate - Draining/Utilities/Sub-Grade (gr/mile)	0.15	7.43	0.65	0.16	0.09	1652.56
Pounds per day - Grubbing/Land Clearing	0.01	0.65	0.06	0.01	0.01	145.60
Tons per const. Period - Grub/Land Clear	0.00	0.00	0.00	0.00	0.00	0.96
Pound per day - Grading/Excavation	0.01	0.65	0.06	0.01	0.01	145.60
Tons per const. Period - Grading/Excavation	0.00	0.02	0.00	0.00	0.00	3.84
Pound per day - Drainage/Utilities/Subgrade	0.01	0.65	0.06	0.01	0.01	145.60
Tons per const. Period - Drainage/Utilities/Subgrade	0.00	0.02	0.00	0.00	0.00	3.36

Fugitive dust default values can be overridden in cells C110 through C112.

Fugitive Dust

	User Override of Max Acreage Disturbed/Day	Default Maximum Acreage/Day	PM10 pounds/day	PM10 tons/per period	PM2.5 pounds/day	PM2.5 tons/per period
Fugitive Dust - Grubbing/Land Clearing		0.75	7.5	0.0	1.6	0.0
Fugitive Dust - Grading/Excavation		0.75	7.5	0.2	1.6	0.0
Fugitive Dust - Drainage/Utilities/Subgrade		0.75	7.5	0.2	1.6	0.0

Off-Road Equipment Emissions

Grubbing/Land Clearing Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	CO2 pounds/day
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00
		Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00
		Cranes	0.00	0.00	0.00	0.00	0.00	0.00
	1	Crawler Tractors	0.71	4.47	9.06	0.35	0.32	825.49
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
	1	Excavators	0.38	2.79	4.05	0.20	0.18	572.75
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00
		Graders	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
		Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Pavers	0.00	0.00	0.00	0.00	0.00	0.00
		Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
		Pumps	0.00	0.00	0.00	0.00	0.00	0.00
		Rollers	0.00	0.00	0.00	0.00	0.00	0.00
		Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Scrapers	0.00	0.00	0.00	0.00	0.00	0.00
0.00	1	Signal Boards	0.00	0.00	0.00	0.00	0.00	0.00
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00
		Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00
		Trenchers	0.00	0.00	0.00	0.00	0.00	0.00
		Welders	0.00	0.00	0.00	0.00	0.00	0.00
	Grubbing/Land Clearing	pounds per day	1.1	7.3	13.1	0.5	0.5	1398.2
	Grubbing/Land Clearing	tons per phase	0.0	0.0	0.1	0.0	0.0	9.2

Grading/Excavation Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	CO2 pounds/day
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00
		Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00
	0	Cranes	0.00	0.00	0.00	0.00	0.00	0.00
	1	Crawler Tractors	0.71	4.47	9.06	0.35	0.32	825.49
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
	3	Excavators	1.15	8.37	12.15	0.60	0.55	1718.25
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00
	1	Graders	1.00	3.47	9.64	0.54	0.50	669.23
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
		Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Pavers	0.00	0.00	0.00	0.00	0.00	0.00
		Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
		Pumps	0.00	0.00	0.00	0.00	0.00	0.00
	2	Rollers	0.65	3.02	5.76	0.42	0.38	558.90
		Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00
	1	Rubber Tired Loaders	0.50	3.12	6.05	0.21	0.19	662.79
	2	Scrapers	2.73	14.51	32.82	1.32	1.21	3215.90
0.00	1	Signal Boards	0.00	0.00	0.00	0.00	0.00	0.00
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00
	2	Tractors/Loaders/Backhoes	0.67	3.14	6.11	0.46	0.42	671.04
		Trenchers	0.00	0.00	0.00	0.00	0.00	0.00
		Welders	0.00	0.00	0.00	0.00	0.00	0.00
	Grading/Excavation	pounds per day	7.4	40.1	81.6	3.9	3.6	8321.6
	Grading	tons per phase	0.2	1.1	2.2	0.1	0.1	219.7

Drainage/Utilities/Subgrade Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*		ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	CO2 pounds/day
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00
	1	Air Compressors	0.63	3.41	4.13	0.33	0.31	507.95
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00
		Cranes	0.00	0.00	0.00	0.00	0.00	0.00
		Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Excavators	0.00	0.00	0.00	0.00	0.00	0.00
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
	1	Generator Sets	0.47	2.97	3.65	0.25	0.23	487.07
	1	Graders	1.00	3.47	9.64	0.54	0.50	669.23
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
		Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Pavers	0.00	0.00	0.00	0.00	0.00	0.00
		Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00
	1	Plate Compactors	0.04	0.21	0.25	0.01	0.01	34.45
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
	1	Pumps	0.40	2.45	3.01	0.21	0.20	396.14
		Rollers	0.00	0.00	0.00	0.00	0.00	0.00
	1	Rough Terrain Forklifts	0.20	2.03	2.43	0.13	0.12	372.73
		Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00
	2	Scrapers	2.73	14.51	32.82	1.32	1.21	3215.90
0.00	1	Signal Boards	0.00	0.00	0.00	0.00	0.00	0.00
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00
	2	Tractors/Loaders/Backhoes	0.67	3.14	6.11	0.46	0.42	671.04
		Trenchers	0.00	0.00	0.00	0.00	0.00	0.00
		Welders	0.00	0.00	0.00	0.00	0.00	0.00
	Drainage	pounds per day	6.1	32.2	62.0	3.3	3.0	6354.5
	Drainage	tons per phase	0.1	0.7	1.4	0.1	0.1	146.8

Paving	Default Number of Vehicles		ROG	CO	NOx	PM10	PM2.5	CO2
Override of Default Number of Vehicles	*Program-estimate*	Type	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00
		Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00
		Cranes	0.00	0.00	0.00	0.00	0.00	0.00
		Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Excavators	0.00	0.00	0.00	0.00	0.00	0.00
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00
		Graders	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
		Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00
	1	Pavers	0.37	2.84	4.01	0.20	0.18	481.97
	1	Paving Equipment	0.29	2.69	3.18	0.16	0.15	426.45
		Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
		Pumps	0.00	0.00	0.00	0.00	0.00	0.00
	3	Rollers	0.97	4.53	8.64	0.63	0.58	838.35
		Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Scrapers	0.00	0.00	0.00	0.00	0.00	0.00
0.00	1	Signal Boards	0.00	0.00	0.00	0.00	0.00	0.00
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00
	2	Tractors/Loaders/Backhoes	0.67	3.14	6.11	0.46	0.42	671.04
		Trenchers	0.00	0.00	0.00	0.00	0.00	0.00
		Welders	0.00	0.00	0.00	0.00	0.00	0.00
	Paving	pounds per day	2.3	13.2	21.9	1.4	1.3	2417.8
	Paving	tons per phase	0.0	0.1	0.2	0.0	0.0	23.9
Total Emissions all Phases (tons per construction period) =>			0.4	2.0	3.9	0.2	0.2	399.6

Equipment default values for horsepower and hours/day can be overridden in cells C289 through C322 and E289 through E322.

Equipment		Default Values Horsepower		Default Values Hours/day
Aerial Lifts		63		8
Air Compressors		106		8
Bore/Drill Rigs		206		8
Cement and Mortar Mixers		10		8
Concrete/Industrial Saws		64		8
Cranes		226		8
Crawler Tractors		208		8
Crushing/Proc. Equipment		142		8
Excavators		163		8
Forklifts		89		8
Generator Sets		66		8
Graders		175		8
Off-Highway Tractors		123		8
Off-Highway Trucks		400		8
Other Construction Equipment		172		8
Other General Industrial Equipment		88		8
Other Material Handling Equipment		167		8
Pavers		126		8
Paving Equipment		131		8
Plate Compactors		8		8
Pressure Washers		26		8
Pumps		53		8
Rollers		81		8
Rough Terrain Forklifts		100		8
Rubber Tired Dozers		255		8
Rubber Tired Loaders		200		8
Scrapers		362		8
Signal Boards		20		8
Skid Steer Loaders		65		8
Surfacing Equipment		254		8
Sweepers/Scrubbers		64		8
Tractors/Loaders/Backhoes		98		8
Trenchers		81		8
Welders		45		8

0

END OF DATA ENTRY SHEET

Road Construction Emissions Model, Version 7.1.5.1

Emission Estimates for -> Park Drive Extension Project Phases (English Units)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	Total PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive Dust PM10 (lbs/day)	Total PM2.5 (lbs/day)	Exhaust PM2.5 (lbs/day)	Fugitive Dust PM2.5 (lbs/day)	CO2 (lbs/day)
Grubbing/Land Clearing	1.2	7.9	13.8	8.1	0.6	7.5	2.1	0.5	1.6	1,692.0
Grading/Excavation	7.6	42.7	82.5	11.5	4.0	7.5	5.2	3.6	1.6	9,109.4
Drainage/Utilities/Sub-Grade	6.3	34.4	62.9	10.8	3.3	7.5	4.6	3.0	1.6	7,043.5
Paving	2.4	14.7	22.1	1.5	1.5	-	1.3	1.3	-	2,813.0
Maximum (pounds/day)	7.6	42.7	82.5	11.5	4.0	7.5	5.2	3.6	1.6	9,109.4
Total (tons/construction project)	0.4	2.1	3.9	0.6	0.2	0.4	0.3	0.2	0.1	442.2

Notes: Project Start Year -> 2017
Project Length (months) -> 6
Total Project Area (acres) -> 3
Maximum Area Disturbed/Day (acres) -> 1
Total Soil Imported/Exported (yd^3/day)-> 0

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sum of exhaust and fugitive dust emissions shown in columns K and L.

Emission Estimates for -> Park Drive Extension Project Phases (Metric Units)	ROG (kgs/day)	CO (kgs/day)	NOx (kgs/day)	Total PM10 (kgs/day)	Exhaust PM10 (kgs/day)	Fugitive Dust PM10 (kgs/day)	Total PM2.5 (kgs/day)	Exhaust PM2.5 (kgs/day)	Fugitive Dust PM2.5 (kgs/day)	CO2 (kgs/day)
Grubbing/Land Clearing	0.5	3.6	6.3	3.7	0.3	3.4	0.9	0.2	0.7	769.1
Grading/Excavation	3.5	19.4	37.5	5.2	1.8	3.4	2.4	1.6	0.7	4,140.6
Drainage/Utilities/Sub-Grade	2.9	15.6	28.6	4.9	1.5	3.4	2.1	1.4	0.7	3,201.6
Paving	1.1	6.7	10.1	0.7	0.7	-	0.6	0.6	-	1,278.6
Maximum (kilograms/day)	3.5	19.4	37.5	5.2	1.8	3.4	2.4	1.6	0.7	4,140.6
Total (megagrams/construction project)	0.3	1.9	3.6	0.6	0.2	0.4	0.2	0.2	0.1	401.1

Notes: Project Start Year -> 2017
Project Length (months) -> 6
Total Project Area (hectares) -> 1
Maximum Area Disturbed/Day (hectares) -> 0
Total Soil Imported/Exported ($meters^3$/day)-> 0

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sume of exhaust and fugitive dust emissions shown in columns K and L.

Road Construction Emissions Model
Data Entry Worksheet

Version 7.1.5.1

Note: Required data input sections have a yellow background.
Optional data input sections have a blue background. Only areas with a
yellow or blue background can be modified. Program defaults have a white background.
The user is required to enter information in cells C10 through C25.

Input Type

Project Name	Pedregal Water Lines	
Construction Start Year	2016	Enter a Year between 2009 and 2025 (inclusive)
Project Type	1	1 New Road Construction 2 Road Widening 3 Bridge/Overpass Construction
Project Construction Time	0.50	months
Predominant Soil/Site Type: Enter 1, 2, or 3	1	1. Sand Gravel 2. Weathered Rock-Earth 3. Blasted Rock
Project Length	0.07	miles
Total Project Area	0.17	acres
Maximum Area Disturbed/Day	0.04	acres
Water Trucks Used?	1	1. Yes 2. No
Soil Imported	0.00	yd^3/day
Soil Exported	0.00	yd^3/day
Average Truck Capacity	20	yd^3 (assume 20 if unknown)

To begin a new project, click this button to clear data previously entered. This button will only work if you opted not to disable macros when loading this spreadsheet.

The remaining sections of this sheet contain areas that can be modified by the user, although those modifications are optional.

Note: The program's estimates of construction period phase length can be overridden in cells C34 through C37.

Construction Periods	User Override of Construction Months	Program Calculated Months	2005	%	2006	%	2007
Grubbing/Land Clearing	0.00	0.05	0.00	0.00	0.00	0.00	0.00
Grading/Excavation	0.00	0.20	0.00	0.00	0.00	0.00	0.00
Drainage/Utilities/Sub-Grade	0.50	0.18	0.00	0.00	0.00	0.00	0.00
Paving	0.00	0.08	0.00	0.00	0.00	0.00	0.00
Totals	0.50	0.50					

Soil Hauling Emissions

User Input	User Override of Soil Hauling Defaults	Default Values
Miles/round trip	0.00	30
Round trips/day	0.00	0
Vehicle miles traveled/day (calculated)		0

Hauling Emissions	ROG	NOx	CO	PM10	PM2.5	CO2
Emission rate (grams/mile)	0.00	0.00	0.00	0.00	0.00	0.00
Emission rate (grams/trip)	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day	0.00	0.00	0.00	0.00	0.00	0.00
Tons per contruction period	0.00	0.00	0.00	0.00	0.00	0.00

Worker commute default values can be overridden in cells C60 through C65.

Worker Commute Emissions

	User Override of Worker Commute Default Values	Default Values
Miles/ one-way trip		20
One-way trips/day		2
No. of employees: Grubbing/Land Clearing	0.00	4
No. of employees: Grading/Excavation	0.00	16
No. of employees: Drainage/Utilities/Sub-Grade		14
No. of employees: Paving	0.00	10

	ROG	NOx	CO	PM10	PM2.5	CO2
Emission rate - Grubbing/Land Clearing (grams/mile)	0.000	0.000	0.000	0.000	0.000	0.000
Emission rate - Grading/Excavation (grams/mile)	0.000	0.000	0.000	0.000	0.000	0.000
Emission rate - Draining/Utilities/Sub-Grade (gr/mile)	0.147	0.194	1.744	0.047	0.020	443.650
Emission rate - Paving (grams/mile)	0.000	0.000	0.000	0.000	0.000	0.000
Emission rate - Grubbing/Land Clearing (grams/trip)	0.000	0.000	0.000	0.000	0.000	0.000
Emission rate - Grading/Excavation (grams/trip)	0.000	0.000	0.000	0.000	0.000	0.000
Emission rate - Draining/Utilities/Sub-Grade (gr/trip)	0.505	0.323	4.200	0.004	0.003	95.592
Emission rate - Paving (grams/trip)	0.000	0.000	0.000	0.000	0.000	0.000
Pounds per day - Grubbing/Land Clearing	0.000	0.000	0.000	0.000	0.000	0.000
Tons per const. Period - Grub/Land Clear	0.000	0.000	0.000	0.000	0.000	0.000
Pounds per day - Grading/Excavation	0.000	0.000	0.000	0.000	0.000	0.000
Tons per const. Period - Grading/Excavation	0.000	0.000	0.000	0.000	0.000	0.000
Pounds per day - Drainage/Utilities/Sub-Grade	0.209	0.255	2.367	0.057	0.024	543.252
Tons per const. Period - Drain/Util/Sub-Grade	0.001	0.001	0.013	0.000	0.000	2.988
Pounds per day - Paving	0.000	0.000	0.000	0.000	0.000	0.000
Tons per const. Period - Paving	0.000	0.000	0.000	0.000	0.000	0.000
tons per construction period	0.001	0.001	0.013	0.000	0.000	2.988

Water Truck Emissions	User Override of Default # Water Trucks	Program Estimate of Number of Water Trucks	User Override of Truck Miles Traveled/Day	Default Values Miles Traveled/Day
Grubbing/Land Clearing - Exhaust	0.00	1		40
Grading/Excavation - Exhaust	0.00	1		40
Drainage/Utilities/Subgrade		1		40

	ROG	NOx	CO	PM10	PM2.5	CO2
Emission rate - Grubbing/Land Clearing (grams/mile)	0.00	0.00	0.00	0.00	0.00	0.00
Emission rate - Grading/Excavation (grams/mile)	0.00	0.00	0.00	0.00	0.00	0.00
Emission rate - Draining/Utilities/Sub-Grade (gr/mile)	0.16	8.25	0.70	0.17	0.10	1679.86
Pounds per day - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grub/Land Clear	0.00	0.00	0.00	0.00	0.00	0.00
Pound per day - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00
Pound per day - Drainage/Utilities/Subgrade	0.01	0.73	0.06	0.01	0.01	148.00
Tons per const. Period - Drainage/Utilities/Subgrade	0.00	0.00	0.00	0.00	0.00	0.81

Fugitive dust default values can be overridden in cells C110 through C112.

Fugitive Dust	User Override of Max Acreage Disturbed/Day	Default Maximum Acreage/Day	PM10 pounds/day	PM10 tons/per period	PM2.5 pounds/day	PM2.5 tons/per period
Fugitive Dust - Grubbing/Land Clearing	0.00	0	0.0	0.0	0.0	0.0
Fugitive Dust - Grading/Excavation	0.00	0	0.0	0.0	0.0	0.0
Fugitive Dust - Drainage/Utilities/Subgrade		0.0425	0.4	0.0	0.1	0.0

Off-Road Equipment Emissions

Grubbing/Land Clearing Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	CO2 pounds/day
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00
		Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00
		Cranes	0.00	0.00	0.00	0.00	0.00	0.00
0.00	1	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
0.00	1	Excavators	0.00	0.00	0.00	0.00	0.00	0.00
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00
		Graders	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
		Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Pavers	0.00	0.00	0.00	0.00	0.00	0.00
		Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
		Pumps	0.00	0.00	0.00	0.00	0.00	0.00
		Rollers	0.00	0.00	0.00	0.00	0.00	0.00
		Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Scrapers	0.00	0.00	0.00	0.00	0.00	0.00
0.00	1	Signal Boards	0.00	0.00	0.00	0.00	0.00	0.00
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00
		Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00
		Trenchers	0.00	0.00	0.00	0.00	0.00	0.00
		Welders	0.00	0.00	0.00	0.00	0.00	0.00
	Grubbing/Land Clearing	pounds per day	0.0	0.0	0.0	0.0	0.0	0.0
	Grubbing/Land Clearing	tons per phase	0.0	0.0	0.0	0.0	0.0	0.0

Grading/Excavation Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	CO2 pounds/day
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00
		Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00
	0	Cranes	0.00	0.00	0.00	0.00	0.00	0.00
0.00	1	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
0.00	3	Excavators	0.00	0.00	0.00	0.00	0.00	0.00
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00
0.00	1	Graders	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
		Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Pavers	0.00	0.00	0.00	0.00	0.00	0.00
		Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
		Pumps	0.00	0.00	0.00	0.00	0.00	0.00
0.00	2	Rollers	0.00	0.00	0.00	0.00	0.00	0.00
		Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00
0.00	1	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00
0.00	2	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00
0.00	1	Signal Boards	0.00	0.00	0.00	0.00	0.00	0.00
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00
0.00	2	Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00
		Trenchers	0.00	0.00	0.00	0.00	0.00	0.00
		Welders	0.00	0.00	0.00	0.00	0.00	0.00
	Grading/Excavation	pounds per day	0.0	0.0	0.0	0.0	0.0	0.0
	Grading	tons per phase	0.0	0.0	0.0	0.0	0.0	0.0

Drainage/Utilities/Subgrade Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*		ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	CO2 pounds/day
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00
	1	Air Compressors	0.68	3.42	4.38	0.37	0.34	507.95
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00
		Cranes	0.00	0.00	0.00	0.00	0.00	0.00
		Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Excavators	0.00	0.00	0.00	0.00	0.00	0.00
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
	1	Generator Sets	0.51	2.98	3.86	0.27	0.25	487.07
	1	Graders	1.07	3.48	10.38	0.58	0.54	671.02
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
		Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Pavers	0.00	0.00	0.00	0.00	0.00	0.00
		Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00
	1	Plate Compactors	0.04	0.21	0.25	0.01	0.01	34.45
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
	1	Pumps	0.44	2.47	3.19	0.23	0.22	396.14
		Rollers	0.00	0.00	0.00	0.00	0.00	0.00
	1	Rough Terrain Forklifts	0.22	2.03	2.73	0.15	0.14	372.74
		Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00
	2	Scrapers	2.91	14.51	35.39	1.43	1.31	3216.04
0.00	1	Signal Boards	0.00	0.00	0.00	0.00	0.00	0.00
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00
	2	Tractors/Loaders/Backhoes	0.72	3.15	6.54	0.50	0.46	671.85
		Trenchers	0.00	0.00	0.00	0.00	0.00	0.00
		Welders	0.00	0.00	0.00	0.00	0.00	0.00
	Drainage	pounds per day	6.6	32.2	66.7	3.5	3.3	6357.3
	Drainage	tons per phase	0.0	0.2	0.4	0.0	0.0	35.0

Paving	Default Number of Vehicles		ROG	CO	NOx	PM10	PM2.5	CO2
Override of Default Number of Vehicles	*Program-estimate*	Type	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00
		Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00
		Cranes	0.00	0.00	0.00	0.00	0.00	0.00
		Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Excavators	0.00	0.00	0.00	0.00	0.00	0.00
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00
		Graders	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
		Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00
0.00	1	Pavers	0.00	0.00	0.00	0.00	0.00	0.00
0.00	1	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
		Pumps	0.00	0.00	0.00	0.00	0.00	0.00
0.00	3	Rollers	0.00	0.00	0.00	0.00	0.00	0.00
		Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Scrapers	0.00	0.00	0.00	0.00	0.00	0.00
0.00	1	Signal Boards	0.00	0.00	0.00	0.00	0.00	0.00
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00
0.00	2	Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00
		Trenchers	0.00	0.00	0.00	0.00	0.00	0.00
		Welders	0.00	0.00	0.00	0.00	0.00	0.00
	Paving	pounds per day	0.0	0.0	0.0	0.0	0.0	0.0
	Paving	tons per phase	0.0	0.0	0.0	0.0	0.0	0.0
Total Emissions all Phases (tons per construction period) =>			0.0	0.2	0.4	0.0	0.0	35.0

Equipment default values for horsepower and hours/day can be overridden in cells C289 through C322 and E289 through E322.

Equipment		Default Values Horsepower		Default Values Hours/day
Aerial Lifts		63		8
Air Compressors		106		8
Bore/Drill Rigs		206		8
Cement and Mortar Mixers		10		8
Concrete/Industrial Saws		64		8
Cranes		226		8
Crawler Tractors		208		8
Crushing/Proc. Equipment		142		8
Excavators		163		8
Forklifts		89		8
Generator Sets		66		8
Graders		175		8
Off-Highway Tractors		123		8
Off-Highway Trucks		400		8
Other Construction Equipment		172		8
Other General Industrial Equipment		88		8
Other Material Handling Equipment		167		8
Pavers		126		8
Paving Equipment		131		8
Plate Compactors		8		8
Pressure Washers		26		8
Pumps		53		8
Rollers		81		8
Rough Terrain Forklifts		100		8
Rubber Tired Dozers		255		8
Rubber Tired Loaders		200		8
Scrapers		362		8
Signal Boards		20		8
Skid Steer Loaders		65		8
Surfacing Equipment		254		8
Sweepers/Scrubbers		64		8
Tractors/Loaders/Backhoes		98		8
Trenchers		81		8
Welders		45		8

0

END OF DATA ENTRY SHEET

Road Construction Emissions Model, Version 7.1.5.1

Emission Estimates for -> Pedregal Water Lines Project Phases (English Units)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	Total PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive Dust PM10 (lbs/day)	Total PM2.5 (lbs/day)	Exhaust PM2.5 (lbs/day)	Fugitive Dust PM2.5 (lbs/day)	CO2 (lbs/day)
Grubbing/Land Clearing	-	-	-	-	-	-	-	-	-	-
Grading/Excavation	-	-	-	-	-	-	-	-	-	-
Drainage/Utilities/Sub-Grade	6.8	34.7	67.7	4.0	3.6	0.4	3.4	3.3	0.1	7,048.5
Paving	-	-	-	-	-	-	-	-	-	-
Maximum (pounds/day)	6.8	34.7	67.7	4.0	3.6	0.4	3.4	3.3	0.1	7,048.5
Total (tons/construction project)	0.0	0.2	0.4	0.0	0.0	0.0	0.0	0.0	0.0	38.8

Notes: Project Start Year -> 2016
Project Length (months) -> 1
Total Project Area (acres) -> 0
Maximum Area Disturbed/Day (acres) -> 0
Total Soil Imported/Exported (yd^3/day)-> 0

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sum of exhaust and fugitive dust emissions shown in columns K and L.

Emission Estimates for -> Pedregal Water Lines Project Phases (Metric Units)	ROG (kgs/day)	CO (kgs/day)	NOx (kgs/day)	Total PM10 (kgs/day)	Exhaust PM10 (kgs/day)	Fugitive Dust PM10 (kgs/day)	Total PM2.5 (kgs/day)	Exhaust PM2.5 (kgs/day)	Fugitive Dust PM2.5 (kgs/day)	CO2 (kgs/day)
Grubbing/Land Clearing	-	-	-	-	-	-	-	-	-	-
Grading/Excavation	-	-	-	-	-	-	-	-	-	-
Drainage/Utilities/Sub-Grade	3.1	15.8	30.8	1.8	1.6	0.2	1.5	1.5	0.0	3,203.9
Paving	-	-	-	-	-	-	-	-	-	-
Maximum (kilograms/day)	3.1	15.8	30.8	1.8	1.6	0.2	1.5	1.5	0.0	3,203.9
Total (megagrams/construction project)	0.0	0.2	0.3	0.0	0.0	0.0	0.0	0.0	0.0	35.2

Notes: Project Start Year -> 2016
Project Length (months) -> 1
Total Project Area (hectares) -> 0
Maximum Area Disturbed/Day (hectares) -> 0
Total Soil Imported/Exported ($meters^3$/day)-> 0

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sume of exhaust and fugitive dust emissions shown in columns K and L.

Road Construction Emissions Model
Data Entry Worksheet

Version 7.1.5.1

Note: Required data input sections have a yellow background.
Optional data input sections have a blue background. Only areas with a
yellow or blue background can be modified. Program defaults have a white background.
The user is required to enter information in cells C10 through C25.

To begin a new project, click this button to clear data previously entered. This button will only work if you opted not to disable macros when loading this spreadsheet.

Input Type

Project Name	Silva Road Connection	
Construction Start Year	2025	Enter a Year between 2009 and 2025 (inclusive)
Project Type	1	1 New Road Construction 2 Road Widening 3 Bridge/Overpass Construction
Project Construction Time	6.00	months
Predominant Soil/Site Type: Enter 1, 2, or 3	1	1. Sand Gravel 2. Weathered Rock-Earth 3. Blasted Rock
Project Length	0.70	miles
Total Project Area	1.84	acres
Maximum Area Disturbed/Day	0.46	acres
Water Trucks Used?	1	1. Yes 2. No
Soil Imported	0.00	yd^3/day
Soil Exported	0.00	yd^3/day
Average Truck Capacity	20	yd^3 (assume 20 if unknown)

The remaining sections of this sheet contain areas that can be modified by the user, although those modifications are optional.

Note: The program's estimates of construction period phase length can be overridden in cells C34 through C37.

Construction Periods	User Override of Construction Months	Program Calculated Months	2005	%	2006	%	2007
Grubbing/Land Clearing		0.60	0.00	0.00	0.00	0.00	0.00
Grading/Excavation		2.40	0.00	0.00	0.00	0.00	0.00
Drainage/Utilities/Sub-Grade		2.10	0.00	0.00	0.00	0.00	0.00
Paving		0.90	0.00	0.00	0.00	0.00	0.00
Totals	0.00	6.00					

Soil Hauling Emissions

User Input	User Override of Soil Hauling Defaults	Default Values
Miles/round trip		30
Round trips/day		0
Vehicle miles traveled/day (calculated)		0

Hauling Emissions	ROG	NOx	CO	PM10	PM2.5	CO2
Emission rate (grams/mile)	0.17	1.38	0.78	0.15	0.08	1541.89
Emission rate (grams/trip)	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day	0.00	0.00	0.00	0.00	0.00	0.00
Tons per contruction period	0.00	0.00	0.00	0.00	0.00	0.00

Worker commute default values can be overridden in cells C60 through C65.

Worker Commute Emissions

	User Override of Worker Commute Default Values	Default Values
Miles/ one-way trip		20
One-way trips/day		2
No. of employees: Grubbing/Land Clearing		5
No. of employees: Grading/Excavation		18
No. of employees: Drainage/Utilities/Sub-Grade		15
No. of employees: Paving		11

	ROG	NOx	CO	PM10	PM2.5	CO2
Emission rate - Grubbing/Land Clearing (grams/mile)	0.087	0.095	0.914	0.047	0.020	441.584
Emission rate - Grading/Excavation (grams/mile)	0.087	0.095	0.914	0.047	0.020	441.584
Emission rate - Draining/Utilities/Sub-Grade (gr/mile)	0.087	0.095	0.914	0.047	0.020	441.584
Emission rate - Paving (grams/mile)	0.087	0.095	0.914	0.047	0.020	441.584
Emission rate - Grubbing/Land Clearing (grams/trip)	0.263	0.131	1.931	0.004	0.004	96.298
Emission rate - Grading/Excavation (grams/trip)	0.263	0.131	1.931	0.004	0.004	96.298
Emission rate - Draining/Utilities/Sub-Grade (gr/trip)	0.263	0.131	1.931	0.004	0.004	96.298
Emission rate - Paving (grams/trip)	0.263	0.131	1.931	0.004	0.004	96.298
Pounds per day - Grubbing/Land Clearing	0.044	0.045	0.445	0.021	0.009	196.651
Tons per const. Period - Grub/Land Clear	0.000	0.000	0.003	0.000	0.000	1.298
Pounds per day - Grading/Excavation	0.155	0.156	1.558	0.072	0.031	688.280
Tons per const. Period - Grading/Excavation	0.004	0.004	0.041	0.002	0.001	18.171
Pounds per day - Drainage/Utilities/Sub-Grade	0.133	0.134	1.335	0.062	0.026	589.954
Tons per const. Period - Drain/Util/Sub-Grade	0.003	0.003	0.031	0.001	0.001	13.628
Pounds per day - Paving	0.100	0.100	1.001	0.047	0.020	442.466
Tons per const. Period - Paving	0.001	0.001	0.010	0.000	0.000	4.380
tons per construction period	0.008	0.008	0.085	0.004	0.002	37.477

Water Truck Emissions

	User Override of Default # Water Trucks	Program Estimate of Number of Water Trucks	User Override of Truck Miles Traveled/Day	Default Values Miles Traveled/Day
Grubbing/Land Clearing - Exhaust		1		40
Grading/Excavation - Exhaust		1		40
Drainage/Utilities/Subgrade		1		40

	ROG	NOx	CO	PM10	PM2.5	CO2
Emission rate - Grubbing/Land Clearing (grams/mile)	0.17	1.38	0.78	0.15	0.02	1541.89
Emission rate - Grading/Excavation (grams/mile)	0.17	1.38	0.78	0.15	0.08	1541.89
Emission rate - Draining/Utilities/Sub-Grade (gr/mile)	0.17	1.38	0.78	0.15	0.08	1541.89
Pounds per day - Grubbing/Land Clearing	0.01	0.12	0.07	0.01	0.00	135.85
Tons per const. Period - Grub/Land Clear	0.00	0.00	0.00	0.00	0.00	0.90
Pound per day - Grading/Excavation	0.01	0.12	0.07	0.01	0.01	135.85
Tons per const. Period - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	3.59
Pound per day - Drainage/Utilities/Subgrade	0.01	0.12	0.07	0.01	0.01	135.85
Tons per const. Period - Drainage/Utilities/Subgrade	0.00	0.00	0.00	0.00	0.00	3.14

Fugitive dust default values can be overridden in cells C110 through C112.

Fugitive Dust

	User Override of Max Acreage Disturbed/Day	Default Maximum Acreage/Day	PM10 pounds/day	PM10 tons/per period	PM2.5 pounds/day	PM2.5 tons/per period
Fugitive Dust - Grubbing/Land Clearing		0.46	4.6	0.0	1.0	0.0
Fugitive Dust - Grading/Excavation		0.46	4.6	0.1	1.0	0.0
Fugitive Dust - Drainage/Utilities/Subgrade		0.46	4.6	0.1	1.0	0.0

Off-Road Equipment Emissions

Grubbing/Land Clearing Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	CO2 pounds/day
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00
		Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00
		Cranes	0.00	0.00	0.00	0.00	0.00	0.00
	1	Crawler Tractors	0.38	4.45	3.87	0.15	0.14	822.17
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
	1	Excavators	0.18	2.79	1.26	0.06	0.06	573.01
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00
		Graders	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
		Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Pavers	0.00	0.00	0.00	0.00	0.00	0.00
		Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
		Pumps	0.00	0.00	0.00	0.00	0.00	0.00
		Rollers	0.00	0.00	0.00	0.00	0.00	0.00
		Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Scrapers	0.00	0.00	0.00	0.00	0.00	0.00
0.00	2	Signal Boards	0.00	0.00	0.00	0.00	0.00	0.00
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00
		Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00
		Trenchers	0.00	0.00	0.00	0.00	0.00	0.00
		Welders	0.00	0.00	0.00	0.00	0.00	0.00
	Grubbing/Land Clearing	pounds per day	0.6	7.2	5.1	0.2	0.2	1395.2
	Grubbing/Land Clearing	tons per phase	0.0	0.0	0.0	0.0	0.0	9.2

Grading/Excavation Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	CO2 pounds/day
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00
		Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00
	0	Cranes	0.00	0.00	0.00	0.00	0.00	0.00
	1	Crawler Tractors	0.38	4.45	3.87	0.15	0.14	822.17
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
	3	Excavators	0.54	8.37	3.79	0.19	0.17	1719.02
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00
	1	Graders	0.43	3.46	3.49	0.19	0.18	667.04
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
		Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Pavers	0.00	0.00	0.00	0.00	0.00	0.00
		Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
		Pumps	0.00	0.00	0.00	0.00	0.00	0.00
	2	Rollers	0.28	3.02	2.87	0.14	0.13	558.93
		Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00
	1	Rubber Tired Loaders	0.24	3.12	1.84	0.06	0.06	662.82
	2	Scrapers	1.39	14.52	12.60	0.50	0.46	3218.06
0.00	2	Signal Boards	0.00	0.00	0.00	0.00	0.00	0.00
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00
	2	Tractors/Loaders/Backhoes	0.28	3.15	2.68	0.11	0.10	672.25
		Trenchers	0.00	0.00	0.00	0.00	0.00	0.00
		Welders	0.00	0.00	0.00	0.00	0.00	0.00
	Grading/Excavation	pounds per day	3.5	40.1	31.1	1.3	1.2	8320.3
	Grading	tons per phase	0.1	1.1	0.8	0.0	0.0	219.7

Drainage/Utilities/Subgrade Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*		ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	CO2 pounds/day
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00
	1	Air Compressors	0.32	3.27	2.15	0.10	0.09	507.95
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00
		Cranes	0.00	0.00	0.00	0.00	0.00	0.00
		Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Excavators	0.00	0.00	0.00	0.00	0.00	0.00
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
	1	Generator Sets	0.22	2.87	1.94	0.08	0.07	487.07
	1	Graders	0.43	3.46	3.49	0.19	0.18	667.04
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
		Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Pavers	0.00	0.00	0.00	0.00	0.00	0.00
		Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00
	1	Plate Compactors	0.04	0.21	0.25	0.01	0.01	34.45
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
	1	Pumps	0.19	2.37	1.60	0.07	0.06	396.14
		Rollers	0.00	0.00	0.00	0.00	0.00	0.00
	1	Rough Terrain Forklifts	0.10	2.03	1.30	0.04	0.03	372.84
		Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00
	2	Scrapers	1.39	14.52	12.60	0.50	0.46	3218.06
0.00	2	Signal Boards	0.00	0.00	0.00	0.00	0.00	0.00
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00
	2	Tractors/Loaders/Backhoes	0.28	3.15	2.68	0.11	0.10	672.25
		Trenchers	0.00	0.00	0.00	0.00	0.00	0.00
		Welders	0.00	0.00	0.00	0.00	0.00	0.00
	Drainage	pounds per day	3.0	31.9	26.0	1.1	1.0	6355.8
	Drainage	tons per phase	0.1	0.7	0.6	0.0	0.0	146.8

Road Construction Emissions Model
Data Entry Worksheet

Version 7.1.5.1

Note: Required data input sections have a yellow background.
Optional data input sections have a blue background. Only areas with a
yellow or blue background can be modified. Program defaults have a white background.
The user is required to enter information in cells C10 through C25.

Input Type

Project Name	Recycled Waterline Expansion	
Construction Start Year	2019	Enter a Year between 2009 and 2025 (inclusive)
Project Type	1	1 New Road Construction 2 Road Widening 3 Bridge/Overpass Construction
Project Construction Time	1.00	month
Predominant Soil/Site Type: Enter 1, 2, or 3	1	1. Sand Gravel 2. Weathered Rock-Earth 3. Blasted Rock
Project Length	0.57	miles
Total Project Area	0.73	acres
Maximum Area Disturbed/Day	0.18	acres
Water Trucks Used?	1	1. Yes 2. No
Soil Imported	0.00	yd^3/day
Soil Exported	0.00	yd^3/day
Average Truck Capacity	20	yd^3 (assume 20 if unknown)

To begin a new project, click this button to clear data previously entered. This button will only work if you opted not to disable macros when loading this spreadsheet.

The remaining sections of this sheet contain areas that can be modified by the user, although those modifications are optional.

Note: The program's estimates of construction period phase length can be overridden in cells C34 through C37.

Construction Periods	User Override of Construction Months	Program Calculated Months	2005	%	2006	%	2007
Grubbing/Land Clearing	0.00	0.10	0.00	0.00	0.00	0.00	0.00
Grading/Excavation	0.00	0.40	0.00	0.00	0.00	0.00	0.00
Drainage/Utilities/Sub-Grade	1.00	0.35	0.00	0.00	0.00	0.00	0.00
Paving	0.00	0.15	0.00	0.00	0.00	0.00	0.00
Totals	1.00	1.00					

Soil Hauling Emissions

User Input	User Override of Soil Hauling Defaults	Default Values
Miles/round trip	0.00	30
Round trips/day	0.00	0
Vehicle miles traveled/day (calculated)		0

Hauling Emissions	ROG	NOx	CO	PM10	PM2.5	CO2
Emission rate (grams/mile)	0.00	0.00	0.00	0.00	0.00	0.00
Emission rate (grams/trip)	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day	0.00	0.00	0.00	0.00	0.00	0.00
Tons per contruction period	0.00	0.00	0.00	0.00	0.00	0.00

Worker commute default values can be overridden in cells C60 through C65.

Worker Commute Emissions

	User Override of Worker Commute Default Values	Default Values
Miles/ one-way trip		20
One-way trips/day		2
No. of employees: Grubbing/Land Clearing	0.00	5
No. of employees: Grading/Excavation	0.00	18
No. of employees: Drainage/Utilities/Sub-Grade		15
No. of employees: Paving	0.00	11

	ROG	NOx	CO	PM10	PM2.5	CO2
Emission rate - Grubbing/Land Clearing (grams/mile)	0.000	0.000	0.000	0.000	0.000	0.000
Emission rate - Grading/Excavation (grams/mile)	0.000	0.000	0.000	0.000	0.000	0.000
Emission rate - Draining/Utilities/Sub-Grade (gr/mile)	0.112	0.140	1.291	0.047	0.020	441.739
Emission rate - Paving (grams/mile)	0.000	0.000	0.000	0.000	0.000	0.000
Emission rate - Grubbing/Land Clearing (grams/trip)	0.000	0.000	0.000	0.000	0.000	0.000
Emission rate - Grading/Excavation (grams/trip)	0.000	0.000	0.000	0.000	0.000	0.000
Emission rate - Draining/Utilities/Sub-Grade (gr/trip)	0.382	0.228	3.101	0.004	0.003	95.822
Emission rate - Paving (grams/trip)	0.000	0.000	0.000	0.000	0.000	0.000
Pounds per day - Grubbing/Land Clearing	0.000	0.000	0.000	0.000	0.000	0.000
Tons per const. Period - Grub/Land Clear	0.000	0.000	0.000	0.000	0.000	0.000
Pounds per day - Grading/Excavation	0.000	0.000	0.000	0.000	0.000	0.000
Tons per const. Period - Grading/Excavation	0.000	0.000	0.000	0.000	0.000	0.000
Pounds per day - Drainage/Utilities/Sub-Grade	0.173	0.200	1.911	0.062	0.026	590.128
Tons per const. Period - Drain/Util/Sub-Grade	0.002	0.002	0.021	0.001	0.000	6.491
Pounds per day - Paving	0.000	0.000	0.000	0.000	0.000	0.000
Tons per const. Period - Paving	0.000	0.000	0.000	0.000	0.000	0.000
tons per construction period	0.002	0.002	0.021	0.001	0.000	6.491

Water Truck Emissions	User Override of Default # Water Trucks	Program Estimate of Number of Water Trucks	User Override of Truck Miles Traveled/Day	Default Values Miles Traveled/Day
Grubbing/Land Clearing - Exhaust	0.00	1		40
Grading/Excavation - Exhaust	0.00	1		40
Drainage/Utilities/Subgrade		1		40

	ROG	NOx	CO	PM10	PM2.5	CO2
Emission rate - Grubbing/Land Clearing (grams/mile)	0.00	0.00	0.00	0.00	0.00	0.00
Emission rate - Grading/Excavation (grams/mile)	0.00	0.00	0.00	0.00	0.00	0.00
Emission rate - Draining/Utilities/Sub-Grade (gr/mile)	0.15	5.88	0.69	0.16	0.09	1596.49
Pounds per day - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grub/Land Clear	0.00	0.00	0.00	0.00	0.00	0.00
Pound per day - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00
Pound per day - Drainage/Utilities/Subgrade	0.01	0.52	0.06	0.01	0.01	140.66
Tons per const. Period - Drainage/Utilities/Subgrade	0.00	0.01	0.00	0.00	0.00	1.55

Fugitive dust default values can be overridden in cells C110 through C112.

Fugitive Dust	User Override of Max Acreage Disturbed/Day	Default Maximum Acreage/Day	PM10 pounds/day	PM10 tons/per period	PM2.5 pounds/day	PM2.5 tons/per period
Fugitive Dust - Grubbing/Land Clearing	0.00	0	0.0	0.0	0.0	0.0
Fugitive Dust - Grading/Excavation	0.00	0	0.0	0.0	0.0	0.0
Fugitive Dust - Drainage/Utilities/Subgrade		0.1825	1.8	0.0	0.4	0.0

Off-Road Equipment Emissions

Grubbing/Land Clearing Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	CO2 pounds/day
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00
		Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00
		Cranes	0.00	0.00	0.00	0.00	0.00	0.00
0.00	1	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
0.00	1	Excavators	0.00	0.00	0.00	0.00	0.00	0.00
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00
		Graders	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
		Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Pavers	0.00	0.00	0.00	0.00	0.00	0.00
		Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
		Pumps	0.00	0.00	0.00	0.00	0.00	0.00
		Rollers	0.00	0.00	0.00	0.00	0.00	0.00
		Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Scrapers	0.00	0.00	0.00	0.00	0.00	0.00
0.00	2	Signal Boards	0.00	0.00	0.00	0.00	0.00	0.00
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00
		Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00
		Trenchers	0.00	0.00	0.00	0.00	0.00	0.00
		Welders	0.00	0.00	0.00	0.00	0.00	0.00
	Grubbing/Land Clearing	pounds per day	0.0	0.0	0.0	0.0	0.0	0.0
	Grubbing/Land Clearing	tons per phase	0.0	0.0	0.0	0.0	0.0	0.0

Grading/Excavation Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	CO2 pounds/day
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00
		Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00
	0	Cranes	0.00	0.00	0.00	0.00	0.00	0.00
0.00	1	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
0.00	3	Excavators	0.00	0.00	0.00	0.00	0.00	0.00
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00
0.00	1	Graders	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
		Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Pavers	0.00	0.00	0.00	0.00	0.00	0.00
		Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
		Pumps	0.00	0.00	0.00	0.00	0.00	0.00
0.00	2	Rollers	0.00	0.00	0.00	0.00	0.00	0.00
		Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00
0.00	1	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00
0.00	2	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00
0.00	2	Signal Boards	0.00	0.00	0.00	0.00	0.00	0.00
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00
0.00	2	Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00
		Trenchers	0.00	0.00	0.00	0.00	0.00	0.00
		Welders	0.00	0.00	0.00	0.00	0.00	0.00
	Grading/Excavation	pounds per day	0.0	0.0	0.0	0.0	0.0	0.0
	Grading	tons per phase	0.0	0.0	0.0	0.0	0.0	0.0

Drainage/Utilities/Subgrade Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*		ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	CO2 pounds/day
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00
	1	Air Compressors	0.53	3.38	3.59	0.26	0.24	507.95
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00
		Cranes	0.00	0.00	0.00	0.00	0.00	0.00
		Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Excavators	0.00	0.00	0.00	0.00	0.00	0.00
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
	1	Generator Sets	0.38	2.94	3.20	0.20	0.18	487.07
	1	Graders	0.80	3.46	7.57	0.42	0.39	666.91
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
		Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Pavers	0.00	0.00	0.00	0.00	0.00	0.00
		Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00
	1	Plate Compactors	0.04	0.21	0.25	0.01	0.01	34.45
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
	1	Pumps	0.33	2.43	2.64	0.17	0.16	396.14
		Rollers	0.00	0.00	0.00	0.00	0.00	0.00
	1	Rough Terrain Forklifts	0.15	2.03	1.87	0.08	0.08	372.66
		Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00
	2	Scrapers	2.21	14.51	25.55	1.00	0.92	3216.00
0.00	2	Signal Boards	0.00	0.00	0.00	0.00	0.00	0.00
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00
	2	Tractors/Loaders/Backhoes	0.49	3.14	4.70	0.31	0.29	669.58
		Trenchers	0.00	0.00	0.00	0.00	0.00	0.00
		Welders	0.00	0.00	0.00	0.00	0.00	0.00
	Drainage	pounds per day	4.9	32.1	49.4	2.5	2.3	6350.7
	Drainage	tons per phase	0.1	0.4	0.5	0.0	0.0	69.9

Paving	Default Number of Vehicles		ROG	CO	NOx	PM10	PM2.5	CO2
Override of Default Number of Vehicles	*Program-estimate*	Type	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00
		Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00
		Cranes	0.00	0.00	0.00	0.00	0.00	0.00
		Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Excavators	0.00	0.00	0.00	0.00	0.00	0.00
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00
		Graders	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
		Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00
0.00	1	Pavers	0.00	0.00	0.00	0.00	0.00	0.00
0.00	1	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
		Pumps	0.00	0.00	0.00	0.00	0.00	0.00
0.00	3	Rollers	0.00	0.00	0.00	0.00	0.00	0.00
		Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Scrapers	0.00	0.00	0.00	0.00	0.00	0.00
0.00	2	Signal Boards	0.00	0.00	0.00	0.00	0.00	0.00
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00
0.00	2	Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00
		Trenchers	0.00	0.00	0.00	0.00	0.00	0.00
		Welders	0.00	0.00	0.00	0.00	0.00	0.00
	Paving	pounds per day	0.0	0.0	0.0	0.0	0.0	0.0
	Paving	tons per phase	0.0	0.0	0.0	0.0	0.0	0.0
Total Emissions all Phases (tons per construction period) =>			0.1	0.4	0.5	0.0	0.0	69.9

Equipment default values for horsepower and hours/day can be overridden in cells C289 through C322 and E289 through E322.

Equipment		Default Values Horsepower		Default Values Hours/day
Aerial Lifts		63		8
Air Compressors		106		8
Bore/Drill Rigs		206		8
Cement and Mortar Mixers		10		8
Concrete/Industrial Saws		64		8
Cranes		226		8
Crawler Tractors		208		8
Crushing/Proc. Equipment		142		8
Excavators		163		8
Forklifts		89		8
Generator Sets		66		8
Graders		175		8
Off-Highway Tractors		123		8
Off-Highway Trucks		400		8
Other Construction Equipment		172		8
Other General Industrial Equipment		88		8
Other Material Handling Equipment		167		8
Pavers		126		8
Paving Equipment		131		8
Plate Compactors		8		8
Pressure Washers		26		8
Pumps		53		8
Rollers		81		8
Rough Terrain Forklifts		100		8
Rubber Tired Dozers		255		8
Rubber Tired Loaders		200		8
Scrapers		362		8
Signal Boards		20		8
Skid Steer Loaders		65		8
Surfacing Equipment		254		8
Sweepers/Scrubbers		64		8
Tractors/Loaders/Backhoes		98		8
Trenchers		81		8
Welders		45		8

0

END OF DATA ENTRY SHEET

Road Construction Emissions Model, Version 7.1.5.1

Emission Estimates for -> Recycled Waterline Expansion Project Phases (English Units)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	Total PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive Dust PM10 (lbs/day)	Total PM2.5 (lbs/day)	Exhaust PM2.5 (lbs/day)	Fugitive Dust PM2.5 (lbs/day)	CO2 (lbs/day)
Grubbing/Land Clearing	-	-	-	-	-	-	-	-	-	-
Grading/Excavation	-	-	-	-	-	-	-	-	-	-
Drainage/Utilities/Sub-Grade	5.1	34.1	50.1	4.4	2.5	1.8	2.7	2.3	0.4	7,081.5
Paving	-	-	-	-	-	-	-	-	-	-
Maximum (pounds/day)	5.1	34.1	50.1	4.4	2.5	1.8	2.7	2.3	0.4	7,081.5
Total (tons/construction project)	0.1	0.4	0.6	0.0	0.0	0.0	0.0	0.0	0.0	77.9

Notes: Project Start Year -> 2019
Project Length (months) -> 1
Total Project Area (acres) -> 1
Maximum Area Disturbed/Day (acres) -> 0
Total Soil Imported/Exported (yd^3/day)-> 0

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sum of exhaust and fugitive dust emissions shown in columns K and L.

Emission Estimates for -> Recycled Waterline Expansion Project Phases (Metric Units)	ROG (kgs/day)	CO (kgs/day)	NOx (kgs/day)	Total PM10 (kgs/day)	Exhaust PM10 (kgs/day)	Fugitive Dust PM10 (kgs/day)	Total PM2.5 (kgs/day)	Exhaust PM2.5 (kgs/day)	Fugitive Dust PM2.5 (kgs/day)	CO2 (kgs/day)
Grubbing/Land Clearing	-	-	-	-	-	-	-	-	-	-
Grading/Excavation	-	-	-	-	-	-	-	-	-	-
Drainage/Utilities/Sub-Grade	2.3	15.5	22.8	2.0	1.2	0.8	1.2	1.0	0.2	3,218.9
Paving	-	-	-	-	-	-	-	-	-	-
Maximum (kilograms/day)	2.3	15.5	22.8	2.0	1.2	0.8	1.2	1.0	0.2	3,218.9
Total (megagrams/construction project)	0.1	0.3	0.5	0.0	0.0	0.0	0.0	0.0	0.0	70.7

Notes: Project Start Year -> 2019
Project Length (months) -> 1
Total Project Area (hectares) -> 0
Maximum Area Disturbed/Day (hectares) -> 0
Total Soil Imported/Exported ($meters^3$/day)-> 0

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sume of exhaust and fugitive dust emissions shown in columns K and L.

Paving Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	CO2 pounds/day
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00
		Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00
		Cranes	0.00	0.00	0.00	0.00	0.00	0.00
		Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Excavators	0.00	0.00	0.00	0.00	0.00	0.00
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00
		Graders	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
		Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00
	1	Pavers	0.17	2.84	1.51	0.07	0.07	481.74
	1	Paving Equipment	0.15	2.69	1.23	0.06	0.06	426.00
		Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
		Pumps	0.00	0.00	0.00	0.00	0.00	0.00
	3	Rollers	0.43	4.53	4.30	0.22	0.20	838.39
		Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Scrapers	0.00	0.00	0.00	0.00	0.00	0.00
0.00	2	Signal Boards	0.00	0.00	0.00	0.00	0.00	0.00
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00
	2	Tractors/Loaders/Backhoes	0.28	3.15	2.68	0.11	0.10	672.25
		Trenchers	0.00	0.00	0.00	0.00	0.00	0.00
		Welders	0.00	0.00	0.00	0.00	0.00	0.00
	Paving	pounds per day	1.0	13.2	9.7	0.5	0.4	2418.4
	Paving	tons per phase	0.0	0.1	0.1	0.0	0.0	23.9
Total Emissions all Phases (tons per construction period) =>			0.2	2.0	1.6	0.1	0.1	399.6

Equipment default values for horsepower and hours/day can be overridden in cells C289 through C322 and E289 through E322.

Equipment		Default Values Horsepower		Default Values Hours/day
Aerial Lifts		63		8
Air Compressors		106		8
Bore/Drill Rigs		206		8
Cement and Mortar Mixers		10		8
Concrete/Industrial Saws		64		8
Cranes		226		8
Crawler Tractors		208		8
Crushing/Proc. Equipment		142		8
Excavators		163		8
Forklifts		89		8
Generator Sets		66		8
Graders		175		8
Off-Highway Tractors		123		8
Off-Highway Trucks		400		8
Other Construction Equipment		172		8
Other General Industrial Equipment		88		8
Other Material Handling Equipment		167		8
Pavers		126		8
Paving Equipment		131		8
Plate Compactors		8		8
Pressure Washers		26		8
Pumps		53		8
Rollers		81		8
Rough Terrain Forklifts		100		8
Rubber Tired Dozers		255		8
Rubber Tired Loaders		200		8
Scrapers		362		8
Signal Boards		20		8
Skid Steer Loaders		65		8
Surfacing Equipment		254		8
Sweepers/Scrubbers		64		8
Tractors/Loaders/Backhoes		98		8
Trenchers		81		8
Welders		45		8

0

END OF DATA ENTRY SHEET

Road Construction Emissions Model, Version 7.1.5.1

Emission Estimates for -> Silva Road Connection Project Phases (English Units)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	Total PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive Dust PM10 (lbs/day)	Total PM2.5 (lbs/day)	Exhaust PM2.5 (lbs/day)	Fugitive Dust PM2.5 (lbs/day)	CO2 (lbs/day)
Grubbing/Land Clearing	0.6	7.8	5.3	4.8	0.2	4.6	1.2	0.2	1.0	1,727.7
Grading/Excavation	3.7	41.7	31.4	6.0	1.4	4.6	2.2	1.3	1.0	9,144.4
Drainage/Utilities/Sub-Grade	3.1	33.3	26.3	5.8	1.2	4.6	2.0	1.0	1.0	7,081.6
Paving	1.1	14.2	9.8	0.5	0.5	-	0.4	0.4	-	2,860.9
Maximum (pounds/day)	3.7	41.7	31.4	6.0	1.4	4.6	2.2	1.3	1.0	9,144.4
Total (tons/construction project)	0.2	2.1	1.6	0.3	0.1	0.3	0.1	0.1	0.1	444.7

Notes: Project Start Year -> 2025
Project Length (months) -> 6
Total Project Area (acres) -> 2
Maximum Area Disturbed/Day (acres) -> 0
Total Soil Imported/Exported (yd^3/day)-> 0

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sum of exhaust and fugitive dust emissions shown in columns K and L.

Emission Estimates for -> Silva Road Connection Project Phases (Metric Units)	ROG (kgs/day)	CO (kgs/day)	NOx (kgs/day)	Total PM10 (kgs/day)	Exhaust PM10 (kgs/day)	Fugitive Dust PM10 (kgs/day)	Total PM2.5 (kgs/day)	Exhaust PM2.5 (kgs/day)	Fugitive Dust PM2.5 (kgs/day)	CO2 (kgs/day)
Grubbing/Land Clearing	0.3	3.5	2.4	2.2	0.1	2.1	0.5	0.1	0.4	785.3
Grading/Excavation	1.7	19.0	14.3	2.7	0.6	2.1	1.0	0.6	0.4	4,156.6
Drainage/Utilities/Sub-Grade	1.4	15.1	11.9	2.6	0.5	2.1	0.9	0.5	0.4	3,218.9
Paving	0.5	6.5	4.5	0.2	0.2	-	0.2	0.2	-	1,300.4
Maximum (kilograms/day)	1.7	19.0	14.3	2.7	0.6	2.1	1.0	0.6	0.4	4,156.6
Total (megagrams/construction project)	0.2	1.9	1.4	0.3	0.1	0.2	0.1	0.1	0.0	403.4

Notes: Project Start Year -> 2025
Project Length (months) -> 6
Total Project Area (hectares) -> 1
Maximum Area Disturbed/Day (hectares) -> 0
Total Soil Imported/Exported ($meters^3$/day)-> 0

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sume of exhaust and fugitive dust emissions shown in columns K and L.

	Million BTU			
Total	Without	With		
VMT	124,054	119,476	-4%	-4578
Electricity	17,524	16,603	-5%	-921
Natural Gas	19,992	17,475	-13%	-2517
Total	161,570	153,554		

Westside

	Without Land Use Design					With Land Use Design				
VMT	**Weekday**	**Saturday**	**Sunday**	**Annual VMT**	**BTU**	**Weekday**	**Saturday**	**Sunday**	**Annual VMT**	**BTU**
Apartments Low Rise	2,195	2,195	2,195	6,287,671	29,447,381,006	2,056	2,056	2,056	5,889,213	27,581,262,237
City Park	548	548	548	1,169,899	5,479,051,109	548	548	548	1,170,433	5,481,550,676
Condo/Townhouse	2,473	2,473	2,473	7,084,014	33,176,935,060	2,806	2,806	2,806	8,036,474	37,637,643,070
Government (Civic Center)	552	552	552	753,731	3,529,988,195	552	0	0	753,731	3,529,988,195
Other Asphalt Surfaces	0	0	0	0	0	0	0	0		0
Single Family Housing	1,648	1,648	1,648	4,720,767	22,109,016,465	1,113	1,113	1,113	3,188,666	14,933,647,863
Total	7,416	7,416	7,416	20,016,082	93,742,371,835	7,075	6,523	6,523	19,038,517	89,164,092,041

Natural Gas (kBTU/year)	**Without Policies**	**With Policies**
Condo/Townhouse	6,792,660	5,910,980
Government (Civic Center)	865000	738775
Other Asphalt Surfaces	0	0
Single Family Housing	3,954,670	3,470,950
Apartments Low Rise	4,476,800	3,928,930
City Park	0	0
Total	16,089,130	14,049,635

Electricity (kWh/yr)	**Without Policies**	**With Policies**	**BTU-w/o**	**BTU-w**
Apartments Low Rise	1,250,790	1,193,440	4,272,698,640	4,076,791,040
City Park	0	0	0	0
Condo/Townhouse	1,372,710	1,312,160	4,689,177,360	4,482,338,560
Government (Civic Center)	558500	497675	1,907,836,000	1,700,057,800
Other Asphalt Surfaces	0	0	0	0
Single Family Housing	914788	871643	3,124,915,808	2,977,532,488
Total	4,096,788	3,874,918	13,994,627,808	13,236,719,888

Exceed Title 24
Install High Efficiency Lighting
Install Energy Efficient Appliances

Pedredgal

Traffic study predicts no change in VMT from land use design measures

VMT	**Weekday**	**Saturday**	**Sunday**	**Annual VMT**	**BTU**	**Weekday**	**Saturday**	**Sunday**	**Annual VMT**	**BTU**
Apartments Low Rise	1,328	1,432	1,214	3,779,559	23,920,283,558	1,328	1,432	1,214	3,779,559	23,920,283,558
Other Asphalt Surfaces	0	0	0	0	0	0	0	0	0	0
Single Family Housing	354	373	324	1,009,915	6,391,605,435	354	373	324	1,009,915	6,391,605,435
Total	1,682	1,805	1,538	4,789,474	30,311,888,993	1,682	1,805	1,538	4,789,474	30,311,888,993

Natural Gas (kBTU/year)	**Without Policies**	**With Policies**
Single Family Housing	1,189,620	1,044,110
Apartments Low Rise	2,713,210	2,381,170
Other Asphalt Surfaces	0	0
Total	3,902,830	3,425,280

Electricity (kWh/yr)	**Without Policies**	**With Policies**	**BTU-w/o**	**BTU-w**
Single Family Housing	758,056	723,300	2,589,519,296	2,470,792,800
Apartments Low Rise	0	0	0	0
Other Asphalt Surfaces	275,180	262,202	940,014,880	895,682,032
Total	1,033,236	985,502	3,529,534,176	3,366,474,832

Exceed Title 24
Install High Efficiency Lighting
Install Energy Efficient Appliances

BTU_VMT no Pavley	6,329	Oak Ridge National Laboratory 2013
BTU_VMT Pavley	4,683	
BTU_kWh	3,416	Argonne 2013
million BTU	1000000	
thousand BTU	1000	

Appendix D

EDCAPCD Rule 223-1 Best Management Practices

Appendix D. EDCAPCD Rule 223-1 Best Management Practices

Construction and Other Earthmoving Activities		
Source Category	Control Measure	EDCAPCD Guidance
Backfilling	A1. Stabilize backfill material when not actively handling; and A2. Stabilize backfill material during handling; and A3. Stabilize soil at completion of activity.	-Mix backfill soil with water prior to moving -Dedicate water truck or high capacity hose to backfilling equipment. -Empty loader bucket slowly so that no dust plumes are generated. -Minimize drop height from loader bucket.
Clearing and grubbing	B1. Maintain stability of soil through pre-watering of site prior to clearing and grubbing; and B2. Stabilize soil during clearing and grubbing activities; and B3. Stabilize soil immediately after clearing and grubbing activities.	-Maintain live perennial vegetation where possible. -Apply water in sufficient quantity to prevent generation of dust plumes.
Clearing forms	C1. Use water spray to clear forms; or C2. Use sweeping and water spray to clear forms; or C3. Use vacuum system to clear forms.	-Use of high pressure air to clear forms may cause exceedance of Rule requirements.
Crushing	D1. Stabilize surface soils prior to operation of support equipment; and D2. Stabilize material after crushing.	-Follow permit conditions for crushing equipment. -Pre-water material prior to loading into crusher. -Monitor crusher emissions opacity. -Apply water to crushed material to prevent dust plumes.
Cut and fill	E1. Pre-water soils prior to cut and fill activities; and E2. Stabilize soil during and after cut and fill activities	-For large sites, pre-water with sprinklers or water trucks and allow time for penetration. -Use water as necessary to keep dust down.
Demolition – mechanical/manual	F1. Stabilize wind erodible surfaces to reduce dust; and F2. Stabilize surface soil where support equipment and vehicles will operate; and F3. Stabilize loose soil and demolition debris.	-Apply water in sufficient quantities to prevent the generation of visible dust plumes.
Disturbed soil	G1. Stabilize disturbed soil throughout the construction site; and G2. Stabilize disturbed soil between structures	-Limit vehicular traffic and disturbances on soils where possible. -If interior block walls are planned, install as early as possible. -Apply water or a stabilizing agent in sufficient quantities to prevent the generation of visible dust plumes.

Earth-moving activities	H1. Pre-apply water; and H2. Re-apply water as necessary to maintain soils in a damp condition and to ensure that visible emissions do not exceed 50 feet or beyond property line in any direction; and H3 Stabilize soils once earth-moving activities are complete.	-Grade each project phase separately, timed to coincide with construction phase. -Upwind fencing can prevent material movement on site. -Apply water or a stabilizing agent in sufficient quantities to prevent the generation of visible dust plumes.
Importing/exporting of bulk materials	I1. Stabilize or adequately wet material while loading to reduce fugitive dust emissions; and I2. Maintain at least six inches of freeboard on haul vehicles traveling offsite; and I3. Stabilize or adequately wet material while transporting to reduce fugitive dust emissions; and I4. Stabilize material while unloading to reduce fugitive dust emissions.	-Use tarps or other suitable enclosures on haul trucks. -Comply with track-out prevention/ mitigation requirements. -Provide water while loading and unloading to reduce visible dust plumes.
Landscaping	J1. Stabilize soils, materials and slopes.	-Apply water to materials to stabilize. -Maintain materials in a crusted condition. -Maintain effective cover over materials -Stabilize sloping surfaces using soil binders until vegetation or ground cover can effectively stabilize the slopes -Hydroseed prior to rainy season.
Road shoulder maintenance	K1. Apply water to unpaved shoulders prior to clearing; and K2. Apply chemical dust suppressants and/or other appropriate material in accordance with DOT specifications to maintain a stabilized surface after completing road shoulder maintenance.	-Installation of curbing and/or paving of road shoulders can reduce recurring maintenance costs. -Use of chemical dust suppressants can inhibit vegetation growth and reduce future road shoulder maintenance costs.
Screening	L1. Pre-water material prior to screening; and L2. Limit fugitive dust emissions to opacity and plume length standards; and L3. Stabilize material immediately after screening.	-Dedicate water truck or high capacity hose to screening operation. -Drop material through the screen slowly and minimize drop height. -Install wind barrier with a porosity of no more than 50% upwind of screen to the height of the drop point.
Staging areas	M1. Stabilize staging areas during use; and M2. Stabilize staging area soils at project completion.	-Limit size of staging area. -Limit vehicle speeds to prevent visible dust in excess of standards per 223-1.4.A. -Limit number and size of staging area entrances/exists.
Stockpiles/Bulk Material Handling	N1. Stabilize stockpiled materials. N2. Stockpiles within 100 yards of off-site occupied buildings must not be greater than eight feet in height; or must have a road bladed to the top to allow water truck access or must have an operational water irrigation system that is capable of complete stockpile coverage.	-Add or remove material from the downwind portion of the storage pile. -Maintain storage piles to avoid slides.

Traffic areas for construction activities	O1. Stabilize or maintain adequate moisture on all off-road traffic and parking areas; and O2. Stabilize or maintain adequate moisture on all haul routes; and O3. Direct construction traffic over established haul routes.	-Apply gravel/paving to all haul routes as soon as possible to all future roadway areas. -Barriers can be used to ensure vehicles are only used on established parking areas/haul routes.
Trenching	P1. Stabilize surface soils where trencher or excavator and support equipment will operate; and P2. Stabilize soils at the completion of trenching activities.	-Pre-watering of soils prior to trenching is an effective preventive measure. -Washing mud and soils from equipment at the conclusion of trenching activities can prevent crusting and drying of soil on equipment.
Truck loading	Q1. Pre-water material prior to loading; or Q2. Apply water as loader bucket is being emptied; and Q2. Freeboard must be 6 inches or greater (VCS 23114)	-Empty loader bucket such that no visible dust plumes are created. -Ensure that the loader bucket is close to the truck to minimize drop height while loading.
Turf Overseeding	R1. Apply sufficient water immediately prior to conducting turf vacuuming activities to meet opacity and plume length standards; and R2. Cover haul vehicles prior to exiting the site.	-Haul waste material immediately off-site.
Unpaved roads/parking lots	S1. Stabilize soils to meet the applicable performance standards(Surface crusting); and S2. Limit vehicular travel to established unpaved roads (haul routes) and unpaved parking lots.	-Restricting vehicular access to established unpaved travel paths and parking lots can reduce stabilization requirements.
Vacant land	T1. In instances where vacant lots are 0.10 acre or larger and have a cumulative area of 500 square feet or more that are driven over and/or used by motor vehicles and/or off-road vehicles, prevent motor vehicle and/or off-road vehicle trespassing, parking and/or access.	-Installing barriers, curbs, fences, gates, posts, signs, shrubs, trees or other effective control measures to prevent access to motor or off-road vehicles.

Bulk Material Handling

Source Category	Control Actions
Handling Of Bulk Materials	A1. When handling bulk materials, apply water or chemical/organic stabilizers/ suppressants;
Storage of Bulk Materials	B1. When storing bulk materials, comply with the conditions for a stabilized surface; or B2. Cover bulk materials stored outdoors with tarps, plastic or other suitable material and anchor in such a manner that prevents the cover from being removed by wind action; or B3. Construct and maintain wind barriers with less than 50% porosity. If utilizing fences or wind barriers, apply water or chemical/organic stabilizers/suppressants; or B4. Utilize a 3-sided structure with a height at least equal to the height of the storage pile and with less than 50% porosity.

On-Site Transporting of Bulk Materials	C1. Limit vehicular speed while traveling on the work site; or C2. Load all haul trucks such that the freeboard is not less than six (6) inches when material is transported across any paved public access road; or C3. Apply water to the top of the load; or C4. Cover haul trucks with a tarp or other suitable cover.
Off-Site Transporting of Bulk Materials	D1. Clean the interior of the cargo compartment or cover the cargo compartment before the empty truck leaves the site; and D2. Prevent spillage or loss of bulk material from holes or other openings in the cargo compartment's floor, sides and/or tailgate; and D3. Load all haul trucks such that the freeboard is not less than six (6) inches when material is transported on any paved road, and apply water to the top of the load; or cover haul trucks with a tarp or other suitable cover.
Outdoor Transport Of Bulk Materials With A Chute Or Conveyor:	E1. Fully enclose the chute or conveyor; or E2. Operate water spray equipment; or E3. Wash separated or screened materials to remove conveyed materials having an aerodynamic diameter of 10 microns or less.

Removal and Prevention of Trackout

Source Category	Control Actions
Removal of Trackout Material	A1. Manually sweeping and picking-up; or A2. Operating a rotary brush or broom accompanied or preceded by sufficient wetting; or A3. Operating a PM10-efficient street sweeper; or A4. Flushing with water, where the use of water will not result in adverse impacts on storm water drainage systems or violate any National Pollutant Discharge Elimination System permit program; and A5. The use of blower devices, or dry rotary brushes or dry brooms is expressly prohibited.
Frequency of Trackout Material Removal	B1. At the minimum trackout must be removed at the end of the day; and B2. Trackout must be immediately removed when it extends 50 feet or more from the nearest unpaved surface exit point of a site; and B3. On interior paved roads trackout must be removed at least once per workday.
Trackout Prevention for Large Operations or Sites with more than 150 vehicle trips/day.	C1. Installation of grizzlies, or similar devices designed to remove dirt/mud from tires; or C2. Installation of gravel pads; or C3. Paving of interior roads.

Blasting Activities

Source Category	Control Measure	EDCAPCD Guidance
Site Preparation (drilling, setting charges, burial of charges)	A1. Reduce dust from drilling operation A2. Pre-wet blast area A3. Cover charges to minimize dust	-Control rate of drilling - Apply water fog - Place blast mats over charges - Place soil mounds over charges - Wet entire area prior to blasting
Blasting activities	B1. Dust cannot exceed 50 ft or cross the project property line	-Conduct blasting on calm days -Consider wind direction with respect to your property line, nearby residences and other receptors.
Post-Blasting Activities	C1. Follow Best Management Practice for all construction activities (Rule 223-1, Table 1)	

Large Operations Dust Control	
Source Category	Control Actions
Earth-moving (except construction cutting and filling areas, and mining operations)	A1. Maintain soil moisture content at a minimum of 12 percent, as determined by ASTM method D-2216, or other equivalent method approved by the Air Pollution Control Officer. Two soil moisture evaluations must be conducted during the first three hours of active operations during a calendar day, and two such evaluations each subsequent four-hour period of active operations; or A2. For any earth-moving which is more than 50 feet from all property lines, conduct watering as necessary to prevent visible dust emissions from exceeding 50 feet in length in any direction. Visible emissions must not extend beyond property boundary.
Earth-moving: Construction fill areas:	B1. Maintain soil moisture content at a minimum of 12 percent, as determined by ASTM method D-2216, or other equivalent method approved by the Air Pollution Control Officer. For areas which have an optimum moisture content for compaction of less than 12 percent, as determined by ASTM Method 1557 or other equivalent method approved by the Air Pollution Control Officer complete the compaction process as expeditiously as possible after achieving at least 70 percent of the optimum soil moisture content. Two soil moisture evaluations must be conducted during the first three hours of active operations during a calendar day, and two such evaluations during each subsequent four hour period of active operations; or B2. For any earth-moving which is more than 50 feet from all property lines, conduct watering as necessary to prevent visible dust emissions from exceeding 50 feet in length in any direction. Visible emissions must not extend beyond property boundary.
Earth-moving: Construction cut areas	C1. Conduct watering as necessary to prevent any visible emissions from extending beyond property boundary.
Disturbed surface areas: (except completed grading areas)	D1. Apply dust suppression in sufficient quantity and frequency to maintain a stabilized surface. Any areas which cannot be stabilized, as evidenced by wind driven fugitive dust must have an application of water at least twice per day to at least 80 percent of the unstabilized area.
Disturbed surface areas: Completed grading areas	E1. Apply chemical stabilizers within five working days of grading completion; or E2. Take actions F1 or F3 specified for inactive disturbed surface areas.
Inactive disturbed surface areas	F1. Apply water to at least 80 percent of all inactive disturbed surface areas on a daily basis when there is evidence of wind driven fugitive dust, excluding any areas which are inaccessible to watering vehicles due to excessive slope or other safety conditions; or F2. Apply dust suppressants in sufficient quantity and frequency to maintain a stabilized surface; or F3. Establish a vegetative ground cover within 21 days after active operations have ceased. Ground cover must be of sufficient density to expose less than 30 percent of unstabilized ground within 90 days of planting, and at all times thereafter; or F4. Utilize any combination of control actions F1, F2 and F3 such that, in total, these actions apply to all inactive disturbed surface areas. F5. Establishment and maintenance of surface crusting sufficient to satisfy the test in Section 223-1.10 F6. Approved mixture of tackifier and fiber mulch, applied per manufacturer's recommendation.
Unpaved Roads	G1. Water all roads used for any vehicular traffic at least once per every two hours of active operations or as often as necessary; or G2. Apply a chemical stabilizer to all unpaved road surfaces in sufficient quantity and frequency to maintain a stabilized surface; and G3. Restrict vehicle speeds where necessary ;

Open storage piles	H1. Apply chemical stabilizers; or H2. Apply water to at least 80 percent of the surface area of all open storage piles on a daily basis when there is evidence of wind driven fugitive dust; or H3. Install temporary coverings; or H4. Install a three-sided enclosure with walls with no more than 50 percent porosity which extend, at a minimum, to the top of the pile. This option may only be used at aggregate-related plants or at cement manufacturing facilities.
All Categories	I1. Any other control measures approved by the Air Pollution Control Officer as equivalent to the methods specified in Table 5 may be used.

Large Operations Contingency Dust Control

Source Category	Control Actions
Earth-moving	A1. Cease all active operations except for dust mitigation activities; or A2. Apply water to soil not more than 15 minutes prior to moving such soil; and A3. Apply water during soil moving or disturbance operations.
Disturbed surface areas	B1. On the last day of active operations prior to a weekend, holiday or any other period when active operations will not occur for not more than four consecutive days: apply water with a mixture of chemical stabilizer diluted to not less than 1/20 of the concentration required to maintain a stabilized surface for a period of six months; or B2. Apply chemical stabilizers prior to wind event; or B3. Apply water to all unstabilized disturbed areas 3 times per day. If there is any evidence of wind driven fugitive dust, watering frequency is increased to a minimum of four times per day; or B4. Take the actions specified in Table 5, control action F3; or B5. Utilize any combination of control actions B1, B2 and B3B such that, in total, these actions apply to all disturbed surface areas.
Unpaved roads	C1. Apply chemical stabilizers prior to wind event; or C2. Apply water twice per hour during active operation; or C3. Stop all vehicular traffic, except for dust mitigation equipment.
Open storage piles	D1. Apply water twice per hour; or D2. Install temporary coverings.
Bulk Material Transport	E1. Cover all haul vehicles; or E2. Freeboard must be 6 inches or greater (VCS 23114)
All Categories	F1. Any other control measures approved by the Air Pollution Control Officer as equivalent to the methods specified in Table 6 may be used.

Appendix E

Plant Species

Appendix E
Plant Species

Plants Observed in the Project Area (2006, 2012, and 2013)

Scientific Name	Common Name
ADOXACEAE	MUSKROOT FAMILY
Sambucus nigra ssp. *caerulea*	Blue elderberry
AGAVACEAE	AGAVE FAMILY
Chlorogalum pomeridianum	Soap plant
AMARANTHACEAE	AMANRANTH FAMILY
*Amaranthus retroflexus**	Rough pigweed
ANACARDIACEAE	SUMAC FAMILY
Toxicodendron diversilobum	Poison-oak
APIACEAE	CARROT FAMILY
Conium maculatum†*	Poison-hemlock
Daucus pusillus	American wild carrot
Lomatium caruifolium var. *denticulatum*	Caraway-leaved lomatium
Sanicula crassicaulis	Pacific sanicle
Torilis arvensis†*	Torilis (hedge parsley)
ASCLEPIADACEAE	MILKWEED FAMILY
Asclepias fascicularis	Narrow-leaf milkweed
Asclepias speciosa	Showy milkweed
ASTERACEAE	SUNFLOWER FAMILY
Achillea millefolium	Common yarrow
Achyrachaena mollis	Blowwives
*Anthemis cotula**	Mayweed
Artemisia douglasiana	Mugwort
Baccharis pilularis	Coyote bush
Carduus pycnocephalus†*	Italian thistle
Centaurea solstitialis†*	Yellow star-thistle
Cirsium vulgare†*	Bull thistle
Erigeron canadensis	Canada horseweed
Erigeron foliosus	Leafy fleabane
Euthamia occidentalis	Western fragrant goldenrod
Gnaphalium palustre	Western marsh cudweed
Helminthotheca echioides†*	Bristly ox tongue
Hemizonella minima	Opposite leaved tarweed
Holocarpha virgata	Sticky tarweed

Scientific Name	Common Name
*Hypochaeris glabra**†	Smooth cats-ear
*Lactuca serriola**	Prickly lettuce
Leontodon taraxacoides ssp. *taraxacoides**	Lesser hawkbit
*Leontodon saxatilis**	Hairy hawkbit
Logfia gallica	Herba impia, narrow leaf cotton rose
Madia sp.	Tarweed
Pseudognaphalium californicum	Everlasting, labies tobacco
*Pseudognaphalium luteoalbum**	Jersey cudweed
*Silybum marianum**†	Milk thistle
*Sonchus arvensis**	Perennial sowthistle
*Sonchus asper**	Prickly sowthistle
*Sonchus oleraceus**	Common sowthistle
Symphyotrichum chilense	Common California aster
*Taraxacum officinale**	Common dandelion
*Tragopogon dubius**	Goat's beard
Wyethia angustifolia	Mule ears
Xanthium spinosum	Spiny cocklebur
BETULACEAE	BIRCH FAMILY
Betula sp.	Birch
BIGNONIACEAE	TRUMPET-CREEPER FAMILY
*Catalpa bignonioides**	Cigar-tree
BORAGINACEAE	BORAGE FAMILY
Amsinckia menziesii	Rancher’s fireweed
Cryptantha sp.	Cryptantha
BRASSICACEAE	MUSTARD FAMILY
*Capsella bursa-pastoris**	Shepards purse
*Brassica nigra**†	Black mustard
*Hirschfeldia incana**†	Shortpod mustard
Nasturtium officinale	Water cress
*Raphanus raphanistrum**	Yellow wild radish
*Raphanus sativus**†	Purple wild radish
Rorippa nasturtium-aquaticum	Water cress
CALLITRICHACEAE	WATER-STARWORT FAMILY
Callitriche heterophylla	Larger water-starwort
CAPRIFOLIACEAE	HONEYSUCKEL FAMILY
Lonicera interrupta	Chaparral honeysuckle
Lonicera subspicata	Southern honeysuckle
Symphoricarpos albus var. *laevigatus*	Snowberry

Scientific Name	Common Name
CARYOPHYLLACEAE	PINK FAMILY
*Cerastium glomeratum**	Mouse-ear chickweed
*Stellaria media**	Common chickweed
CONVOLVULACEAE	MORNING-GLORY FAMILY
Calystegia occidentalis	Chaparral morning glory
Convolvulus arvensis†*	Morning glory
CUPRESSACEAE	CYPRESS FAMILY
Sequoia sempervirens	Redwood
CYPERACEAE	SEDGE FAMILY
Carex barbarae	Santa Barbara sedge
Carex praegracilis	Clustered field sedge
Carex sp.	Sedge
Cyperus eragrostis	Tall flatsedge
Eleocharis macrostachya	Creeping spikerush
EUPHORBIACEAE	SPURGE FAMILY
Croton setigerus	Turkey mullein
Euphorbia sp.	Spurge
Sapium sebiferum†*	Chinese tallow
FABACEAE	LEGUME FAMILY
Acacia sp.	Acacia
Acmispon americanus	Spanish lotus
Medicago polymorpha†*	Bur clover
*Trifolium dubium**	Shamrock clover
Trifolium hirtum†*	Rose clover
*Trifolium incarnatum**	Crimson clover
Trifolium willdenovii	Tomcat clover
*Vicia villosa**	Winter vetch
FAGACEAE	OAK FAMILY
Quercus douglasii	Blue oak
Quercus lobata	Valley oak
Quercus wislizenii	Interior live oak
GENTIANACEAE	GENTIAN FAMILY
Centaurium tenuiflorum	Monterey/slender centaury
Zeltnera muehlenbergii	Muehlenberg's centaury

Scientific Name	Common Name
GERANIACEAE	GERANIUM FAMILY
*Erodium botrys**	Filaree
*Geranium dissectum**†	Cut-leaved geranium
*Geranium molle**	Soft geranium
HIPPOCASTANACEAE	BUCKEYE FAMILY
Aesculus californica	California buckeye
HYPERICACEAE	ST. JOHN'S WORT FAMILY
*Hypericum canariense**†	Canary island St. John's wort
*Hypericum perforatum**†	Klamath weed
IRIDACEAE	IRIS FAMILY
Sisyrinchium bellum	Blue-eyed grass
JUNCACEAE	RUSH FAMILY
Juncus balticus ssp. *ater*	Baltic rush
Juncus bufonius	Toad rush
*Juncus capitatus**	Capped rush
Juncus xiphioides	Iris-leaved rush
LAMIACEAE	MINT FAMILY
*Rosmarinus officinalis**	Rosemary
Stachys albens	White-stem hedgenettle
Stachys stricta	Hedgenettle
LILIACEAE	LILY FAMILY
Brodiaea elegans	Harvest brodiaea
Chlorogalum pomeridianum	Soap plant
Dichelostemma capitatum	Blue dicks
Dichelostemma volubile	Twining brodiaea
Triteleia hyacinthine	Hyacinth brodiaea
LYTHRACEAE	LOOSESTRIFE FAMILY
*Lythrum hyssopifolia**†	Hyssop loosestrife
MALVACEAE	MALLOW FAMILY
*Malva parviflora**	Cheeseweed mallow
MORACEAE	MULBERRY FAMILY
*Ficus carica**†	Fig
MYRSINACEAE	MYRSINE FAMILY
*Anagallis arvensis**	Scarlet pimpernel

Scientific Name	Common Name
OLEACEAE	OLIVE FAMILY
*Ligustrum sp.**	Privet
ONAGRACEAE	EVENING PRIMROSE FAMILY
Clarkia purpurea	Four-spot clarkia
Clarkia unguiculata	Elegant clarkia
Epilobium brachycarpum	Panicled willow-herb
Epilobium ciliatum	Hairy willow-herb
Epilobium densiflorum	Dense-flower spike-primrose
Epilobium torreyi	Brook spike primrose
OXALIDACEAE	OXALIS FAMILY
*Oxalis micrantha**	Woodsorrel
PAPAVERACEAE	POPPY FAMILY
Eschscholzia californica	California poppy
PINACEAE	PINE FAMILY
Pinus sp.	Pine
Pinus sabiniana	Gray/foothill pine
Pinus torreyana	Torrey Pine
PLANTAGINACEAE	PLANTAIN FAMILY
*Kickxia elatine**	Sharp-leaved fluellin
Mimulus guttatus	Common large monkey-flower
*Plantago major**	Broad-leaf/ common plantain
Platanus racemosa	California sycamore
Veronica peregrina ssp. *xalapensis*	Purslane speedwell
POACEAE	GRASS FAMILY
Aegilops triuncialis†*	Barbed goatgrass
*Aira caryophyllea**	Hairgrass
Avena barbata†*	Slender wild oat
Brachypodium distachyon	False brome
Briza maxima†*	Big quaking grass
*Briza minor**	Little quaking grass
Bromus carinatus	California brome
Bromus diandrus†*	Ripgut brome
Bromus hordeaceus†*	Soft brome
Bromus laevipes	Narrow-flowered brome
Bromus madritensis ssp. *rubens*†*	Red brome
Cynodon dactylon†*	Bermuda grass
Cynosurus echinatus†*	Hedgehog dog-tail grass
Dactylis glomerata†*	Orchard grass

Scientific Name	Common Name
*Elymus caput-medusae**†	Medusahead grass
*Elymus ponticus**	Tall wheat grass
*Festuca arundinacea**†	Kentucky fescue
*Festuca bromoides**	Brome fescue
Festuca microstachys	Vulpia
*Festuca perennis**†	Perennial ryegrass
*Gastridium phleoides**	Nit grass
Hordeum marinum ssp. *gussoneanum**†	Mediterranean barley
Hordeum murinum ssp. *leporinum**†	Foxtail barley
Melica californica	California melic / onion grass
Muhlenbergia rigens	Deergrass
Paspalum distichum	Joint paspalum, knot grass
*Poa annua**	Annual bluegrass
*Poa bulbosa**	Bluegrass
*Polypogon monspeliensis**†	Annual rabbit-foot grass
*Sorghum halepense**†	Johnson grass
*Taeniatherum caput-medusae**†	Medusahead grass
*Triticum aestivum**	Cultivated wheat
POLEMONIACEAE	PHLOX FAMILY
Navarretia intertexta	Needle-leaf navarretia
Navarretia pubescens	Purple navarretia
POLYGONACEAE	BUCKWHEAT FAMILY
Polygonum sp.	Smartweed
*Polygonum arenastrum**	Prostrate knotweed
*Rumex crispus**†	Curly dock
*Rumex pulcher**	Fiddle dock
Rumex salicifolius	Willow dock
POLYPODIACEAE	POLYPODY FAMILY
Polypodium californicum	California polypody
PORTULACACEAE	PURSLANE FAMILY
Claytonia perfoliata	Miner's lettuce
PTERIDACEAE	BRAKE FAMILY
Adiantum aleuticum	Five-finger fern
Pentagramma triangularis	Silverback fern
RANUNCULACEAE	BUTTERCUP FAMILY
*Ranunculus muricatus**	Spiny-fruit buttercup

Scientific Name	Common Name
ROSACEAE	ROSE FAMILY
Heteromeles arbutifolia	Toyon
*Pyrus calleryana**	Callery pear
Rosa californica	California rose
*Rubus armeniacus**†	Himalayan blackberry
RUBIACEAE	MADDER FAMILY
*Galium parisiense**	Wall bedstraw
SALICACEAE	WILLOW FAMILY
Populus fremontii	Fremont's cottonwood
*Salix babylonica**	Weeping willow
Salix exigua	Sandbar willow
Salix gooddingii	Goodding's black willow
Salix laevigata	Red willow
Salix lasiolepis	Arroyo willow
SAPINDACEAE	SOAPBERRY FAMILY
Acer sp.	Maple
Aesculus californica	California buckeye
THEMIDACEAE	BRODIAEA FAMILY
Brodiaea elegans	Harvest brodiaea
Dichelostemma multiflorum	Wild hyacinth
Dichelostemma volubile	Twining brodiaea
TYPHACEAE	CATTAIL FAMILY
*Typha angustifolia**	Narrow-leaf cattail
Typha domingensis	Southern cattail
Typha latifolia	Broad-leaf cattail
VISCACEAE	MISTLETOE FAMILY
Phoradendron serotinum ssp. *tomentosum*	Oak mistletoe
VITACEAE	GRAPE FAMILY
Vitis californica	California wild grape

* Non-native species.

† Invasive species—included on California Department of Food and Agriculture Noxious Weed List (2010) and/or California Invasive Plant Inventory (Cal IPC 2006, 2007).

Appendix F

Biological Resources Study and Important Habitat Mitigation Plan

Biological Resources Study and Important Habitat Mitigation Plan

For

Oak Woodlands in the

Central El Dorado Hills Specific Plan

El Dorado County, California

10 February 2014

Prepared For:
Serrano Associates, LLC

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

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Attachment A – Interim Interpretative Guidelines for El Dorado County General Plan Policy 7.4.4.4 (Option A)

Attachment B – Natural Resources Conservation Service Descriptions for Soils Observed During Field Surveys

Attachment C – Proposed Guidelines for Acorn Collection, Storage and Planting

Attachment D – Proposed Conceptual Layout for Acorn Planting with Protection

Attachment E – Proposed Guidelines for Planting Oak Seedling with Shelter

Attachment F – Conceptual Irrigation Layout and Guidelines for Irrigating Oak Seedlings and Acorns

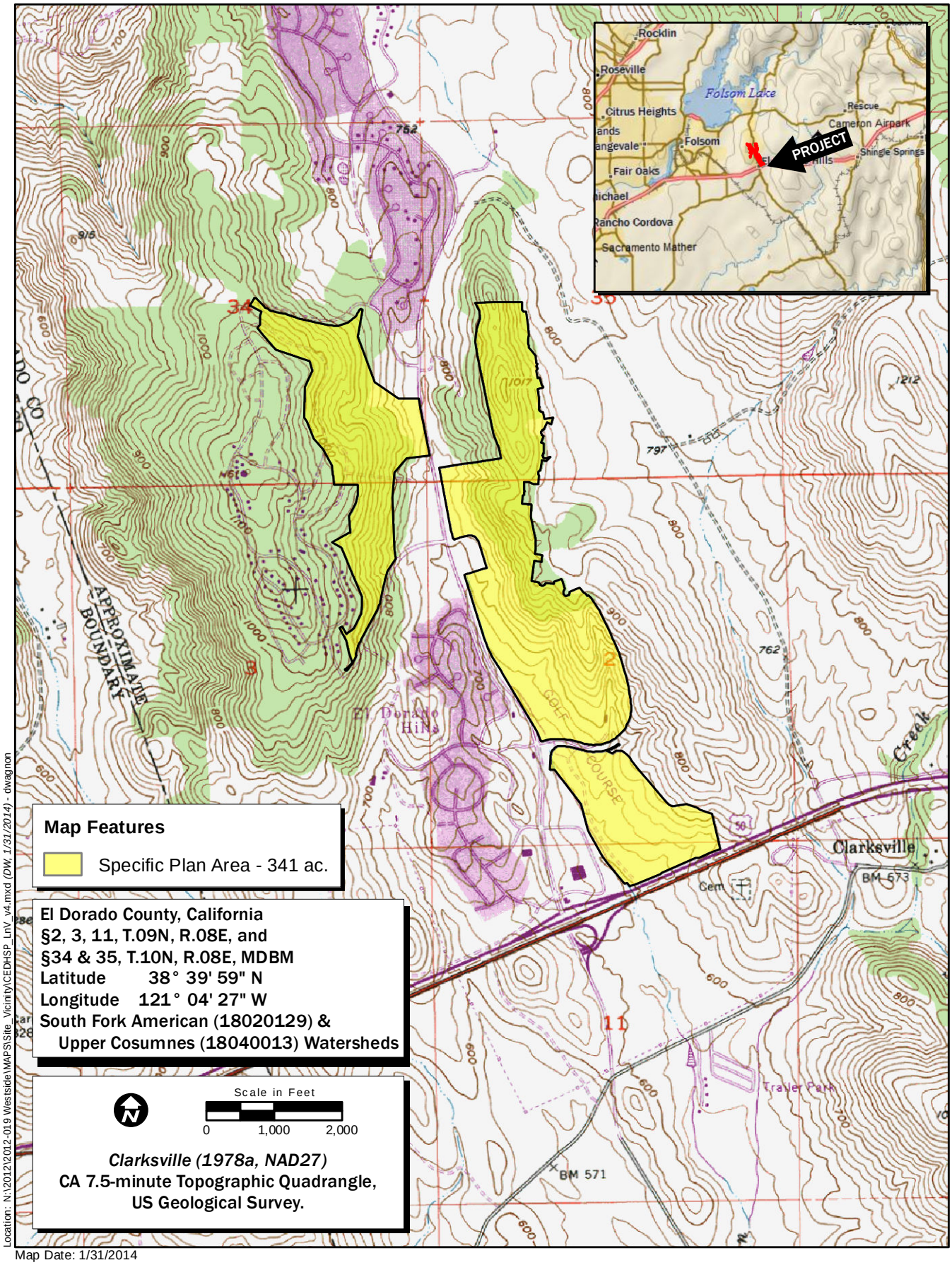
1.0 INTRODUCTION

At the request of Serrano Associates, LLC, ECORP Consulting, Inc. (ECORP) conducted a Biological Resources Study and created an Important Habitat Mitigation Plan to address oak tree impacts and proposed mitigation for the Central El Dorado Hills Specific Plan (CEDHSP) Project (Project). The Project is part of a proposed regional community plan for specific infill properties within the El Dorado Hills and Cameron Park communities. This area consists of two disjunct parcels north of Highway 50, separated by El Dorado Hills Blvd. The Pedregal parcel is west of El Dorado Hills Blvd., between Wilson Blvd. and Olsen Lane, and the Westside parcel is east of El Dorado Hills Blvd. and north of State Highway 50. Serrano Parkway bisects the Westside parcel. The 341-acre CEDHSP is situated within an elevational range of 600 to 1,050 feet above mean sea level in El Dorado Hills within El Dorado County, California (Figure 1. *Project Location and Vicinity*).

1.1 Project Location

The Project is located within portions of Sections 2, 3, 11, of Township 9 North, Range 8 East and portions of Sections 34 and 35 of Township 10 North, Range 8 East of the "Clarksville, California" 7.5-minute topographic quadrangle (U.S. Department of the Interior, Geological Survey 1978a). The Project is located at approximately 38° 39' 59" North and 121° 04' 27" West within the South Fork American and Upper Cosumnes Watersheds (USGS Hydrological Unit Code [HUC] #18020129 and #18040013, respectively) (U.S. Department of the Interior, Geological Survey 1978b).

Planned improvements include 1,000 dwelling units of low, medium, and high density residential use (1-24 dwellings units per acre) on approximately 140 acres. The Plan Area includes approximately 50,000 square feet of civic/limited commercial uses (or an 11-acre public park), a 15-acre public village park, and nearly 170 acres of natural open space. Planned improvements include an extensive network of trails interconnecting the proposed land uses and a location for pedestrian overcrossing of Highway 50. Approximately 50% of the site (170 acres) would be designated as Open Space (Figure 2. *Land Use Plan*).



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Map Date: 1/31/2014

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Figure 1. Project Location and Vicinity

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2012-019 Central El Dorado Hills Specific Plan

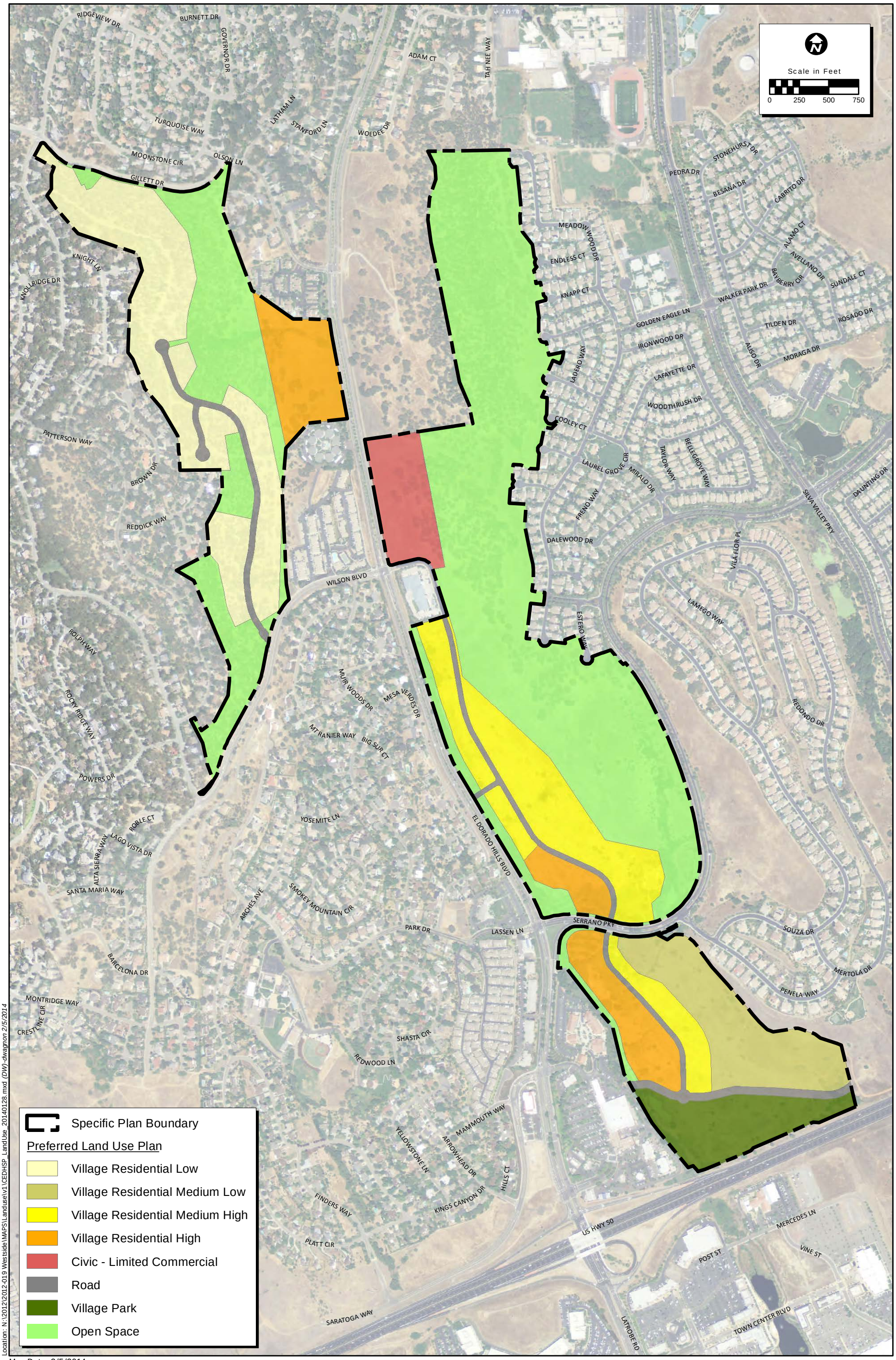

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Figure 2. Land Use Plan

2012-019 Central El Dorado Hills Specific Plan

1.2 El Dorado County Oak Woodland Mitigation Requirements

Forest and Oak Woodland Resources are protected by Objective 7.4.4 of the El Dorado County General Plan, which states:

> *Protect and conserve forest and woodland resources for their wildlife habitat, recreation, water production, domestic livestock grazing, production of sustainable flow or wood products, and aesthetic values (El Dorado County 2009).*

Policy 7.4.4.4 of the General Plan (El Dorado County 2009) specifies that for projects that are over one acre in size and have at least 1% canopy cover by woodland habitats, two mitigation options are available: A) the project applicant shall adhere to the tree canopy retention and replacement standards; or B) the project applicant shall contribute to El Dorado County's (County) Integrated Natural Resources Management Plan (INRMP) conservation fund. As this fund is not currently available, use of Option B is not feasible and the applicant for the CEDHSP Project is required to follow Option A.

Option A specifies canopy retention standards based on the percent of existing canopy within the Project. The retention rates, as stipulated in the *Interim Interpretive Guidelines for Policy 7.4.4.4 (Option A)* (Guidelines) (El Dorado County 2009), (Attachment A) are as follows:

Percent Existing Canopy Cover	Canopy Cover to be Retained
80-100	60% of existing canopy
60-79	70% of existing canopy
40-59	80% of existing canopy
20-39	85% of existing canopy
10-19	90% of existing canopy
1-9 for parcels > 1 acre	90% of existing canopy

A summary of the mitigation requirements of Option A as it relates to the Project is provided below:

1) 85% of the existing oak woodland canopy cover shall be retained (See Section 2.2 for methods on how this retention rate was determined).
2) Impact to on-site oak woodland habitat shall be replaced at a 1:1 canopy ratio, where the oak replacement area shall equal at minimum the total area of the oak canopy cover proposed for removal.
3) Replacement of removed tree canopy shall be at a 200 trees/acre density or as recommended by a Qualified Professional so that the replacement trees will equal the canopy coverage removed within 10 to 15 years from the date of planting.
4) The County defines trees as one-gallon saplings or three locally-sourced acorns. Replacement trees must be either one-gallon, locally-sourced saplings or locally-collected acorns that have been stored properly.
5) Replacement trees must be managed so that ten years after planting, one-gallon saplings will measure an average of at least two-inch Diameter at Breast Height (DBH) with a 90% survival rate.
6) One-gallon saplings shall be maintained and monitored for 10 years and acorn plantings shall be maintained and monitored for 15 years. A combination of saplings and acorns shall be maintained and monitored for 15 years.
7) Trees must have a 90% survival rate over the required monitoring period.
8) Any trees in excess of the acceptable 10% mortality that do not survive during the monitoring period shall be replaced by the property owner.
9) An initial Site Assessment Form and Tree Survey, Preservation, and Replacement Plan must be prepared by a Qualified Professional and submitted to the County's Planning Services Division. The intent of the Site Assessment is to determine if any of the following are impacted:

    - landmark or heritage trees;
    - oak corridor continuity;
    - sensitive or important oak woodland habitats;
    - oak woodland within or directly adjacent to important biological resources; and
    - oak canopy removal that exceeds allowable amount.

If the Site Assessment determines that none of the above is impacted and retention/ replacement ratios are met, then a Biological Resources Study and Important Habitat Mitigation Plan (addressed below) may not be needed. If the Site Assessment shows that any of the above listed impacts are probable for a site (or at the County's discretion), impacts on woodland habitat and mitigation requirements shall be addressed in a Biological Resources Study and Important Habitat Mitigation Program that satisfies County requirements.

10) The *Biological Resources Study* is to be prepared by a Qualified Professional and is an evaluation of a Development that quantifies the amount of important habitat, by habitat type, and addresses the potential for the Development to adversely affect important habitat through conversion or fragmentation.
11) The *Important Habitat Mitigation Plan* is to be prepared by a Qualified Professional and should identify options that would avoid, minimize, or compensate for impacts on important habitats, including a monitoring and reporting component, and addresses "Certified Arborist Reports" and "Tree Protection Plans".
12) The Applicant shall enter into an agreement with the County for the long-term maintenance of the mitigation plantings.
13) Oak tree mitigation replacements must be completed prior to the Development's final grading or building inspection.

1.3 Purpose of This Study

Option A requires that the applicant prepare a Biological Resources Study and Important Habitat Mitigation Plan for the Project, which will address oak woodland habitat impacts and mitigation. This document addresses both of these requirements.

The Biological Resources Study (Study) portion of this document was prepared by Debra Sykes [ECORP botanist and International Society of Arboriculture (ISA)-certified Arborist (WE-8640A)] and provides information on the following:

- Documents the existing oak woodland and oak canopy habitat with the Project;
- Presents proposed impacts to oak canopy with the current proposed land use plan;
- Compares pre- and post-Project canopy cover;

- Discusses the relative importance of the Project's oak woodland and oak canopy as habitat for regionally occurring wildlife species and as wildlife corridors; and
- Discusses Project-related impacts on the remaining oak canopy.

The Important Habitat Mitigation Plan (Plan) portion of this document was prepared by Emily Tozzi [ECORP biologist and ISA-certified Arborist (WE-10136A)] and addresses the following:

- How the Project will conform to the requirements of Option A;
- Project avoidance, minimization, and/or compensation for impacts on important oak woodland habitats;
- Recommendations for tree protection during development; and
- Mitigation planting, monitoring, and reporting.

2.0 BIOLOGICAL RESOURCES STUDY

This Study identifies the existing oak woodland and oak canopy resources within the Project. Due to the quantity of oak trees within the Project, a traditional arborist survey (including tree inventory) was not conducted. Instead, a remote sensing-based canopy mapping approach was implemented. Oak woodlands were mapped as part of a vegetation community mapping exercise using aerial photographs and Light Detection and Ranging (lidar) data and total oak canopy was mapped using hyperspectral imaging and lidar technology.

2.1 Oak Woodland Habitat Resources

2.1.1 Vegetation Communities

2.1.1.1 Vegetation Communities Mapping Methods

Vegetation communities were digitized using a WACOM Cintiq 21UX DTZ-2100D LCD Pen Tablet and ArcView 10.1 onto a high-resolution 0.5-foot pixel, 1"=100' aerial photograph flown in April 2008 (Merrick and Company 2008). Lidar data were used to distinguish height classes of vegetation. Additionally, lidar was used to calculate the density of canopy cover within each

polygon. The vegetation community classification was based on the classification systems presented in *A Manual of California Vegetation* (Sawyer et al. 2009), *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986), and *A Guide to Wildlife Habitats of California* (Mayer and Laudenslayer Jr. 1988).

2.1.1.2 Vegetation Communities Mapping Results

A total of three vegetation communities were mapped within the Project (Figure 3. *Vegetation Communities*). In addition, portions of the Project area were considered "Developed" due to the existing buildings, pavement, and other amenities. Included within these vegetation communities is one community that is dominated by oak trees: blue oak woodland (152 acres). In addition to this oak-dominated community, occasional individual oak trees are also found within the other vegetation communities on the site.

Blue oak woodland is the second most extensive vegetation community within the Project, behind annual grassland. The western portion of the Pedregal parcel and the northeast corner of the Westside parcel were mapped as blue oak woodland. The canopy of the blue oak woodland is dominated by blue oak (*Quercus douglasii*) with occasional Interior live oak (*Quercus wislizenii*), Valley oak (*Quercus lobata*), California buckeye (*Aesculus californica*), and gray pine (*Pinus sabiniana*).

The understory is dominated by a variety of non-native annual grasses and forbs, including ripgut brome (*Bromus diandrus*), hedgehog dog-tail grass (*Cynosurus echinatus*), hedge parsley (*Torilis arvensis*), and soft geranium (*Geranium molle*). Poison-oak (*Toxicodendron diversilobum*) is scattered throughout the blue oak woodland.

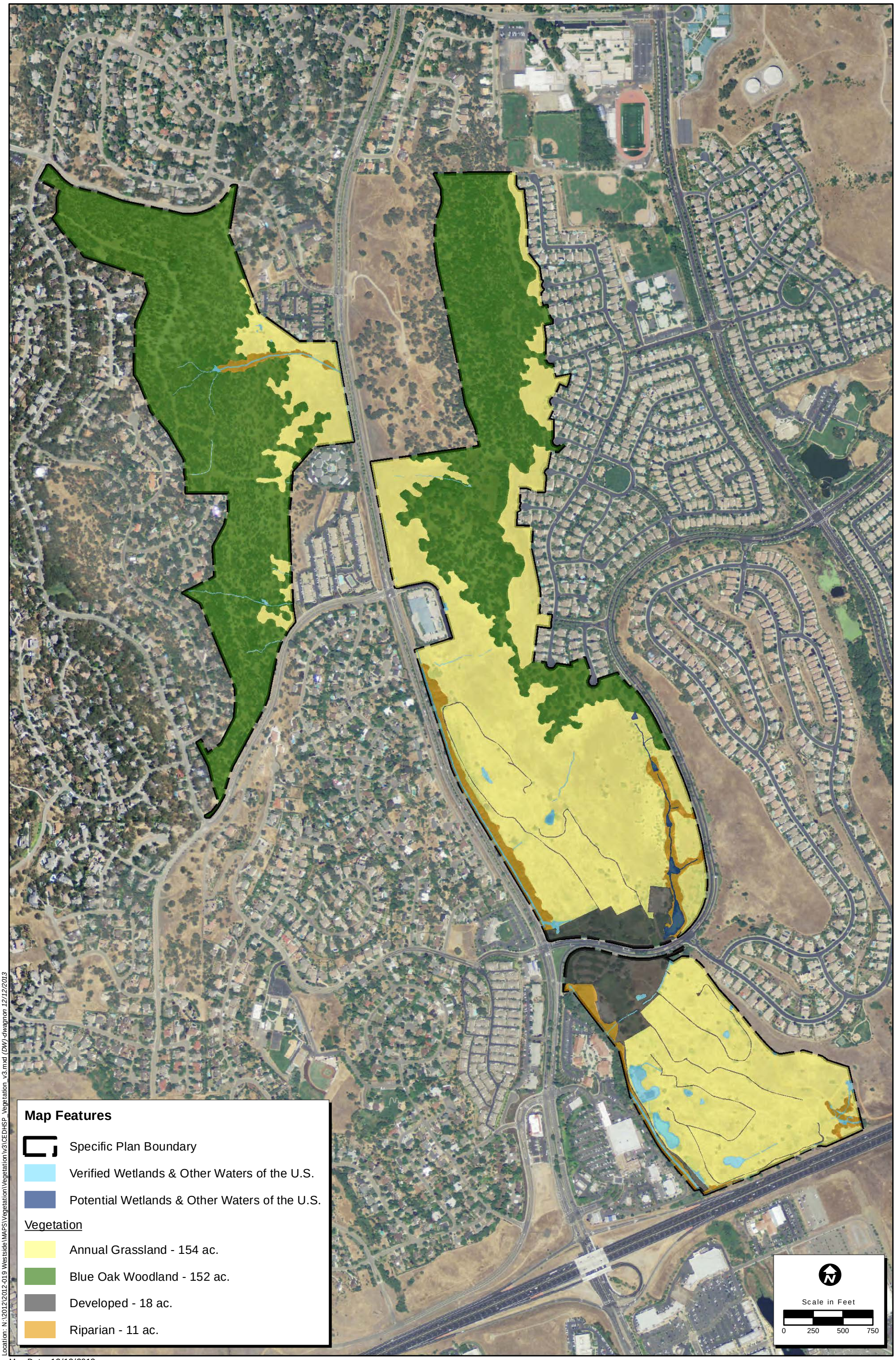

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Figure 3. Vegetation Communities

2012-019 Central El Dorado Hills Specific Plan

2.1.2 Oak Canopy

2.1.2.1 Oak Canopy Mapping Methods

Oak canopy was mapped using both hyperspectral imaging and lidar technology in ArcGIS Advanced with the Spatial Analyst Extension. These techniques mapped the location and canopy area of native oak trees and other vegetation types on the Project. As part of this process, a 155-band hyperspectral imager was utilized to identify the spectral signatures of specific vegetation types and the lidar sensor recorded the precise location and size of different clusters of vegetation. Vegetation greater than five feet tall was considered to be tree canopy.

Once tree canopy areas were identified, a supervised classification was used to establish canopy type. Potential canopy types included oak, riparian, and other vegetation. The imagery-based canopy model was then supplemented by the use of tree canopy heights established by lidar to help determine oak tree locations in mixed canopy areas. Results were ground-truthed by ECORP botanists and arborists.

Generally, single type vegetation clusters (e.g., oak) were correctly identified. Mixed species clusters, primarily riparian area with some oak trees, were more difficult to classify. These areas were checked against high resolution orthophotos and oak tree canopy was identified and separated from other vegetation. Finally, oak canopy was extracted from the vegetation data, field verified, and quantified.

2.1.2.2 Oak Canopy Mapping Results

Across the entire 341-acre CEDHSP project, a total of 94.3 acres of oak canopy cover was mapped (Figure 4. *Oak Tree Canopy*). Oak canopy accounts for 27.7% of the total cover for the entire Project.

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Map Date: 1/31/2014
Photo (or Base) Source: USGS (2011)

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Figure 4. Oak Tree Canopy

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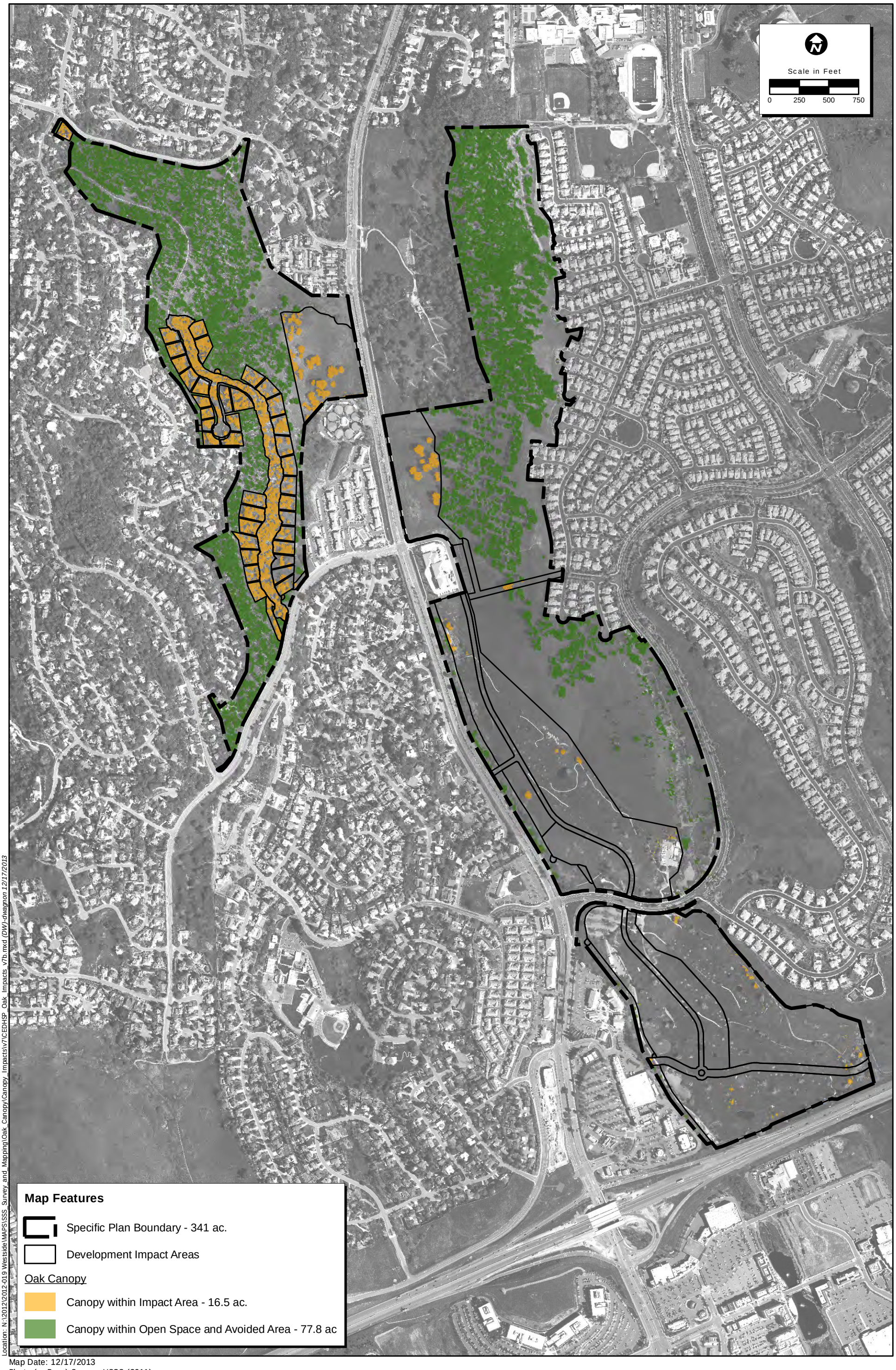
2.2 Impact Analysis

2.2.1 Oak Canopy Impacts

A total of 94.3 acres of oak canopy occurs within the CEDHSP Project. This accounts for 27.7% of the total cover for the entire Project. Therefore, based on the canopy retention rates stipulated in the Guidelines (El Dorado County 2009), as summarized in Section 1.2 of this document, the Project is required to avoid 85% and allowed to impact 15% (14.15 acres) of oak canopy.

The current preferred development footprint is only a portion of the Project Area. Of the 94.3 acres of oak canopy within the entire CEDHSP project, only 16.5 acres of oak canopy occurs within the development footprint and the remaining 77.8 acres will be avoided within the Open Space and other avoided areas (Figure 5. *Oak Canopy Impact Areas*). As the project is allowed 14.15 acres of impacts, avoidance measures have been incorporated into the various project design elements in order to meet the 15% impact threshold. Depending on the project element within the footprint (i.e., road, residential lot, etc.), it is estimated that a certain percentage of oak canopy will be retained. The following list shows examples of project elements and the expected oak canopy retention rates determined for that element:

Target Oak Retention Rate	Example Project Elements
0%	Roads, Civic, Village Residential – High (VRH), Village Residential Medium (VRM)
30%	Village Residential – Low (VRL), Infrastructure
100%	VRL Avoided Area, Open Space



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Map Date: 12/17/2013
Photo (or Base) Source: USGS (2011)

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Figure 5. Oak Canopy Impact Areas

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Based on the proposed project elements, Table 1. summarizes the total oak canopy acreage, target retention rate, and impact acreage for different project element types based on the proposed retention rates, and (Figure 6. *Oak Canopy Retention*) illustrates the locations of these retention rates within the Project design.

Actual retention rates may vary for each of the proposed project elements as development of the Specific Plan progresses, but shall not exceed the maximum impact acreage allowed under Option A (14.15 acres). If the County amends the oak woodlands retention regulations in the future, additional impacts and mitigation to the oak woodlands may occur subject to any required CEQA analysis.

Table 1. Summary of Approximate Oak Canopy Retention Within The Project Area

Retention Percentage	Typical Land Use	Canopy Acreage*	Assumed Impacts*
0%	Road, Civic, VRH, VRM	8.4	8.4
30%	VRL, Infrastructure	8.1	5.7
100%	VRL Avoided Area, Open Space	77.8	0.0
Total:		94.3	14.1

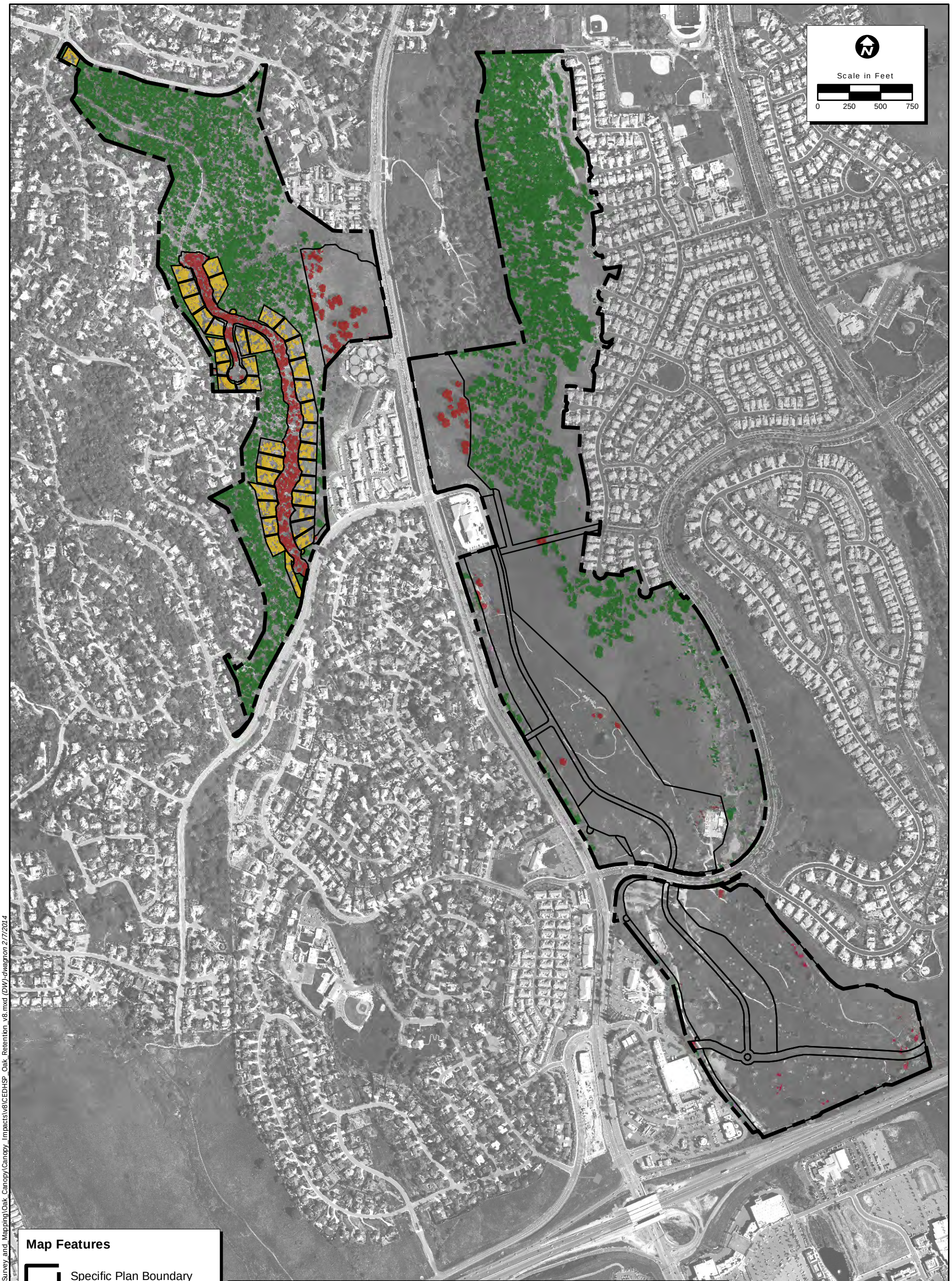
**Area calculated in square feet and converted to acreage. Some rounding errors may occur.*

After incorporating these retention rates to the oak canopy impact acreages, total project related impacts to oak canopy are 14.1 acres which complies with the canopy retention rates stipulated in the Guidelines. Table 2 compares pre and post-Project oak canopy cover within the Project area.

Table 2. Pre and Post-Project Oak Canopy Cover

Project Phase	Oak Canopy (acres)
Pre-Project	94.3
Post-Project	82.9*

**This total does not include mitigation planning discussed in Section 3.0 below*



Oak Canopy Retention

Retention Percentage	Typical Land Use	Canopy Acreage*	Assumed Impacts*
0	Roads, Civic, VRH, VRM	8.4	8.4
30	VRL, Infrastructure	8.1	5.7
100	VRL Avoided Area, Open Space	77.8	0.0
TOTAL	-	94.3	14.1

Areas calculated in square feet and converted to acreages. Some rounding error may occur.

Location: N:\2012\2012-019 Westside\MAPS\SSS_Survey and Mapping\Oak Canopy\Canopy_Impacts\v8\CEDHSP_Oak_Retention_v8.mxd (DW)-dwagnon 2/7/2014

Map Date: 2/7/2014
Photo Source: USGS (2011)

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Figure 6. Oak Canopy Retention

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2.3 Oak Woodland Corridors

2.3.1 Importance of Oak Woodland and Corridors

Oak woodland habitats are one of the most ecologically diverse communities within California, and oak trees provide a number of ecological services within the landscape including, but not limited to, shade, shelter, erosion protection, and food (McCreary 2011) for birds, mammals, reptiles, and amphibians. Acorns, leaves, sap, and wood provide food while the trees themselves provide microhabitats, shelters, and living places for wildlife species (McCreary 2011). Larger mammals such as deer, bears, and mountain lions depend on larger, intact landscapes in order to thrive.

Urbanization and development within the oak woodland communities of California has caused fragmentation of existing oak woodlands. As woodlands become fragmented into smaller and smaller pieces, the essential landscape linkages for larger wildlife species become rarer, and the quality and health of the oak woodlands diminishes over time. Appropriately designed developments that retain the majority of oak canopy can continue to provide corridors and linkages between larger intact woodlands.

2.3.2 Impacts to Oak Woodland and Corridors within the Central El Dorado Hills Specific Plan

As conceptually designed, the CEDHSP Project will impact 14.1 acres of oak canopy within the Project area, but is likely to impact up to 14.15 acres as allowed by Option A. This represents 15% of the total oak canopy within the Project area, and complies with Option A of General Plan policy 7.4.4.4. The majority of the development is occurring within the portions of the project closest to major roadways and the project has been designed to avoid and preserve large tracts of unfragmented oak woodland. These areas will remain undeveloped to protect the habitat for many wildlife species. Almost all of the oak woodland in the Westside portion of the Project, east of El Dorado Hills Boulevard, is avoided and preserved as part of the Open Space areas within the Project. In addition, the residential lots in the south-central portion of the Pedregal portion of the Project will retain approximately 30% of the oak canopy within this area.

CEDHSP is an infill Project surrounded by existing developments. As such, the pre-Project site does not provide a suitable corridor for wildlife species in the area. Therefore, it is not expected that larger animals would use these woodlands as corridors for migration between adjacent parcels, but it does provide suitable woodland habitat for birds and other small animals.

2.3.3 Post-Construction Oak Woodlands

Given the large intact oak woodlands that will be present after construction of the CEDHSP Project, and the connectedness of the patches of woodland, no long-term effects to either the oak trees or the plants and wildlife that live within the woodlands are expected.

As part of the mitigation for the Project, oak tree plantings and acorn plantings will occur within designated oak replacement areas within the Open Space areas and within public spaces and residential areas. Additional oak plantings will occur to enhance the already existing oak woodland by incorporating this habitat type into the development. These trees will add to the overall quantity of oak canopy and further provide habitat for wildlife species (see Section 3.0 for more details regarding mitigation plantings).

2.4 Conclusions

The CEDHSP Project has been designed to maximize oak woodland protection through a variety of methods. Not only does the Project avoid 77.8 acres of oak canopy within the Open Space and Avoided Areas, but it also incorporates minimization measures to retain additional oak canopy within the development footprint. In total, the Project is retaining 85% of the existing oak canopy, the majority of which is located in the Pedregal portion of the site and the eastern side of the Westside parcel. These areas also have the highest density of oak trees within the Project area. The Project design allows for contiguous oak woodland habitat including several large intact woodlands to support wildlife.

In addition to the avoidance and retention measures, the Project plans to mitigate for oak canopy loss by planting new oak trees and acorns within on-site oak replacement areas and within select locations within the development parcels. These mitigation measures are discussed in more detail in Section 3.0. The proposed oak mitigation will provide additional habitat, especially for birds that may use these trees as nesting and/or foraging habitats or as corridors to more intact woodlands. Overall, the CEDHSP Project will continue to provide high quality oak woodlands to support regionally occurring wildlife species.

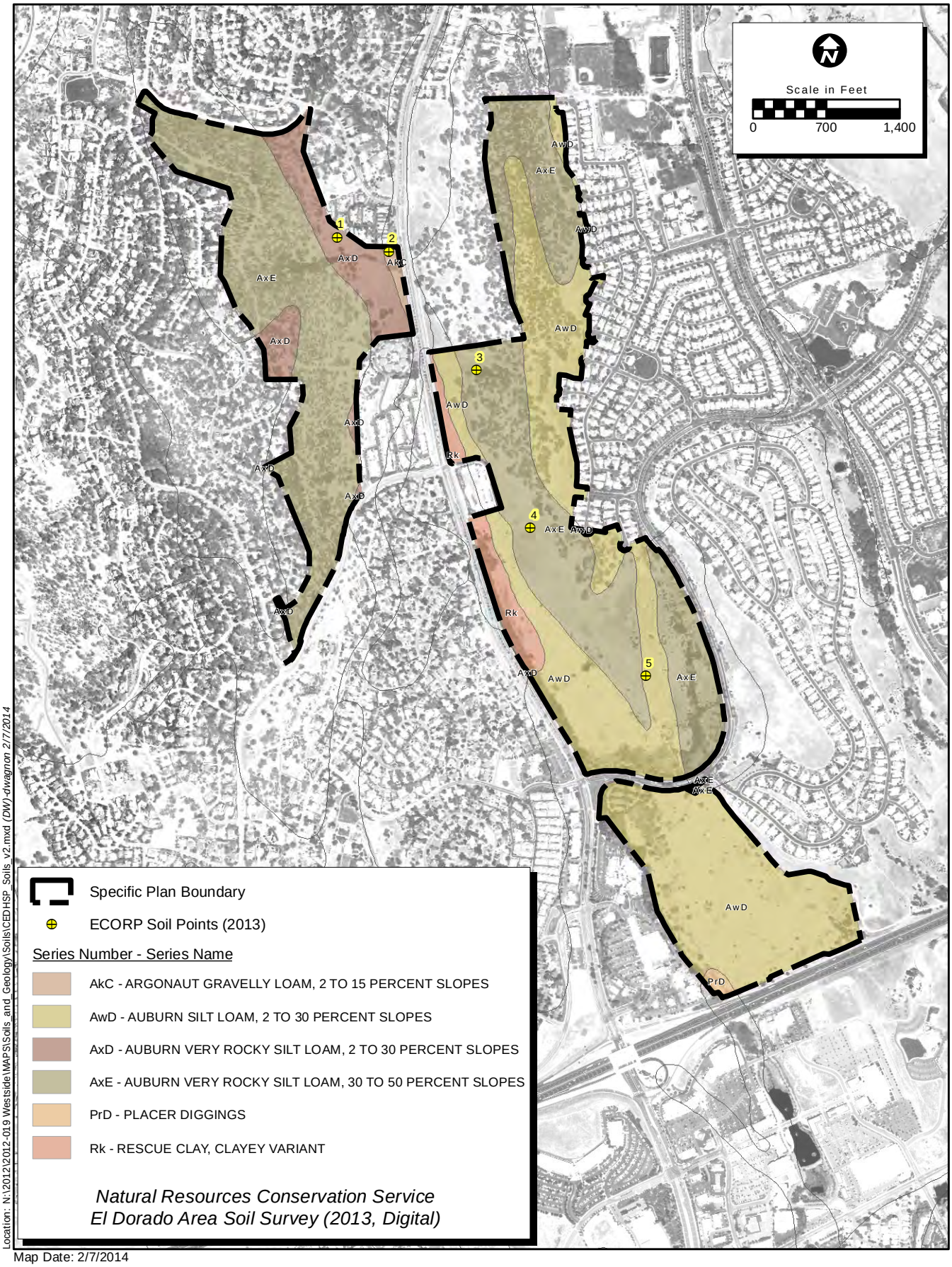
3.0 IMPORTANT HABITAT MITIGATION PLAN

This Plan identifies the mitigation measures that will be used by the Project to provide sufficient protection to oak tree resources. It contains an on-site mitigation assessment that details where oak trees can be planted within the mitigation areas, mitigation measures to be used by the Project, and information on mitigation monitoring, success criteria, and reporting.

3.1 Potential On-Site Oak Mitigation Assessment

An oak mitigation assessment was conducted to establish the potential for on-site oak planting within the Project area. Prior to conducting field surveys, aerial photos of the 341-acre CEDHSP area were overlain with the current land use plan (Figure 2) and Natural Resources Conservation Service (NRCS) soil map units (Figure 7. *Natural Resources Conservation Service Soils Types*) were reviewed by Emily Tozzi (ECORP biologist, Associate Professional Soils Scientist [new as of January 14, 2014] and ISA-certified arborist) and David Wagnon (ECORP GIS Specialist). Open Space within the CEDHSP area that appeared to have appropriate soils and lacked dense canopy cover were identified as potential oak mitigation areas.

On 25 October 2013, Ms. Tozzi and Mr. Wagnon conducted field surveys in 5 previously-identified potential oak mitigation areas to determine oak mitigation suitability. These 5 locations represented a subsample of areas identified as potential oak mitigation sites. At each location, soils were analyzed to validate soil data on NRCS soil maps and soil series descriptions (Figure 7 and Attachment B). In addition, photos facing the four cardinal directions were taken.



Location: N:\2012\2012-019 Westside\MAPS\Soils_and_Geology\Soils\CEDHSP_Soils_v2.mxd (DW) dwagnon 2/7/2014

Map Date: 2/7/2014
Photo Source: NAIP (2012)

Figure 7. Natural Resources Conservation Service Soil Types

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Each location was mapped using a GPS unit with sub-meter accuracy. Within each of the potential areas, the following data were collected:

- Existing vegetation and canopy cover
- Slope and aspect
- Soil data including texture, color, and horizonization
- Potential for irrigation from the Development

These data were used to determine site-specific potential for oak tree mitigation. For each site, the appropriate oak tree species and planting type (i.e. acorn, sapling, etc.) were determined based on the following:

1) West facing slopes with shallow, rocky soils will be the most difficult for successful oak mitigation establishment, especially if irrigation is not possible.
2) Many hillslope summits and shoulder slopes will not be suitable for oak mitigation because of the high concentration of large rock outcrops.
3) Areas with very rocky, steep hillsides and/or shallow soils are only appropriate for acorn plantings.
4) Valley oaks are more suited for deeper floodplain soils with higher clay contents.
5) Blue oaks are well suited for shallow, rocky soils found on hillsides and summits.
6) Interior live oaks are suitable for floodplains and rockier hillsides as this species tends to establish in areas with Valley and blue oaks.
7) Areas with existing dense canopy are not considered appropriate for oak mitigation.

After an analysis of the available data (e.g., soil maps and descriptions, existing conditions, etc.), a suitability determination was made for each of the previously identified potential oak mitigation areas. All suitable areas were mapped using ArcGIS software and acreages were calculated for each. Approximately 15.0 acres were identified as suitable oak mitigation areas within the site. This is discussed in more detail in Section 3.3.1 along with other proposed mitigation for oak canopy impacts.

3.2 Mitigation Measures

3.2.1 Conservation Measures

The Project has incorporated various conservation measures into its design to minimize impacts to oak woodland habitat. The following is a summary of these measures:

- Overall, up to 14.15 acres (15%) of oak woodland canopy will be impacted during Project development.
- In total, 77.8 acres of oak woodland will be protected in Open Space and other avoided areas. While these areas are not considered major wildlife corridors, they still provide regional protection of the biological resources by protecting the remaining oak woodlands within the already developed vicinity.
- The Project as designed does not contain and is not located directly adjacent to designated Important Biological Corridors or Ecological Preserve areas, and is not anticipated to have impacts on the aforementioned areas.
- The Project has been designed and clustered to minimize impacts and reduce habitat fragmentation.
- As required by regulatory agencies, Project activities will be planned to avoid critical time periods (i.e., nesting and breeding) for fish, birds, and other wildlife species. If construction must occur during a critical time period, then the appropriate biological surveys will be conducted. If it is determined that Project activities could have negative impacts on a species, then the appropriate agencies will be consulted and protective measures will be employed to mitigate the impacts.
- To limit disturbance and impacts to biological resources, infrastructure elements such as bridges, roads, utilities, and pipelines, will be placed within previously disturbed locations, where feasible.
- Oak woodland restoration or enhancement will be conducted to mitigate for losses to oak forest canopy and to enhance the ecological value of Open Space areas.
- Contiguous stands of oak woodland habitat and the corridors connecting the stands will be retained.

- A Stormwater Pollution Prevention Plan will be prepared prior to ground-breaking activities to determine the most appropriate Best Management Practices (BMPs) for reducing impacts from construction activities.
- The project developer will prepare lot notebooks for each VRL lot to limit the development area for the placement and construction of primary and ancillary structures.
- To minimize impacts on VRL lots, the Design Guidelines will set forth special design and construction measures to minimize impacts to oak trees, such as limiting excessive pad grading through the use of raised foundations, piers, post and beam construction and other similar measures, to the maximum extent feasible.
- In addition to the County's site plan review and approval procedures, the Architectural Control Committee of a Master Owners' Association, or the El Dorado Hills CSD Design Review Committee, or El Dorado County will review and approve site and improvement plans for VRL lots prior to ground-disturbing activities.

3.2.2 Tree Preservation Measures

Construction, planting, and irrigation contractors will be made aware of existing trees and shrubs to be preserved and will take precautions to protect such vegetation from damage. Whenever possible, irrigation lines will avoid the drip line of existing trees and shrubs. Equipment, construction materials, fuels, and tools will not be stored within the drip line of the trees or shrubs to be preserved.

The following measures will be implemented to protect and minimize effects to preserved trees that are adjacent to construction activities.

- If necessary, pruning, cabling, and other corrective measures for preserved trees will be specified by an ISA-Certified arborist, and will conform to the pruning standards of the ISA.
- Each tree or group of trees to be preserved within one foot of the drip line of ground disturbance will be protected with a fence or other acceptable methods, such as warning tape, indicating grading limits prior to any grading or movement of

heavy equipment. Grading limit line demarcation should be removed following construction, and prior to installation of landscaping material.

- Signs will be posted on all sides of grading limit lines surrounding an individual tree or group of trees stating that each tree is to be preserved.
- Prior to construction, awareness training will be conducted for all construction personnel regarding the importance of the oak woodlands, the locations of preserved trees within the vicinity of the construction area, and preservation measures that are in place to protect them.
- To the extent possible no landscaping requiring permanent irrigation will be installed within the drip line of any preserved heritage or landmark tree, and to the extent possible, run-off, particularly from landscape irrigation, will be directed away from the root zone.
- Excavating and/or trenching within the drip line of trees (or a distance of half the drip line, outside of the drip line) will be avoided whenever practicable. However, if unavoidable, any authorized cut or fill occurring within the drip line of any preserved tree should be supervised by an ISA-Certified arborist.
- Any and all exposed roots will be covered with a protective material during construction.
- Native tree replacement will be used to mitigate the removal of native trees within the area, subject to approval by the County.
- Procedures and protocols for tree preservation and protection will comply with standards established by the County.
- Oak trees required to be planted as a condition of construction will be maintained after completion of construction according to this Plan.

3.3 Proposed Revegetation And Restoration Plan

3.3.1 Required Oak Replacement Area

Option A requires that the oak replacement area shall equal, at a minimum, the total area of the oak canopy cover proposed for removal. As conceptually designed, a total of 14.1 acres (and likely up to 14.15 acres) within the Project are proposed for impact. Therefore, Option A

requires that 14.1 acres (and likely up to 14.15 acres) are planted as oak replacement. ECORP identified 15.0 acres of potential oak mitigation within the Open Space areas (See Section 3.3.1.1 for more detail).

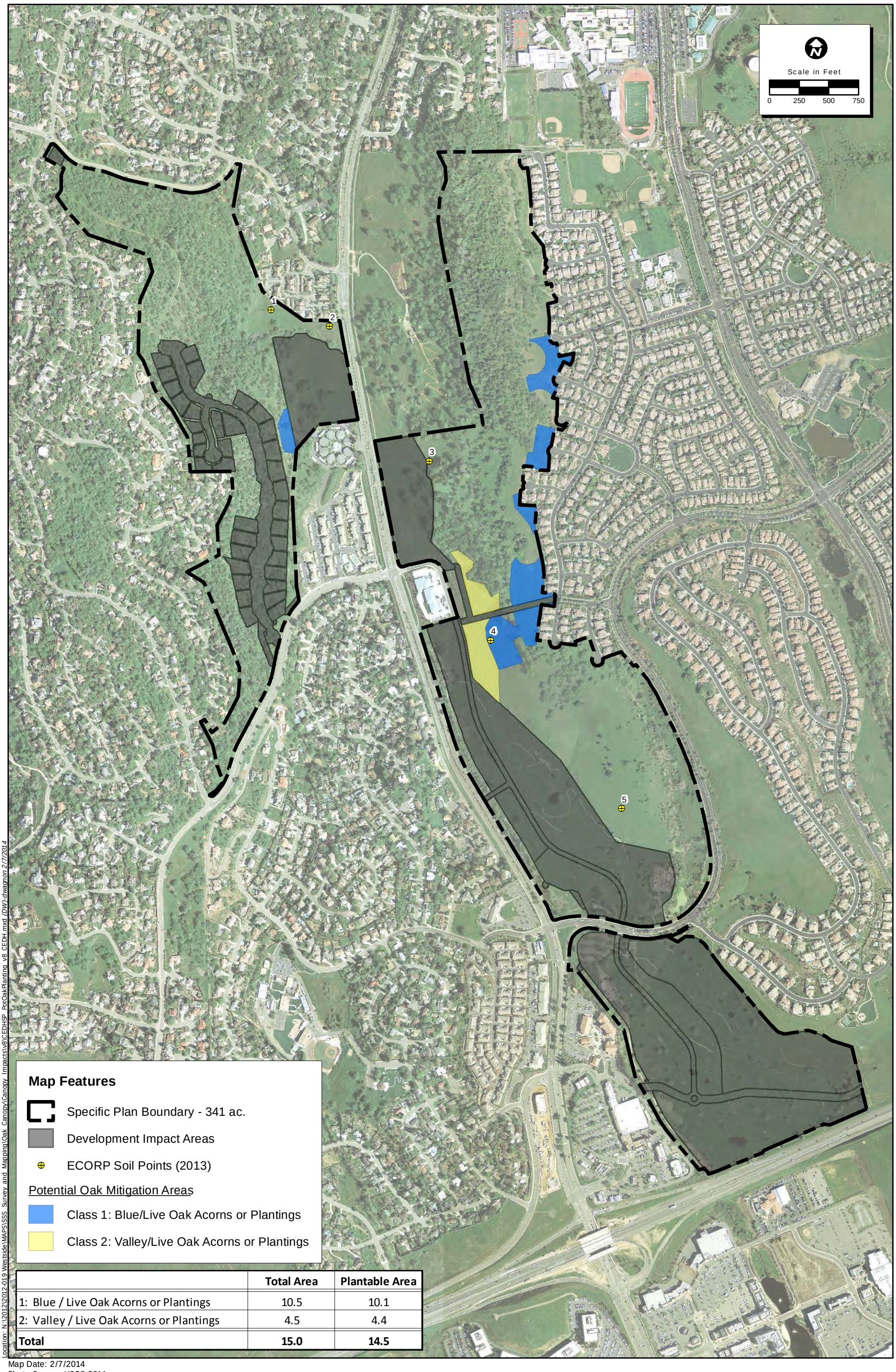
In addition to the mitigation required under Option A, the applicant proposes to do additional oak tree replacement and plantings within certain land use types (e.g., VRL and VRM – Low). These plantings will be a requirement of the proposed Design Guidelines to be developed and adopted for each use and enforced through the Project's Master Owners' Association or El Dorado Hills CSD Design Review Committee, or County of El Dorado. Both of these mitigation types are discussed in more detail below.

3.3.1.1 On-Site Oak Replacement Area

Within the CEDHSP Open Space areas, ECORP identified 15.0 acres of oak replacement areas that are suitable for oak mitigation (Figure 8. *Potential Oak Mitigation Areas*). Within these 15.0 acres, approximately 14.5 acres are considered plantable space given the existing oak canopy. Within these 14.5 acres of plantable space, two classes of species and planting type were established based on site suitability:

- Class 1 - blue/live oak acorns or saplings (10.1 acres); and
- Class 2 – Valley/live oak acorns or saplings (4.4 acres).

Approximately 10.1 acres are suitable for blue/live oak acorns or saplings (Class 1). The majority of Class 1 locations are within the Open Space areas along the eastern edge of the Westside parcel. In general, acorn plantings are ideal for rocky soils where digging is difficult and supplemental irrigation is unlikely to occur. Oak saplings are suitable for soils with fewer, smaller rocks and where water is available for irrigation. Acorns can also be planted in areas suitable for saplings. Irrigation is necessary for saplings, but not for acorns. However, if irrigation is feasible, it is recommended to ensure survivorship of the acorns.



	Total Area	Plantable Area
1: Blue / Live Oak Acorns or Plantings	10.5	10.1
2: Valley / Live Oak Acorns or Plantings	4.5	4.4
Total	**15.0**	**14.5**

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Map Date: 2/7/2014
Photo Source: USGS 2011

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Figure 8. Potential Oak Mitigation Areas

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Approximately 4.4 acres were identified as suitable for Valley and live oak saplings or acorns (Class 2). This area is located within the center of the Westside Parcel. Areas that are suitable for this Class included low gradient areas and/or areas adjacent to creek channels where there tends to be deep soils with higher soil-water content.

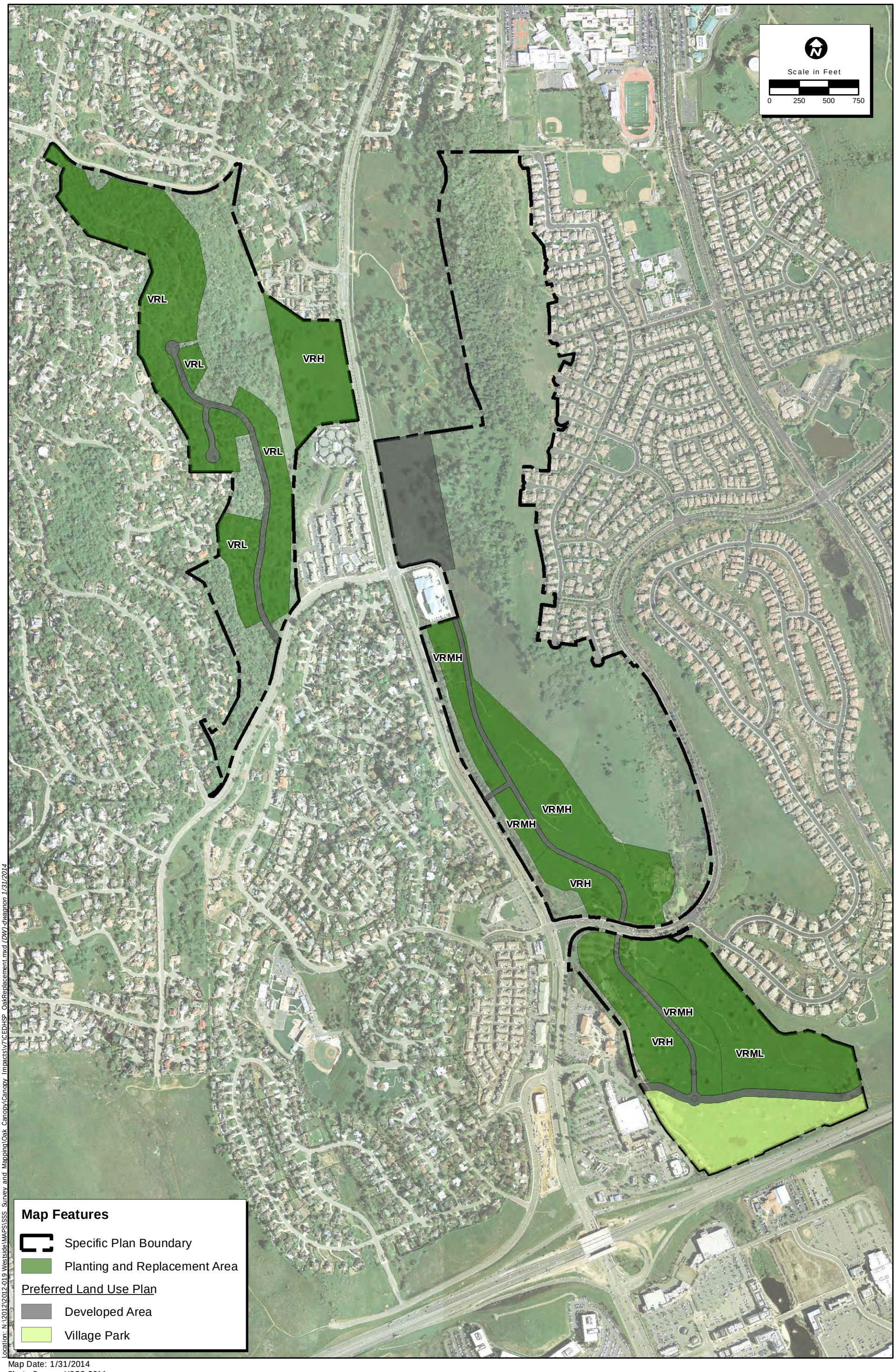
3.3.1.2 Development Area Replacement and Additional Plantings

Within several of the proposed land use types, the project design has incorporated minimization measures to reduce the amount of oak impacts (Figure 9. *Development Area Planting and Replacement Areas*). For example, within the VRL residential lots, grading and tree removal will only occur within the construction footprint for the proposed house, driveway, and limited ancillary features.

In addition, the Project proposes to plant a replacement tree for each tree removed within the footprint at a 1:1 ratio. All replacement plantings will occur within the same lot as the original tree removal. As a result, the lot will have, at minimum, the same number of trees after construction is completed and in time a similar acreage of oak canopy.

In addition, there will be oak tree plantings that will be required within each individual pad graded as well as for all multi-family attached product types. These minimum oak plantings will be required for both front and rear yards for single family detached lots, as well as a defined percentage of the common areas for attached type products. Commercial and other non-residential common areas will also be required to plant a certain percentage of oak trees.

Based on tentative lot design, it is anticipated that 873 trees will be replanted or planted within the proposed residential development areas. The applicant is proposing a credit of 0.5:1 for these trees and this credit will be applied to the final number of replacement trees that are required for the project. Section 3.3.2 discusses planting amounts in detail and how this credit would apply.



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Map Date: 1/31/2014
Photo Source: USGS 2011

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Figure 9. Development Area Planting and Replacement Areas

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3.3.2 Planting Types and Amounts

Option A requires that the replacement of removed tree canopy shall be at a 200 trees per acre density or as recommended by a Qualified Professional. A replacement tree is defined by the County as either a one-gallon sapling or three acorns.

A total of 14.1 acres of oak canopy are required to be planted, based on the current conceptual design for the Project. At a rate of 200 trees/acre, a total of 2,820 one-gallon saplings or 8,460 acorns are required as mitigation. However, the project is likely to impact up to 14.15 acres as allowed by Option A. The above values give perspective on the number of saplings or acorns needed to meet the requirements of Option A, and there will be a combination of saplings and acorns used at the site as determined by the two Classes previously described. In addition, the plantings will be completed in a phased manner consistent with the phased approach of the Project.

Table 3, below, shows the planting class and available acres for the class within each mitigation type (on-site replacement area) based on an impact of 14.1 acres. The total number of acorns and/or saplings is also shown based on the density requirements of Option A (i.e. 200 trees per acre with one sapling or three acorns equaling one tree). The totals presented are based on the total plantable acreage within the mitigation site; however, more acreage is available than is needed to comply with Option A.

Table 3. On-Site Replacement Areas - Oak Mitigation Plantings

Planting Class	On-site Oak Replacement Area (acres)	Number of Saplings*
Class 1: Blue/Live Oak Saplings or Acorns	10.1	2,020
Class 2: Valley/Live Oak Saplings or Acorns	4.4	880
Total	**14.5**	**2,900**

**Assumes irrigation is available and only saplings are planted.*

Mitigation for the Project will be conducted in a phased manner and detailed phasing plans, as they become available, will be submitted to the County as part of each Tentative Map (for most projects) or grading permit (for infrastructure projects, as an example).

As mentioned in Section 3.3.1.2, additional mitigation will occur in the form of oak replacement and plantings within the VRL, VRM-Low, VRM – High, VRH Residential Lots. Based on calculation of anticipated impacts, a total of 873 trees will be planted or replaced within these lots.

The applicant is proposing a credit of 0.5:1 for these trees and this credit will be applied to the final number of replacement trees that are required for the project. Based on a total oak canopy impact of 14.1 acres for the current conceptual design, the project has to plant 2,820 trees. At a 0.5:1 ratio, the credit for the replacement trees equals 437 trees. The applicant is proposing this credit be subtracted from the final sapling requirement. Therefore, the applicant would be required to plant 2,383 trees within the above mentioned mitigation areas. If the total oak impacts increase to 14.15 acres, the applicant is required to plant 2,830 trees under Option A. With the credit applied, the applicant would plant 2,393 trees.

3.3.3 Planting Installation and Maintenance

3.3.3.1 Timing and Phasing

Option A requires that oak mitigation be completed prior to final grading or building inspection, but it also requires a very high success rate for mitigation plantings. To promote the highest success rate, it is important to properly install and maintain the mitigation plantings, and protect them from ground disturbing activities. As such, this plan proposes that grading will be completed and utilities installed prior to oak tree mitigation planting in order to provide the greatest protection of the replacement trees. To ensure seedling health, irrigation will be needed to supplement plant growth, but may not be feasible in many cases without an existing utility system in place. Irrigation is unnecessary (but recommended) for acorns and these may be planted prior to grading.

The installation and irrigation of the one-gallon saplings will be concurrent with Project phasing. The project proposes to overplant by at least 10% as contingency for potential mortality within the monitoring period. Project phasing will be contingent on market conditions and focus on providing the most appropriate product at the time of construction. The applicant will determine the project phasing with the submittal of each small lot tentative map or similar discretionary

application that proposes impacts to the oak canopy. At the discretionary permit stage, the applicant will submit a Tree Survey, Preservation, and Replacement Plan to the County that will identify impacts on a phase-by-phase basis, provide details on the mitigation plantings (saplings or acorns), and identify specific planting areas associated with that phase of development.

For replacement trees and additional plantings that will occur in the VRL lots, individual pad graded lot, and multi-family attached product types, the installation of the plantings will occur after construction is completed on a given pad.

3.3.3.2 Maintenance

Proper maintenance of the oak trees within the first few years will be critical, especially for acorn plantings, as invasive annual grasses are known to out-compete young plants. The trees will receive, at a minimum, quarterly maintenance as needed which should include applications of supplemental mulch and fertilizer, weeding around the plantings, and incidental litter removal, as needed. Maintenance should occur regularly during the first five years after planting. For trees receiving irrigation, monthly checks of the irrigation system during the dry season and irrigation system repairs should occur, as necessary.

For replacement trees and additional plantings that will occur in the VRL lots, individual pad graded lot, and multi-family attached product types, maintenance will be enforced through the project's Master Owners' Association, or the El Dorado Hills CSD Design Review Committee, or County of El Dorado will oversee the maintenance, care requirements, and replacement of dead trees within these areas.

3.3.4 Irrigation Schedule

Irrigation is necessary for the one-gallon plantings to survive. Plantings will be irrigated for a minimum of three years. While irrigation is not required for acorns, it is recommended in order to ensure a higher survival rate. Supplemental irrigation for acorns will be provided, where possible, during summer months. For irrigation of saplings, a recommended irrigation schedule is outlined in Table 4, but will be adjusted as needed after plantings are installed to account for site-specific soil conditions.

Table 4. Irrigation Schedule for Oak Plantings		
Duration	April 15th – September 30th	October 1st – April 15th
Year 1	8 gallons, once/7-10 days	Irrigation off
Year 2	10 gallons, once/14-20 days	Irrigation off
Year 3	10 gallons, once/21-30 days	Irrigation off
Year 4	Monitor	Discontinue system

** Recommended schedule. Actual schedule will depend on the weather pattern of that year.*

Irrigation will be gradually decreased and finally eliminated during the monitoring period to ensure the plantings will have long-term survival without irrigation. Irrigation will deliver deep, infrequent watering and will typically take place between April 15 and September 30 of each year. This will be adjusted for seasonal variations if a year is particularly hot earlier or later in the year.

If after the third year it is determined that irrigation of the planting should continue, then adjustments will be made accordingly to the irrigation schedule in Table 4. The irrigation system should remain in place until the end of the monitoring period. At the end of the monitoring period, the above-ground irrigation equipment can be removed. Irrigation should be timed to allow a minimum of one year of monitoring after irrigation has ceased.

Acorn collection, storage, and planting will occur according to Attachment C. Plant installation and establishment will follow conceptual plans described in Attachment D, Attachment E, and Attachment F. These detail installation timing, design, and planting as well as irrigation for planting and acorns.

3.4 Mitigation Monitoring And Reporting

3.4.1 Monitoring Schedule

Option A requires that one-gallon plantings be maintained and monitored annually for ten years, acorn plantings shall be maintained and monitored for 15 years, and a combination of plantings and acorns shall be maintained and monitored for 15 years. The Project will be

developed in a phased manner. Therefore, the required oak mitigation will also be phased based on the impacts for a given phase of development.

For replacement trees and additional plantings that will occur in VRL lots, individual pad graded lot, and multi-family attached product types, maintenance will be enforced through the projects Master Owners' Association, or the El Dorado Hills CSD Design Review Committee, or County of El Dorado will oversee the maintenance, care requirements, and replacement of dead trees within these areas.

3.4.2 Monitoring Methods

Planted trees within oak mitigation areas will be monitored to ensure that success criteria are met. A representative sampling of vigor, height, and canopy diameter for each tree species will be conducted. Vigor will be based on qualitative comparisons to on-site conditions of leaf turgor, stem caliber, leaf color, and foliage density. Monitoring will be conducted over a 10 to 15 year period starting the year after initial installation.

Monitoring protocol will involve locating all previously numbered trees and shrubs to determine their survivorship, estimating height, assessing overall condition/health, and measuring DBH and drip line radius.

Plant condition will be ranked according to the following scale:

- Good - healthy foliage and vigorous growth;
- Fair - healthy foliage, but minimal apical growth;
- Poor - few green leaves present and no apparent apical growth; or
- Dead.

Plant height will be measured in feet and plants grouped according to the following height intervals:

- Less than two feet;
- Two feet to five feet; or
- Greater than five feet.

Calculated results will include the total number of plantings monitored, the condition and height class of each plant found, annual survival rate, and cumulative survival rate. The annual survival rate is calculated according to the following formula:

$$\text{Annual Survival Rate (\%)} = \frac{\text{total \# alive during survey}}{\text{total \# alive in previous season}} \times 100$$

The cumulative survival rate was calculated according to the following formula:

$$\text{Cumulative Survival Rate (\%)} = \frac{\text{total \# alive during survey}}{\text{required plantings}} \times 100$$

For replacement trees and additional plantings that will occur in the VRL lots, individual pad graded lot, and multi-family attached product types, maintenance will be enforced through the project's Master Owners' Association, or El Dorado Hills CSD Design Review Committee, or County of El Dorado will oversee the maintenance, care requirements, and replacement of dead trees within these areas.

3.4.3 Success Criteria

Option A requires that the canopy density achieved by the replacement oaks in the oak replacement area must match that of the canopy that was removed by the end of 15 years.

Achieving the original canopy density within 15 years will be challenging regardless of whether acorns or saplings are planted because the majority of the potential oak mitigation area is most suitable for blue oaks. Blue oaks grow slower than the other oak species (i.e., live, Valley, and black oaks). Faster-growing species of oaks could be planted in these locations, but they are not likely to be successful or persist in these locations. Regardless of oak species, the canopy density of the replacement oaks will be impracticable to measure after 15 years of growth. For this reason, success will be defined by survival rates rather than canopy cover.

Option A stipulates a 90% survival rate for planted trees. To achieve success with a 90% survival rate, overplanting will need to occur. This Project will overplant by at least 10% to ensure the 90% survival rate is achieved.

The proposed final success criterion and replanting criterion for the mitigation oak plantings is shown in Table 5.

Table 5. Proposed Success and Replanting Criteria for Oak Plantings
1) Plantings must have a 90% cumulative total survival rate at the end of the 10 to 15 year monitoring period for saplings and acorns, respectively.
2) Replanting must occur within one year of the cumulative survival rate dropping below 90%, and new plants will be monitored for an additional 15 year period.

For replacement trees and additional plantings that will occur in the VRL lots, individual pad graded lot, and multi-family attached product types, maintenance will be enforced through the Project's Master Owners' Association, or El Dorado Hills CSD Design Review Committee, or County of El Dorado will oversee the maintenance, care requirements, and replacement of dead trees within these areas.

3.4.4 Reporting

An annual mitigation monitoring report documenting tree locations, a description of the planting areas, tree survivorship, an evaluation of the success rating per success criteria assessment, and a report concerning any necessary maintenance, complete with photographs taken at distinct photo points, will be submitted to the County by December 1 of each year for a ten-

year period for plantings and a 15-year monitoring period for acorns. Additionally, the monitoring report will include recommendations for action during the following years as specified in this document for the Project (e.g., reporting requirements, replacement criteria for replantings). The first report shall be submitted approximately one year after planting.

The provisions of the monitoring program shall be placed into a standard "Notice of Restriction" document and recorded on the title of the property. Once the 10 to 15 years of monitoring has been successfully completed, the County may record a release of the Notice of Restriction.

For replacement trees and additional plantings that will occur in the VRL lots, individual pad graded lot, and multi-family attached product types, maintenance will be enforced through the projects Master Owners' Association, or El Dorado Hills CSD Design Review Committee, or County of El Dorado will oversee the maintenance, care requirements, and replacement of dead trees within these areas.

3.5 Funding Mechanism

Funding mechanisms (i.e., endowments, performance bonds, HOA fees) for the installation, monitoring, maintenance, and replacement of failed plantings that may be needed during the required 10 to 15-year monitoring period, will be provided in or appended to the final draft of this report prior to the first small lot of tentative maps. Additionally, the financially responsible party, including name, address, telephone number, and email (if available) will be identified.

3.6 Findings and Recommendations

Based on the oak canopy retention and impact analysis, the 341-acre Project has 94.3 acres of oak canopy, and will be impacting 14.1 acres of oak canopy as the project is currently designed. However, the project is likely to impact up to 14.15 acres and still meet the 85% oak canopy retention requirement of Option A. As conceptually designed, the canopy retention of 77.8 acres meets the 85% oak canopy retention requirement of Option A.

Two mitigation options have been proposed for the Project to mitigate for the 14.1 acres of impact. First, approximately 14.5 acres of oak restoration areas have been identified within the Open Space areas within the Project. A combination of saplings and acorns will be planted in these areas. Second, the applicant proposes on-site oak replacement within certain land use types where canopy retention rates are already high (e.g., VRL lots). Replacement will occur at a 1:1 ratio and plantings will take place within the same lot where impacts occur. Also, additional oak plantings will be required within the individual pad graded lot, and multi-family attached product types. The applicant proposes a partial credit (0.5:1) towards the final number of required plantings for these replacement and additional trees.

The Project will be built in phases and the oak mitigation will follow this phased approach. Once grading has occurred and utilities have been installed within the Project, on-site oak plantings will occur, utilizing the previously discussed phased approach. Installing the plantings after initial phase build-out will reduce disturbance and ultimately lead to higher survival rates.

The Project will comply with the 90% survival rate at the end of the 10 to 15-year monitoring period. To achieve this, the Project will overplant by a minimum of 10% to ensure a 90% survival rate at the end of the monitoring period. Additionally, if the survival rate drops below 90%, replacement trees will be added the following year.

With proper protection of preserved trees during construction, installation and maintenance of plants within the appropriate planting sites, and the ability to provide necessary irrigation, the mitigation measures outlined in this Plan should sufficiently minimize impacts and protect existing oak woodlands and associated biological resources as required by the County General Plan.

4.0 CERTIFICATION

I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this Biological Resources Study and Important Habitat Mitigation Plan, and that the facts, statements, and information presented herein are true and correct to the best of my knowledge and belief.

SIGNED: _____ DATED: 2/10/14

5.0 REFERENCES

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LIST OF ATTACHMENTS

Attachment A – Interim Interpretative Guidelines for El Dorado County General Plan Policy 7.4.4.4 (Option A)

Attachment B – Natural Resources Conservation Service Descriptions for Soils Observed During Field Surveys

Attachment C – Proposed Guidelines for Acorn Collection, Storage and Planting

Attachment D – Proposed Conceptual Layout for Acorn Planting with Protection

Attachment E – Proposed Guidelines for Planting Oak Seedling with Shelter

Attachment F – Conceptual Irrigation Layout and Guidelines for Irrigating Oak Seedlings and Acorns

ATTACHMENT A

Interim Interpretative Guidelines for El Dorado County General Plan Policy 7.4.4.4

(Option A)

INTERIM INTERPRETIVE GUIDELINES FOR EL DORADO COUNTY GENERAL PLAN POLICY 7.4.4.4 (OPTION A)

ADOPTED NOVEMBER 9, 2006
AMENDED OCTOBER 12, 2007

BACKGROUND

The adopted 2004 El Dorado County General Plan, Conservation and Open Space Element provides for the conservation and protection of soils, minerals, water, wildlife and fisheries, vegetation, cultural resources, and open space. Policies adopted in this element serve to guide the design of new development to meet these objectives. Policy 7.4.4.4 (Option A), reproduced below, addresses oak canopy retention standards. These Guidelines are intended to clarify the scope and implementation of Option A of this policy and provide for a process to consider limited modifications to oak canopy replacement and retention requirements for existing legal parcels if necessary to ensure reasonable use of those parcels. Option B (Mitigation Fee) will be available upon completion of the Oak Woodland Management Plan (OWMP) and related fee studies and implementing ordinances.

OBJECTIVE 7.4.4: FOREST AND OAK WOODLAND RESOURCES

Protect and conserve forest and woodland resources for their wildlife habitat, recreation, water production, domestic livestock grazing, production of a sustainable flow of wood products, and aesthetic values.

Policy 7.4.4.4

For all new development projects (not including agricultural cultivation and actions pursuant to an approved Fire Safe Plan necessary to protect existing structures, both of which are exempt from this policy) that would result in soil disturbance on parcels that (1) are over an acre and have at least 1 percent total canopy cover or (2) are less than an acre and have at least 10 percent total canopy cover by woodlands habitats as defined in this General Plan and determined from base line aerial photography or by site survey performed by a qualified biologist or licensed arborist, the County shall require one of two mitigation options: (1) The project applicant shall adhere to the tree canopy retention and replacement standards described below; or (2) the project applicant shall contribute to the County's Integrated Natural Resources Management Plan (INRMP) conservation fund described in Policy 7.4.2.8.

Option A
The County shall apply the following tree canopy retention standards:

Percent Existing Canopy Cover	Canopy Cover to be Retained
80–100	60% of existing canopy
60–79	70% of existing canopy
40–59	80% of existing canopy
20–39	85% of existing canopy
10-19	90% of existing canopy
1-9 for parcels > 1 acre	90% of existing canopy

- Under Option A, the project applicant shall also replace woodland habitat removed at 1:1 ratio.
- Impacts on woodland habitat and mitigation requirements shall be addressed in a Biological Resources Study and Important Habitat Mitigation Program as described in Policy 7.4.2.8.
- Woodland replacement shall be based on a formula, developed by the County, that accounts for the number of trees and acreage affected.

Note: For purposes of implementing these guidelines, "tree canopy" retention shall mean oak tree canopy retention and replacement of "woodland habitat" shall mean replacement of oak canopy.

DEFINITIONS

For the purposes of these Guidelines, the following words and phrases shall have the meanings respectively ascribed to them by this section:

1:1 Woodland Replacement (Replacement Land Area/Replacement Tree/Replacement Acorn-Density Ratio): Replacement of removed tree canopy shall be at a 200 trees (saplings or one gallon trees) per acre density or as recommended by a qualified professional. Replacement is subject to intensive to moderate management[1] and 10 to 15 years of monitoring, respectively. The survival rate shall be 90 percent as specified in the approved monitoring plan for the project, prepared by a qualified professional. Acorns may be used instead of saplings or one gallon trees. If acorns are used, they

[1] Management intensity assumes that 10 years after planting 1 year old saplings that trees that have been nurtured with high management intensity will be on average 2 inches DBH with 90 percent survival; moderate management intensity will result in trees that are on average 1.5 inches DBH with 85 percent survival. See Standiford et al 2002.

shall be planted at a 3:1 ratio as determined by the tree replacement formula[2]. The replacement is as follows:

- Replacement replanting from saplings or one-gallon trees, that are locally sourced, shall follow this formula for ratios:

  (Replacement Area in acres) x 200 trees per acre = the total number of replacement trees to be replanted

- Replacement replanting by acorn shall be from locally-sourced acorns (acorns gathered locally). The replacement ratio by acorn replanting shall be obtained by the following formula:

  (Replacement Area in acres) x (200 trees per acre) x (3 acorns per tree) = the total number of acorns to be replanted

Agricultural Conversion: As defined by General Plan Policy 7.1.2.7.

Agricultural Cultivation/Operations: As defined by General Plan Policy 8.2.2.1.

Agricultural Lands: As defined by General Plan Policies 2.2.1.2 and 8.1.1.8, and further, Policy 8.2.2.1.

Arborist: A person certified by the International Society of Arboriculture (I.S.A.) or other recognized professional organization of arborists that provides professional advice and licensed professionals to do physical work on trees in the County.

Biological Resources Study and Important Habitat Mitigation Program: The Biological Resources Study is an evaluation of a project site that quantifies the amount of important habitat, by habitat type, and addresses the potential for the project to adversely affect important habitat through conversion or fragmentation. The Important Habitat Mitigation Program identifies options that would avoid, minimize, or compensate for impacts on important habitats in compliance with General Plan policies 7.4.4.4 and 7.4.5.2, including a monitoring and reporting component (General Plan 2004 Measure CO-U). The Important Habitat Mitigation Program includes components which address "Certified Arborist Reports" and "Tree Protection Plans". The Biological Resources Study and Important Habitat Mitigation Program shall be prepared by a qualified professional. See separate guidelines for detailed requirements.

CDF: California Department of Forestry.

[2] McCreary DD. 2001. *Regenerating rangeland oaks in California*. Berkeley (CA): University of California, Agriculture and Natural Resources. Communication Services Publication #21601. 62 p.

Construction/Disturbance Area: Any area in which movement of earth, alteration in topography, soil compaction, disruption of vegetation, change in soil chemistry, and any other change in the natural character of the land occurs as a result of site preparation, grading, building construction or any other construction activity.

Diameter at breast height (Dbh): The measurement of the diameter of the tree in inches, specifically four (4) feet six (6) inches above natural grade on the uphill side of the tree. In the case of trees with multiple trunks, the diameter of all stems (trunks) at breast height shall be combined to calculate the diameter at breast height of the tree.

Fire Safe Plan: Defined by the El Dorado County Department of Forestry Guidelines (http://www.co.el-dorado.ca.us/building/PDF/Booklets/Fire_safe_regs.pdf), and the CDF General Guidelines for Creating Defensible Spaces (http://www.bof.fire.ca.gov/pdfs/4291finalguidelines2_23_06.pdf), and as defined by Goal 6.2 Fire Hazards of the Public Health, Safety, and Noise element of the General Plan.

Given Unit of Land: The land contained within the project site. If the project site, prior to any proposed land division, is comprised of multiple parcels, the parcels may be treated as a single given unit of land for the purpose of calculating oak canopy cover and retention requirements.

Habitat: The physical location or type of environment in which an organism or biological population lives or can be found (General Plan 2004).

Heritage trees: Trees planted by a group or individuals or by the City or the County in commemoration of an event or in memory of a person figuring significantly in history (General Plan 2004).

Important Habitat: Defined as habitats that support important flora and fauna, including deer winter, summer, and fawning ranges and migration routes; stream, river, and lakeshore habitat; fish spawning areas; seeps, springs, and wetlands; oak woodlands; large expanses of native vegetation; and other unique plant, fish, and wildlife habitats generally located within or adjacent to designated Ecological Preserves, the Important Biological Resource Corridor Overlay, or in other locations otherwise recognized as being important habitat by Federal, State or County agencies.

Landmark Tree: Trees whose size, visual impact or association with a historically significant structure or event has led the government to designate them as landmarks (General Plan 2004).

Licensed engineers and land surveyors: Professionals that are licensed by the California Board for Professional Engineers and Land Surveyors.

Oak Canopy Cover: The area directly under the live branches of the oak trees, often defined as a percent, of a given unit of land.

Oak Woodlands: A given unit of land, with one or more groupings of live trees, where the dominant species (i.e. a plurality) of the live trees within the groupings are native oaks (genus quercus). "Stand" means a group or groupings of trees.

Oak woodlands with oak tree canopy coverage of less than 10 percent of the project site for parcels one acre or less in size, or oak woodlands with oak tree canopy coverage of less than 1 percent on parcels of land that are more than one acre in size, are **not** subject to the oak tree canopy cover retention requirements of Policy 7.4.4.4 Option A.

Protected Trees: Trees of the genus quercus (oak trees), landmark, and heritage trees, which are subject to County review pursuant to General Plan Policies 7.4.4.4, 7.4.5.1, and 7.4.5.2.

Qualified Professional: An arborist certified by the International Society of Arborists, a qualified wildlife biologist, or a registered professional forester (RPF).

Qualified Wildlife Biologist: A professional with a BA or BS or advanced degree in biological sciences or other degree specializing in the natural sciences; professional or academic experience as a biological field investigator, with a background in field sampling design and field methods; taxonomic experience and knowledge of plant and animal ecology; familiarity with plants and animals of the area, including the species of concern; and familiarity with the appropriate county, state, and federal policies and protocols related to special status species and biological surveys.

Registered Professional Forester (RPF): A Registered Professional Forester (RPF) is a person licensed by the State of California to perform professional services that require the application of forestry principles and techniques to the management of forested landscapes. RPFs have an understanding of forest growth, development, and regeneration; soils, geology, and hydrology; wildlife and fisheries biology and other forest resources. RPFs are also trained in fire management and, if involved in timber harvesting operations, have expertise in both forest road design and application of the various methods used to harvest timber (California Licensed Foresters Association).

Removal: The physical destruction, displacement or removal of a tree, or portions of a tree caused by poisoning, cutting, burning, relocation for transplanting, bulldozing or other mechanical, chemical or physical means.

Replacement: See 1:1 Woodland Replacement definition.

Self Certification: Acknowledgment by an applicant constructing a single-family dwelling or accessory structures and appurtenances to a single-family dwelling that the removal

of oak trees not otherwise in compliance with these interim guidelines and Policy 7.4.4.4, is in compliance with General Plan Policy 7.1.2.2 and are therefore exempt from the provisions of Policy 7.4.4.4 as "reasonable use."

Sensitive Habitat: In El Dorado County, this includes the following habitat types: montane riparian, valley-foothill riparian, aspen, valley oak woodland, wet meadow, and vernal pools (General Plan EIR).

Tree Survey, Preservation, and Replacement Plan: A plan that identifies trees at the project site, shows how specific trees shall be protected during development and related work, and includes any required mitigation measures and ensures viability of trees after construction. A Tree Survey, Preservation, and Replacement Plan is a stand-alone report, and is also included as part of an Important Habitat Mitigation Program. The plan shall be prepared by a qualified professional. See separate guidelines for requirements.

Woodland Habitats: Biological communities that range in structure from open savannah to dense forest. In El Dorado County, major woodland habitats include blue oak-foothill pine, blue oak woodland, montane hardwood, montane hardwood-conifer, and montane riparian.

Guidance for Application of Policy 7.4.4.4:

1. Trees subject to canopy retention and replacement – Policy 7.4.4.4 is intended to apply exclusively to retention and replacement of oak canopy within oak woodlands. All oak trees, of all sizes, are included in the measurement of oak canopy.

   Any oak tree canopy, landmark or heritage trees, including native oak trees that do not qualify for review as oak woodland under Policy 7.4.4.4 may be subject to review under Policy 7.4.5.2.

2. Minimum oak canopy area – The oak canopy retention requirements of Policy 7.4.4.4 are intended only to apply to:

   a. Parcels greater than 1.0 acre that contain 1 percent or more oak canopy cover; or

   b. Parcels 1.0 acre or smaller that contain 10 percent or more oak canopy cover.

3. Exceptions to oak canopy retention/replacement requirements – Policy 7.4.4.4 intends that the following activities are not subject to oak canopy cover retention or replacement requirements:

a. Agricultural cultivation/operations, whether for personal or commercial purposes, on land planned (AL, NR, RR, and Agricultural Districts [-A]) or zoned (AE, AP, A, PA, SA-10, RA, TPZ, and MR) for agricultural use per Policy 2.2.1.5 (Table 2-4 General Plan Land Use Designation and Zoning District Consistency Matrix, page 21), by the El Dorado County General Plan or Zoning Ordinance;

b. Tree removal associated with an approved Fire Safe Plan as necessary to protect an existing structure or structures. The Fire Safe Plan shall take into consideration the El Dorado County Department of Forestry SRA Fire Safe Regulations and the CDF General Guidelines for Creating Defensible Space. Fire Safe Plans are prepared by a RPF or other qualified professional subject to review and approval by the County. See Exhibit One for more information.

c. Development on parcels that are one acre or larger and have less than 1 percent total oak canopy cover;

d. Development on parcels that are less than one acre and have less than 10 percent total oak canopy cover; or

e. Oak trees determined to be dead or diseased and dying by a certified arborist or registered forester are excluded from calculations of canopy cover ~~and~~ retention and replacement requirements.

f. Applicant has “self certified” compliance with Policy 7.1.2.2. For properties located outside of an Important Biological Corridor (IBC) and Mitigation Area 0 of the Ecological Preserve (EP), the removal of natural vegetation, including oak trees (less than 36 inches dbh), is demonstrated to be limited to areas proposed to be graded or cleared for single-family residential development to include the following (for ministerial permits and Director approved design review applications):

- Primary residence
- Accessory structures (including secondary residence, garages, workshops, barns, swimming pools, decks, etc.)
- Driveways and parking area
- Septic systems
- Wells and storage tanks
- Propane tanks

- Yard areas immediately surrounding the primary residence and any accessory structure
- Yard areas immediately surrounding the primary and any accessory structures
- Retaining walls necessary for any of the above

Replacement of oak trees will be required on-site to the greatest extent feasible and an oak replacement agreement shall be recorded requiring self-monitoring and maintenance.

4. Qualified Professional – For the purposes of Policy 7.4.4.4, "Qualified Professionals", refers to professionals approved by Development Services, suitably trained and experienced in wildlife biology, botany, arboriculture, or forestry such as qualified wildlife biologists, I.S.A. certified arborists, or Registered Professional Foresters (RPFs) can determine "habitat" value and canopy cover of oak woodlands determined from baseline aerial photography. The professional may be under contract to either the County or the property owner. The professional should be able to perform a species-focused site survey, use GPS to locate species and habitat on a map or aerial photograph, and should be able to address oak tree corridors (if applicable) for Policy 7.4.4.5. The qualified professional will need to prepare a Biological Resources Study and Important Habitat Mitigation Program that satisfies County requirements. In the event that a dispute arises involving the contents of the Biological Resources Study and/or Important Habitat Mitigation Program the County may refer the matter to an outside qualified consultant, retained by the County and paid for by the applicant/property owner, to develop recommendations for dispute resolution.

   If there is a need to provide a survey level of detail to fully ascertain which canopy level applies per Policy 7.4.4.4, then the survey shall be conducted by a California professional engineer or a California professional land surveyor.

   Generalized maps may be provided by a qualified professional using GPS.

5. Site Assessment Form and Tree Survey, Preservation, and Replacement Plan Required: An initial Site Assessment Form (Attachment 1) and Tree Survey, Preservation, and Replacement Plan must be prepared by a qualified professional and submitted to the Planning Services Division for review for all projects proposing removal of oak canopy cover. The purpose of the Site Assessment is to determine if the proposed removal of oak canopy cover would impact any of the following:

   - Landmark or heritage trees (See Policy 7.4.5.2 A);

- Oak corridor continuity, between all portions of existing stands of oak woodland habitat with connecting corridors at a tree density that is equal to the density of the stand (See Policy 7.4.4.5);
- Sensitive or important oak woodland habitats (See Policy 7.4.5.2 A);
- Oak woodland within or directly adjacent to an important biological resource corridor overlay or an ecological preserve overlay (See Policies 7.4.2.9 and 7.4.1.4);
- Listed or special status plant or animal species observed or expected to occur on the project site or in adjacent areas that may be directly or indirectly affected by the project (See Policy 7.4.1.5); or
- Removal of oak canopy that exceeds retention requirements of Policy 7.4.4.4.

For discretionary projects, the Site Assessment must also include a conclusion by the qualified professional as to whether the proposed oak tree canopy cover removal would have the potential to cause a significant effect on the environment.

If the Site Assessment concludes that the project would not impact any of the above, and the County concurs, and the retention/replacement requirements of Policy 7.4.4.4 are satisfied, the proposed oak tree canopy cover removal may be found consistent with Policy 7.4.4.4 without preparation of a Biological Resource Study and Important Habitat Mitigation Program. A Tree Survey, Preservation, and Replacement Plan, prepared according to County requirements, shall be required prior to issuance of a grading or building permit for the project. The Tree Survey, Preservation, and Replacement Plan will address long term preservation as well as protection of oak trees required to be retained or replaced during grading and construction.

If the Site Assessment, or the County, concludes that the proposed project would impact any of the above resources, and/or for discretionary projects could have the potential to cause a significant impact on the environment, then a full Biological Resources Study and Important Habitat Mitigation Program for the project must be provided to the County for review and approval. For ministerial projects, this must occur prior to issuance of a grading or building permit for the project. For discretionary projects, this must occur as part of the environmental review process. The recommendations of the plan must be fully implemented prior to final grading or building inspection for the project.

6. Project Sites Within ~~or Directly Adjacent to~~ Important Biological Corridor Overlay or Ecological Preserve Overlay Areas: Any projects (ministerial or discretionary) proposing any oak canopy cover removal within ~~or directly~~

~~adjacent to the~~ an Important Biological Corridor Overlay Designation or Ecological Preserve Overlay Designation shall require the submittal of Oak/Canopy Site Assessment Form, tree survey, and biological report. Should a dispute arise regarding recommendations of the biological report, review by the Planning Commission will be required to ensure consistency with Policies 7.4.2.9 and 7.4.1.4 unless the subject property is also located within an Agricultural District Overlay or Agricultural Lands designation in which case it would not be subject to additional requirements per Policy 7.4.2.9. The Biological Resources Study and Important Habitat Mitigation Program must address the requirements of Policies 7.4.2.9 and 7.4.1.4, including, but not limited to the potential for higher oak canopy cover retention and mitigation standards than for projects located outside of the Important Biological Corridor Overlay and Ecological Preserve Overlay areas.

7. Replacement Provisions – Where Policy 7.4.4.4 requires oak canopy cover replacement, the replacement shall be at a 1:1 ratio of canopy removed to canopy replaced as defined in these Guidelines or as specified by a qualified professional approved by the County. The 1:1 replacement ratio can be determined by a simple projection of an aerial photograph justified to the same scale as the underlying parcel is sufficient to estimate the land area, measured in square feet, subject to oak canopy coverage (land area in square feet shall be converted to acreage). Replacement may be by one of the following methods, at the discretion of the Development Services Director (Director):

   a. On-Site Replacement Tree Planting. The replacement requirement is calculated as set forth in the tree replacement formula. Refer to the 1:1 Woodland Replacement definition. Replacement trees are to be planted on-site to the satisfaction of the Development Services Director. The size of the designated replacement area shall equal at a minimum the total area of the oak canopy cover proposed to be removed. An agreement to the satisfaction of County Counsel and the Director shall be required to ensure the long term maintenance and preservation of any on or off-site replacement trees planted. Maintenance and monitoring shall be required for a minimum of 10 years after planting. Any trees that do not survive during this period of time shall be replaced by the property owner.

   b. On-Site Planting of Acorns. Under the direction of a qualified biologist, certified arborist and/or registered professional forester, acorns may be planted at a density designed to achieve oak canopy coverage which will equal the canopy coverage removed within no more than 15 years from the date of planting. The

minimum replacement ratio for acorns is calculated as set forth in the tree replacement formula. Refer to the 1:1 Woodland Replacement definition. Recommendations from the qualified professional shall include a minimum of: site planting design; acorn planting ratios to ensure success; acorn collection areas or nurseries; propagation measures; acorn protection techniques; maintenance, and monitoring and reporting. The size of the designated replacement area shall equal at a minimum, the total area of the oak canopy cover that is proposed to be removed. An agreement to the satisfaction of County Counsel and the Director shall be required to ensure the long term maintenance and preservation of any on or off-site replacement acorns planted. Maintenance and monitoring shall be required for a minimum of 15 years after planting. Any trees that do not survive during this period of time shall be replaced by the property owner.

c. On-Site Replacement of Canopy Area. Under the direction of a qualified biologist, certified arborist and/or registered professional forester, acorns, oak trees or a combination of both may be planted on-site The replacement requirement is calculated as set forth in the tree replacement formula. Refer to the 1:1 Woodland Replacement definition. Replacement plantings should be at a density designed to achieve oak woodland canopy coverage which will equal the canopy coverage removed within 15 years from date of planting or sooner.

Recommendations from the qualified professional shall include a minimum of: Site planting design; planting ratios to ensure success; any required acorn collection areas or nurseries; propagation measures; acorn and tree protection techniques; maintenance, monitoring and reporting requirements. The size of the designated replacement area shall equal at a minimum, the total area of the oak canopy cover that is proposed to be removed. An agreement to the satisfaction of County Counsel and the Director shall be required to ensure the long term maintenance and preservation of any replacement trees and/or acorns planted. Maintenance and monitoring shall be required for a minimum of 10 years after planting. Any trees that do not survive during this period of time shall be replaced by the property owner.

Replacement (and execution of related maintenance and monitoring agreements) shall be completed to the County's satisfaction prior to final grading or building inspection of the project.

d. Off-Site Replacement of Canopy Area. The applicant may be permitted to procure an off-site planting area for the replacement trees and/or planting of acorns, preferably in close proximity and/or in connection with any oak woodland contiguous to the project site or within or adjacent to an Important Biological Corridor or Ecological Preserve as designated in the General Plan, to implement the replacement planting. The size of the off-site replacement planting area shall equal at a minimum the total area of oak canopy cover proposed to be removed. Oaks planted shall have characteristics of the receiver site. Replacement shall occur at a 1:1 ratio as defined in these Guidelines or as otherwise specified by a qualified professional approved by the County. A Conservation Easement to the satisfaction of County Counsel and the Director shall be required to ensure the long term maintenance and preservation of any on or off-site replacement trees and/or acorns planted. The Conservation Easement shall provide for the preservation of the designated area in perpetuity and shall include such terms, conditions, and financial endowments for monitoring and management deemed necessary by the County to ensure the long term preservation of the oak woodland within the easement area. The Conservation Easement shall be in favor of the County or a County approved conservation organization. Maintenance and monitoring shall be required for a minimum of 10 years (15 years for acorns) after planting. Any trees that do not survive during this period of time shall be replaced by the property owner; or

e. Off-Site Conservation Easement to Protect Existing Oak Woodland in Lieu of Replacement. The applicant may obtain a Conservation Easement on property off-site with healthy oak woodland canopy area equivalent to 100 percent of the oak canopy area proposed to be removed. The conservation easement site should either be in close proximity and/or in connection with any oak woodland contiguous to the project site or within or adjacent to an Important Biological Corridor or Ecological Preserve as designated in the General Plan. The Conservation Easement shall provide for the preservation of the designated area in perpetuity and shall include such terms, conditions, and financial endowments for monitoring and management deemed necessary by the County to ensure the long term preservation of the oak woodland within the easement area. The Conservation Easement shall be in favor of the County or a County approved conservation organization.

8. Ministerial Projects on Existing Legal Lots for which Previous Approvals or Determinations of Developable Area have been made by County Decision-Makers: Previously approved discretionary projects that have conditions of approval and/or mitigation measures specifying detailed oak tree protection and mitigation plans shall not be required to demonstrate further consistency with Policy 7.4.4.4. However, canopy that was required to be retained in prior approvals must continue to be retained, unless modified by the decision-making authority for the original protection plan. This provision does not apply to any development project whose approval has expired and a time extension is applied for.

Reasonable Use Provisions for Development on Existing Legal Lots

A. Reasonable Use Related to Oak Canopy Cover Retention:

For existing legal lots, where strict compliance with the oak canopy cover retention requirements of Policy 7.4.4.4 could preclude reasonable use of the property or cause substantial inconsistencies with other General Plan policies protective of the environment, due to factors which are unique to the proposed property, such as topographic constraints, configuration of the remaining area useable for development, access requirements, lot size, and/or other physical or environmental limitations, or conflict with the requirements of an approved Fire Safe Plan, the Development Services Director may grant relief as described below, or the Planning Commission may grant relief to the retention requirements of Policy 7.4.4.4 for the project if the ~~following~~ findings are made pursuant to a noticed public hearing:

Development Services Director Relief:

The Director may grant a reduction in the retention requirements by up to 50 percent of what is specified in the Option A Retention Table after meeting all the required findings herein (subsection i. through iv.) and meeting one of the following conditions.

- For existing legal lots ½ acre in size or less with up to 100 percent disturbed area proposed; or

- For existing legal lots greater than ½ acre up to one acre in size with not more than 20,000 square feet of development/disturbed area proposed; or

- For existing legal lots greater than one acre in size but not greater than five acres in size with not more than 25,000 square feet of development/disturbed area proposed, excluding driveway access

removing oak canopy (intrusion of up to 25 percent of the dripline permitted).

- For existing legal lots greater than five acres with not more than 30,000 square feet of development/disturbed area proposed excluding driveway access removing oak canopy (intrusion of up to 25 percent of the dripline permitted).

If the lot is within an Important Biological Corridor or Ecological Preserve, relief may only be granted by the Planning Commission.

Planning Commission Relief:

Where the Director cannot grant relief, the Commission may grant relief when the following findings can be made.

i. The applicant demonstrates that the project is designed to maximize use of parcel area unconstrained by oak trees, unless precluded by other significant constraints such as steep slopes, streams, creeks, wetlands, or other sensitive environmental resources.

ii. The proposed project is limited to development and site disturbance that is typical and prevalent for the general area surrounding the project site.

iii. Soil disturbance and tree removal is minimized through the incorporation of some or all of the following measures into the project design:

   a. Stepped foundations are used on sloping areas rather than graded pads;
   b. Depth of excavation and/or fill outside of the building footprint is limited to no more than five feet measured vertically from the natural ground surface, except for grading necessary to install retaining walls designed to reduce the total area of tree canopy that will be removed and/or damaged;
   c. Structures and the configuration of the area of disturbance are designed to parallel the natural topographic contours to the greatest extent feasible;
   d. Patio decks are included in the design of dwellings to minimize the need for graded yard areas;

e. Design techniques such as clustering of buildings are proposed to take advantage of the portions of the property which are least constrained by oaks;

f. The project is designed to maximize consistency with all applicable policies of the El Dorado County General Plan. *It is recognized that more than one policy may have to be considered in the determination of reasonable use of a particular parcel.*

iv. If the project site is within ~~or directly adjacent to~~ an Important Biological Corridor Overlay or Ecological Preserve a Biological Resources Study and Important Habitat Mitigation Program have been prepared by a qualified professional and approved by the County and will be fully implemented by the applicant. The Study shall be prepared in accordance with the *Biological Resources Study and Important Habitat Mitigation Program Interim Guidelines*, adopted November 9, 2006.

Replacement of any oak tree canopy area allowed to be removed by the Planning Commission in excess of the retention standards in the General Plan shall be required. At a minimum, the replacement shall be completed in accordance with the tree replacement formula. Refer to the 1:1 Woodland Replacement definition. A 2:1 ratio or as otherwise specified by a qualified professional approved by the County, pursuant to the options and methods specified in these Guidelines, may be applied at the discretion of the Planning Commission. Further, for discretionary projects, any effects on biological resources will be analyzed in the environmental document and appropriate additional mitigation proposed as required by the California Environmental Quality Act, California Oak Woodlands Conservation Law and other applicable statutes.

B. Reasonable Use Related to Oak Corridor Retention:

In order to ensure that reasonable use of the property is provided, an applicant may request the Planning Commission to provide relief from the strict application of this corridor retention requirement (Policy 7.4.4.5) in the same manner as described above. In addition, for discretionary projects, any effects on biological resources will be analyzed in the environmental document and appropriate mitigation proposed as required by the California Environmental Quality Act, California Oak Woodlands Conservation Law and other applicable statutes.

GENERAL REQUIREMENTS APPLICABLE TO ALL PROJECTS

Compliance with the General Plan:

In addition to compliance with these guidelines for these Policies, the proposed development shall be in conformance with all other applicable policies of the County General Plan and any applicable Specific Plans and/or Development Agreements.

Compliance with the Zoning Ordinance and Grading Ordinance and Building Codes:

The proposed development shall be in compliance with all applicable requirements of the County Zoning Ordinance, Grading Ordinance, and Building Codes.

County, State, or Federal Agency Requirements:

County, State and Federal agencies have different jurisdictional authority which may result in different conditions for approval. In the event of multiple agency permit approval, the most restrictive set of conditions shall apply.

Important Biological Corridor Overlay Designation and Ecological Preserve Overlay Designation:

Proposals for removal of any oak canopy cover on property within or directly adjacent to an Important Biological Corridor Overlay (IBC) designation or Ecological Preserve Overlay (EP) designation pursuant to the General Plan shall require review by the Planning Commission to ensure consistency with the requirements of Policies 7.4.2.9 and 7.4.1.4. A Biological Resource Study and Important Habitat Mitigation Program shall be required.

SITE ASSESSMENT FORM REQUIREMENTS AND THE TREE SURVEY, PRESERVATION, AND REPLACEMENT PLAN REQUIREMENTS

The Site Assessment Form requirements are detailed in Attachment 1.

BIOLOGICAL RESOURCE STUDY AND IMPORTANT HABITAT MITIGATION PROGRAM REQUIREMENTS

Biological Resource Study and Important Habitat Mitigation Program requirements are detailed in Attachment 2.

ADMINISTRATION

The above guidelines are interim standards utilized by the Development Services Department of El Dorado County to provide for consistent review of projects for conformance with Policy 7.4.4.4 pending adoption of permanent regulations.

Penalties for Violation – ~~Pursuant to Policy 7.4.5.2 D,~~ If oak trees are removed prior to review by the County and without appropriate retention and replacement provisions implemented in anticipation of development of a site, the County may withhold and defer approval of any application for development of that property ~~for a period of up to five years. Additionally, fines may be applied as high as three times the current market value of replacement trees plus the cost of replacement, and/or replacement tree(s) may be required at a 3:1 ratio at sites approved by the County. The cost of maintenance, monitoring, and reporting of any replacement trees shall be paid for by the applicant.~~ until such time as the amount of oak tree canopy removed is determined and appropriate replacement and mitigation provisions are met in conformance with Policy 7.4.4.4 to the satisfaction of the Director.

INTERNET RESOURCES

California Department of Conservation, Office of Mine Reclamation, Fall 2005 SMARA Newsletter regarding the State Oak Woodlands Conservation Law
http://www.consrv.ca.gov/omr/smara/newsletter/Fall%202005.pdf

California Department of Forestry Fire Safe Plan
http://www.fire.ca.gov/php/education_100foot.php

California Department of Forestry Fire Safe Regulations
http://www.co.el-dorado.ca.us/building/FSArticle1.htm

California Licensed Foresters Association
http://www.clfa.org/registered_professional.htm

California Board for Professional Engineers and Land Surveyors:
http://www.dca.ca.gov/pels/

CDF General Guidelines for Creating Defensible Spaces
http://www.bof.fire.ca.gov/pdfs/4291finalguidelines2_23_06.pdf

El Dorado County Department of Forestry SRA Fire Safe Regulations
http://www.co.el-dorado.ca.us/building/PDF/Booklets/Fire_safe_regs.pdf

El Dorado County General Plan
http://www.co.el-dorado.ca.us/Planning/GeneralPlanAdopted.html

El Dorado County General Plan EIR
http://www.co.el-dorado.ca.us/Planning/GeneralPlanDraftEIR.htm

McCreary DD. 2001. *Regenerating rangeland oaks in California*. Berkeley (CA): University of California, Agriculture and Natural Resources. Communication Services Publication #21601. 62 p.

Standiford, Richard and Douglas McCreary and William Frost. 2002. *Modeling the Effectiveness of Tree Planting to Mitigate Habitat Loss in Blue Oak Woodlands.* USDA Forest Service Gen. Tech. Rep. PSW-GTR-184. Available at: http://danr.ucop.edu/ihrmp/proceed/standiford.pdf

Western Chapter – International Society of Arboriculture Publications (Guide for Plant Appraisal, Item # P1209, to determine market values of trees)
http://wcisa.wcainc.com/docs/Publication.pdf

ATTACHMENTS

Exhibit One	CDF Fire Safe Plan Brochure
Attachment 1	Site Assessment Form
Attachment 2	Biological Resources Study and Important Habitat Mitigation Program Requirements

H:\D-drive\MyDocuments\Oak Woodlands\Final Interim Oak Guidelines 110906.doc

ATTACHMENT B

Natural Resources Conservation Service Descriptions for Soils Observed During Field Surveys

Natural Resources Conservation Service Descriptions for Soils Observed During Field Surveys

AUBURN SERIES

The Auburn series consists of shallow to moderately deep, well drained soils formed in material weathered from amphibolite schist. Auburn soils are on foothills and have slopes of 2 to 75 percent. The mean annual precipitation is about 24 inches and the mean annual temperature is about 60 degrees F.

TAXONOMIC CLASS: Loamy, mixed, superactive, thermic Lithic Haploxerepts
TYPICAL PEDON: Auburn silt loam - on an east facing slope of 10 percent under annual grass, oak and digger pine at 620 feet elevation. (Colors are for dry soil unless otherwise stated. When described on March 27, 1959, the soil was dry throughout.)

A1--0 to 1.5 inches; strong brown (7.5YR 5/6) silt loam, reddish brown (5YR 4/4) moist; massive; slightly hard, friable, slightly sticky and nonplastic; many very fine roots; many very fine and fine tubular pores; slightly acid (pH 6.4); clear smooth boundary. (1 to 8 inches thick)
A2--1.5 to 9 inches; yellowish red (5YR 5/6) silt loam, reddish brown (5YR 4/4) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; many very fine and medium roots; many very fine and medium tubular pores; slightly acid (pH 6.4); gradual smooth boundary. (1 to 8 inches thick)

Bw--9 to 14 inches; yellowish red (5YR 5/8) silt loam, yellowish red (5YR 4/6) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; many very fine roots; many very fine tubular pores; few thin clay films line pores; slightly acid (pH 6.5); abrupt wavy boundary. (5 to 12 inches thick)
R--14 to 24 inches; very pale brown (10YR 7/4) partly weathered amphibolite schist with reddish brown (2.5YR 4/4) colloidal stains in fracture planes; few roots in cracks; slightly acid (pH 6.5).

TYPE LOCATION: Amador County, California. About 3.5 miles northeast of Ione, 0.25 miles east and 100 feet north of the southeast corner of sec. 6 T. 6 N, R. 10 E. Irish Hill Quadrangle.

RANGE IN CHARACTERISTICS: The depth to bedrock ranges from 10 to 28 inches. These range from less than 20 inches to more than 20 inches within a linear distance of less than 140 inches. Dominantly the soils are 10 to 20 inches deep to rock over 50 to 90 percent of the area. The rest of the area, 10 to 50 percent, is 20 to 28 inches to rock. The contact with the bedrock is abrupt, although some slightly weathered fracture planes are present in some pedons. Rock fragments range from 0 to 25 percent and consist of pebbles, cobbles and stones. The soil between the depths of 8 and 20 inches or to a lithic contact is dry in all parts from June to mid-October and is moist in all parts from mid-November to May. The mean annual soil temperature is between 59 and 67 degrees F.

The A horizon is 7.5YR 4/4, 5/8, 5/6, 5/4, 6/6; 5YR 4/6, 5/4 or 5/6. Moist colors are 7.5YR 3/2, 3/3, 3/4, 4/4, 4/6, 5/4; 5YR 3/3, 3/4, 3/6 or 4/4. Mottles of lower chroma than the matrix may occur in the upper 2 or 3 inches. It is massive or has weak subangular blocky structure. It is loam, silt loam or clay loam or its gravelly, stony, or very stony equivalents. It is neutral to medium acid.

The Bw horizon is 7.5YR 4/4, 5/4, 5/6, 5/8, 6/6; 5YR 4/4, 4/6, 5/4, 5/6, 5/8, 6/6 or 6/8. Moist colors are 7.5YR 4/4, 4/6, 5/4, 5/6, 5/8, 6/6, 6/8; 5YR 3/4, 4/4, 4/6, 5/6, 5/8, 6/6 or 6/8. It is loam, silt loam, clay loam, or its' gravelly equivalent. It is slightly to strongly acid. It has hues that are one unit redder or chromas that are brighter or there is weak structure or there is a slight clay increase.

COMPETING SERIES: These are the Daulton, Escondido, Exchequer, Hornitos, Maymen, eMillsholm, Sobrante, Temescal, and Toomes soils in other families. All these soils except Escondido and Sobrante are less than 20 inches deep to a lithic contact in all parts. In addition, Daulton, Millsholm, and Temescal soils lack reddish colors in hues of 7.5YR and 5YR. Exchequer soils are less than 10 inches deep. Hornitos and Maymen have a base saturation (ammonium acetate) of less than 60 percent throughout the 10 to 20 inch zone. Escondido and Sobrante soils are more than 20 inches deep to a lithic contact in all points. In addition, Sobrante soils have an argillic horizon.

GEOGRAPHIC SETTING: The Auburn soils are on undulating to very steep foothills with slopes of 2 to 75 percent. Rock outcrops are common. The soils formed in material weathered from metabasic or metasedimentary rock such as amphibolite schist, greenstone schist, or diabase. Elevations are 125 to 3,000 feet. The climate is subhumid with hot dry summers and cool moist winters. Mean annual precipitation is 20 to 40 inches. Mean January temperature is about 45 degrees F, and mean July temperature is 76 degrees F; mean annual temperature varies from 56 to 63 degrees F. Frost-free season is about 175 to 275 days.

GEOGRAPHICALLY ASSOCIATED SOILS: These are the competing Exchequer and Sobrante soils and the eArgonaut and Whiterock soils. Argonaut soils have argillic horizons and Whiterock soils lack reddish colors in hues of 7.5YR and 5YR.

DRAINAGE AND PERMEABILITY: Well drained; low to very high runoff; moderate permeability.

USE AND VEGETATION: Used for annual rangeland with small areas used for irrigated pasture. The native vegetation is typically annual grasses and forbs such as soft chess, wild oats, ripgut brome, and filaree with stands of oak and scattered digger pine and brush.

DISTRIBUTION AND EXTENT: Lower foothills of the Sierra Nevada Mountains of California. The soil is extensive.

MLRA SOIL SURVEY REGIONAL OFFICE (MO) RESPONSIBLE: Davis, California
SERIES ESTABLISHED: Marysville and Sacramento Areas, 1913. The classification was updated in February 2001 using the Eighth Edition to Soil Taxonomy. This series was formerly classified as loamy, oxidic, thermic Ruptic-Lithic Xerochrepts. Competing series were not checked at that time.

REMARKS: Diagnostic horizons and features recognized in this pedon are:
Ochric epipedon - 0 to 9 inches (A1, A2)
Cambic horizon - 9 to 14 inches (Bw)
Lithic contact - depth to contact in 10 to 28 inches and is more than or less than 20 inches within short distances.

Natural Resources Conservation Service Descriptions for Soils Observed During Field Surveys

Last major revision by the state on 5/88.
Edit log: 10/2006 minor edits, changed terminology for runoff

ADDITIONAL DATA: Two pedons in Amador County: NSSL Pedon S59CA-005-007 (series type location) and S59CA-005-008. Based on lab data this soil should NOT be oxidic and is mixed.

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ARGONAUT SERIES

The Argonaut series consists of moderately deep, well drained soils that formed in materials weathered from meta-andesite. Argonaut soils are on foothills with slopes of 2 to 30 percent. The mean annual precipitation is 27 inches and the mean annual temperature is about 60 degrees F.

TAXONOMIC CLASS: Fine, mixed, superactive, thermic Mollic Haploxeralfs

TYPICAL PEDON: Argonaut gravelly loam-on a southwest facing slope of 6 percent under annual grass - oak cover at 1,360 feet elevation. (Colors are for dry soil unless otherwise stated. When described on March 24, 1959, the soil was slightly moist throughout.)

A1--0 to 2 inches; brown (7.5YR 5/4) gravelly loam, dark reddish brown (5YR 3/4) moist; weak thin platy structure; hard, friable, nonsticky and nonplastic; many very fine, few fine and medium roots; many very fine pores; 21 percent pebbles; slightly acid (pH 6.1); abrupt smooth boundary. (2 to 3 inches thick)

A2--2 to 6 inches; yellowish red (5YR 5/6) gravelly loam, yellowish red (5YR 3/6) moist, massive; hard, friable, nonsticky and slightly plastic; common very fine, few fine and medium roots; common very fine and fine, few medium pores; few thin clay films line pores; 20 percent pebbles, cobbles and stones; slightly acid (pH 6.3); clear smooth boundary. (3 to 8 inches thick)

Bt1--6 to 10 inches; yellowish red (5YR 4/6) gravelly heavy loam, yellowish red (5YR 3/6) moist, massive; hard, friable, slightly sticky and plastic; common very fine, few fine and medium roots; common very fine and fine medium pores; common thin clay films line most pores; 15 percent pebbles, cobbles and stones; slightly acid (pH 6.2); clear smooth boundary. (3 to 6 inches thick)

Bt2--10 to 14 inches; yellowish red (5YR 5/6) clay loam, yellowish red (5YR 3/6) moist; massive; hard, firm, slightly sticky and plastic; few fine and medium roots; common very fine and fine, few medium pores; continuous thin clay films line pores; about 8 percent pebbles and cobbles; slightly acid (pH 6.1); abrupt boundary. (3 to 5 inches thick)

Bt3--14 to 21 inches; brown (10YR 5/3) gravelly clay, yellowish brown (10YR5/4) and brown (7.5YR 5/4) moist; brown (7.5YR 5/4) coatings; massive; very hard, firm, sticky and very plastic; few very fine and coarse roots; few very fine pores; continuous thick clay films line pores; few slickenslides; about 22 percent pebbles, cobbles and stones; slightly acid (ph 6.1); abrupt wavy boundary. (4 to 17 inches)

Cr--21 to 27 inches; light reddish brown (2.5YR 6/4) deeply weathered meta-andesite, light olive brown moist, yellowish red (5YR 4/6) moderately thick, continuous clay films and black stains along a few fracture planes; the weathered rock crumbles when disturbed but is firmer with increasing depth; neutral (pH 7.1).

TYPE LOCATION: Amador County, California; about 0.5 miles west of Martell, 1,800 feet south and 1,500 feet east of the NE corner of sec 19, T. 6 N, R. 11 E. Jackson Quadrangle.

Natural Resources Conservation Service Descriptions for Soils Observed During Field Surveys

RANGE IN CHARACTERISTICS: Thickness of solum and depth to a paralithic contact is 20 to 40 inches. The mean annual soil temperature ranges from 59 to 67 degrees F. The soil between the depths of 8 and 24 inches or to a paralithic contact is dry in all parts from June 1 to October 15 (120 to 150 days) and is moist in all parts from November 15 to May 15 (165 to 195 days). Some rock fragments are present throughout the soil with about 2 to 25 percent in the lower Bt horizons and 5 to 35 percent in the A and upper Bt horizons. It has 2 to 6 percent organic matter in the upper 4 inches and more than 1 percent to a depth of 10 inches. The weighted average of the upper 20 inches of the Bt horizon is 35 to 50 percent.

The A horizon is 7.5YR 6/6, 5/6, 5/4, 4/6, 4/4; 5YR 5/3, 5/4, 5/6, 4/6, 4/4, or 4/6. Moist colors are 7.5YR 3/4, 4/4, 4/6; 5YR 3/4, 4/3, 4/4, or 4/6. The upper 4 inches have moist color values of 3. It is loam, silt loam or clay loam and may be gravelly or extremely stony. It is massive and hard or the upper few inches has weak platy, weak granular or weak subangular blocky structure. Reaction is moderately acid to neutral .

There is a transitional horizon between the A and B horizon or a gradual boundary occurs for the A horizon. The upper Bt horizon is 7.5YR 4/4, 4/6, 5/4, 5/6, 5/8; 5YR 5/3, 5/4, 5/6, 4/4, or 4/6. Moist colors are 7.5YR 4/4, 4/6; 5YR 4/4, 4/6, or 3/4. It is heavy loam, heavy silt loam, clay loam or its gravelly or cobbly equivalents. Reaction is moderately acid to neutral. An abrupt boundary is always present.

The lower Bt horizon is 10YR 5/3, 5/4, 5/6, 6/4; 7YR 5/4, 5/6, 4/6, 4/4; 5YR 4/6, 5/6, or 4/4. Moist colors are 10YR 5/3, 5/4, 5/6; 7.5YR 5/6, 5/4, 4/4, 4/6; 5YR 3/4, 4/4, 4/6, 4/8, or 5/6. It is heavy clay loam, gravelly clay or clay. Reaction is moderately acid to mildly alkaline. The clay increase between the upper Bt and lower Bt exceeds 15 percent. In some profiles a stone line separates these two horizons.

The Cr is 10YR 7/6, 2.5Y 7/4, or 6/4. Moist colors are 2.5Y 6/4 or 5/4.

COMPETING SERIES: These are the Conosta, Contra Costa, Francher, Kilaga, Phipps (T), and Trabuco. Conosta soils lack an argillic horizon with more than 15 percent clay increase within one inch. Contra Costa soils have a lithic contact between 20 and 40 inches. Francher soils have a CA/Mg ratio of less than 2:1. Kilaga and Phipps (T) soils are greater than 60 inches deep. Trabuco soils have a paralithic contact below 40 inches.

GEOGRAPHIC SETTING: The Argonaut soils are on undulating to hilly broad ridges and slightly concave slopes of 2 to 30 percent. The soils formed in material weathered from metamorphosed and intrusive basic rocks. Rock outcrops are common. Elevations are 200 to 2,500 feet. The climate is subhumid with hot dry summers and cool moist winters. Mean annual precipitation is 20 to 50 inches. Mean January temperature is about 44 degrees F.; mean July temperature is about 76 degrees F.; mean annual temperature is about 56 to 63 degrees F. Frost-free season ranges from 220 to 270 days.

GEOGRAPHICALLY ASSOCIATED SOILS: These are the Auburn, Rescue and Sobrante soils. Auburn soils lack argillic horizons. Rescue and Sobrante have less than 35 percent clay in all parts of the argillic horizon.

DRAINAGE AND PERMEABILITY: Well drained; slow to rapid runoff; very slow permeability.

Natural Resources Conservation Service Descriptions for Soils Observed During Field Surveys

USE AND VEGETATION: Mainly used for annual rangeland. Vegetation is soft chess, wild oats, ripgut brome, filaree with scattered foothill pine and scattered to dense thickets of blue oak, interior live oak and buckbrush.

DISTRIBUTION AND EXTENT: Foothills of the central Sierra Nevada in California. The series is of moderate extent.

MLRA SOIL SURVEY REGIONAL OFFICE (MO) RESPONSIBLE: Davis, California

SERIES ESTABLISHED: Amador County, California, Amador Area 1963.

REMARKS: Diagnostic horizons and features recognized in the pedon are:
Ochric epipedon - 0 to 6 inches (A1, A2)
Argillic horizon - 6 to 21 inches (Bt1, Bt2, Bt3)
Paralithic contact at 21 inches.
This pedon was sampled by NSSL at Riverside in 1959. Pedon number S59CA-3-6-(1-6)
OSED scanned by SSQA. Last revised by state on 8/85.
Edit log: 4/2003 Proposed edits for use in Butte County. Expand reaction A horizon: moderately acid to neutral. Expand reaction lower Bt horizon: from slightly acid to moderately acid. Add the following colors: A horizon-dry colors: 7.5YR 4/6 and 5YR 4/6. Upper Bt horizon-dry colors: 7.5YR 4/4, 4/6. Lower Bt horizon dry colors: 7.5YR 4/4, 4/6. Moist colors: 5YR 3/4. Cr horizon-dry: 10YR 7/6. Expand elevation from 300 to 200 feet. Expand MAT from 62 to 63 degrees F. Changed digger pine to foothill pine.

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RESCUE SERIES

The Rescue series is a member of the fine-loamy, mixed, thermic family of Mollic Haploxeralfs. Typically, Rescue soils have reddish brown, medium and slightly acid, sandy loam A horizons, yellowish red, slightly acid, sandy clay loam B2t horizons grading to weathered basic rock.

TAXONOMIC CLASS: Fine-loamy, mixed, superactive, thermic Mollic Haploxeralfs

TYPICAL PEDON: Rescue sandy loam - annual range. (Colors are for dry soil unless otherwise noted.)

Al--0 to 5 inches; reddish brown (5YR S/4) sandy loam, dark reddish brown (5YR 3/4) moist; massive; slightly hard, friable, slightly sticky, slightly plastic; many very fine, common fine roots; many very fine tubular and interstitial, few fine tubular pores; moderately acid (pH 6.0); clear smooth boundary. (4 to 6 inches thick)

A3--5 to 10 inches; reddish brown (5YR 4/4) sandy loam, dark reddish brown (5YR 3/4) moist; massive; slightly hard, friable, slightly sticky, slightly plastic; many very fine, common fine roots; many very fine tubular pores; slightly acid (pH 6.2); clear wavy boundary. (2 to 7 inches thick)

B1t--10 to 14 inches; yellowish red (5YR 4/6) heavy sandy loam, yellowish red (5YR 3/6) moist; massive; hard, friable, sticky, plastic; common very fine and fine roots; common very fine tubular pores; many thin clay films line pores and as bridges; slightly acid (pH 6.2); gradual smooth boundary. (2 to 8 inches thick)

B2t--14 to 26 inches; yellowish red (5YR 4/6) sandy clay loam, dark red (2.5YR 3/6) moist; massive; extremely hard, firm, sticky, plastic; few fine, medium and coarse roots; few very fine and fine tubular pores; many moderately thick clay films line pores; slightly acid (pH 6.4); gradual smooth boundary. (7 to 14 inches thick)

B31t--26 to 34 inches; reddish yellow (5YR 6/8) heavy sandy loam, variegated reddish brown and reddish yellow (5YR 4/4, 6/6) moist; massive; extremely hard, firm, sticky, plastic; few fine, medium and coarse roots; few very fine tubular and interstitial pores; many thin clay films line pores and as bridges; slightly acid (pH 6.5); clear wavy boundary. (5 to 14 inches thick)

C1--34 to 55 inches; reddish yellow (5YR 7/8) coarse sandy loam, yellowish red (5YR 5/6) moist; massive; very hard, firm, slightly sticky, slightly plastic; few fine, medium and coarse roots; few very fine tubular and interstitial pores; few thin clay films line pores and as bridges; slightly acid (pH 6.5); clear wavy boundary. (10 to 22 inches thick)

C2--55 to 66 inches; very pale brown (10YR 7/4) loamy coarse sand, strong brown (7.5YR 5/6) moist; massive; slightly hard, firm, nonsticky, nonplastic; few fine, medium and coarse roots; few and very fine tubular and interstitial pores; slightly acid (pH 6.5).

Natural Resources Conservation Service Descriptions for Soils Observed During Field Surveys

TYPE LOCATION: El Dorado County, California; 2.0 miles north of Bass Lake, 50 feet east of Deer Valley Road, near center of NE114 SE1/4 of sec. 19, T.lON., R.9E.

RANGE IN CHARACTERISTICS: The solum is 30 to 70 inches thick. Depth to a paralithic contact of weathered rock is 40 to 80 inches. Mean annual soil temperature at a depth of 20 inches is 59 degrees to 65 degrees F. Coarse fragments in the profile range from about 3 to 25 percent. The larger amounts are in the upper A horizon or in the C horizon. Between the depths of about 5 and 15 inches the soils are usually continually moist but become dry in May or early June and remain dry all the time until sometime in October or early November. The soils are usually slightly or moderately acid throughout, but are neutral in the lower part of some pedons.

The A horizon is reddish brown or brown in hue of 7.5YR or 5YR. Moist chromas are 4 or more below a depth of 4 inches, or are 4 or more in all parts. It has 3 to 8 percent organic matter in the upper 4 inches and drops to levels of 0.5 to 1.5 percent at a depth of 10 inches. It is sandy loam or loam. Its lower boundary is gradual or there is either one or both an A3 horizon and a Bl horizon.

The B2t horizon is red, reddish brown, yellowish red or reddish yellow ln hue of 2.5YR or 5YR. It is clay loam or sandy clay loam with 27 to 35 percent clay and has 10 to 20 percent total coarse and very coarse sand. It averages 75 to 85 percent base saturation.

COMPETING SERIES: These are
the Academy, Blasingame, Burchell, Cajalco, Coarsegold, Honn, Jacinto, Los Robles, Marguerite, Modesto, Ojai, Pachappa, Perkins, Pleasanton, Sobrante, Trimmer, Whitney and Wyo series. Academy soils have sandstone at depths of 19 to 39 inches. Burchell, Jacinto, Marguerite, Pachappa and Wyo soils have no hue redder than 10YR, and Los Robles, Honn, Modesto and Pleasanton soils have no hue redder than 7.5YR in the B2t horizon. Blasingame soils have less than 1 percent organic matter ln all parts of the A horizon. Cajalco and Trimmer soils have a paralithic contact above 40 inches. Coarsegold soils have less than 10 percent coarse and very coarse sand and are micaceous. Ojai soils have very hard dry consistence in the Al horizon. Perkins soils have B2t horizons that are gravelly in the upper part and very gravelly in the lower part. Sobrante soils have a lithic contact above 40 inches. Whitney soils have a paralithic contact above 40 inches and no hue redder than 7.5YR.

GEOGRAPHIC SETTING: Rescue soils are on gently sloping to very steep uplands at elevations of 800 to 2,000 feet. They formed in residuum of gabbrodiorite rocks. Rock outcrops and stones are present in some units. The climate is moist subhumid with hot dry summers and cool moist winters. Annual precipitation 18 25 to 45 inches. Mean annual temperature ls about 59 degrees F., average January temperature about 44 degrees F., and the average July temperature about 75 degrees F.

GEOGRAPHICALLY ASSOCIATED SOILS: These are the Argonaut, Auburn,
and Boomer soils and the competing Sobrante soils. Argonaut soils have more than 35 percent

clay in the argillic horizon. Auburn soils lack an argillic horizon and are less than 20 inches deep to rock in part of each pedon. Boomer soils have a mean soil temperature of less than 59 degrees F.

DRAINAGE AND PERMEABILITY: Well-drained; medium to very rapid runoff; moderately slow to slow permeability.

USE AND VEGETATION: Annual range and watershed. Some areas are irrigated and produce pasture and deciduous fruit. Native vegetation is annual and perennial grasses, brush, scattered conifers, and oaks.

DISTRIBUTION AND EXTENT: Mainly on the western slopes of the Sierra Nevada range. The series is of moderate extent.

MLRA SOIL SURVEY REGIONAL OFFICE (MO) RESPONSIBLE: Davis, California

SERIES ESTABLISHED: Nevada County, California, 1970.

REMARKS: The Rescue soils were formerly classified as Brunlzems.

The activity class was added to the classification in January of 2003. Competing series were not checked at that time. - ET

OSED scanned by SSQA. Last revised by state on 4/71.

National Cooperative Soil Survey
U.S.A.

ATTACHMENT C

Proposed Guidelines for Acorn Collection, Storage and Planting

Guidelines for Acorn Collection, Storage, and Planting

- **Acorn Collection**
- All acorns should be from a source local to the mitigation sites.
- Collect acorns over an interval of a few weeks from late summer to mid fall, when the acorns have ripened, but before they have all fallen from the trees. Acorns can be harvested when they can be easily dislodged from their caps by gentle twisting and when they start to drop from the trees.
- If feasible, collect acorns directly from trees, rather than the ground, since acorns that are on the ground readily loose their moisture and are subject to predation.
- Place acorns in loosely sealed plastic bags that allow some gas exchange. Discard obviously damaged or deformed acorns.
- Store acorns in refridgerator just above freezing (34 degrees to 38 degrees F) for no more than one to two months before planting.

Planting Site Preparation

- All planting should be done in late fall or early winter, as soon as the soil is moist down to a depth of four+ inches.
- Soak acorns from eight to 48 hours prior to planting. Discard all acorns that float. Keep acorns cool during transport. Soaked acorns not planted must be discarded.
- Each planting site should be cleared of most vegetation around a four foot diameter area. Clear down to stubble and rake clean.
- Clear the center 12 inches of the planting site down to soil, removing all vegetation.
- Dig or auger a 12 inchs deep planting hole in this center area, removing all but very small rocks and debris. If shallow hardpan is found within the planting site, auger past the depth of the hardpan.
- Backfill with the loosened soil or, if necessary, sterile topsoil to fill the planting hole back up to original grade. Compact well using foot and hand tools. Do not compact by machine.

Planting

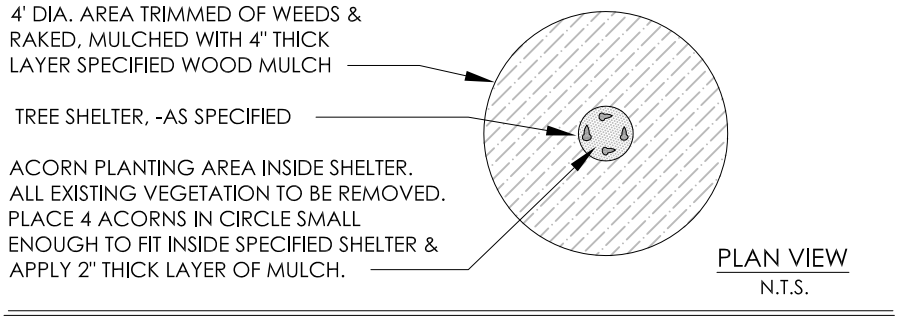
- Over the backfilled planting hole, place four evenly spaced acorns of the species specified on their sides and within a six inch diameter circle. The acorns should be spaced in an area smaller than the diameter of the specified tree shelter.
- Cover the acorns with one to two inches of the specified topsoil. Carefully but thoroughly compact backfill with hand or foot.
- Place the specified tree shelter over the covered acorns, inserting the bottom of the shelter four inches into the soil if vole predation is a consideration.
- Place shredded or chipped wood mulch four inches deep or sterile rice straw (compressed with foot) six inches deep outside of the shelter to cover the entire four foot diameter planting area.

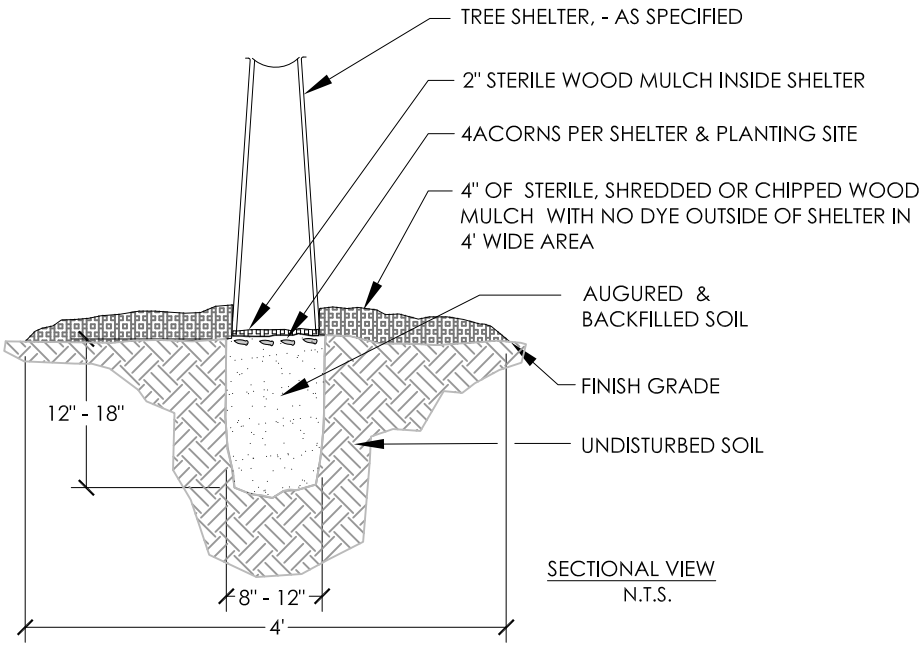
Maintenance

- Maintain a four-foot wide weed-free area around each acorn planting site for a minimum of three years by mowing or weedeating in mid spring. Initiate weed control in spring before weed seeds ripen. Additional late-season mowing or weedeating may be necessary. The elimination of surrounding weeds is vital to maintaining soil moisture, eliminating competition for light and space, and discouraging herbivory.
- The need for mowing may be reduced by additional applications of mulch or straw or by the application of approved pre- or post-emergent herbicides.
- Check for predation around tree shelters. Adjust position of the shelters and methods of weed control, if necessary.

ATTACHMENT D

Proposed Conceptual Layout for Acorn Planting with Protection





1. ACORN PLANTING SHOULD BE COMPLETED IN EARLY WINTER, JUST AFTER RAINS HAVE SUFFICIENTLY MOISTENED SOIL. SEE *GUIDELINES FOR ACORN COLLECTION AND PLANTING* (ECORP 2008).

2. REMOVE WEEDS FROM 4' DIA. CIRCLE AROUND ACORN PLANTING AREA. RAKE CLEAN.

3. REMOVE ALL VEGETATION FROM 12" DIA. SHELTER AREA.

4. AUGUR PLANTING HOLE AT LEAST 12" DEEP X 8" WIDE. REMOVE ROCKS & ALL VEGETATION. BACKFILL WITH NATIVE SOIL OR , IF NECESSARY, STERILE TOPSOIL.

5. PLACE 5 ACORNS ON THEIR SIDES WITHIN A CIRCLE SMALLER THAN THE DIAMETER OF THE SHELTER.

6. COVER ACORNS WITH $\frac{1}{2}$" TO 1" OF THE LOOSENED SOIL OR STERILE TOPSOIL.

7. SECURE TREE SHELTER AROUND ACORNS.

8. PLACE 1" THICK LAYER STERILE WOOD MULCH OVER ACORNS (WITHIN SHELTER) AND 4" THICK LAYER OUTSIDE SHELTER TO 4' DIAMETER.

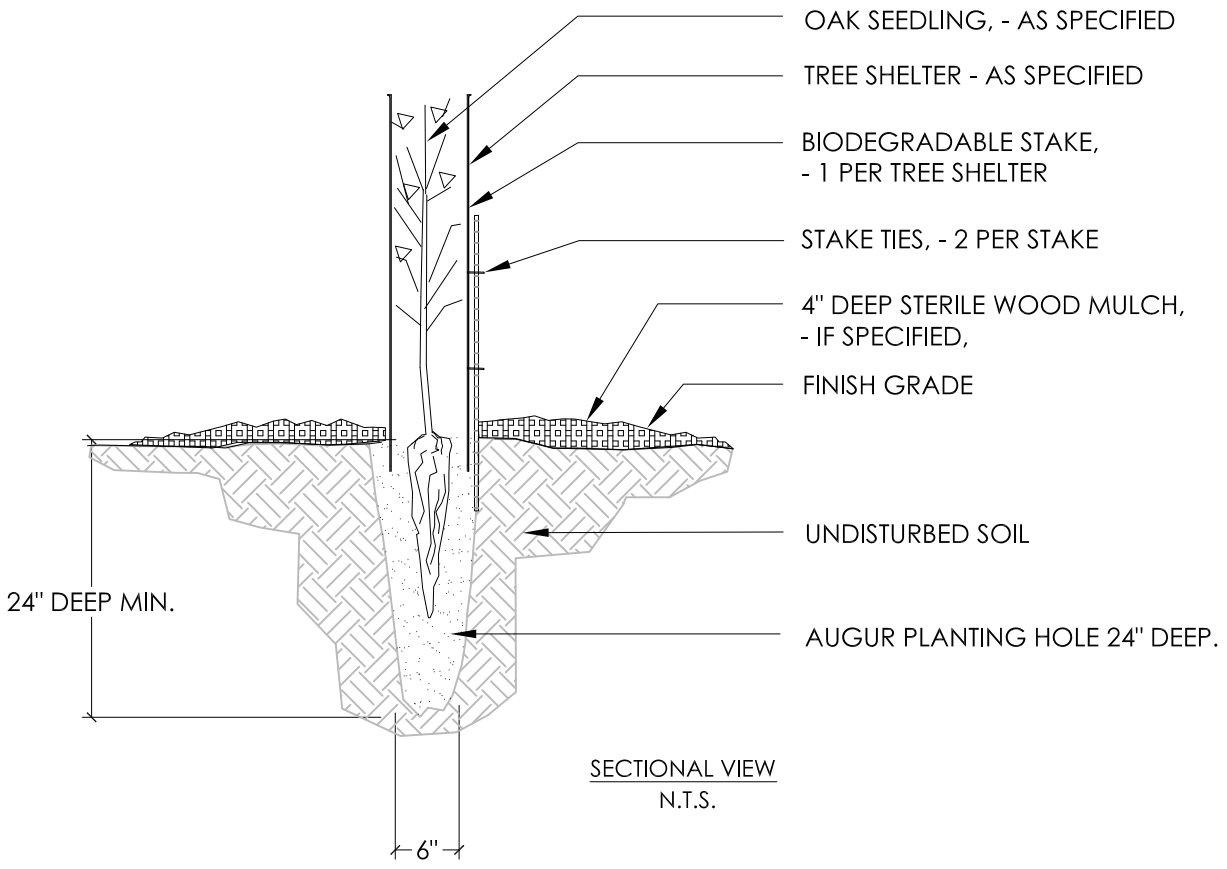
2 ACORN PLANTING AND PROTECTION

Detail for Acorn Planting

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

ATTACHMENT E

Proposed Guidelines for Planting Oak Seedling with Shelter



1. PLANTING HOLES SHALL BE AUGURED 6" WIDE X 24" DEEP.
2. ALL TREES TO RECEIVE SPECIFIED TREE SHELTER.
3. IF VOLE HERBIVORY NOTICED IN IMMEDIATE OR SURROUNDING AREAS PLACE BOTTOM OF SHELTERS 4" BELOW GRADE.

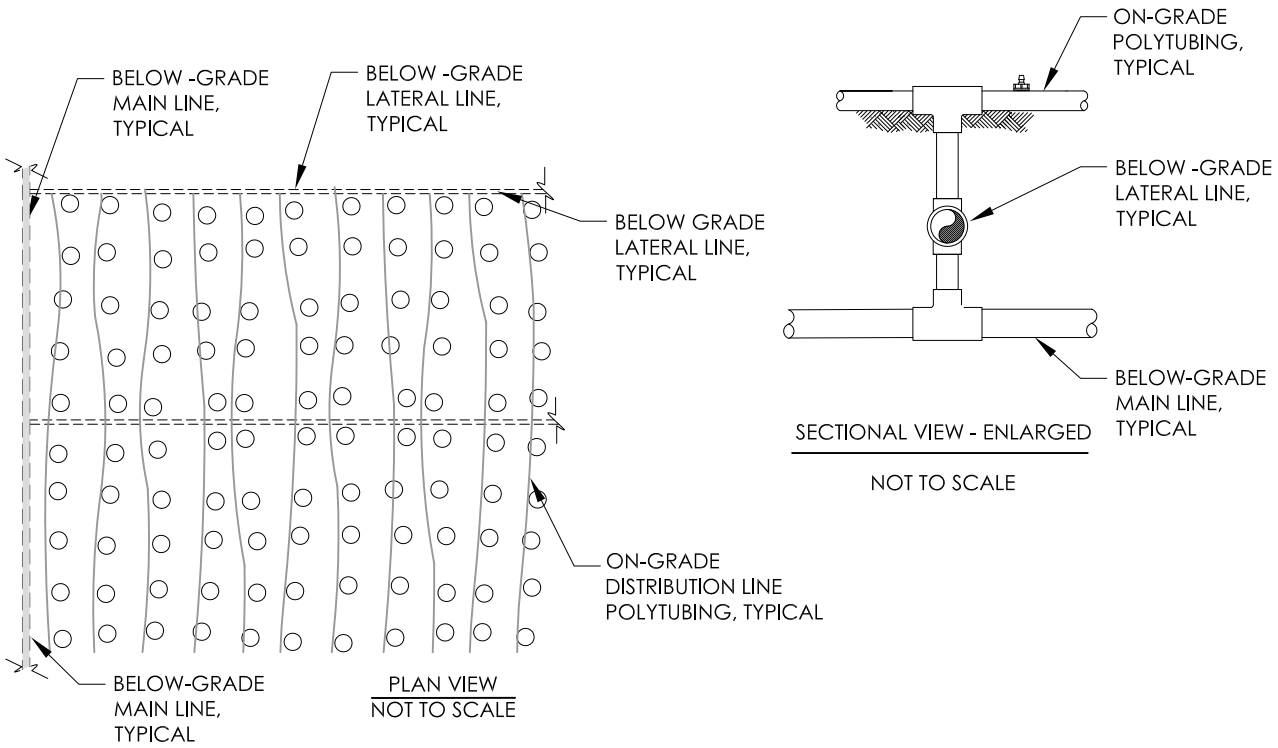
1 PLANTING OAK SEEDLING WITH SHELTER

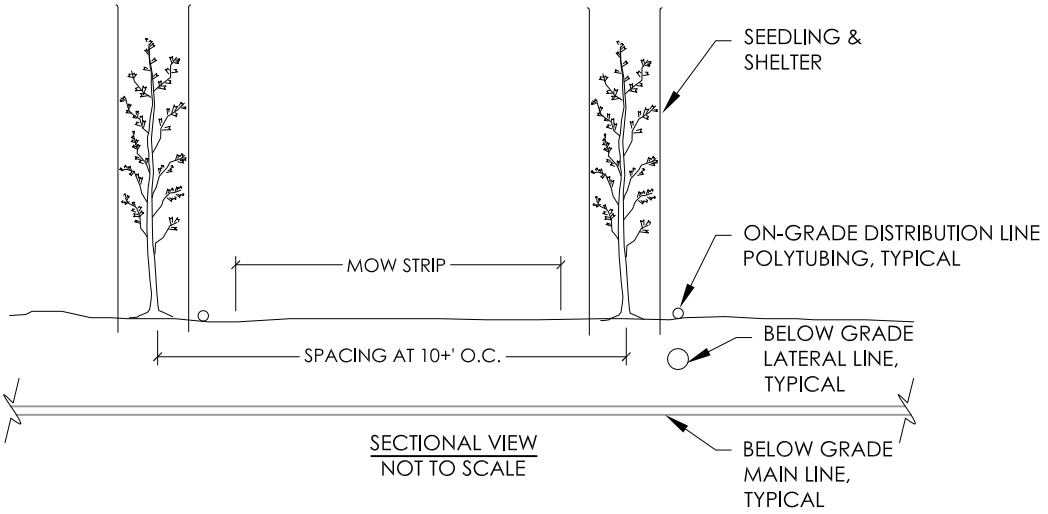
Detail for Oak Seedling Planting

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

ATTACHMENT F

Conceptual Irrigation Layout and Guidelines for Irrigating Oak Seedlings and Acorns





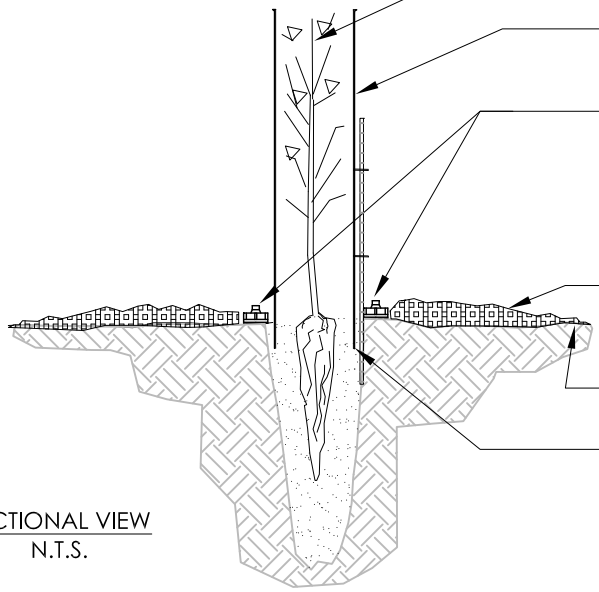
1. TO HELP ENSURE SUCCESS OF CANOPY COVER MITIGATION, PLANT OAK SEEDLINGS AT A DENSITY OF 400 TREES/ACRE.
2. SPACING SHALL BE EQUAL TO OR GREATER THAN 10' O.C.
3. PLANT IN UNDULATING (NOT STRAIGHT) ROWS TO MIMIC NATURAL PATTERN OF OAK WOODLAND.
4. TO ALLOW FOR ANNUAL MOWING, IRRIGATION MAINLINES & LATERAL LINES SHALL BE BURIED AND DISTRIBUTION LINES SHALL RUN IN ONE DIRECTION ONLY. SPACING BETWEEN DISTRIBUTION LINES SHALL EXCEED WIDTH OF MOWER.

4 CONCEPTUAL IRRIGATION LAYOUT FOR OAK SEEDLINGS & ACORNS

X:\2003-019 Gencorp\Landscape\Oak sdlng plant Spcing.dwg, 4/7/2009 10:20:55 AM, Adobe PDF

Detail for Oak Irrigation System Layout

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS



SECTIONAL VIEW
N.T.S.

1. AT THE BEGINNING OF THE DRY SEASON, WATER SEEDLINGS DEEPLY, MOISTENING THE SURROUNDING SOIL TO A DEPTH OF AT LEAST 2'.

2. WATER INFREQUENTLY AND DEEPLY DURING THE DRY SEASON. SEE BELOW FOR TYPICAL IRRIGATION SCHEDULE, WHICH IS MEANT AS A GUIDE TO DETERMINE IRRIGATION FREQUENCY. ACTUAL SCHEDULE WILL BE DEPENDENT ON SOIL TYPE, EXPOSURE, AND LOCALE OF PLANTINGS. FOR EACH SUBSEQUENT WATERING, MOISTEN SURROUNDING SOIL TO A DEPTH OF AT LEAST 1'. NEWLY PLANTD SEEDLINGS WILL REQUIRE MORE FREQUENT WATERINGS.

3. ON LARGE-TRACK PLANTINGS, USE SOIL MOISTURE SENSOR WITH REMOTE CONTROL READER TO GUAGE WHEN SOIL IS DRY AND PLANTINGS SHOULD BE WATERED.

4. WATER DELIVERY DURING EACH WATERING CYCLE MUST PROVIDE ENOUGH WATER TO MOISTEN SOIL WITHIN TREE SHELTER.

IRRIGATION SCHEDULE GUIDELINES FOR OAK SEEDLINGS & ACORNS

SEASON	GOAL	YEAR 1	YEAR 2	YEAR 3	YEAR 4
MID SPRING (TYPICALLY MID APRIL)	DEEP WATER, MOISTENING SOIL TO DEPTH OF 2'+.	ONCE	ONCE	ONCE	ONCE, IF NEEDED
EARLY SUMMER	DEEP WATER, MOISTENING SOIL TO DEPTH OF 1'+.	ONCE / 2 WEEKS	ONCE / 3 WEEKS	ONCE / 4 WEEKS	MONITOR ONLY
LATE SUMMER	DEEP WATER, MOISTENING SOIL TO DEPTH OF 1'+.	ONCE / 3 WEEKS	ONCE / 3-4 WEEKS	ONCE / 4 WEEKS IF NEEDED	MONITOR ONLY
FALL - MID SPRING	NO WATERING REQUIRED	NONE	NONE	NONE	SYSTEM DISCONNECTED

3 IRRIGATING OAK SEEDLINGS & ACORNS

Detail for Oak Seedling Irrigation

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Appendix G

Native American Consultation Documentation

DEVELOPMENT SERVICES DEPARTMENT

COUNTY OF EL DORADO **http://www.edcgov.us/devservices**

PLACERVILLE OFFICE:
2850 FAIRLANE COURT PLACERVILLE, CA 95667
BUILDING (530) 621-5315 / (530) 622-1708 FAX
bldgdept@edcgov.us
PLANNING (530) 621-5355 / (530) 642-0508 FAX
planning@edcgov.us

LAKE TAHOE OFFICE:
3368 LAKE TAHOE BLVD. SUITE 302
SOUTH LAKE TAHOE, CA 96150
(530) 573-3330
(530) 542-9082 FAX
tahoebuild@edcgov.us

December 6, 2012

Debbie Pilas-Treadway
Native American Heritage Commission
915 Capitol Mall, Room 364
Sacramento, CA 95814

Re: Sacred Lands Search and contacts for the Lime Rock Valley, Central El Dorado Hills, Village of Marble Valley Specific Plans
File Nos. SP12-0001, SP12-0002, and SP12-0003

Dear Ms. Pilas-Treadway:

I am requesting a sacred lands search to identify the presence of any Native American cultural resources within the project area of each of the proposed specific plans in El Dorado County. I am also requesting a list of Native American contacts for the project area in order to request consultation in compliance with Senate Bill SB18. In the coming months, the County will be initiating the EIR process for these projects. For your reference and review, attached are each of specific plan area exhibits and maps depicting the quadrant identification and township and range (Exhibits A-D).

Your assistance and prompt feedback would be invaluable to this process. Should you have any questions, I can be reached directly at 530-621-5363 or via email at Rommel.Pabalinas@edcgov.us.

Cordially,

Mel Pabalinas, Senior Planner

Exhibits:

A. Composite Map of Lime Rock Valley, Central El Dorado Hills, Village of Marble Valley Specific Plans
B. Specific Plan- Project Parcels
C. Quadrant, Township, and Range Maps
D. Specific Plan Exhibits

Cc. Project Files

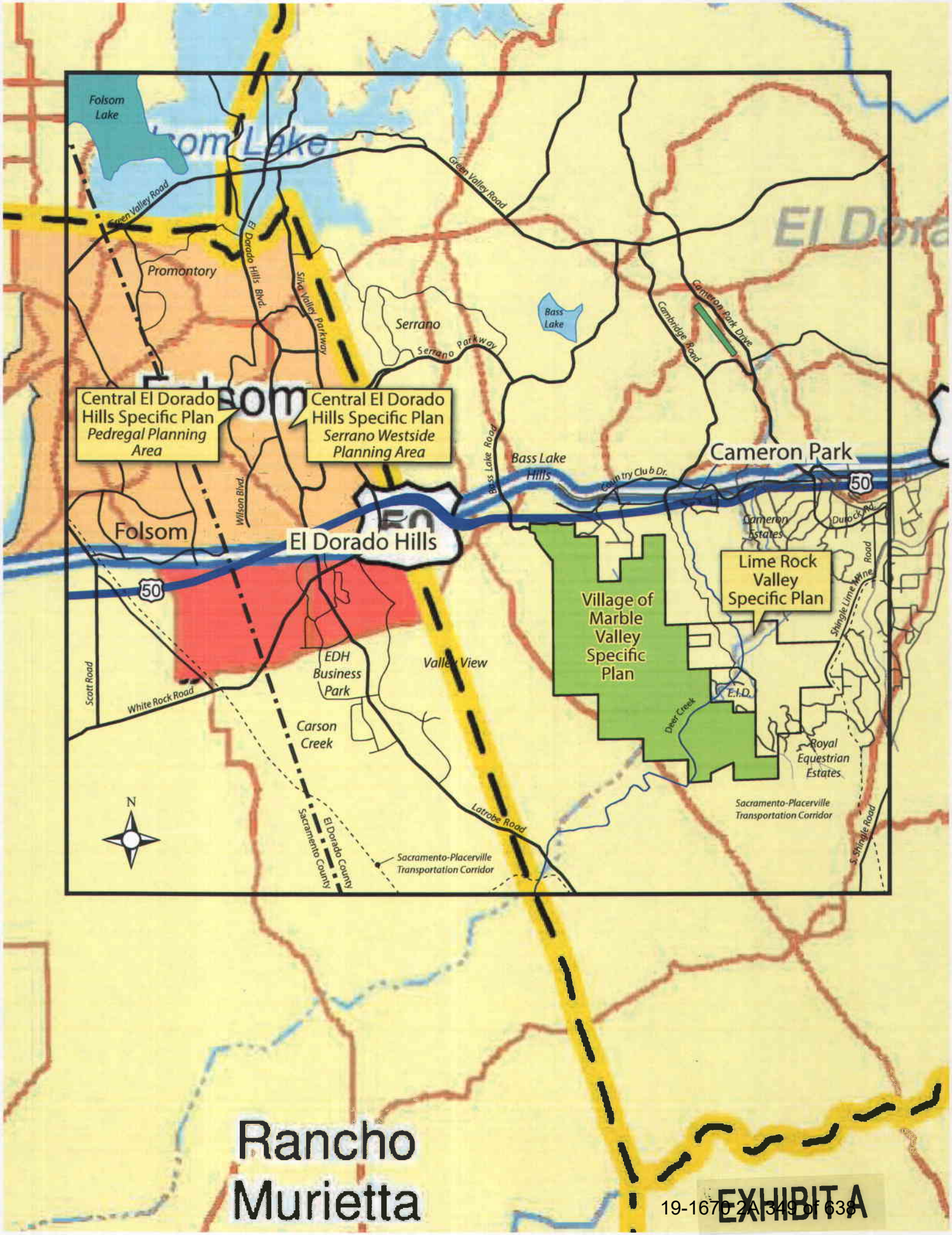
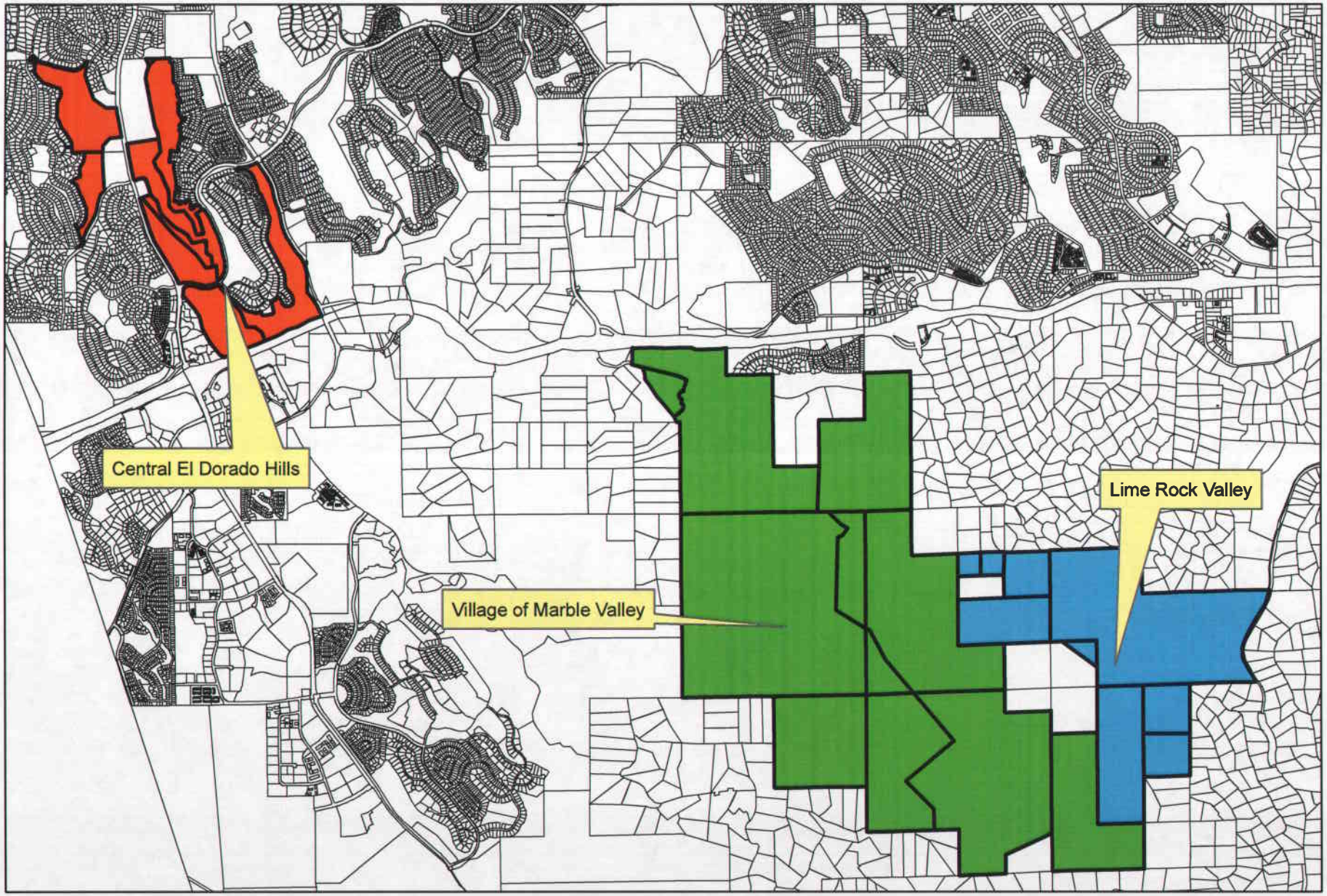

Folsom Lake
Green Valley Road
El Dorado Hills Blvd.
Silva Valley Parkway
Promontory
Serrano
Serrano Parkway
Bass Lake
Cambridge Road
Cameron Park Drive
Central El Dorado Hills Specific Plan
Pedregal Planning Area
Central El Dorado Hills Specific Plan
Serrano Westside Planning Area
Bass Lake Road
Bass Lake Hills
Country Club Dr.
Cameron Park
50
Cameron Estates
Dunock Rd.
Folsom
Wilson Blvd.
El Dorado Hills
Lime Rock Valley Specific Plan
Shingle Line Road
Village of Marble Valley Specific Plan
Scott Road
White Rock Road
EDH Business Park
Valley View
E.I.D.
Deer Creek
Carson Creek
Royal Equestrian Estates
Sacramento-Placerville Transportation Corridor
N
Latrobe Road
Sacramento County
El Dorado County
Sacramento-Placerville Transportation Corridor
S. Shingle Road
Rancho Murietta

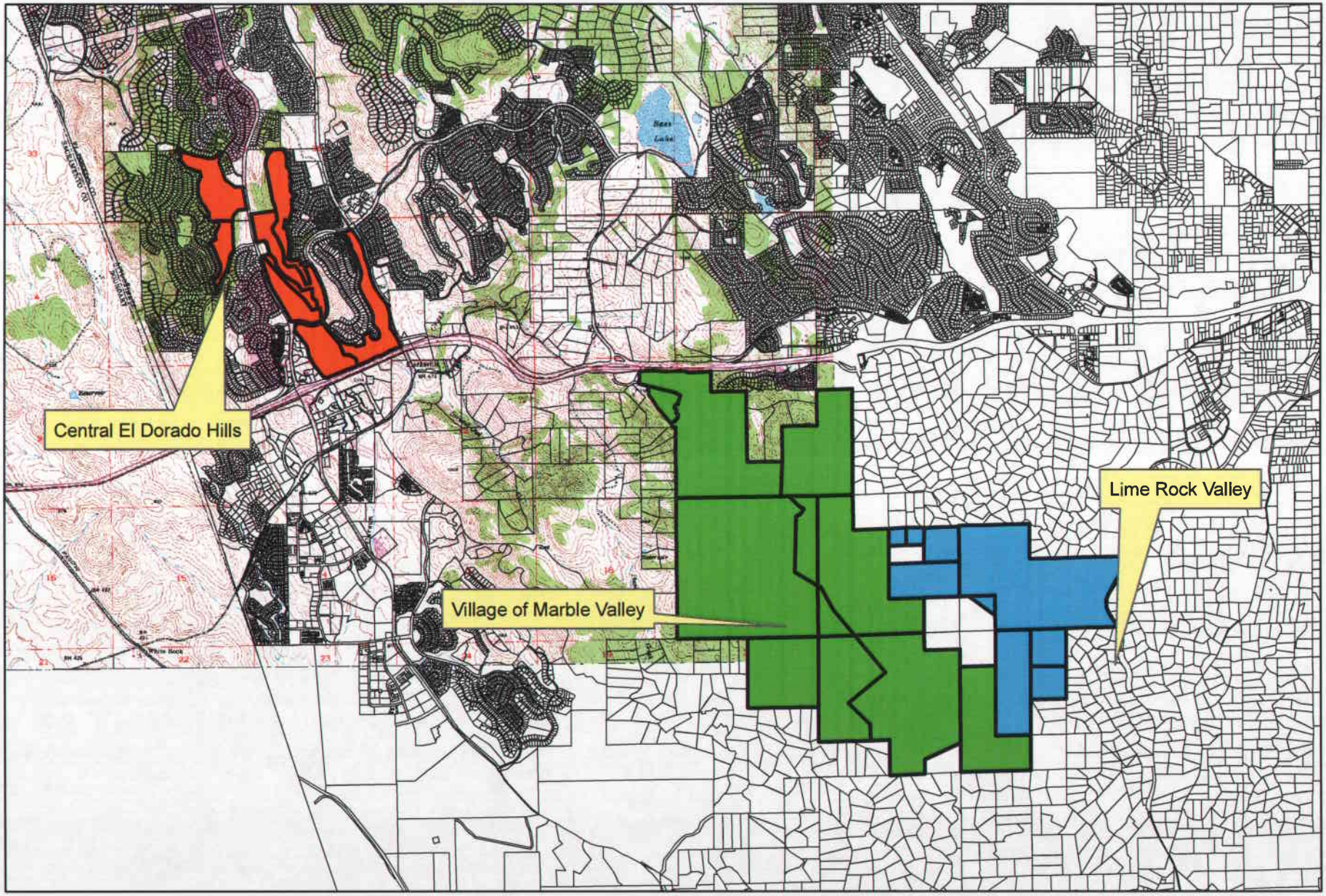
EXHIBIT A



Central El Dorado Hills, Village of Marble Valley and Lime Rock Valley Specific Plans

EXHIBIT B

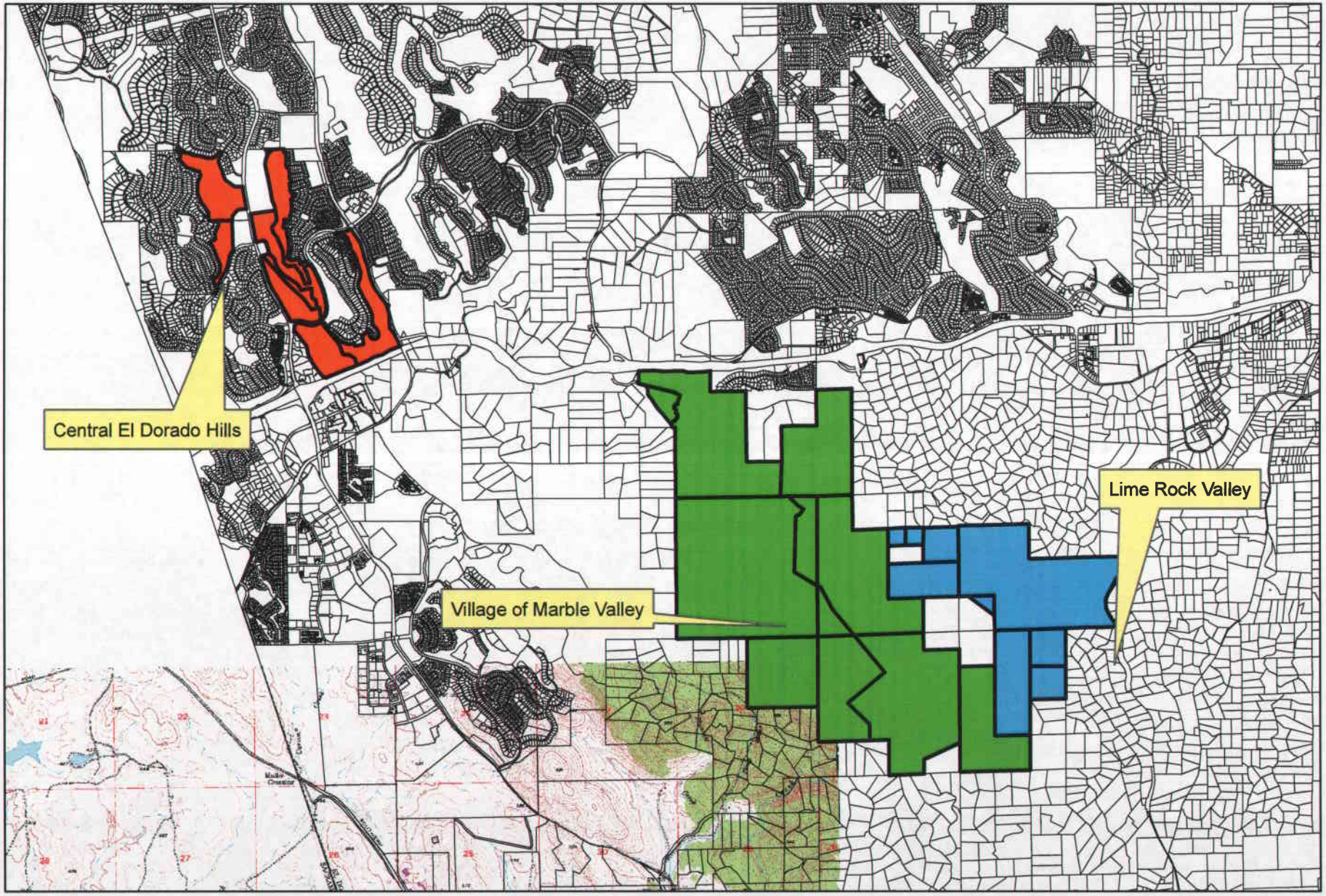
19-1670 ZA 850 of 638



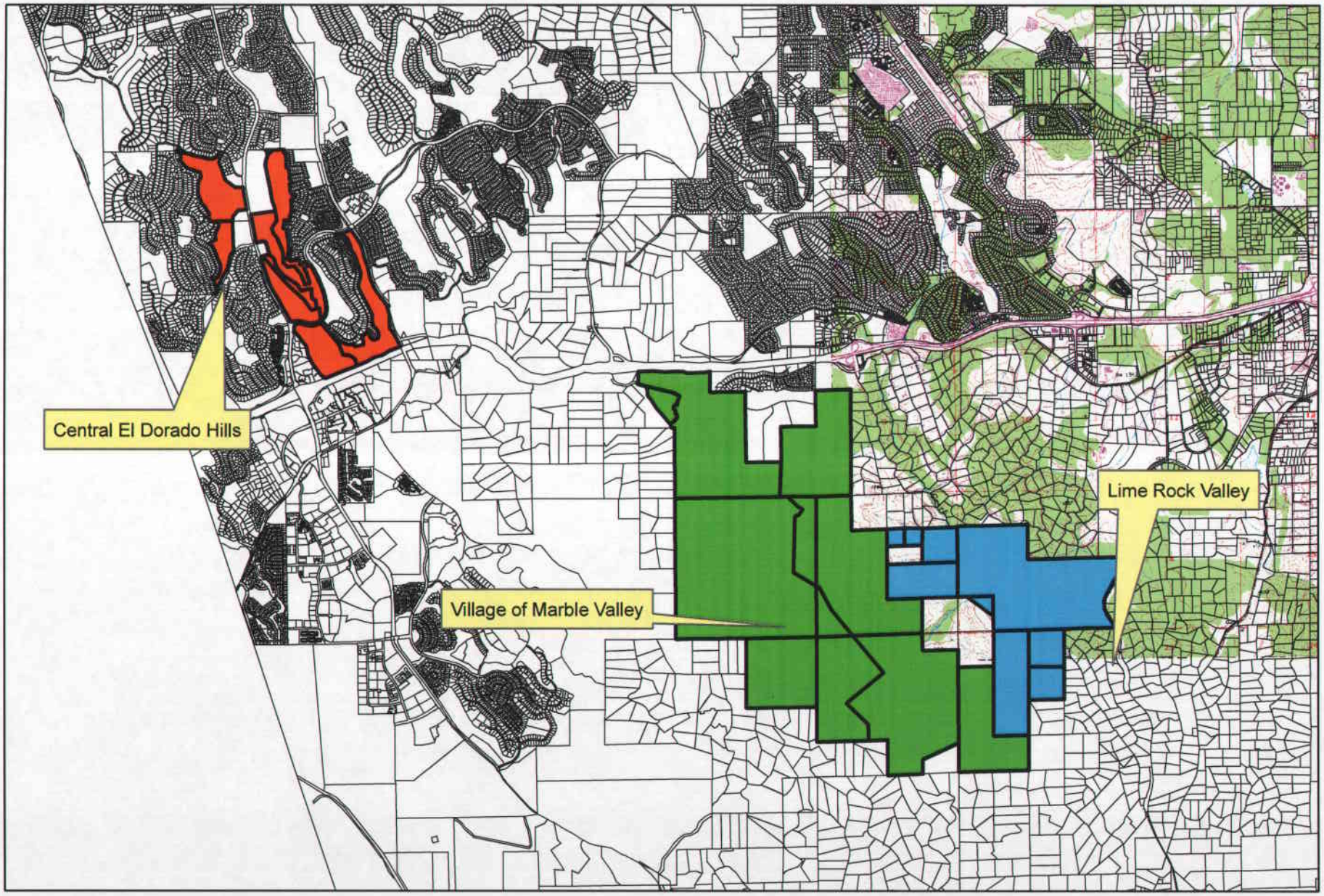
Central El Dorado Hills, Village of Marble Valley and Lime Rock Valley Specific Plans (Clarksville Quadrant)

EXHIBIT C

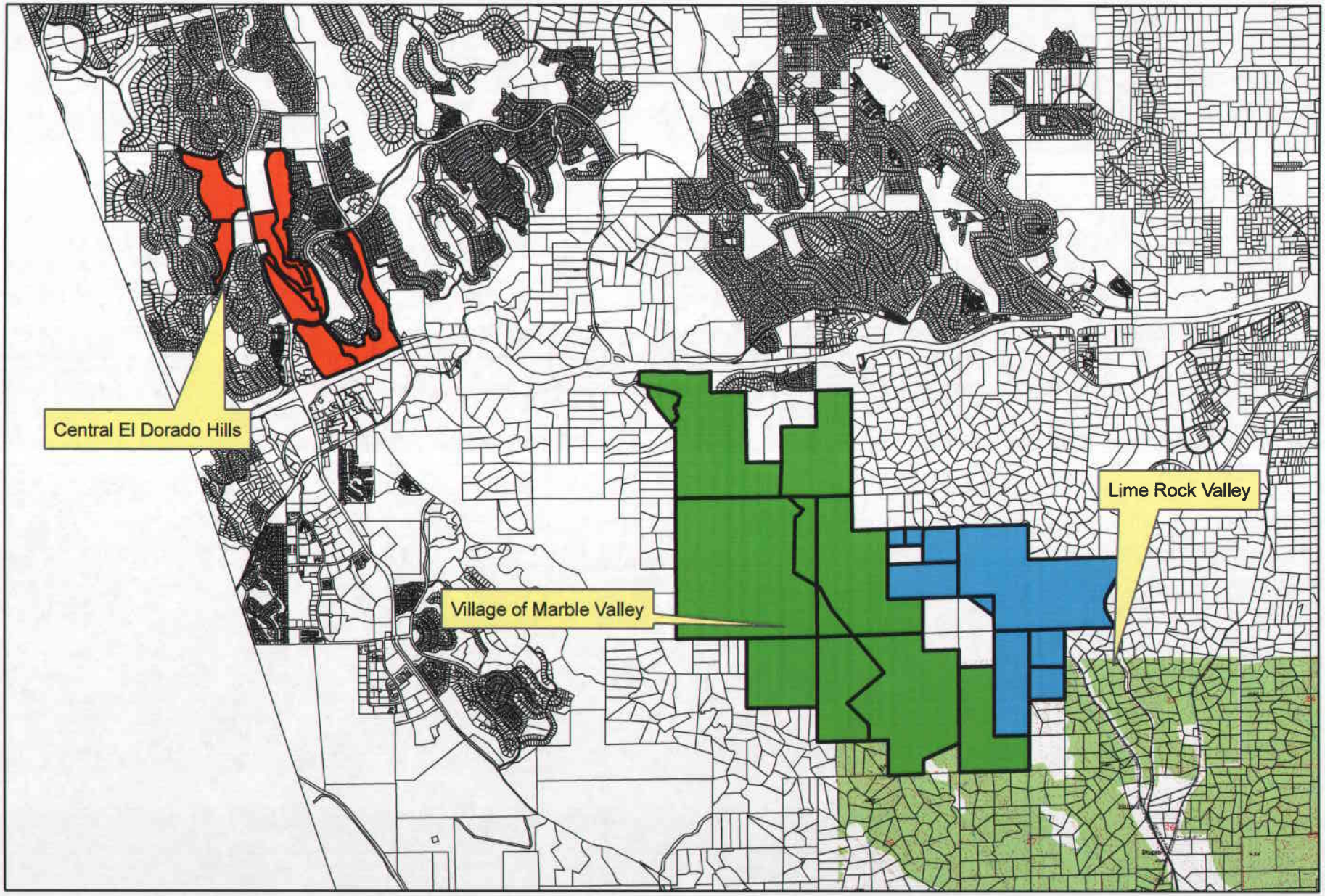
19-1670 2A 36 of 63



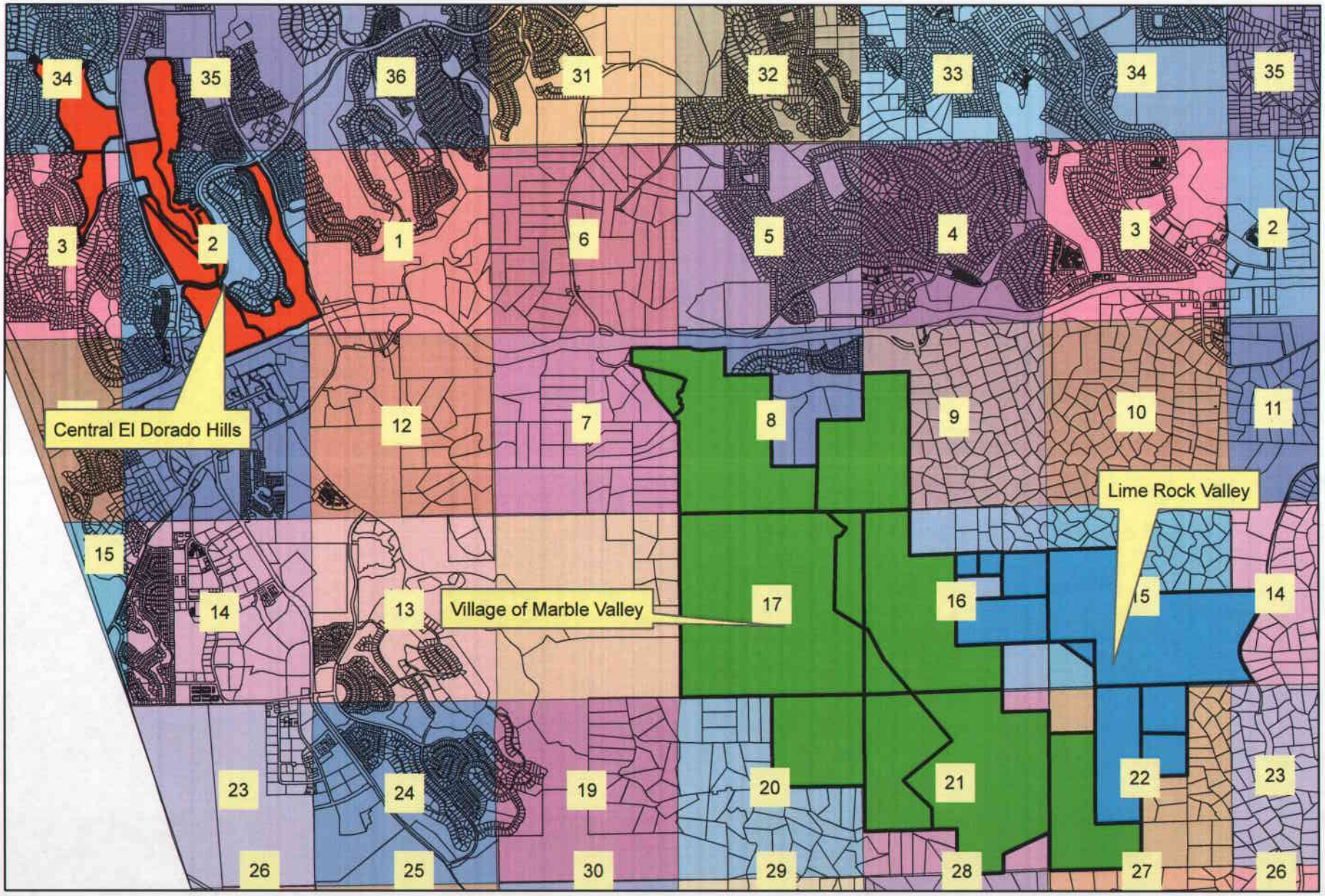
Central El Dorado Hills, Village of Marble Valley and Lime Rock Valley Specific Plans (Folsom SE Quadrant)



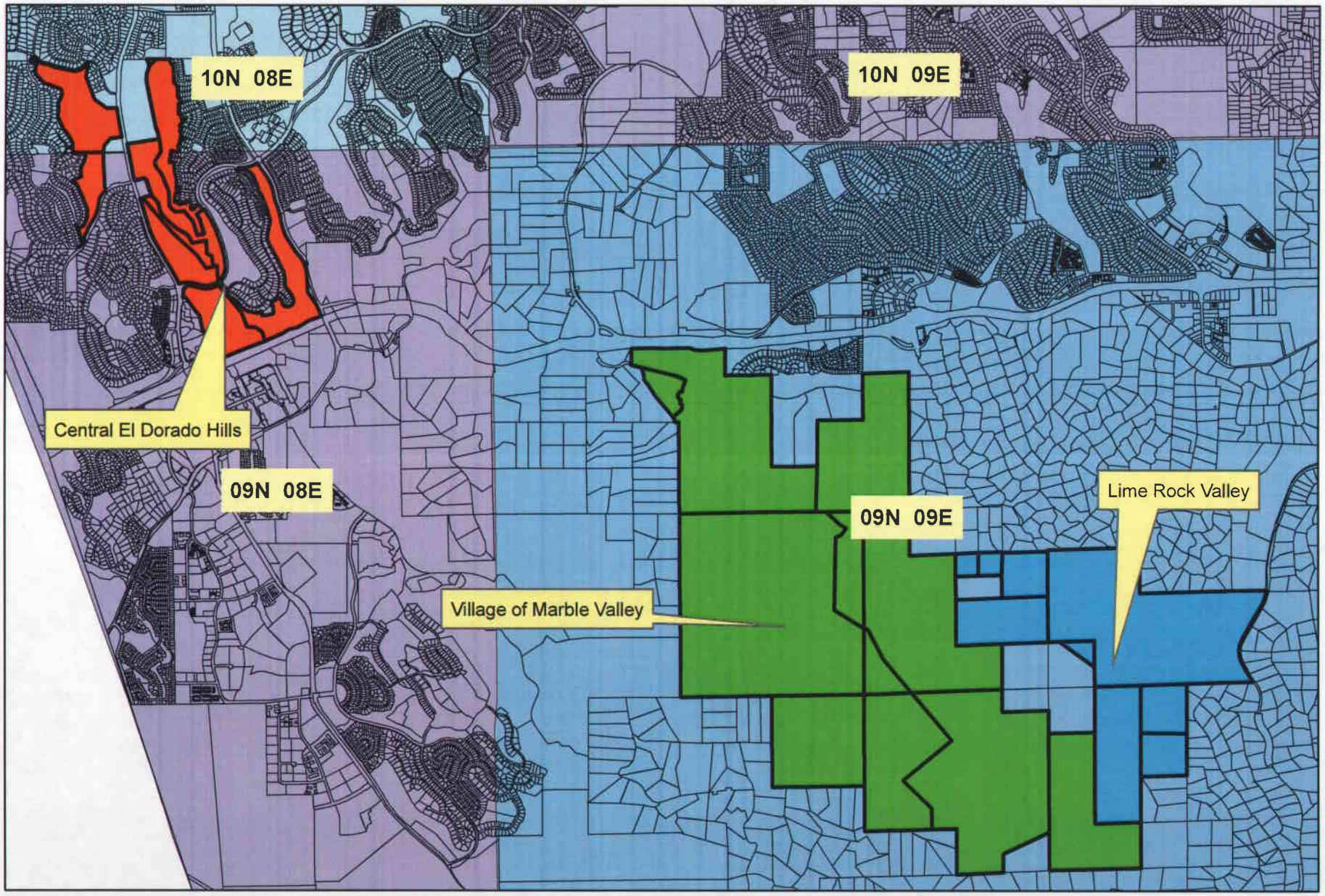
Central El Dorado Hills, Village of Marble Valley and Lime Rock Valley Specific Plans (Shingle Springs Quadrant)



Central El Dorado Hills, Village of Marble Valley and Lime Rock Valley Specific Plans (Latrobe Quadrant)



Central El Dorado Hills, Village of Marble Valley and Lime Rock Valley Specific Plans (Sections)



Central El Dorado Hills, Village of Marble Valley and Lime Rock Valley Specific Plans (Township and Range)

CENTRAL EL DORADO HILLS SPECIFIC PLAN

AERIAL MAP OF PROJECT SITE WITH ADJACENT USES

COUNTY OF EL DORADO, CALIFORNIA

NOVEMBER 2012

0 200' 400' 800'

SCALE IN FEET

R. E. Y. ENGINEERS, Inc.
Civil Engineers / Land Surveyors

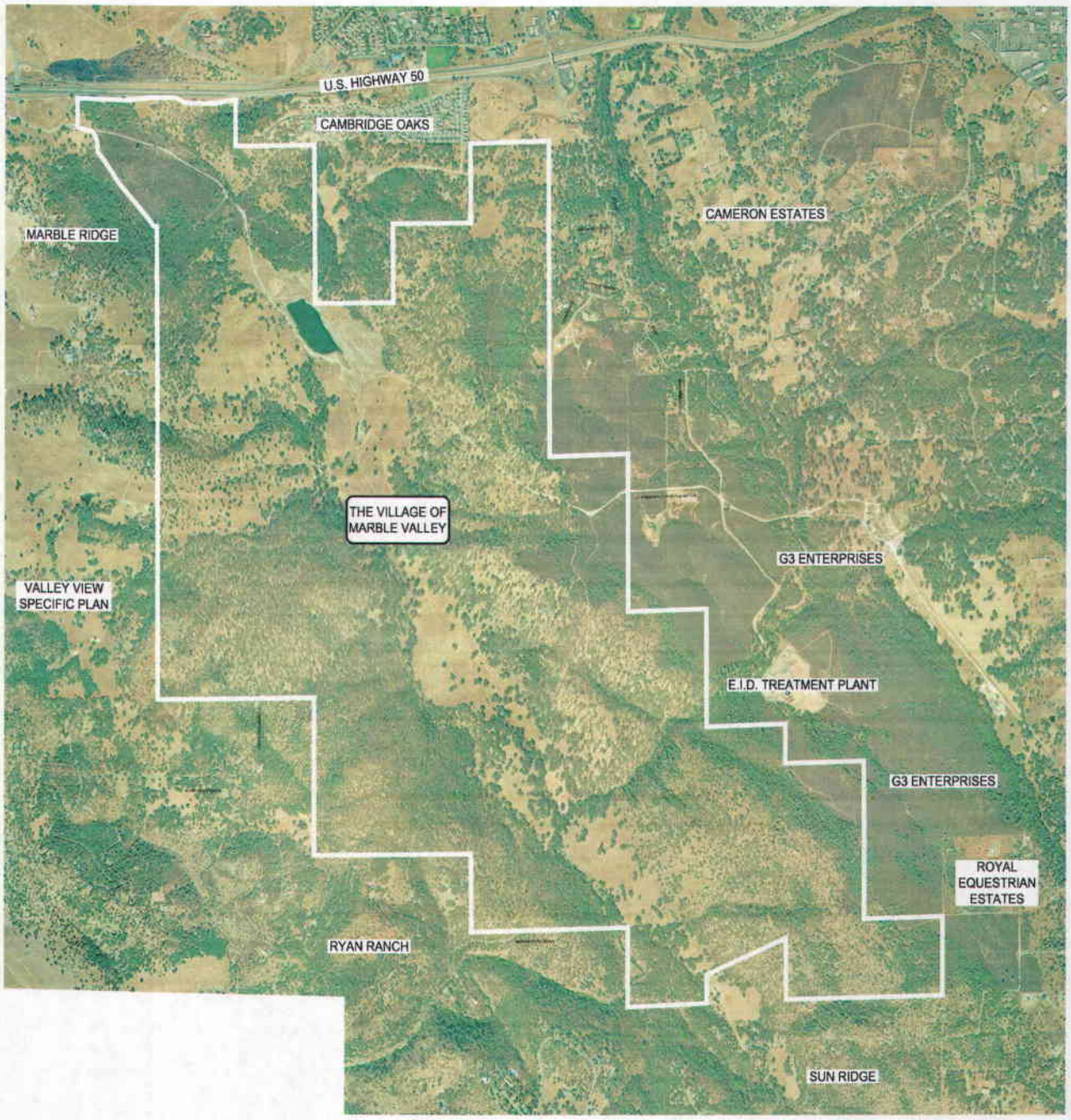
EXHIBIT D

THE VILLAGE OF MARBLE VALLEY SPECIFIC PLAN

AERIAL MAP OF PROJECT SITE WITH ADJACENT USES

COUNTY OF EL DORADO, CALIFORNIA

NOVEMBER 2012



0 400' 800' 1600'

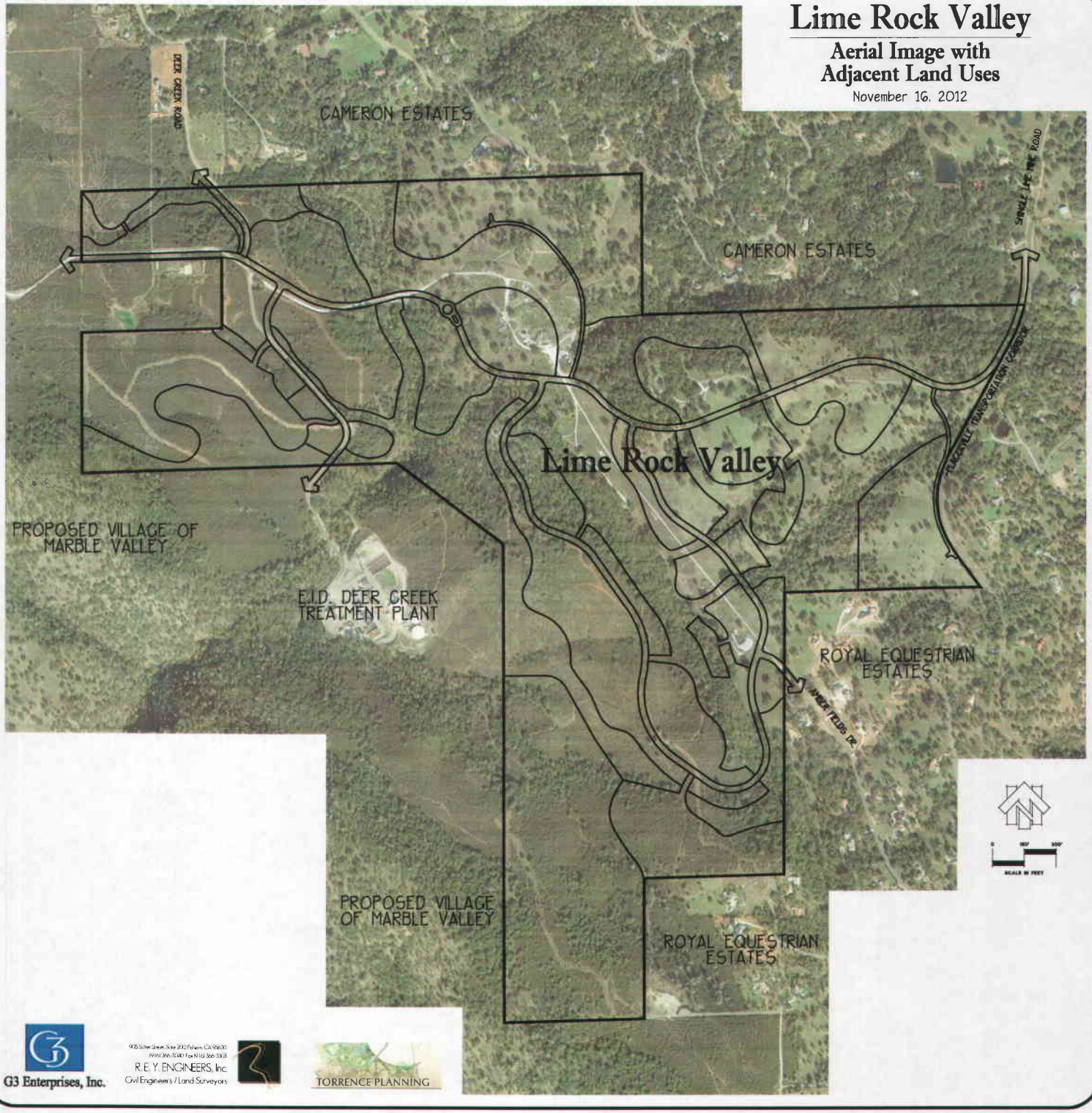
SCALE IN FEET

R. E. Y. ENGINEERS, Inc.
Civil Engineers / Land Surveyors

Lime Rock Valley

Aerial Image with Adjacent Land Uses

November 16, 2012



G3 Enterprises, Inc.

R.E.Y. ENGINEERS, Inc.
Civil Engineers / Land Surveyors

TORRENCE PLANNING

Chiu, Bonnie

From: Rommel Pabalinas <rommel.pabalinas@edcgov.us>
Sent: Tuesday, December 11, 2012 3:09 PM
To: nahc@pacbell.net
Cc: Pat Angell; Kent MacDiarmid; Chiu, Bonnie
Subject: Quadrant, Sections, Township for Specific Plans

Dear Ms. Fowler:

Thank you for contacting me. Per your request below are the quadrant, section, township information for the Central El Dorado Hills, Village of Marble Valley, and Lime Rock Valley Specific Plan. The information supplements the correspondence that I sent today and last week. Please let me know should you need any additional information.

Central El Dorado Hills Specific Plan

Quadrant: Clarksville
Sections: 1-3, 11, 34 and 35
Township: 10N 08E and 09N 08E

Village of Marble Valley Specific Plan

Quadrants: Clarksville, Folsom SE, Latrobe and Shingle Springs
Sections: 7-9, 16, 17, 20-22
Township: 09N 09E

Lime Rock Valley Specific Plan

Quadrant: Shingle Springs and Latrobe
Sections: 14-16, 22
Township: 09N 09E

==========

Rommel (Mel) Pabalinas, Senior Planner
El Dorado County Development Services Department
Planning Division
2850 Fairlane Court
Placerville, CA 95667
Main Line 530-621-5355
Direct line 530-621-5363
Fax 530-642-0508

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Thank you.

STATE OF CALIFORNIA Edmund G. Brown, Jr., Governor

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-6251
Fax (916) 657-5390

January 15, 2013

Mel Pabalinas, Senior Planner
Development Services Department
County of El Dorado

Sent by Fax: 530-642-0508
Number of Pages: 2

RE: SB 18 Tribal Consultation and Sacred Lands File Check for the Lime Rock Valley, Central El Dorado Hills, Village of Marble Valley Specific Plans, File Nos. SP12-0001, SP12-0002, and SP12-0003; El Dorado County

Dear Mr. Pabalinas:

Government Code §65352.3 requires local governments to consult with California Native American tribes identified by the Native American Heritage Commission (NAHC) for the purpose of protecting, and/or mitigating impacts to cultural places. Attached is a consultation list of tribes with traditional lands or cultural places located within the boundaries of the above general plan amendment.

As a part of consultation, the NAHC recommends that local governments conduct record searches through the NAHC and California Historic Resources Information System (CHRIS) to determine if any cultural places are located within the area(s) affected by the proposed action. A record search of the Native American Heritage Commission *Sacred Lands File* indicates the potential of Native American cultural resources in the project vicinity that may be impacted. The site is on the *Shingle Springs* USGS quadrangle (Township 9 north, Range 9 east, section 9). The site is known as the *Boychuk Site*. It is also a recorded archaeological site, number CA-ELD-225. For specific information regarding this site, please contact the Singles Springs Rancheria. The tribe's telephone number is on the attached list. Local governments should also be aware that records maintained by the NAHC and CHRIS is not exhaustive. A tribe may be the only source of information regarding the existence of a cultural place.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance we are able to assure that our consultation list contains current information.

If you have any questions, please contact me at my email address: rw_nahc@pacbell.net.

Sincerely,

Rob Wood
Associate Government Program Analyst

13 JAN 15 PM 2:11
RECEIVED
PLANNING DEPARTMENT

TRIBAL CONSULTATION LIST
El Dorado County
January 15, 2013

Wilton Rancheria
Andrew Franklin, Chairperson
9300 W. Stockton, Suite Miwok
Elk Grove , CA 95758
916-683-6000

Shingle Springs Band of Miwok Indians
Nicholas Fonseca, Chairperson
P.O. Box 1340 Miwok
Shingle Springs, CA 95682 Maidu
nfonseca@ssband.org
(530) 676-8010

United Auburn Indian Community of the Auburn Rancheria
David Keyser, Chairperson
10720 Indian Hill Road Maidu
Auburn , CA 95603 Miwok
530-883-2390

Nashville-El Dorado Miwok
Cosme Valdez, Interim Chief Executive Officer
PO Box 580986 Miwok
Elk Grove , CA 95758
valdezcom@comcast.net
916-429-8047 voice

Ione Band of Miwok Indians
Yvonne Miller, Chairperson
PO Box 699 Miwok
Plymouth , CA 95669
(209) 274-6753

T'Si-akim Maidu
Grayson Coney, Cultural Director
P.O. Box 1316 Maidu
Colfax , CA 95713
akimmaidu@att.net
(530) 383-7234

Buena Vista Rancheria
Rhonda Morningstar Pope, Chairperson
1418 20th Street, Suite 200 Me-Wuk / Miwok
Sacramento , CA 95811
rhonda@buenavistatribe.com
916 491-0011

T si-Akim Maidu
Eileen Moon,Vice Chairperson
1239 East Main St. Maidu
Grass Valley, CA 95945
530-274-7497

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is applicable only for consultation with Native American tribes under Government Code Section 65352.3.
Lime Rock Valley, Central El Dorado Hills, Village of Marble Valley Specific Plans, File NOS. SP12-0001, SP12-0002, and SP12-0003, El Dorado Co.

MIWOK United Auburn Indian Community
MAIDU of the Auburn Rancheria

Gene Whitehouse, Chairman | John L. Williams, Vice Chairman | Brenda Adams, Treasurer | Calvin Moman, Council Member

12 FEB 26 AM 11:59
RECEIVED
PLANNING DEPARTMENT

February 12, 2013

Mel Pabalinas
Development Services Department
County of El Dorado
2850 Fairlane Court
Placerville, CA 95667

Subject: SB 18 Consultation for the Central El Dorado Hills SP, Project File No. SP12-0002

Dear Mr. Pabalinas,

Thank you for requesting information regarding the above referenced project. The United Auburn Indian Community (UAIC) of the Auburn Rancheria is comprised of Miwok and Southern Maidu (Nisenan) people whose tribal lands are within Placer County and ancestral territory spans into El Dorado, Nevada, Sacramento, Sutter, and Yuba counties. The UAIC is concerned about development within its aboriginal territory that has potential to impact the lifeways, cultural sites, and landscapes that may be of sacred or ceremonial significance. We appreciate the opportunity to comment on this and other projects in your jurisdiction.

In order to ascertain whether or not the project could affect cultural resources that may be of importance to the UAIC, we would like to receive copies of any archaeological reports that have been, or will be, completed for the project. We also request copies of future environmental documents for the proposed project so that we have the opportunity to comment on potential impacts and proposed mitigation measures related to cultural resources. The UAIC would also like the opportunity to have our tribal monitors accompany you during the field survey. The information gathered will provide us with a better understanding of the project and cultural resources on site and is invaluable for consultation purposes.

The UAIC's preservation committee has identified cultural resources within your project area and in close proximity, and would like to request a site visit to confirm their locations and meet with you regarding this project. Thank you again for taking these matters into consideration, and for involving the UAIC early in the planning process. We look forward to reviewing the aforementioned documents as requested. Please contact Marcos Guerrero, Cultural Resources Manager, at (530) 883-2364 or email at mguerrero@auburnrancheria.com if you have any questions.

Sincerely,

Gene Whitehouse,
Chairman

CC: Marcos Guerrero, CRM

Tribal Office 10720 Indian Hill Road Auburn, CA 95603 (530) 883-2390 FAX (530) 883-2380

Response to SB 18 Consultation Letter from United Auburn Indian Community

Rommel Pabalinas <rommel.pabalinas@edcgov.us> Fri, Mar 1, 2013 at 12:09 PM
To: Marcos Guerrero <mguerrero@auburnrancheria.com>

Hello, Marcos:

Per our discussion this morning, the response letter that I received from Gene Whitehouse appears to respond only to the Central El Dorado Hills Specific Plan (file number SP12-0002). As I indicated in our discussion, I distributed two other SB 18 Consultation letters involving Lime Rock Valley Specific Plan (SP12-0001) and Village of Marble Valley Specific Plan. Please let me know in writing if you would like to extend a similar request to be consulted on these two other projects.

Thank you.

--
==========
Rommel (Mel) Pabalinas, Senior Planner
El Dorado County Development Services Department
Planning Division
2850 Fairlane Court
Placerville, CA 95667
Main Line 530-621-5355
Direct line 530-621-5363
Fax 530-642-0508

Wilton Rancheria
9300 W. Stockton Blvd., Suite 200
Elk Grove, CA 95758
Ph: (916) 683-6000
Fax: (916) 683-6015

13 MAR 18 PM 1:36
RECEIVED
PLANNING DEPARTMENT

March 15, 2013

To: Mel Pabalinas, Senior Planner

Development Services Department

County of El Dorado

2850 Fairlane Court

Placerville, CA 95667

Re: SB 18 Tribal Consultation for Central El Dorado Hills Specific Plan Project

File No. SP12-0002

Dear Mr. Pabalinas:

Thank you for your letter regarding the above named project. Wilton Rancheria is comprised of Miwok people whose ancestral territory spans are within El Dorado and surrounding Counties. Wilton Rancheria is concerned about development within its ancestral territory that has potential to impact the lifeways, traditional cultural properties and landscapes that may be of sacred or ceremonial significance. We appreciate the opportunity to comment on this and other projects in your jurisdiction.

To determine whether or not the project could affect cultural resources that may be of importance to Wilton Rancheria, we would like to receive copies of any completed record searches and or archeological, cultural and environmental surveys that have been, or will be, completed for the project. The information gathered will provide us with a better understanding of the project and cultural resources on site and is invaluable for consultation purposes.

Thank you again for taking these matters into consideration, please contact Steven Hutchason, Director of Cultural Rights Protection, at (916) 683-6000 or email at shutchason@wiltonrancheria-nsn.gov if you have any questions.

Sincerely,

Steven Hutchason, Director Cultural Rights Protection
Cc: Roger Trout

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

September 13, 2005

Ms. Debbie Pilas-Treadway
Associate Governmental Program Analyst
Native American Heritage Commission
915 Capital Mall, Room 364
Sacramento, CA 95814

RE: Cultural Resources Identification Effort at Pedregal Property, El Dorado County, California T 9N, R 8E, Section 3 and T 10N, R 8E, Section 34.

Dear Ms. Pilas-Treadway:

ECORP Consulting, Inc. has been retained to assist in the planning of the development on the parcel indicated above. As part of the identification effort, we are seeking information from all parties that may have knowledge of or concerns with historic properties or cultural resources in the area of potential effect.

Included is a map showing the project area outlined. We would appreciate input on this undertaking from the Native American community with concerns about possible traditional cultural properties or potential impacts within or adjacent to the area of potential effect. Please understand that this is not a request for location, data or any other information that may be deemed sensitive or confidential to individual Native Americans, Native American organizations, or Federally Recognized Tribes. Information on other parties that may have interests or concerns in the undertaking would be appreciated. Thank you in advance for your assistance in our cultural resource management consultation.

Sincerely,

Julia K Green

Julia K. Green, M.A., RPA
Cultural Resource Manager

2260 Douglas Blvd., Suite 160
Roseville, California 95661
Tele: (916) 782-9100
Fax: (916) 782-9134
Email: ecorp@ecorpconsulting.com
Web: www.ecorpconsulting.com

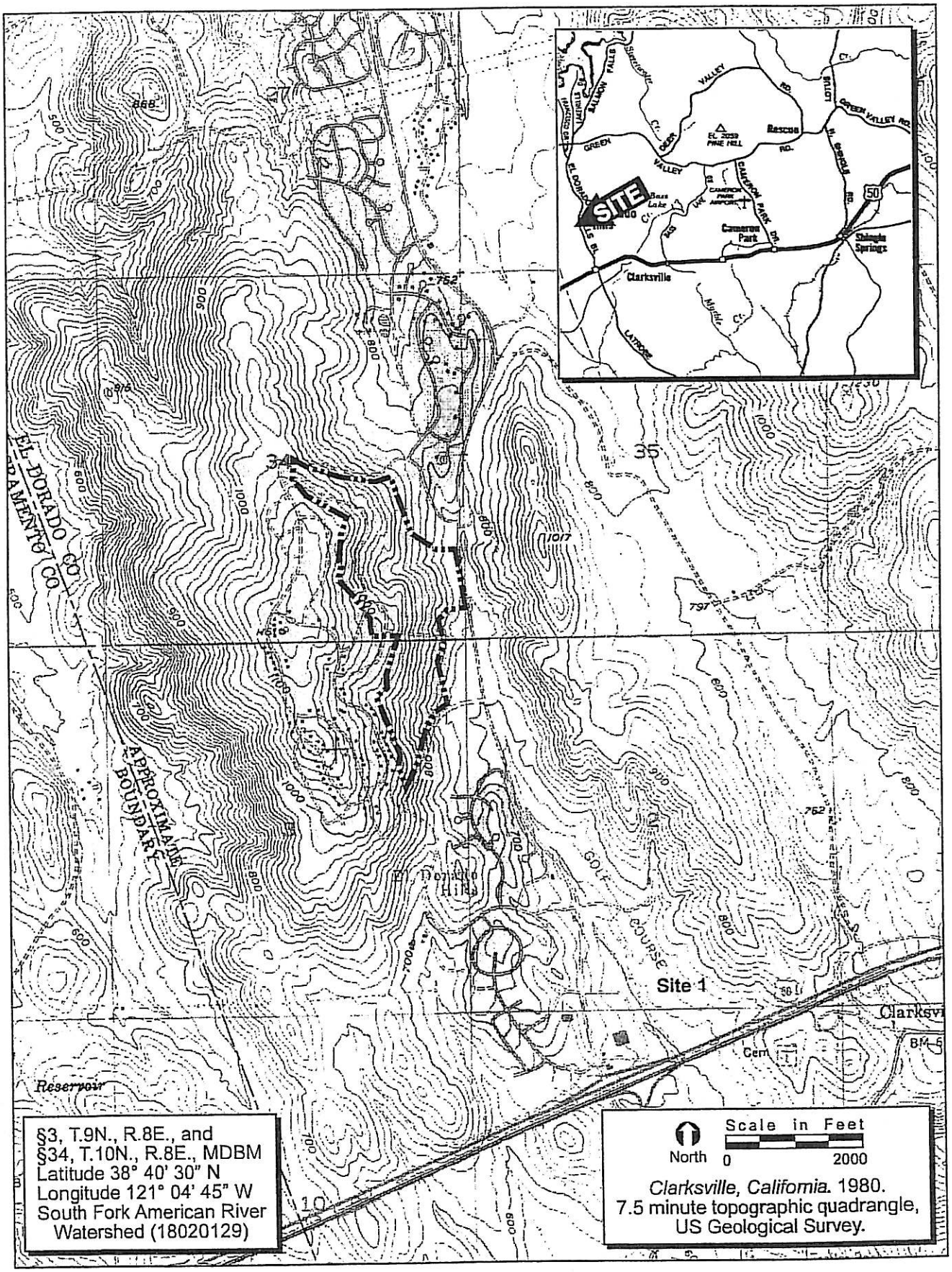

FIGURE 1. Project Site and Vicinity Map

2005-219 Pedregal Property

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS
©2005

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-4082
Fax (916) 657-5390
Web Site www.nahc.ca.gov

August 20, 2005 (correction: September 20, 2005)

Julia K. Green
ECORP Consulting, Inc.
2260 Douglas Blvd. Suite 160
Roseville, CA 95661

Sent by Fax: 916-782-9134
Number of Pages: 11

RE: **Proposed Pedregal Property, El Dorado Co., Foresthill Property, Placer Co., Loomis Town Center, Placer Co., Flaming Arrow Pipeline Alignment Project, Sacramento Co., Watt Elkhorn Project, Sacramento Co., Easton Place Project, Sacramento Co., Parkside Project, Sacramento Co., Whitlow Project, Sacramento Co.,**

Dear Ms. Green:

A record search of the sacred land file has failed to indicate the presence of Native American cultural resources in the immediate project area. The absence of specific site information in the sacred lands file does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Enclosed is a list of Native Americans individuals/organizations who may have knowledge of cultural resources in the project area. The Commission makes no recommendation or preference of a single individual, or group over another. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated, if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe or group. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from any of these individuals or groups, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact me at (916) 653-4038.

Sincerely,

Karen Fowler

for Debbie Pilas-Treadway
Environmental Specialist III

Native American Contacts
El Dorado County
September 20, 2005

Randy Yonemura
4305 - 39th Avenue Miwok
Sacramento , CA 95824
(916) 421-1600
if not (916) 419-4331

El Dorado County Indian Council
P.O. Box 564 Miwok
El Dorado , CA 95623 Maidu
(530) 647-0423

El Dorado Miwok Tribe
Jeri Scambler, Chairperson
PO Box 1284 Miwok
El Dorado , CA 95623
miwoktribe@hotmail.com
530-363-3257

El Dorado Miwok Tribe
Ernest Faircloth, Cultural Preservation
PO Box 258 Miwok
El Dorado , CA 95623
(530) 626-7572

Ione Band of Miwok Indians
Glen Villa, Jr. Cultural Committee Chairperson
901 Quail Court Miwok
Ione , CA 95640
916-322-1617 w
209-274-5535 FAX

Ione Band of Miwok Indians
Pamela Baumgartner, Tribal Administrator
PO Box 1190 Miwok
Ione , CA 95640
admin@ionemiwok.org
(209) 274-6753
(209) 274-6636 Fax

Nashville-El Dorado Miwok
Cosme Valdez, Interim Chief Executive Officer
PO Box 580986 Miwok
Elk Grove , CA 95758
916-429-8047 voice
916-429-8047 fax
valdezcome@comcast.net

Shingle Springs Band of Miwok Indians
Jeff Murray, Cultural Resources Manager
P.O. Box 1340 Miwok
Shingle , CA 95682 Maidu
shingle_springs_rancheria@ho
(530) 676-8010
(530) 676-8033 Fax

Shingle Springs Band of Miwok Indians
Nicholas Fonseca, Chairperson
P.O. Box 1340 Miwok
Shingle , CA 95682 Maidu
shingle_springs_rancheria@ho
(530) 676-8010
(530) 676-8033 Fax

Todd Valley Miwok-Maidu Cultural Foundation
Christopher Suehead, Cultural Representative
PO Box 1490 Miwok
Foresthill , CA 95631 Maidu
tvmmcf@foothill.net
(530) 367-3893 - Voice / Fax

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resource assessment for the proposed Pedregal Property, El Dorado County.

Native American Contacts
El Dorado County
September 20, 2005

United Auburn Indian Community of the Auburn
Jessica Tavares, Chairperson
575 Menlo Drive, Suite 2 Maidu
Rocklin , CA 95765 Miwok
916 663-3720
916 663-3727 - Fax

This list is current only as of the date of this document.

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This list is only applicable for contacting local Native Americans with regard to cultural resource assessment for the proposed Pedregal Property, El Dorado County.

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

October 5, 2005

Randy Yonemura
4305-39th Avenue
Sacramento, California 95824

RE: Cultural Resources Identification Efforts at the Pedregal Property, El Dorado County, California

Dear Randy Yonemura:

ECORP Consulting, Inc. is conducting an environmental and cultural resource study at the Pedregal Property. A record search of the project area has been conducted. A map showing the project study area is attached.

The State of California Native American Heritage Commission recommended that we contact you to provide an opportunity for you to contribute information about cultural resources within this project study area. An important element of our investigation is to identify sites, resources, or locations that are of cultural importance to the local Native American community. We would appreciate any information you might have concerning these resources in the project study area. If you cannot supply information, but know of others who can, we would appreciate it if you would provide us with the names of individuals.

We encourage you to participate in this process. The potential impacts that this project may have on cultural resources important to the Native American community cannot be evaluated unless we are aware the resource(s) exist.

If you have any questions, please do not hesitate to contact me at ECORP Consulting, Inc. at 916-782-9100. Thank you in advance for your participation in our cultural resource consultation.

Sincerely,

Julia K. Green

Julia K. Green, M.A., RPA
Cultural Resource Manager

2260 Douglas Blvd., Suite 160
Roseville, California 95661
Tele: (916) 782-9100
Fax: (916) 782-9134
Email: ecorp@ecorpconsulting.com
Web: www.ecorpconsulting.com

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

October 5, 2005

El Dorado County Indian Council
P.O. Box 564
El Dorado, California 95623

RE: Cultural Resources Identification Efforts at the Pedregal Property, El Dorado County, California

Dear Sir or Madam:

ECORP Consulting, Inc. is conducting an environmental and cultural resource study at the Pedregal Property. A record search of the project area has been conducted. A map showing the project study area is attached.

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Sincerely,

Julia K. Green

Julia K. Green, M.A., RPA
Cultural Resource Manager

2260 Douglas Blvd., Suite 160
Roseville, California 95661
Tele: (916) 782-9100
Fax: (916) 782-9134
Email: ecorp@ecorpconsulting.com
Web: www.ecorpconsulting.com

2005-219 Cultural Resources/NA Consultation ltr

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

October 5, 2005

Jeri Scambler, Chairperson
El Dorado Miwok Tribe
P.O. Box 1284
El Dorado, California 95623

RE: Cultural Resources Identification Efforts at the Pedregal Property, El Dorado County, California

Dear Jeri Scambler:

ECORP Consulting, Inc. is conducting an environmental and cultural resource study at the Pedregal Property. A record search of the project area has been conducted. A map showing the project study area is attached.

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Cultural Resource Manager

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Web: www.ecorpconsulting.com

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

October 5, 2005

Ernest Faircloth, Cultural Preservation
El Dorado Miwok Tribe
P.O. Box 258
El Dorado, California 95623

RE: Cultural Resources Identification Efforts at the Pedregal Property, El Dorado County, California

Dear Ernest Faircloth:

ECORP Consulting, Inc. is conducting an environmental and cultural resource study at the Pedregal Property. A record search of the project area has been conducted. A map showing the project study area is attached.

The State of California Native American Heritage Commission recommended that we contact you to provide an opportunity for you to contribute information about cultural resources within this project study area. An important element of our investigation is to identify sites, resources, or locations that are of cultural importance to the local Native American community. We would appreciate any information you might have concerning these resources in the project study area. If you cannot supply information, but know of others who can, we would appreciate it if you would provide us with the names of individuals.

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Sincerely,

Julia K. Green

Julia K. Green, M.A., RPA
Cultural Resource Manager

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Roseville, California 95661
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Fax: (916) 782-9134
Email: ecorp@ecorpconsulting.com
Web: www.ecorpconsulting.com

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

October 5, 2005

Glen Villa, Jr., Cultural Committee Chairperson
Ione Band of Miwok Indians
901 Quail Court
Ione, California 95640

RE: Cultural Resources Identification Efforts at the Pedregal Property, El Dorado County, California

Dear Glen Villa, Jr.:

ECORP Consulting, Inc. is conducting an environmental and cultural resource study at the Pedregal Property. A record search of the project area has been conducted. A map showing the project study area is attached.

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Sincerely,

Julia K. Green

Julia K. Green, M.A., RPA
Cultural Resource Manager

2260 Douglas Blvd., Suite 160
Roseville, California 95661
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Fax: (916) 782-9134
Email: ecorp@ecorpconsulting.com
Web: www.ecorpconsulting.com

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

October 5, 2005

Pamela Baumgartner, Tribal Administrator
Ione Band of Miwok Indians
P.O. Box 1190
Ione, California 95640

RE: Cultural Resources Identification Efforts at the Pedregal Property, El Dorado County, California

Dear Pamela Baumgartner:

ECORP Consulting, Inc. is conducting an environmental and cultural resource study at the Pedregal Property. A record search of the project area has been conducted. A map showing the project study area is attached.

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Sincerely,

Julia K. Green

Julia K. Green, M.A., RPA
Cultural Resource Manager

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Roseville, California 95661
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Fax: (916) 782-9134
Email: ecorp@ecorpconsulting.com
Web: www.ecorpconsulting.com

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

October 5, 2005

Jeff Murray, Cultural Resources Manager
Shingle Springs Band of Miwok Indians
P.O. Box 1340
Shingle Springs, California 95682

RE: Cultural Resources Identification Efforts at the Pedregal Property, El Dorado County, California

Dear Jeff Murray:

ECORP Consulting, Inc. is conducting an environmental and cultural resource study at the Pedregal Property. A record search of the project area has been conducted. A map showing the project study area is attached.

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Sincerely,

Julia K. Green

Julia K. Green, M.A., RPA
Cultural Resource Manager

2260 Douglas Blvd., Suite 160
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Web: www.ecorpconsulting.com

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

October 5, 2005

Nicholas Fonseca, Chairperson
Shingle Springs Band of Miwok Indians
P.O. Box 1340
Shingle, California 95682

RE: Cultural Resources Identification Efforts at the Pedregal Property, El Dorado County, California

Dear Nicholas Fonseca:

ECORP Consulting, Inc. is conducting an environmental and cultural resource study at the Pedregal Property. A record search of the project area has been conducted. A map showing the project study area is attached.

The State of California Native American Heritage Commission recommended that we contact you to provide an opportunity for you to contribute information about cultural resources within this project study area. An important element of our investigation is to identify sites, resources, or locations that are of cultural importance to the local Native American community. We would appreciate any information you might have concerning these resources in the project study area. If you cannot supply information, but know of others who can, we would appreciate it if you would provide us with the names of individuals.

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Sincerely,

Julia K. Green

Julia K. Green, M.A., RPA
Cultural Resource Manager

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Web: www.ecorpconsulting.com

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

October 5, 2005

Christopher Suehead, Cultural Representative
Todd Valley Miwok-Maidu Cultural Foundation
P.O. Box 1490
Foresthill, California 95631

RE: Cultural Resources Identification Efforts at the Pedregal Property, El Dorado County, California

Dear Christopher Suehead:

ECORP Consulting, Inc. is conducting an environmental and cultural resource study at the Pedregal Property. A record search of the project area has been conducted. A map showing the project study area is attached.

The State of California Native American Heritage Commission recommended that we contact you to provide an opportunity for you to contribute information about cultural resources within this project study area. An important element of our investigation is to identify sites, resources, or locations that are of cultural importance to the local Native American community. We would appreciate any information you might have concerning these resources in the project study area. If you cannot supply information, but know of others who can, we would appreciate it if you would provide us with the names of individuals.

We encourage you to participate in this process. The potential impacts that this project may have on cultural resources important to the Native American community cannot be evaluated unless we are aware the resource(s) exist.

If you have any questions, please do not hesitate to contact me at ECORP Consulting, Inc. at 916-782-9100. Thank you in advance for your participation in our cultural resource consultation.

Sincerely,

Julia K. Green

Julia K. Green, M.A., RPA
Cultural Resource Manager

2260 Douglas Blvd., Suite 160
Roseville, California 95661
Tele: (916) 782-9100
Fax: (916) 782-9134
Email: ecorp@ecorpconsulting.com
Web: www.ecorpconsulting.com

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

October 5, 2005

Jessica Tavares, Chairperson
United Auburn Indian Community
575 Menlo Drive, Suite 2
Rocklin, California 95765

RE: Cultural Resources Identification Efforts at the Pedregal Property, El Dorado County, California

Dear Jessica Tavares:

ECORP Consulting, Inc. is conducting an environmental and cultural resource study at the Pedregal Property. A record search of the project area has been conducted. A map showing the project study area is attached.

The State of California Native American Heritage Commission recommended that we contact you to provide an opportunity for you to contribute information about cultural resources within this project study area. An important element of our investigation is to identify sites, resources, or locations that are of cultural importance to the local Native American community. We would appreciate any information you might have concerning these resources in the project study area. If you cannot supply information, but know of others who can, we would appreciate it if you would provide us with the names of individuals.

We encourage you to participate in this process. The potential impacts that this project may have on cultural resources important to the Native American community cannot be evaluated unless we are aware the resource(s) exist.

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ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

October 5, 2005

Cosme Valdez, Interim Chief Executive Officer
Nashville-El Dorado Miwok
P.O. Box 580986
Elk Grove, California 95758

RE: Cultural Resources Identification Efforts at the Pedregal Property, El Dorado County, California

Dear Cosme Valdez:

ECORP Consulting, Inc. is conducting an environmental and cultural resource study at the Pedregal Property. A record search of the project area has been conducted. A map showing the project study area is attached.

The State of California Native American Heritage Commission recommended that we contact you to provide an opportunity for you to contribute information about cultural resources within this project study area. An important element of our investigation is to identify sites, resources, or locations that are of cultural importance to the local Native American community. We would appreciate any information you might have concerning these resources in the project study area. If you cannot supply information, but know of others who can, we would appreciate it if you would provide us with the names of individuals.

We encourage you to participate in this process. The potential impacts that this project may have on cultural resources important to the Native American community cannot be evaluated unless we are aware the resource(s) exist.

If you have any questions, please do not hesitate to contact me at ECORP Consulting, Inc. at 916-782-9100. Thank you in advance for your participation in our cultural resource consultation.

Sincerely,

Julia K. Green

Julia K. Green, M.A., RPA
Cultural Resource Manager

2260 Douglas Blvd., Suite 160
Roseville, California 95661
Tele: (916) 782-9100
Fax: (916) 782-9134
Email: ecorp@ecorpconsulting.com
Web: www.ecorpconsulting.com

Native American Consultation for Pedregal: Follow-up of Testing Results

Conducted by: Marcos Guerrero	**Date: 14 March, 2005**
Contact: Randy Yonemura Title: Individual Representing: Miwok	Time: 11:30 am
Left Message.	
Contact: El Dorado County Indian Council Title: Representing: Miwok, Maidu	Time: 3:04 pm
Left Message	
Contact: Jeri Scambler Title: Chairperson Representing: Eldorado Miwok Tribe	Time: 1:15 pm
Left Message	
Contact: Ernest Faircloth Title: Cultural Preservation Representative Representing: Eldorado Miwok Tribe	Time: 3:45 pm
Left Message	
Contact: Glen Villa, Jr. Title: Cultural Committee Chairperson Representing: Ione Band of Miwok Indians	Time: 11:50 am
Left Message	
Contact: Pamela Baumgartner Title: Tribal Administrator Representing: Ione Band of Miwok Indians	Time: 11:55 am
Left Message	
Contact: Cosme Valdez Title: Interim Chief Executive Officer Representing: Nashville-Eldorado Miwok	Time: 10:20 am
Resent letter and had no comment.	
Contact: Jeff Murray Title: Cultural Resources Manager Representing: Shingle Springs Band of Miwok Indians	Time: N/A
Julia Green to email.	
Contact: Nicholas Fonseca Title: Chairperson Representing: Shingle Springs Band of Miwok Indians	Time: 11:00 am
Spoke with secretary and left a message.	
Contact: Christopher Suehead Title: Cultural Representative Representing: Todd Valley Miwok-Maidu Cultural Foundation	Time: 4:00 pm
Left Message	
Contact: Jessica Tavares Title: Chairperson Representing: United Auburn Indian Community of the Auburn	Time: 2:24 pm
Concerned with Placer and Nevada counties.	

Native American Consultation for Pedregal: Follow-up of Testing Results

Conducted by: Stephen Pappas	**Date: 19 December, 2006**
Contact: Randy Yonemura Title: Individual Representing: Miwok	Time: 10:45 am
Spoke with Randy, he is concerned about the project and wants to meet with archaeologist Stephen Pappas on 12/26/06 to discuss the sites and results of the testing report.	
Contact: El Dorado County Indian Council Title: Representing: Miwok, Maidu	Time: 10:55 am
Left Message	
Contact: Jeri Scambler Title: Chairperson Representing: Eldorado Miwok Tribe	Time: 10:57 am
Left Message	
Contact: Ernest Faircloth Title: Cultural Preservation Representative Representing: Eldorado Miwok Tribe	Time: 10:59 am
Left Message	
Contact: Glen Villa, Jr. Title: Cultural Committee Chairperson Representing: Ione Band of Miwok Indians	Time: 11:01 am
Left Message	
Contact: Pamela Baumgartner Title: Tribal Administrator Representing: Ione Band of Miwok Indians	Time: 11:05 am
Spoke w/ secretary and she stated she'd leave her a message but they are mainly concerned with Sacramento, Amador, and Calaveras Counties.	
Contact: Cosme Valdez Title: Interim Chief Executive Officer Representing: Nashville-Eldorado Miwok	Time: 11:08 am
Spoke with Cosme, he requested we re-send him the consultation letter with site vicinity map.	
Contact: Jeff Murray Title: Cultural Resources Manager Representing: Shingle Springs Band of Miwok Indians	Time: 11:15 am
Spoke with Jeff, he is very concerned about the project. He is requesting a copy of the testing report. He is familiar with the sites and states there were depressions outside of Peak's boundaries that could be possible house pits. He could not remember the exact locations of the house pits but would like to conduct a field visit of the sites with Stephen Pappas.	
Contact: Nicholas Fonseca Title: Chairperson Representing: Shingle Springs Band of Miwok Indians	Time: 1:00 pm
Spoke with secretary and left a message.	
Contact: Christopher Suehead Title: Cultural Representative Representing: Todd Valley Miwok-Maidu Cultural Foundation	Time: 1:04 pm
Left Message	
Contact: Jessica Tavares Title: Chairperson Representing: United Auburn Indian Community of the Auburn	Time: 1:48 pm
Left Message	

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

LETTER OF TRANSMITTAL

DATE: 31 May 2007

TO: Randy Yonemura
El Dorado Miwok Tribe
4305 39th Avenue
Sacramento, California 95824

Jeff Murray
Shingle Springs Band of Miwok Indians
P.O. Box 1340
Shingle, California 95682

FROM: Stephen Pappas

RE: ***Pedregal Property***

WE ARE SENDING:		DELIVERED BY:
CAD PLOT (S) ⇨	REPORT (S)	OVERNIGHT
BLUEPRINTS	LETTERS (S)	FEDERAL EXPRESS
DISKETTE	CONTRACT (S)	⇨ U.S. MAIL
AGENCY CORR.	OTHER	HAND

REMARKS:

For your review before the site visit on June 6, 2007, please find enclosed the driving directions to the Pedregal Site and the draft Test Program Results and Evaluation for Archaeological Sites in the Pedregal Project. If you have any questions, please feel free to call me at (916) 782-9100.

SIGNED:

Stephan Pappas
Associate Archeologist

2005-219: Cultural Resources/Test Report/Draft Letter Trans3

2525 Warren Drive • Rocklin, CA 95677 • Tel: (916) 782-9100 • Fax: (916) 782-9134 • Web: www.ecorpconsulting.com

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

RECORD OF CONVERSATION

Project:	Pedregal
Date:	June 6, 2007
Time:	9:00 am – 12:30 pm
Location:	Pedregal Project Area, El Dorado Hills
Regarding:	Native American Consultation Site Visit
Attendees:	Lisa Westwood (Cultural Resources Manager, ECORP) Marcos Guerrero (Staff Archaeologist, ECORP) Stephen Pappas (Staff Archaeologist, ECORP) Randy Yomemura (Miwok) Brian Padilla (Miwok)
Absent, But Invited:	Jeff Murray (Cultural Resources Manager, Shingle Springs Band of Miwok) Project Proponent
Purpose:	To assist the lead agency (USACE) in meeting its legal obligations for Native American consultation under Section 106 of the National Historic Preservation Act (1966, as amended).

Upon arrival on site, the attendees reviewed the basic project description and project goals, which include the construction of a single family residential development and related utilities and infrastructure. LW advised RY and BP of pending consultation with the project manager to obtain additional details of the project description that are necessary in order to answer their specific questions. We discussed the field methods and previous research that was conducted on the property by Peak. **RY and BP requested the following:**

1. Two sets of project area maps showing: a) the project area boundaries and project details over a topographic map; b) project area maps and details showing boundaries and all sites on a topo map; and c) project area maps and details overlaying a current aerial photograph
2. The name of the USACE regulatory staff member who will be issuing the Section 404 permit
3. The approximate timeline of the project application, approval, and implementation
4. One copy of the biological (wildlife and botanical) and wetland delineation reports
5. An explanation for the recent ground disturbances
6. An answer to whether or not the project proponent is agreeable to capping the sites with soil to protect them
7. An answer to whether or not the new residents will have direct access to the open space areas with sites (indirect project impact to sites within the open space)

General comments provided by RY and BP (letter to follow, after they consult with the Miwok consortium):

1. Just because there are no subsurface archaeological deposits doesn't mean that the sites are not significant.
2. There is ethnographic (oral history) information among the Miwok that the ridge tops and sites along them are connected spiritually. RY specifically pointed to the ridge top above the current project area as being spiritually connected to the other local landforms. RY stated that this spiritual connection is significant to him.
3. Springs and permanent water sources are significant to the Miwok, even if there are no archaeological deposits directly associated with them.
4. The BRMs on the property may be related to the larger eligible site (1248) and archaeologists should not consider them as separate non-eligible/non-significant isolates or unrelated sites.
5. Requested receipt of items needed, time to review, and then another site visit with Jeff Murray also present.
6. Requested a meeting with the project proponent.
7. Would like to negotiate with lead agency and project proponent to maximize site avoidance through either extension of the open space area to encompass the sites or capping with soil, or both.

Record of Conversation

Project: Pedregal (2005-219)

Date: June 11, 2007

Time: 10:45 am

Location: Pedregal Project Area, El Dorado Hills

Regarding: Follow-up to Native American Consultation Site Visit

Caller: Lisa Westwood (Cultural Resources Manager, ECORP)

Person Called: Randy Yomemura (Miwok)

Purpose: To follow-up with Randy's requests for more information.

I called and Randy was not at home. I left a message with a woman, indicating that he and I met on a project site last week and at that time he had asked me for some more information. I told her that I was calling to provide him with some additional information and updates on his requests. I asked her to have him call me back at his earliest convenience.

Record of Conversation

Project: Pedregal (2005-219)

Date: June 11, 2007

Time: 12:30 pm

Location: Pedregal Project Area, El Dorado Hills

Regarding: Follow-up to Native American Consultation Site Visit

Caller: Lisa Westwood (Cultural Resources Manager, ECORP)

Person Called: Randy Yomemura (Miwok)

Purpose: To follow-up with Randy's requests for more information.

Randy returned my call from earlier in the day. I advised him of the following:

1. Project area maps and aerials with overlays are currently tentative, as we are very early in the process. Once a final site design has been settled upon, copies will be provided.
2. The identity of the USACE regulatory staff member has not been made available because a permit has not yet been applied for.
3. The approximate timeline of the project application, approval, and implementation is currently unknown, as other studies are currently in progress
4. One copy of the biological (wildlife and botanical) and wetland delineation reports can be provided after the client provides authorization. A request has been made.
5. The recent ground disturbances are due to unauthorized trespassing.
6. Capping the sites with soil to protect them has not been ruled out.
7. New residents will not likely have direct access to the open space areas with sites (indirect project impact to sites within the open space) because the USACE will want it protected and excluded from impacts.
8. I will contact him when there is movement on any of the above action items. Likewise, if he hasn't heard from me for a while, he may call me to ask for an update.

Randy mentioned that he will be meeting with Jeff Murray later in the week, and if, as a result, either of them have questions, they will contact me.

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

19 July 2007

Randy Yonemura
4305-39th Avenue
Sacramento, California 95824

RE: Consultation at the Pedregal Property, El Dorado County, California (2005-219)

Dear Randy:

Earlier today, I had the opportunity to speak with representatives of the developer of the Pedregal Property in El Dorado County. We discussed your comments and concerns regarding the Native American cultural resources present on the property, which we toured with you on 6 June 2007.

The developer remains in the early planning stages of this project and is currently examining the property from the perspectives of many different environmental issues. A tentative subdivision map has not yet been prepared, and no applications for development rights have been submitted to any local, State, or Federal agencies. As a result, no determinations of impact to any resources have been determined. However, the developer remains open to the possibility of providing some protection for cultural resources on the property, and looks forward to continued discussions with the Native American community when, and if, the project moves forward.

If you have any questions, please feel free to contact me at (916) 782-9100 or by email at LWestwood@ecorpconsulting.com.

Respectfully,

Lisa Westwood

Lisa Westwood, RPA
Cultural Resources Manager

2005-219 Cultural Resources/NA Consultation/Yonemura 07 19 2007

Record of Conversation (Message)

Project:	Pedregal (2005-219)
Date:	September 17, 2007
Time:	9:00 am
Regarding:	Status Update
Person Calling:	Lisa Westwood (Cultural Resources Manager, ECORP)
Person Called:	Randy Yonemura (Miwok)
Purpose:	To return his telephone message left with Stephen Pappas, and to inform him that we have not yet received direction from the client on moving forward with this project.

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

May 8, 2008

Ms. Debbie Pilas-Treadway
Associate Governmental Program Analyst
Native American Heritage Commission
915 Capital Mall, Room 364
Sacramento, CA 95814

RE: Cultural Resources Identification Effort at Executive Golf Course, El Dorado County, California T9N, R8E, Sections 1, 2, and 11.

Dear Ms. Pilas-Treadway:

ECORP Consulting, Inc. has been retained to assist in the planning of the development on the project indicated above. As part of the identification effort, we are seeking information from all parties that may have knowledge of or concerns with historic properties or cultural resources in the area of potential effect.

Included is a map showing the project area outlined. We would appreciate input on this undertaking from the Native American community with concerns about possible traditional cultural properties or potential impacts within or adjacent to the area of potential effect. Please understand that this is not a request for location, data or any other information that may be deemed sensitive or confidential to individual Native Americans, Native American organizations, or Federally Recognized Tribes. Information on other parties that may have interests or concerns in the undertaking would be appreciated. Please fax your response to my attention at (916) 782-9134. If you have any questions, please contact me at (916) 782-9100.

Thank you in advance for your assistance in our cultural resource management consultation.

Sincerely,

Lisa Westwood

Lisa Westwood, RPA
Cultural Resource Manager

2525 Warren Drive, Rocklin, California 95677 • Tel: (916) 782-9100 • Fax: (916) 782-9134 • Web: www.ecorpconsulting.com

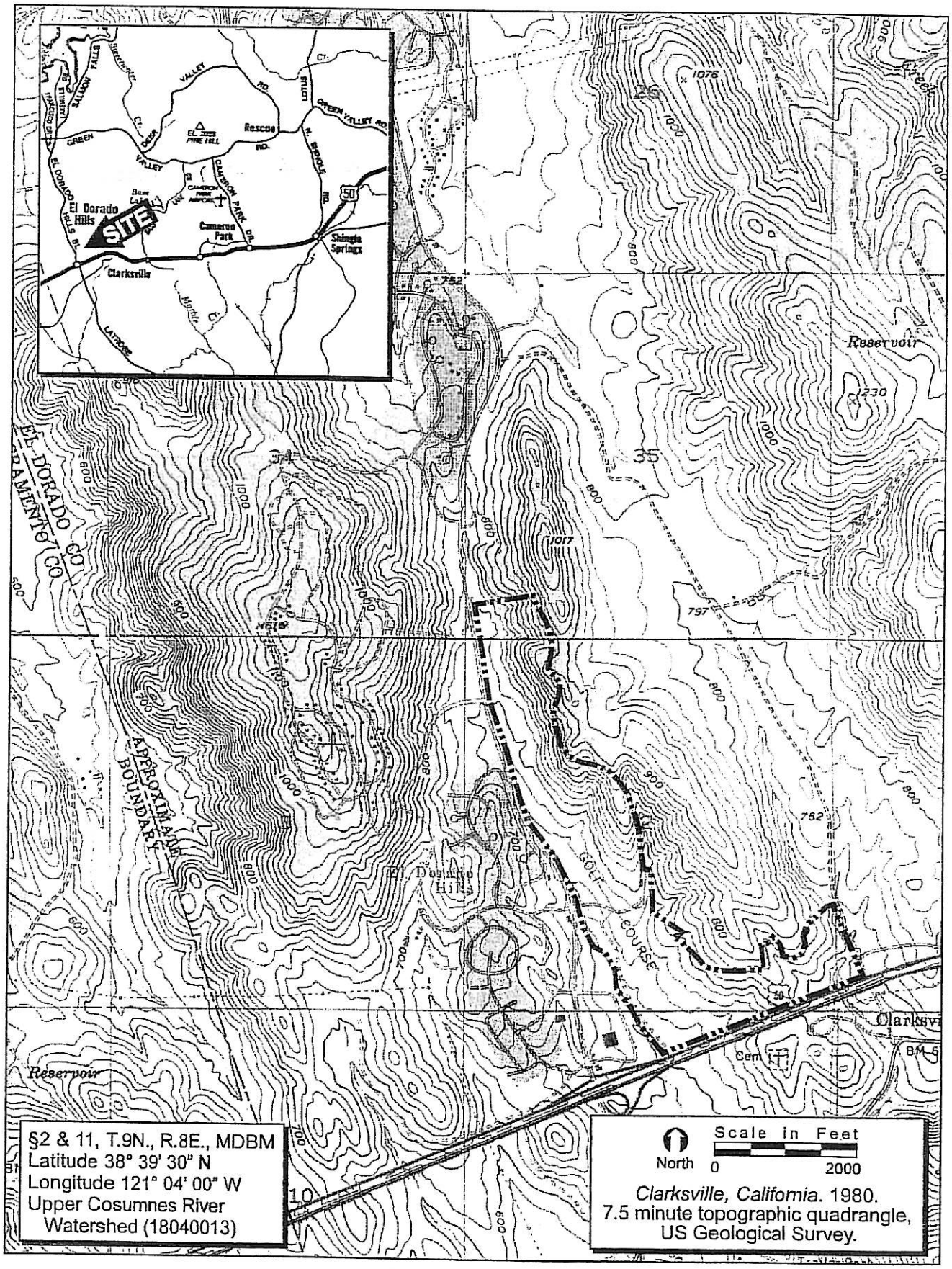

FIGURE 1. Project Site and Vicinity Map

2005-199 Executive Golf Course

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS
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STATE OF CALIFORNIA Arnold Schwarzenegger, Governor

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-4082
Fax (916) 657-5390
Web Site www.nahc.ca.gov

May 12, 2008

Lisa Westwood
Cultural Resource Manager
ECORP Consulting, Inc.
2525 Warren Drive
Rocklin, CA 95677

Sent by Fax: 916-782-9134
Number of Pages: 2

Re: Proposed: Executive Golf Course, El Dorado County.

Dear Ms. Westwood:

A record search of the sacred land file has failed to indicate the presence of Native American cultural resources in the immediate project area. The absence of specific site information in the sacred lands file does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Enclosed is a list of Native Americans individuals/organizations who may have knowledge of cultural resources in the project area. The Commission makes no recommendation or preference of a single individual, or group over another. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated, if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe or group. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from any of these individuals or groups, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact me at (916) 653-4038.

Sincerely,

Debbie Pilas-Treadway
Environmental Specialist III

Native American Contacts
El Dorado County
May 12, 2008

Kenneth Counsil
4209 V Street
Sacramento , CA 95817
mrken@sonic.net
916-457-7144 - Home
916-213-3934 - cell

Miwok
Maidu

Todd Valley Miwok-Maidu Cultural Foundation
Christopher Suehead, Cultural Representative
PO Box 1490
Foresthill , CA 95631
tvmmcf@foothill.net

Miwok
Maidu

El Dorado County Indian Council
P.O. Box 564
El Dorado , CA 95623
(530) 647-0423

Miwok
Maidu

United Auburn Indian Community of the Auburn Rancheria
Jessica Tavares, Chairperson
10720 Indian Hill Road
Auburn , CA 95603
530-883-2390
530-883-2380 - Fax

Maidu
Miwok

Shingle Springs Band of Miwok Indians
John Tayaba, Vice Chairperson
P.O. Box 1340
Shingle Springs , CA 95682
(530) 676-8010
(530) 676-8033 Fax

Miwok
Maidu

United Auburn Indian Community of the Auburn
Tribal Preservation Committee
10720 Indian Hill Road
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530-883-2380 - Fax

Maidu
Miwok

Shingle Springs Band of Miwok Indians
Band of Miwok Indians
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Shingle Springs , CA 95682
nfonseca@ssband.org
(530) 676-8010
(530) 676-8033 Fax

Miwok
Maidu

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed Executive Golf Course, El Dorado County.

June 19, 2009

Ms. Debbie Pilas-Treadway
Associate Governmental Program Analyst
Native American Heritage Commission
915 Capital Mall, Room 364
Sacramento, CA 95814

RE: Cultural Resources Identification Effort at Pedregal, El Dorado County, California T9N, R8E, Section 3 and T10N, R8E, Section 34 (ECORP Project No. 2005-219).

Dear Ms. Pilas-Treadway:

ECORP Consulting, Inc. has been retained to assist in the planning of the development on the project indicated above. As part of the identification effort, we are seeking information from all parties that may have knowledge of or concerns with historic properties or cultural resources in the area of potential effect.

Included is a map showing the project area outlined. We would appreciate input on this undertaking from the Native American community with concerns about possible traditional cultural properties or potential impacts within or adjacent to the area of potential effect. Please understand that this is not a request for location, data or any other information that may be deemed sensitive or confidential to individual Native Americans, Native American organizations, or Federally Recognized Tribes. Information on other parties that may have interests or concerns in the undertaking would be appreciated. Please fax your response to my attention at (916) 782-9134. If you have any questions, please contact me at (916) 782-9100.

Thank you in advance for your assistance in our cultural resource management consultation.

Sincerely,

Lisa Westwood

Lisa Westwood, RPA
Cultural Resource Manager

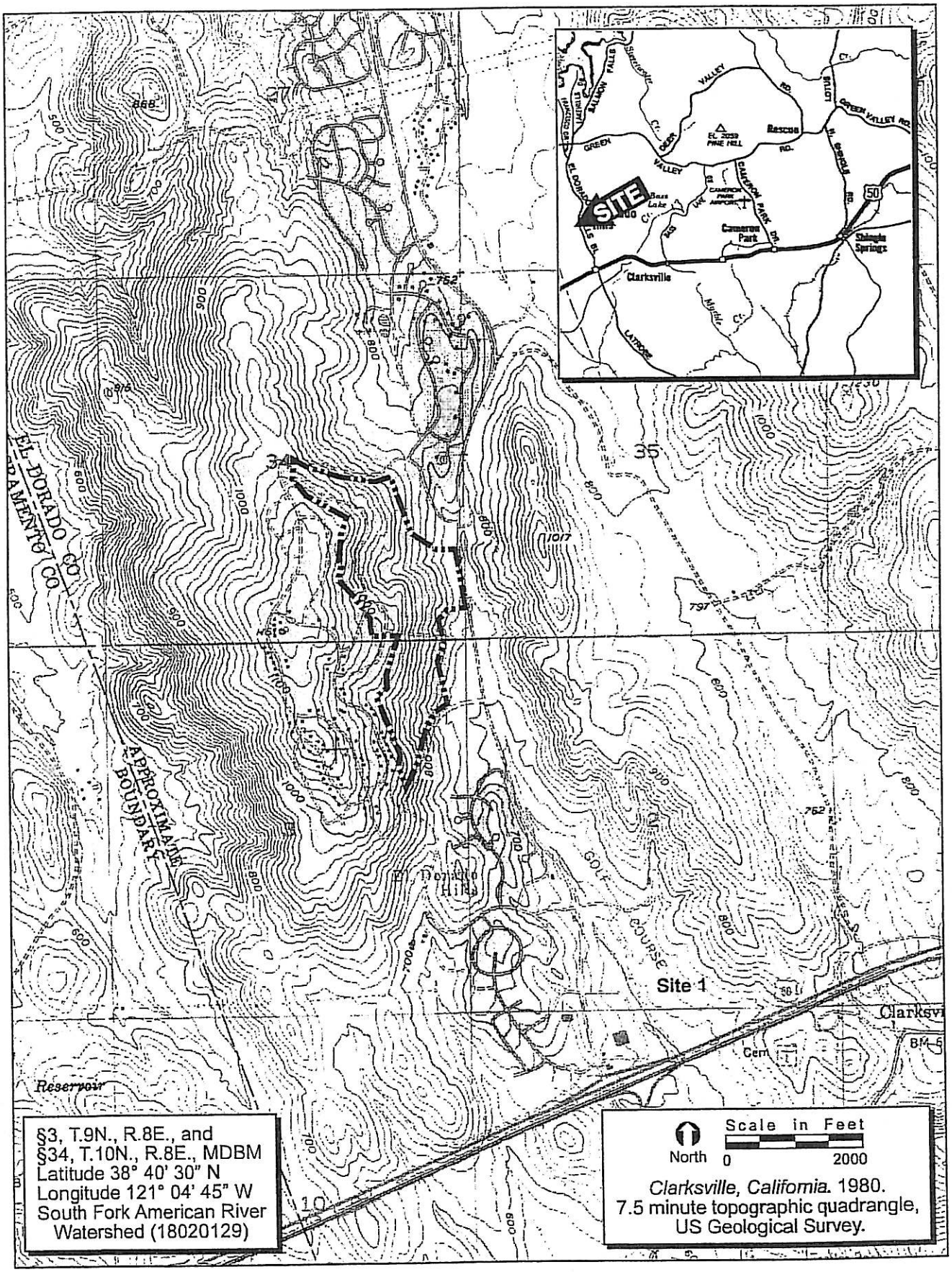

FIGURE 1. Project Site and Vicinity Map

2005-219 Pedregal Property

ECORP Consulting, Inc.
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STATE OF CALIFORNIA Arnold Schwarzenegger, Governor

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-4082
Fax (916) 657-5390

June 26, 2009

Lisa Westwood
Cultural Resource Manager
ECORP Consulting, Inc.
2525 Warren Drive
Rocklin, CA 95677

Sent by Fax: 916-782-9134
Number of Pages: 3

Re: Proposed: Pedregal Project, El Dorado County.

Dear Ms. Westwood:

A record search of the sacred lands file has failed to indicate the presence of Native American cultural resources in the immediate project area. The absence of specific site information in the sacred lands file does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Enclosed is a list of Native Americans individuals/organizations who may have knowledge of cultural resources in the project area. The Commission makes no recommendation or preference of a single individual, or group over another. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated, if they cannot supply information, they might recommend others with specific knowledge. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from any of these individuals or groups, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact me at (916) 653-4040.

Sincerely,

Katy Sanchez

Katy Sanchez
Program Analyst

Native American Contact
El Dorado County
June 26, 2009

Shingle Springs Band of Miwok Indians
John Tayaba, Vice Chairperson
P.O. Box 1340 Miwok
Shingle Springs , CA 95682 Maidu
(530) 676-8010
(530) 676-8033 Fax

Todd Valley Miwok-Maidu Cultural Foundation
Christopher Suehead, Cultural Representative
PO Box 1490 Miwok
Foresthill , CA 95631 Maidu
tvmmcf@foothill.net

El Dorado County Indian Council
P.O. Box 564 Miwok
El Dorado , CA 95623 Maidu

Randy Yonemura
4305 - 39th Avenue Miwok
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United Auburn Indian Community of the Auburn Rancheria
Jessica Tavares, Chairperson
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530-883-2380 - Fax

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Ione Band of Miwok Indians
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(209) 274-6636 Fax

El Dorado Miwok Tribe
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Marysville , CA 95901

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed Pedregal Project, ECORP Project No. 2005-219; El Dorado County.

Native American Contact
El Dorado County
June 26, 2009

Ione Band of Miwok Indians
Pamela Baumgartner Tribal Administrator
PO Box 1190 Miwok
Ione , CA 95640
pam@ionemiwok.org
(209) 274-6753
(209) 274-6636 Fax

Nashville-El Dorado Miwok
Cosme Valdez, Interim Chief Executive Officer
PO Box 580986 Miwok
Elk Grove , CA 95758
916-429-8047 voice
916-429-8047 fax

Ione Band of Miwok Indians
Tina Reynolds, Executive Secretary
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tina@ionemiwok.org
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(209) 274-6636 Fax

Ione Band of Miwok Indians
Heritage Cultural Committee
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Ione , CA 95640
(209) 274-6753
(209) 274-6636 Fax

El Dorado Miwok Tribe
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Cameron Park , CA 95682
530-672-9819

United Auburn Indian Community of the Auburn
Tribal Preservation Committee
10720 Indian Hill Road Maidu
Auburn , CA 95603 Miwok
530-883-2390
530-883-2380 - Fax

Shingle Springs Band of Miwok Indians
Nicholas Fonseca, Chairperson
P.O. Box 1340 Miwok
Shingle Springs , CA 95682 Maidu
nfonseca@ssband.org
(530) 676-8010
(530) 676-8033 Fax

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed Pedregal Project, ECORP Project No. 2005-219; El Dorado County.

Native American Contacts
Westside, 2012-019, El Dorado County

Name	Affiliation	Date Contacted			Response Received?	Comments
		1. Letter	2. Phone	3. Phone		
Native American Heritage Commission 915 Capital Mall, Room 364 Sacramento, CA 95814	N/A	4/30/2012	N/A	N/A	Yes	No sacred lands
Sam Daniels, Vice Chairperson Shingle Springs Band of Miwok Indians P.O. Box 1340 Shingle, CA 95682 (530) 676-8010 (530) 676-8033 Fax	Miwok Maidu	5/8/2012	5/25/2012	5/29/2012	Yes	Left message 5/25 LW spoke with the receptionist on 5/29, who said that they received the letter, and that it has been forwarded to Daniel Fonseca for review, and that if he has any questions or comments, he will contact us.
Nicholas Fonseca, Chairperson Shingle Springs Band of Miwok Indians P.O. Box 1340 Shingle, CA 95682 Nfonseca @ssband.org (530) 676-8010 (530) 676-8033 Fax	Miwok Maidu	5/8/2012	5/25/2012	5/29/2012	Yes	Left message 5/25 LW spoke with the receptionist on 5/29, who said that they received the letter, and that it has been forwarded to Daniel Fonseca for review, and that if he has any questions or comments, he will contact us.
Daniel Fonseca Shingle Springs Band of Miwok Indians P.O. Box 1340 Shingle, CA 95682 (530) 676-8010 (530) 676-8033 Fax	Miwok Maidu	5/8/2012	5/25/2012	5/29/2012	Yes	Left message 5/25 LW spoke with the receptionist on 5/29, who said that they received the letter, and that it has been forwarded to Daniel Fonseca for review, and that if he has any questions or comments, he will contact us.
David Keyser, Chairperson United Auburn Indian Community of the Auburn Rancheria 10720 Indian Hill Road Auburn, CA 95603 (530) 883-2390 (530) 883-2380 Fax	Maidu Miwok	5/8/2012	N/A	N/A	Yes	Letter received (dated 5/16/12), asking for copies of reports and a project area visit. Letter was forwarded to USACE with technical report for follow-up consultation.
Marcos Guerrero, Tribal Preservation Committee United Auburn Indian Community of the Auburn Rancheria 10720 Indian Hill Road Auburn, CA 95603 (530) 883-2364 (530) 883-2320 Fax	Maidu Miwok	5/8/2012	N/A	N/A	Yes	Letter received (dated 5/16/12), asking for copies of reports and a project area visit. Letter was forwarded to USACE with technical report for follow-up consultation.

April Wallace Moore 19630 Placer Hills Road Colfax, CA 95713 (530) 637-4279	Nisenan-So Maidu Konkow Washoe	5/8/2012	5/25/2012	5/29/2012	No	Left message 5/25 LW spoke with April on 5/29, and she indicated that she did receive them and would like to take some more time to review them.
Eileen Moon, Vice Chairperson T si-Akim Maidu 1239 East Main Street Grass Valley, CA 95945 (530) 477-0711	Maidu	5/8/2012	5/29/2012	N/A	No	The phone number has been disconnected.

30 April 2012

Ms. Debbie Pilas-Treadway
Associate Governmental Program Analyst
Native American Heritage Commission
915 Capital Mall, Room 364
Sacramento, CA 95814

RE: Cultural Resources Identification Effort at Westside, El Dorado County, California, Sections 2, 3, and 11 of T9N/R8E and Sections 34 and 35 of T10N/R8E (ECORP Project No. 2012-019).

Dear Ms. Pilas-Treadway:

ECORP Consulting, Inc. has been retained to assist in the planning of the development on the project indicated above. As part of the identification effort, we are seeking information from all parties that may have knowledge of or concerns with historic properties or cultural resources in the area of potential effect.

Included is a map showing the project area outlined. We would appreciate input on this undertaking from the Native American community with concerns about possible traditional cultural properties or potential impacts within or adjacent to the Area of Potential Effects. Please understand that this is not a request for location, data or any other information that may be deemed sensitive or confidential to individual Native Americans, Native American organizations, or Federally Recognized Tribes. Information on other parties that may have interests or concerns in the undertaking would be appreciated. Please fax your response to my attention at (916) 782-9134. If you have any questions, please contact me at (916) 782-9100.

Thank you in advance for your assistance.

Sincerely,

Lisa Westwood

Lisa Westwood, RPA
Cultural Resource Manager

STATE OF CALIFORNIA Edmund G. Brown, Jr., Governor

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-6251
Fax (916) 657-5390

May 3, 2012

Lisa Westwood
ECORP Consulting, Inc.
2525 Warren Drive
Rocklin, CA 95677

Sent by Fax: 916-782-9134
Number of Pages: 2

Re: Westside, El Dorado County.

Dear Ms. Westwood:

A record search of the sacred land file has failed to indicate the presence of Native American cultural resources in the immediate project area. The absence of specific site information in the sacred lands file does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Enclosed is a list of Native Americans individuals/organizations who may have knowledge of cultural resources in the project area. The Commission makes no recommendation or preference of a single individual, or group over another. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated, if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe or group. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from any of these individuals or groups, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact me at (916) 653-4038.

Sincerely,

Debbie Pilas-Treadway
Environmental Specialist III

Native American Contacts
El Dorado County
May 2, 2012

April Wallace Moore
19630 Placer Hills Road
Colfax , CA 95713
530-637-4279

Nisenan - So Maidu
Konkow
Washoe

United Auburn Indian Community of the Auburn Rancheria
David Keyser, Chairperson
10720 Indian Hill Road
Auburn , CA 95603
530-883-2390
530-883-2380 - Fax

Maidu
Miwok

Shingle Springs Band of Miwok Indians
Sam Daniels, Vice Chairperson
P.O. Box 1340
Shingle Springs , CA 95682
(530) 676-8010
(530) 676-8033 Fax

Miwok
Maidu

United Auburn Indian Community of the Auburn Rancheria
Marcos Guerrero, Tribal Preservation Committee
10720 Indian Hill Road
Auburn , CA 95603
mguerrero@auburnrancheria.com
530-883-2364
530-883-2320 - Fax

Maidu
Miwok

Shingle Springs Band of Miwok Indians
Nicholas Fonseca, Chairperson
P.O. Box 1340
Shingle Springs , CA 95682
nfonseca@ssband.org
(530) 676-8010
(530) 676-8033 Fax

Miwok
Maidu

Shingle Springs Band of Miwok Indians
Daniel Fonseca
P.O. Box 1340
Shingle Springs , CA 95682
(530) 676-8010
(530) 676-8033 Fax

Miwok
Maidu

T si-Akim Maidu
Eileen Moon,Vice Chairperson
1239 East Main St.
Grass Valley , CA 95945
(530) 477-0711

Maidu

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Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed Westside project, El Dorado County

8 May 2012

Sam Daniels, Vice Chairperson
Shingle Springs Band of Miwok Indians
P.O. Box 1340
Shingle, CA 95682

RE: Cultural Resources Identification Effort at Westside, El Dorado County (ECORP Project No. 2012-019).

Dear Mr. Daniels:

ECORP Consulting, Inc. is currently conducting a cultural resources inventory of property located near El Dorado Hills in El Dorado County. The study is being conducted in advance of approval of the proposed Westside project. The project area is situated in Sections 2, 3, and 11 of Township 9 North, Range 8 East and Sections 34 and 35 of Township 10 North, Range 8 East, MDBM. For your reference, the boundaries of the project area are marked on the enclosed topographic quadrangle map.

The purpose of the study is to identify cultural resources that could be affected by the proposed project, as required by Section 106 of the National Historic Preservation Act (NHPA) and the California Environmental Quality Act (CEQA). The investigation included a records search conducted with the North Central Information Center at California State University-Sacramento and a search of the Native American Heritage Commission's Sacred Lands File. The search of the Sacred Lands file did not identify any known Native American cultural resources within the immediate project vicinity; however, the Commission provided us with your name and contact information.

As part of this study, ECORP would like to identify archaeological, historic resources, or locations that are of cultural importance to the local Native American community. We would appreciate any information you may have regarding Native American cultural resources located in or near the proposed project location that could be affected by the proposed development of the parcel. We invite you to offer comments on the project, and we will forward them to the Section 106 lead agency for consideration and appropriate action. The lead agency will respond to your comments as soon as the Section 106 process is initiated. At this time, however, cultural resources investigations are being conducted for project planning purposes only. ECORP is gathering information on potentially unrecorded cultural resources that might be affected by this project.

We encourage you to participate in this process, so that potential impacts to Native American resources can be proactively addressed and minimized to the greatest extent feasible. We would like to receive a response from you about this project within the next two weeks. If we have not heard from you within 30 days of the receipt of this letter, we will assume that you do not wish to comment on this project. If you have any questions, please feel free to call me at (916) 782-9100 or via email at lwestwood@ecorpconsulting.com. Thank you for your assistance and participation in this project.

Sincerely,

Lisa Westwood

Lisa Westwood, RPA
Cultural Resource Manager

Enclosures, as stated

8 May 2012

Nicholas Fonseca, Chairperson
Shingle Springs Band of Miwok Indians
P.O. Box 1340
Shingle, CA 95682

RE: Cultural Resources Identification Effort at Westside, El Dorado County (ECORP Project No. 2012-019).

Dear Mr. Fonseca:

ECORP Consulting, Inc. is currently conducting a cultural resources inventory of property located near El Dorado Hills in El Dorado County. The study is being conducted in advance of approval of the proposed Westside project. The project area is situated in Sections 2, 3, and 11 of Township 9 North, Range 8 East and Sections 34 and 35 of Township 10 North, Range 8 East, MDBM. For your reference, the boundaries of the project area are marked on the enclosed topographic quadrangle map.

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Sincerely,

Lisa Westwood

Lisa Westwood, RPA
Cultural Resource Manager

Enclosures, as stated

8 May 2012

Daniel Fonseca
Shingle Springs Band of Miwok Indians
P.O. Box 1340
Shingle, CA 95682

RE: Cultural Resources Identification Effort at Westside, El Dorado County (ECORP Project No. 2012-019).

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Sincerely,

Lisa Westwood

Lisa Westwood, RPA
Cultural Resource Manager

Enclosures, as stated

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

8 May 2012

David Keyser, Chairperson
United Auburn Indian Community of the Auburn Rancheria
10720 Indian Hill Road
Auburn, CA 95603

RE: Cultural Resources Identification Effort at Westside, El Dorado County (ECORP Project No. 2012-019).

Dear Mr. Keyser:

ECORP Consulting, Inc. is currently conducting a cultural resources inventory of property located near El Dorado Hills in El Dorado County. The study is being conducted in advance of approval of the proposed Westside project. The project area is situated in Sections 2, 3, and 11 of Township 9 North, Range 8 East and Sections 34 and 35 of Township 10 North, Range 8 East, MDBM. For your reference, the boundaries of the project area are marked on the enclosed topographic quadrangle map.

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Sincerely,

Lisa Westwood

Lisa Westwood, RPA
Cultural Resource Manager

Enclosures, as stated

8 May 2012

Marcos Guerrero, Tribal Preservation Committee
United Auburn Indian Community of the Auburn Rancheria
10720 Indian Hill Road
Auburn, CA 95603

RE: Cultural Resources Identification Effort at Westside, El Dorado County (ECORP Project No. 2012-019).

Dear Mr. Guerrero:

ECORP Consulting, Inc. is currently conducting a cultural resources inventory of property located near El Dorado Hills in El Dorado County. The study is being conducted in advance of approval of the proposed Westside project. The project area is situated in Sections 2, 3, and 11 of Township 9 North, Range 8 East and Sections 34 and 35 of Township 10 North, Range 8 East, MDBM. For your reference, the boundaries of the project area are marked on the enclosed topographic quadrangle map.

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Sincerely,

Lisa Westwood

Lisa Westwood, RPA
Cultural Resource Manager

Enclosures, as stated

8 May 2012

April Wallace Moore
19630 Placer Hills Road
Colfax, CA 95713

RE: Cultural Resources Identification Effort at Westside, El Dorado County (ECORP Project No. 2012-019).

Dear Ms. Moore:

ECORP Consulting, Inc. is currently conducting a cultural resources inventory of property located near El Dorado Hills in El Dorado County. The study is being conducted in advance of approval of the proposed Westside project. The project area is situated in Sections 2, 3, and 11 of Township 9 North, Range 8 East and Sections 34 and 35 of Township 10 North, Range 8 East, MDBM. For your reference, the boundaries of the project area are marked on the enclosed topographic quadrangle map.

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Sincerely,

Lisa Westwood

Lisa Westwood, RPA
Cultural Resource Manager

Enclosures, as stated

8 May 2012

Eileen Moon, Vice Chairperson
T si-Akim Maidu
1239 East Main Street
Grass Valley, CA 95945

RE: Cultural Resources Identification Effort at Westside, El Dorado County (ECORP Project No. 2012-019).

Dear Ms. Moon:

ECORP Consulting, Inc. is currently conducting a cultural resources inventory of property located near El Dorado Hills in El Dorado County. The study is being conducted in advance of approval of the proposed Westside project. The project area is situated in Sections 2, 3, and 11 of Township 9 North, Range 8 East and Sections 34 and 35 of Township 10 North, Range 8 East, MDBM. For your reference, the boundaries of the project area are marked on the enclosed topographic quadrangle map.

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Sincerely,

Lisa Westwood

Lisa Westwood, RPA
Cultural Resource Manager

Enclosures, as stated

MIWOK
MAIDU

United Auburn Indian Community
of the Auburn Rancheria

David Keyser
Chairman

Kimberly DuBach
Vice Chair

Gene Whitehouse
Secretary

Brenda Adams
Treasurer

Calvin Moman
Council Member

May 16, 2012

Lisa Westwood
ECORP Consulting, Inc.
2525 Warren Drive
Rocklin, CA 95677

Subject: Westside Project, No. 2012-019

Dear Ms. Westwood,

Thank you for requesting information regarding the above referenced project. The United Auburn Indian Community (UAIC) of the Auburn Rancheria is comprised of Miwok and Southern Maidu (Nisenan) people whose tribal lands are within Placer County and ancestral territory spans into El Dorado, Nevada, Sacramento, Sutter, and Yuba counties. The UAIC is concerned about development within its aboriginal territory that has potential to impact the lifeways, cultural sites, and landscapes that may be of sacred or ceremonial significance. We appreciate the opportunity to comment on this and other projects in your jurisdiction.

In order to ascertain whether or not the project could affect cultural resources that may be of importance to the UAIC, we would like to receive copies of any archaeological reports that have been, or will be, completed for the project. We also request copies of future environmental documents for the proposed project so that we have the opportunity to comment on potential impacts and proposed mitigation measures related to cultural resources. The UAIC would also like the opportunity to have our tribal monitors accompany you during the field survey. The information gathered will provide us with a better understanding of the project and cultural resources on site and is invaluable for consultation purposes.

The UAIC's preservation committee has identified cultural resources within your project area and in close proximity, and would like to request a site visit to confirm their locations and meet with you regarding this project. Thank you again for taking these matters into consideration, and for involving the UAIC early in the planning process. We look forward to reviewing the aforementioned documents as requested. Please contact Marcos Guerrero, Tribal Historic Preservation Officer, at (530) 883-2364 or email at mguerrero@auburnrancheria.com if you have any questions.

Sincerely,

David Keyser,
Chairman

CC: Marcos Guerrero, THPO

Tribal Office 10720 Indian Hill Road Auburn, CA 95603 (530) 883-2390 FAX (530) 883-2380

SHINGLE SPRINGS RANCHERIA

Shingle Springs Band of Miwok Indians,
Shingle Springs Rancheria
(Verona Tract), California
5281 Honpie Road, Placerville, CA 95667
P.O. Box 1340, Shingle Springs, CA 95682
(530) 676-8010 Office (530)676-8033 Fax

May 14, 2012

ECORP Consulting, Inc.
2525 Warren Drive
Rocklin, CA 95677

RE: Cultural Resources Identification Effort at Westside, El Dorado County (ECORP Project No. 2012-019).

Dear Lisa Westwood

The Most likely Descendant, Daniel Fonseca would like to initiate consultation process with ECORP Consulting, Inc. for the proposed Westside Project located in El Dorado County. Among other things, we would like this consultation to address the cultural and historic resource issues, pursuant to the regulations implementing Section 106 of the National Historic Preservation Act.

Prior to meeting we would like to request any and all completed record searches and or surveys that were done in or around the project area up to and including environmental, archaeological and cultural reports.

Please let this letter serve as a formal request for the Shingle Springs Band of Miwok Indians to be added as a consulting party in identifying any Traditional Cultural Properties (TCPs) that may exist within the project's Area of Potential Effects (APE).

Please contact Crystal Dilworth, Cultural Resource Office Manager at 530-698-1471 to schedule a consultation meeting pursuant to Section 106 of the NHPA.

Sincerely,

Daniel Fonseca
Cultural Resources Director

Appendix H

Determination of MTP/SCS Consistency for the Central El Dorado Hills Specific Plan

Appendix H

Determination of MTP/SCS Consistency for the Central El Dorado Hills Specific Plan

Summary

Pursuant to Senate Bill (SB) 375, streamlined California Environmental Quality Act (CEQA) review and analysis is available to residential or mixed-use residential projects that are consistent with an adopted Sustainable Communities Strategy (SCS). SB 375 requires consistency with the SCS to be determined by the CEQA lead agency (in this case, El Dorado County [County]). SB 375 provides several CEQA reform provisions including streamlined review and analysis of residential or mixed-use projects consistent with the SCS. In addition, an environmental impact report (EIR) prepared for this type of project is not required to reference, describe, or discuss any project specific or cumulative impacts from cars and light-duty truck trips generated by the project on global warming or the regional transportation network.

The Sacramento Area Council of Governments (SACOG) Board adopted the SCS as part of the Metropolitan Transportation Plan/Sustainable Communities Strategy for 2035 (MTP/SCS) on April 19, 2012. The California Air Resources Board (ARB) issued an Acceptance of Greenhouse Gas (GHG) Quantification Determination for the SACOG SCS on June 12, 2012.

This Determination of MTP/SCS Consistency for the Central El Dorado Hills Specific Plan (CEDHSP) finds the following.

- The CEDHSP meets the definition of Residential or Mixed-Use Residential Project pursuant to Public Resources Code (PRC) Section 21159.28(d).
- The CEDHSP is consistent with the General Land Use Designation, Density and Intensity in MTP/SCS.
- The CEDHSP is consistent with the MTP/SCS.
- The CEDHSP qualifies for CEQA streamlining and pursuant to subdivisions (a) and (b) of PRC Section 21159.28, its environmental document will not need to reference, describe or discuss: (1) growth-inducing impacts; (2) a reduced-density alternative to address impacts on transportation or climate change of increased car and truck vehicle miles traveled (VMT) induced by the project; and (3) any project specific or cumulative impacts from cars and light-duty truck trips generated by the project on global warming or the regional transportation network.

By approving this Determination of MTP/SCS Consistency for the CEDHSP, the County will be able to take advantage of the CEQA streamlining provisions pursuant to PRC Section 21159.28 allowed for in the MTP/SCS. In turn, the County and greater Sacramento region benefits from better development and improved air quality conditions.

Introduction

Background

Under the provisions of SB 375, an EIR prepared for a residential or mixed-use residential project that is consistent with the general land use designation, density, building intensity, and applicable policies specified for the project area in an SCS for which ARB has accepted a metropolitan planning organization's determination that the SCS would achieve its GHG emissions reduction target, "is not required" to discuss growth inducing impacts, or any project specific or cumulative impacts from cars and light-duty truck trips on global warming, or on the regional transportation network (PRC Section 21159.28[a]; Gov. Code, Section 65080[b][2][I]).

In addition, an EIR prepared for a residential or mixed-use residential project that qualifies for the streamlining provisions is not required to reference, describe, or discuss a reduced residential density alternative to address the effects of car and light-duty truck trips generated by the project as part of its alternatives analysis (PRC Section 21159.28[b]).

Purpose

SB 375 places the authority and responsibility of making the determination on the use of CEQA streamlining with the local lead agency. Therefore, for purposes of the CEDHSP, the County has the responsibility to make the final determination on the use of CEQA streamlining and the applicable and appropriate CEQA streamlining, if any. As such, the County has decided to prepare this Determination of MTP/SCS Consistency. If it is determined that the CEDHSP meets the definition of Residential or Mixed-Use Residential Project (pursuant to PRC Section 21159.28[d]) and is consistent with the MTP/SCS, then the County will use the applicable CEQA streamlining for the proposed CEDHSP. Applicable CEQA streamlining for a plan defined as a Residential or Mixed-Use Residential Project (see *Consistency Determination* section of this document), is provided in PRC Section 21159.28. Its environmental document will not be required to reference, describe, or discuss the following.

(1) Growth-inducing impacts.

(2) A reduced-density alternative to address impacts on transportation or climate change of increased car and truck VMT induced by the project.

(3) Any project-specific or cumulative impacts from cars and light-duty truck trips generated by the project on global warming or the regional transportation network.

Consistency Determination

The following analysis is guided by SACOG's July 31, 2012 "DETERMINATION OF MTP/SCS CONSISTENCY WORKSHEET for Qualifying Transit Priority Projects and Residential/Mixed-Use Residential Projects." SACOG developed the worksheet to aid local agencies in determining consistency of projects with the SCS. Although it is not binding on the County, it offers a convenient and logical approach to the consistency determination. The section numbers below correspond to the numerical organization of the worksheet.

Assumptions

In preparing this consistency determination, the County has made the following assumptions for the CEDHSP based on air quality model defaults and input from the project applicant.

- Assumed total residential square footage is 1,128,000.
- Assumed square footage of non-residential uses is 50,000.
- Total proposed building square footage (residential and non-residential) is 1,178,000.

Residential or Mixed-Use Residential Project Designation for Projects Located Outside of an MTP/SCS Transit Priority Area [Section 2]

A residential or mixed-use residential project using the streamlined CEQA review to complete an EIR pursuant to PRC Section 21159.28(a) must meet the following requirement.

Section 2.A.

At least 75% of the total building square footage of the project consists of residential use.

Calculation

Total CEDHSP *residential* square footage [1,128,000]÷Total CEDHSP *building* square footage [1,178,000] = [96%](Should be ≥ 75%).

Section 2 Conclusion

[X] The proposed CEDHSP meets the requirements of Section 2.A and therefore qualifies as a residential or mixed-use residential project.

[ ] The proposed project does not meet the requirements of Section 2.A and therefore does not qualify as a residential or mixed-use residential project.

Required Consistency with the SCS: General Land Use Designation, Density and Intensity, and Applicable MTP/SCS Policies [Section 3]

3.A. Applicable MTP/SCS Policies

For the purposes of determining SCS consistency, the policies of the MTP/SCS are embedded in the metrics and growth forecast assumptions of the MTP/SCS. Projects consistent with the growth forecast assumptions of the MTP/SCS, as determined by application of items 3.B. and 3.C., are consistent with the MTP/SCS and its policies.

3.B. Applicable Community Type

The MTP/SCS land use forecast is illustrated using Community Types (see Figure 1). In order to determine the general land use designation, density and intensity of the project area within the MTP/SCS, the CEDHSP must be located within a Community Type designated in the MTP/SCS. The MTP/SCS defines density/building intensity in terms of the amount of growth (residential and non-residential) forecasted and the amount of build out potential within each Community Type area. SACOG monitors development activity on an annual basis to check that the amount of development is consistent with the growth forecast of the MTP/SCS.

For the purposes of the lead agency's determination of SCS consistency, MTP/SCS Appendix E-3 is used to identify the Community Type for the CEDHSP and fill in the applicable information, below for 3.B.1 and 3.B.2.

3.B.1.

The CEDHSP is located in the following Community Type:

[ ] Center and Corridor Community

[X] Established Community (project area west of El Dorado Hills Boulevard)

[X] Developing Community (project area east of El Dorado Hills Boulevard)

[ ] Rural Residential Community

3.B.2

[X] Development from the CEDHSP when added to other entitled projects will not exceed the MTP/SCS build out assumptions for the area within this Community Type, which is 6,198 new housing units and 14,925 new employees for the Established Community within El Dorado Hills west of El Dorado Hills Boulevard and 5,107 new housing units and 691 new employees for the Developing Community within El Dorado Hills east of El Dorado Hills Boulevard.[1]

3.C. General Land Use Designation, Density and Building Intensity

The foundation of the land use designations for the MTP/SCS is adopted and proposed local general plans, community plans, specific plans and other local policies and regulations. A project is consistent with the MTP/SCS if its uses are identified in the applicable MTP/SCS Community Type **and** its uses meet the general density and building intensity assumptions for the Community Type. The proposed project does not have to include all allowed uses in the MTP/SCS.

3.C.1. Determine consistency of the proposed project using one of the methods below

<u>Option A</u>

[X] The project is located in a **Center and Corridor Community or an Established Community** and the plan uses are consistent with the allowed uses of the applicable adopted local land use plan as it existed in 2012 and are at least 80% of the allowed density or intensity of the allowed uses. Therefore, the CEDHSP is consistent with the MTP/SCS.

Option A Discussion: Designation as Established Community

The CEDHSP is located in an Established Community, which, as defined in the MTP/SCS Update, is "typically the areas adjacent to, or surrounding, Center and Corridor Communities. Local land use plans aim to maintain the existing character and land use pattern in these areas. Land uses in Established Communities are typically made up of existing low- to medium-density residential neighborhoods, office and industrial parks, or commercial strip centers. Depending on the density of existing land uses, some Established

[1] MTP/SCS 2035 Update, Appendix E-3, Land Use Forecast Background Documentation.

Communities have bus service; others may have commuter bus service or very little service."[2]

The Serrano Westside planning area is approximately 240 acres. The land use designations, as identified in the County General Plan (2004), are Open Space (OS), Commercial (C), and Adopted Plan (AP) associated with the El Dorado Hills Specific Plan (EDHSP). The existing approved plan allows for 763 dwelling units, 15 acres of public village parks, 11 acres of recreational use, and 130 acres of natural open space. The Pedregal planning area is approximately 102 acres. The land use designations, as identified by the County General Plan (2004), are High-Density Residential (HDR) and Multifamily Residential (MFR). The existing approved land use plan allows for 237 dwelling units and 39 acres of natural open space.

The CEDHSP proposes a mix of uses from high- to low-density residential with an average density of approximately 9 units per acre. This exceeds 80% of the allowed density or intensity of the allowed uses under the existing County General Plan for the planning areas. The MTP/SCS proposes to increase the residential density for Established Communities from 3.8 to 4.1 between 2008 and 2035. Accordingly, the average density of the CEDHSP is well above the long-range goal of the MTP/SCS and will help facilitate regional goals for compact development.[3]

Option B

[ ] The project is located in a **Center and Corridor Community or an Established Community** and the project uses have been reviewed in the context of, and are found to be consistent with, the general land use, density, and intensity information provided for this Community Type in Appendix E-3 of the MTP/SCS. Therefore, the project is consistent with the MTP/SCS.

This option is not applicable to the CEDHSP.

Option C

[ ] The project is located in a **Rural Residential Community** and the project residential density does not exceed the maximum density of one unit per acre as specified in the MTP/SCS, and employment development in the project is at least 80% of the allowed intensity of the land use designations of the adopted general plan. Therefore, the project is consistent with the MTP/SCS.

This option is not applicable to the CEDHSP.

Option D

[X] The Project is located in a **Developing Community** and the project's average net density meets or exceeds the average net density described for this specific Developing Community (as referenced by name of applicable specific plan, master plan, or special plan in MTP/SCS Appendix E-3) and employment development in the project is consistent with the general

[2] MTP/SCS 2035 Update, Chapter 3, page 32.

[3] As defined in the MTP/SCS 2035, density is "housing units divided by net residential acres (land on which housing is built, exclusive of public rights-of-ways, parks, schools and public areas)." Factors affecting the net density calculation, once the final developable acreage is determined for the CEDHSP, include, but are not limited to, parks and open space, roads, drainage easements, slopes, swales and ponds, and detention/retention areas.

employment land uses described for this specific Developing Community. Therefore, the project is consistent with the MTP/SCS.

Option D Discussion: Designation as Developing Community

The CEDHSP is also located in a Developed Community, which, as defined in the MTP/SCS Update, is "typically, though not always, situated on vacant land at the edge of existing urban or suburban development. Developing Communities are identified in local plans as special plan areas, specific plans, or master plans and may be residential-only, employment-only, or a mix of residential and employment uses. Transportation options in Developing Communities often depend, to a great extent, on the timing of development. Bus service, for example, may be infrequent or unavailable today, but may be available every 30 minutes or less once a community builds out. Walking and bicycling environments vary widely, though many Developing Communities are designed with dedicated pedestrian and bicycle trails."[4].

The Serrano Westside planning area is approximately 240 acres. The land use designations, as identified in the County General Plan (2004), are Open Space (OS), Commercial (C), and Adopted Plan (AP) associated with the El Dorado Hills Specific Plan (EDHSP). The existing approved plan allows for 763 dwelling units, 15 acres of public village parks, 11 acres of recreational use, and 130 acres of natural open space. The Pedregal planning area is approximately 102 acres. The land use designations, as identified by the County General Plan (2004), are High-Density Residential (HDR) and Multifamily Residential (MFR). The existing approved land use plan allows for 237 dwelling units and 39 acres of natural open space.

The CEDHSP proposes a mix of uses from high- to low-density residential with an average density of approximately 9 units per acre. This exceeds 80% of the allowed density or intensity of the allowed uses under the existing County General Plan for the planning areas. Accordingly, the average density of the CEDHSP is well above the long-range goal of the MTP/SCS and will help facilitate regional goals for compact development.[5]

Section 3 Conclusion

Consistency with General Land Use Designation, Density and Intensity in MTP/SCS

The 1,000 residential units constructed by the CEDHSP would increase the County's population by approximately 2,618 residents (refer to the draft EIR Section 3.11, *Population and Housing*). Based on SACOG's growth forecast outlined in Appendix E-3 of the MTP/SCS, the number of new housing units and estimated direct population increase associated with the project would be within the projections of the MTP/SCS (6,198 new housing units and 14,925 new employees for Established Communities within the project area of El Dorado Hills west of El Dorado Hills Boulevard and 5,107 new housing units and 691 new employees for Developing Communities within the project area of El Dorado Hills east of El Dorado Hills Boulevard). The 50,000 square feet of civic–limited commercial use would slightly increase employment. However, this growth is not expected to substantially alter

[4] MTP/SCS 2035 Update, Chapter 3, page 32.

[5] As defined in the MTP/SCS 2035, density is "housing units divided by net residential acres (land on which housing is built, exclusive of public rights-of-ways, parks, schools and public areas)." Factors affecting the net density calculation, once the final developable acreage is determined for the CEDHSP, include, but are not limited to, parks and open space, roads, drainage easements, slopes, swales and ponds, and detention/retention areas.

the existing state of the area's jobs/housing balance. Thus, employment growth associated with the project is assumed within the forecast projections of the MTP/SCS.

Consistency with the Adopted MTP/SCS

The proposed CEDHSP is located in area designated as an Established Community and a Developing Community (see Figure 1). As a specific Established Community and Developing Community of the MTP/SCS, and specifically described in Appendix E-3 of the MTP/SCS, the following tables account for the CEDHSP in the MTP/SCS: Table 3.9, *Summary of Housing Product Distribution by Community Type for 2020 and 2035 Growth;*[6] Table 3.10, *Summary of Housing Product Distribution by Community Type for 2008-2020 and 2021-2035;*[7] and Table 3.11, *Summary of Expected Developed Acres by Community Type.*[8]

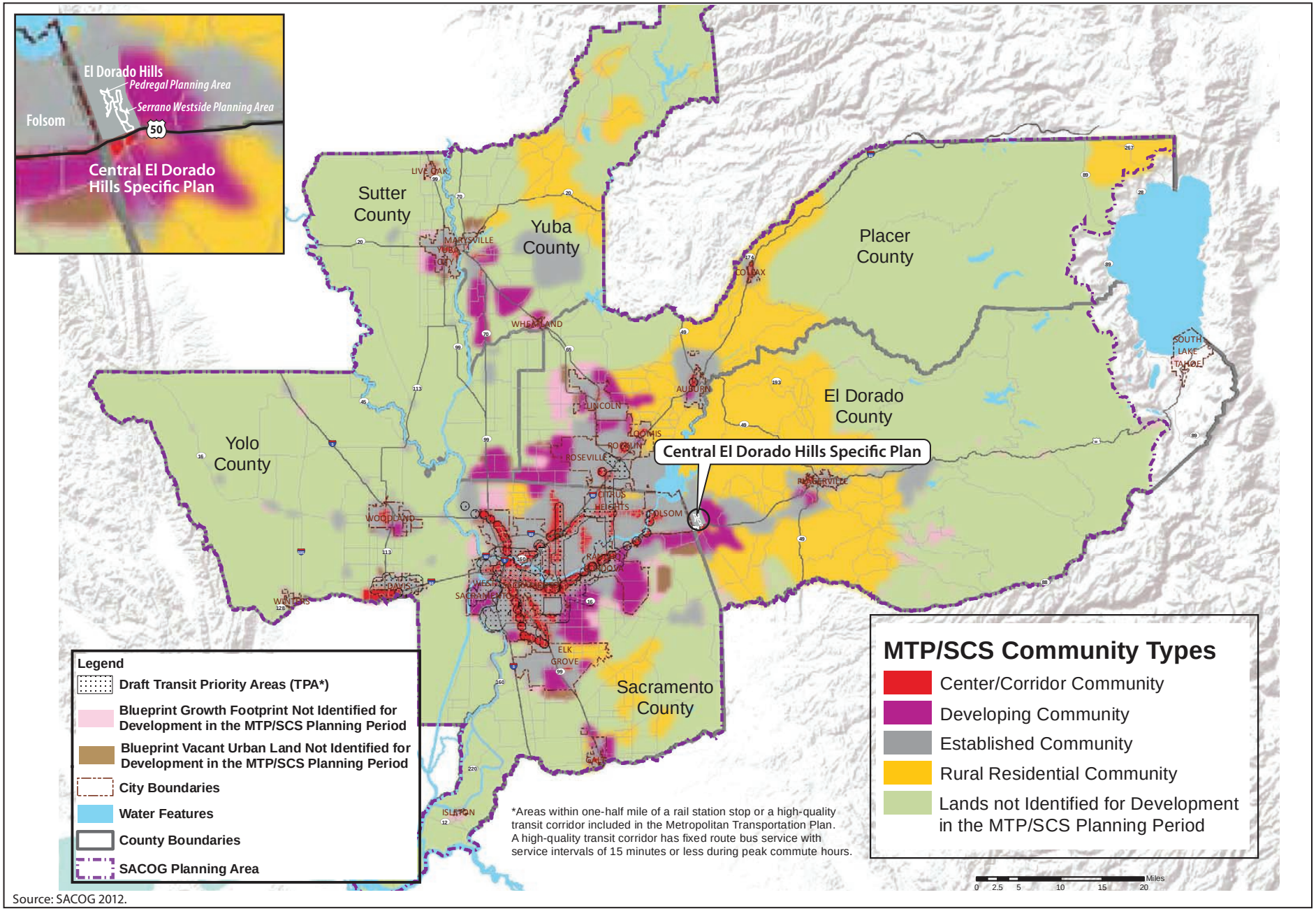
Therefore, in accordance with Table 3.15, *SB 375 CEQA Benefits*[9] (and pursuant to PRC Section 21159.28), the CEDHSP qualifies for CEQA streamlining that is applicable to residential or mixed-use projects, and is not required to reference, describe or discuss the following.

(1) Growth-inducing impacts.

(2) A reduced-density alternative to address impacts on transportation or climate change of increased car and truck VMT induced by project.

(3) Any project-specific or cumulative impacts from cars and light-duty truck trips generated by the project on global warming or the regional transportation.

[6] MTP/SCS 2035 Update, Chapter 3, page 40.
[7] MTP/SCS 2035 Update, Chapter 3, page 40.
[8] MTP/SCS 2035 Update, Chapter 3, page 42.
[9] MTP/SCS 2035 Update, Chapter 3, page 51.



Source: SACOG 2012.

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Figure 1
MTP/SCS Map with Central El Dorado Hills Specific Plan Location

Appendix I

Drainage Analysis

CENTRAL EL DORADO HILLS SPECIFIC PLAN

DRAINAGE ANALYSIS

August 28, 2014

Watermark Engineering, Inc.
3153 Jenna Court
Roseville, CA95747
916. 774. 1111
pstiehr@wtrmark.com

Central El Dorado Hills Specific Plan Drainage Analysis

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OVERVIEW

The Central El Dorado Hills Specific Plan (CEDHSP) is composed of two planning areas; the Westside planning area and the Pedregal planning area. The proposed Westside planning area is located east of El Dorado Hills (EDH) Boulevard and the La Borgata/Raley's Shopping Complex, just north of Highway 50. Much of the area was part of the EDH Golf Course which closed several years ago. The proposed Pedregal planning area is located on the east side of EDH Boulevard, just northwest of the Westside planning area with much of the proposed development on steep hillsides and a 13-acre High Density Residential area adjacent to EDH Boulevard. The CEDHSP is a 341 acre comprehensively planned community which will include a mixture of residential densities, commercial, parks and open spaces. At build-out, CEDSHP will accommodate as much as 1,000 dwelling units and 169 acres of natural open space. The open space element will comprise fifty percent of the projects total acreage. Higher density residential, civic and commercial development will be located adjacent to EDH Boulevard with lower density residential located on the surrounding sloped areas. Figure 1 shows the location and conceptual layout of the proposed development.

North of Highway 50, EDH Boulevard generally goes north along the bottom of a small valley. A drainage channel parallels the road and then continues south along the east or back side of the Raley's Shopping Complex, discharging via a double box culvert under Highway 50. The proposed CEDHSP development drains to this channel, both upstream and downstream of the Serrano Parkway crossing.

Immediately downstream of Highway 50, the drainage channel continues through significant nature preserves and storage areas that are part of the Town Center amenities, then into Carson Creek, about one-half mile farther south.

PURPOSE

The purposes of this drainage study are as follows:

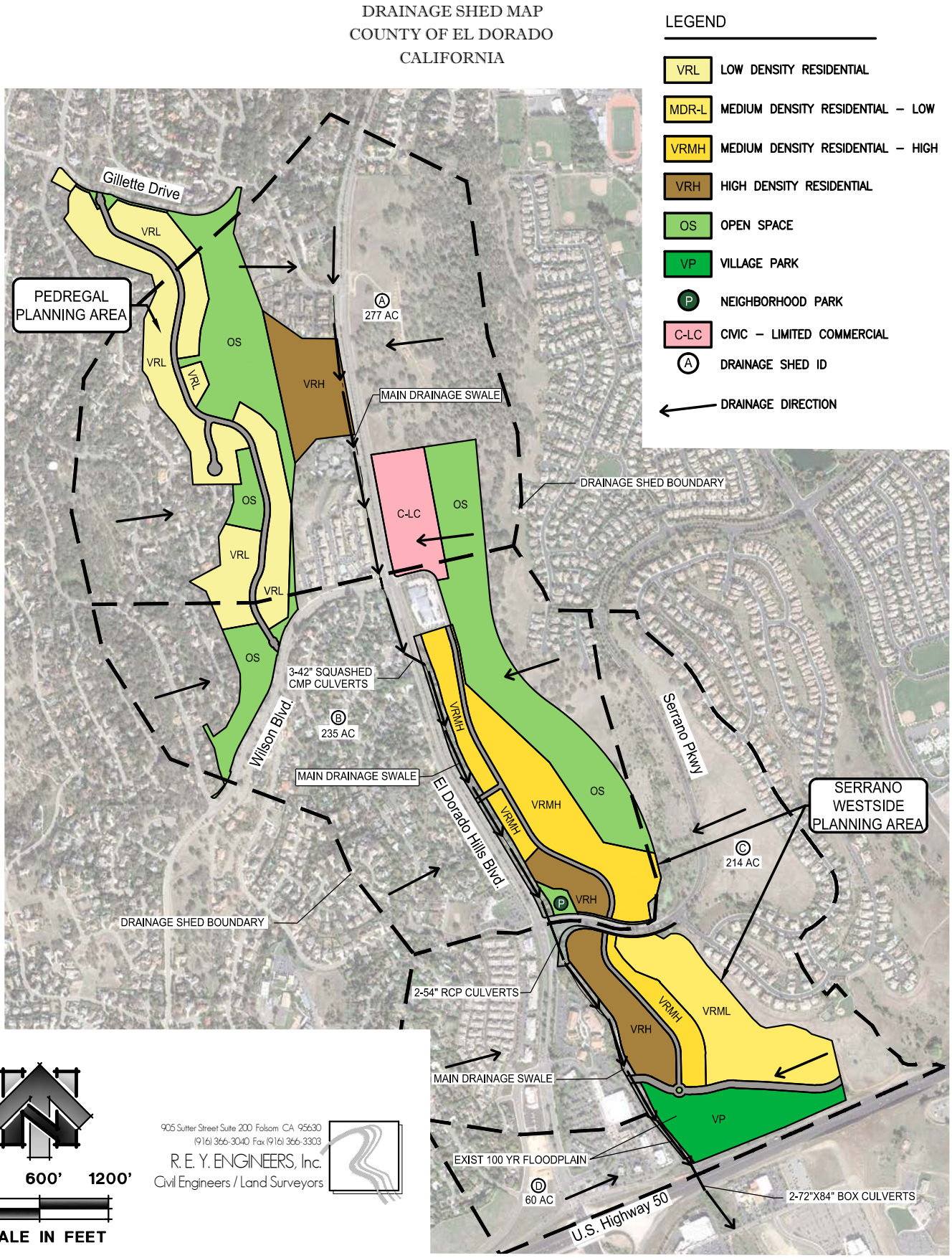
- to estimate 2-, 10-, & 100-yr peak flows for existing and developed conditions;
- to determine the limits of 100-year flooding along the channel;
- to provide a floodway analysis along portions of the creek where development will encroach onto the floodplain;
- to determine storage requirements for the Pedregal HDR site to attenuate 100-year flows to approximate existing-conditions flows; and
- to present conceptual water quality facilities for the development.

HYDROLOGY

Both sides of the valley drain to the channel that parallels EDH Boulevard. The watershed was divided into four subsheds. The SCS methodology within the XP-SWMM software was used to generate hydrographs and determine peak runoff for the design storms. Figure 1 shows the entire shed area and the location of the Westside and Pedregal planning areas. Table 1 provides a summary of the pertinent basin parameters. Table 2 provides a summary of design flows for the selected storms for both existing and developed conditions. The

Figure 1
CENTRAL EL DORADO HILLS SPECIFIC PLAN

DRAINAGE SHED MAP
COUNTY OF EL DORADO
CALIFORNIA



estimated 2-year and 10-year flows are shown but were not used for the analyses within this document.

Table 1. Subshed Parameters

Shed ID	Area (ac)	SCS CN	% Imp (Exist)	% Imp (Dev)	Lag (min) (Exist)	Lag (min) (Dev)
5.5-A	277	80	20	35	55	50
31.5-B	235	80	15	30	45	40
S12.5-C	214	80	10	50	45	40
S19.5-D	60	80	80	80	30	30
Pedregal	13	80	2	80	15	10

Table 2. Summary of Peak Flows

Shed ID	Area (ac)	2-yr Pk Flows (cfs)		10-yr Pk Flows (cfs)		100-yr Pk Flows (cfs)	
		Exist	Dev	Exist	Dev	Exist	Dev
5.5-A	277	72	96	159	194	284	329
31.5-B	235	61	84	142	175	259	301
S12.5-C	214	51	102	122	190	227	307
S19.5-D	60	45	45	74	74	109	109
Pedregal	13	5	12	11	19	19	28

The estimated runoff volumes and differences between existing and developed conditions are shown in Table 3.

Table 3. Summary of Storm Volumes

Event	Exist Vol (af)	Dev Vol (af)	Increase (af)
2-yr	62.6	81.5	18.9
10-yr	124.2	150.8	26.6
100-yr	213.0	246.8	33.8

WESTSIDE PLANNING AREA HYDRAULICS

The XP software was also used to compute the water surface elevations for the design storms at the selected cross-sections. The XP-SWMM software is graphics based with numerous error routines and graphic aids to assist the modeler. The runoff model has numerous hydrologic methods available to generate runoff hydrographs. The hydraulics module transports the computed subshed runoff through a system of pipes, channels, storage/treatment devices, pumps, and regulators. The program can track the quantity and quality of runoff generated within each subshed, and the flow rate, flow depth, and quality of water in each pipe and channel during the simulation period comprised of multiple time steps.

XP-SWMM is approved by FEMA for use to update or complete Flood Insurance Studies. Sacramento County uses XP-SWMM extensively.

Map 1 provides a schematic of the computed flows through the study area. Figures 2 and 3 show the 100-year water surface profiles for the reaches upstream and downstream of Serrano Parkway, respectively.

The computed water elevations are provided in Appendix A of this document. The limits of the 100-year storm are shown on the folded Map (Map 2).

The maximum computed flow through the double 6 x 7 foot concrete box culvert at Highway 50 is about 630 cfs for 100-year existing conditions and 735 cfs for the 100-year developed conditions. The additional backwater upstream of the culverts for developed conditions is approximately 0.8 foot higher compared to existing conditions (water surface elevation 605.8 versus 605.0 ft).

No analyses of the Town Center facilities have been done as part of the CEDHSP study. It has been assumed that the Town Center facilities were designed assuming fully developed conditions upstream of Highway 50. In addition, the culvert crossing under Highway 50 attenuates the amount of flow that can pass under the freeway.

Based on the assumptions described above, no detention or attenuation facilities are proposed as part of the Westside planning area. The limits of the 100-year storm are provided, and development will typically be outside the floodplain and above the 100-year surface elevation. The exceptions are just upstream of Serrano Parkway and upstream of Highway 50.

A floodway analysis was made for these two reaches based on the layout of the proposed development. Table 4 provides the offset stationing for existing and encroached conditions for the affected cross-sections. See Map 2 for the locations of the cross-sections.

Table 4. Floodway Analysis

X-Sec ID	Existing Cond.- Distance (ft) from C/L to East EW	Developed Cond.- Distance (ft) from C/L to East EW	Node ID	Developed 100-yr WSE. (ft)	Encroached 100-yr WSE (ft)	Increase of WSE (ft)
27+	34	36	27.5	641.0	641.3	0.2
28+	80	56	28.5	641.0	641.2	0.2
29+	130	61	29.5	640.9	641.2	0.3
30+	171	100	30.5	640.9	641.2	0.3
31+	179	165	31.5	640.9	641.2	0.3
S13+	55	55	S13.5	612.6	612.6	0.0
S14+	132	116	S14.5	612.0	612.0	0.0
S15+	218	145	S15.5	611.3	611.3	0.0
S16+	49	49	S16.5	610.7	610.7	0.0
S17+	136	131	S17.5	607.9	607.9	0.0
S18+	190	143	S18.5	607.2	607.2	0.0
S19+	221	122	S19.5	606.9	606.9	0.0
S20+	177	120	S20.5	606.3	606.3	0.0
S21+	225	112	S22.2	605.8	605.8	0.1°
S22+5	260	135	S22.5	605.7	605.8	0.1

EW: Edge of Water; WSE: Water Surface Elevation; °: Difference not apparent because of rounding.

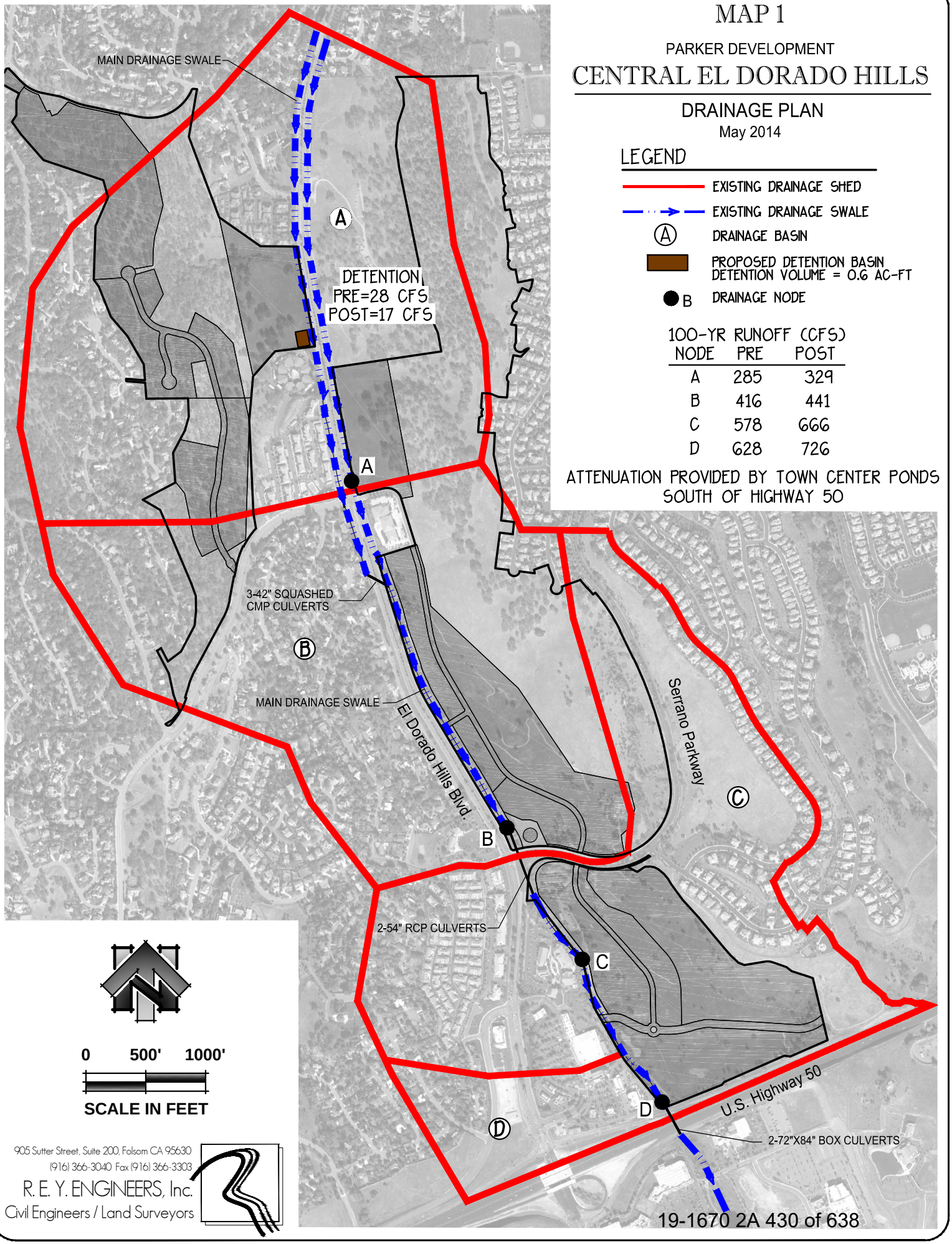
MAP 1

PARKER DEVELOPMENT

CENTRAL EL DORADO HILLS

DRAINAGE PLAN

May 2014



LEGEND

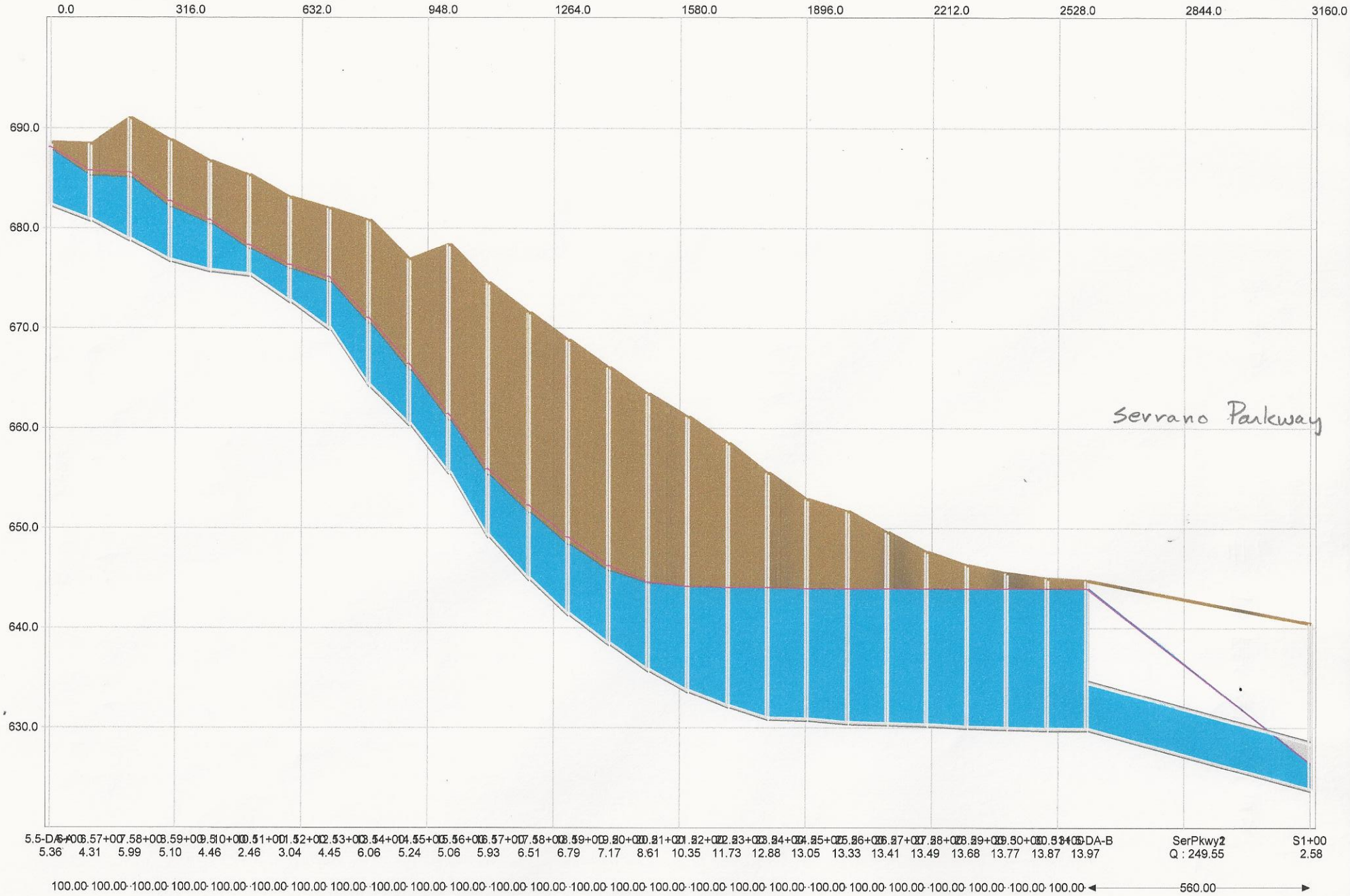
- EXISTING DRAINAGE SHED
- EXISTING DRAINAGE SWALE
- (A) DRAINAGE BASIN
- PROPOSED DETENTION BASIN DETENTION VOLUME = 0.6 AC-FT
- ● B DRAINAGE NODE

100-YR RUNOFF (CFS)

NODE	PRE	POST
A	285	329
B	416	441
C	578	666
D	628	726

ATTENUATION PROVIDED BY TOWN CENTER PONDS SOUTH OF HIGHWAY 50

905 Sutter Street, Suite 200, Folsom CA 95630
(916) 366-3040 Fax (916) 366-3303
R. E. Y. ENGINEERS, Inc.
Civil Engineers / Land Surveyors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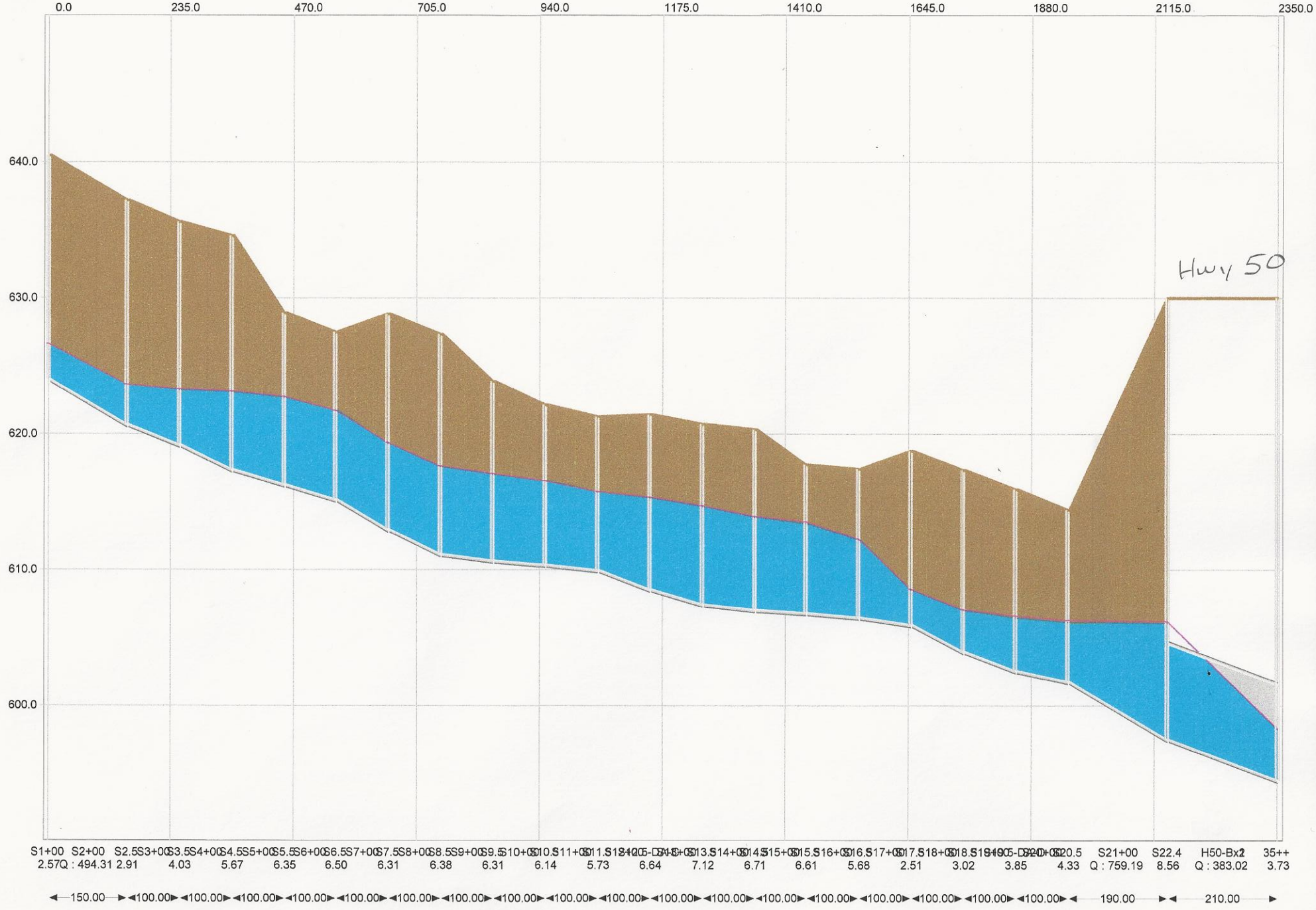
560.00

FIGURE 2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S20.5 4.33
S21+00 Q : 759.19
S22.4 8.56
H50-Bx2 Q : 383.02
35++ 3.73
150.00
100.00
100.00
100.00
100.00
100.00
100.00
100.00
100.00
100.00
100.00
100.00
100.00
100.00
100.00
100.00
100.00
100.00
100.00
100.00
190.00
210.00

FIGURE 3

It is recommended that the grade of any proposed development be a minimum of two feet above the computed water levels. Also, development upstream of Serrano Parkway should be a minimum of two feet above the minimum road elevation of the Parkway.

PEDREGAL PLANNING AREA HYDRAULICS

A separate analysis was completed to estimate storage requirements to attenuate the developed 100-year peak flow down to existing conditions at the proposed Pedregal planning area High Density Residential site. This site is relatively flat and is the only area where attenuation is proposed.

All of the other proposed development on the east side of EDH Blvd is Low Density Residential and is sited on relatively steep terrain. With low-permeable soils and steep slopes, runoff is relatively high under existing conditions. It is assumed that the flattening of the residential lots will effectively reduce the slope of the subshed which will tend to reduce peak flows. Any landscape areas will also tend to reduce peak flow. Conversely, the Low Density Residential development will increase the imperviousness of the subshed which will tend to increase peak flows. The assumption is that existing and developed conditions are essentially equivalent and therefore, peak flows from the development will remain similar to peak flows under existing conditions

Approximately 25,000 cubic feet of storage will be needed to attenuate the peak flow from the High Density Residential site from about 28 cfs to 17 cfs for the 100-year storm. A basin with a bottom dimension of 50 feet wide by 100 feet long, with 5 to 1 side slopes, about 5 feet deep, will provide the needed storage with approximately one foot of freeboard. Note that the actual configuration of the basin is open to conditions at the site. However, the stage-storage relation and outfall configuration are important design components. Appendix B provides additional details and support information for the attenuation analysis in the Pedregal planning area.

It is assumed the basin will be dry except during runoff events. Additional storage and an outfall structure with a low-flow component could be incorporated into the facility to provide water quality treatment.

WATER QUALITY

Two water quality ponds are proposed, one upstream of Serrano Parkway and one east of the Raley's Shopping Complex, to provide water quality treatment for the urban runoff and minor attenuation of storm water runoff. Alternatively, a single larger pond could be utilized east of the Raley's Shopping Complex. Two ponds are assumed for this analysis for greater flexibility as the development moves forward. Please note that these ponds could be phased or combined, depending on development schedule and needs.

The project water quality features will consist of two detention basins, located northeast of the intersection of EDH Blvd and Serrano Parkway and northeast of the Raley's Shopping Center and Highway 50. This would be in addition to the existing water quality features downstream of Highway 50 at the Town Center. The design of the wet basins will generally follow the criteria developed by Sacramento County and cities. General design recommendations are shown in Table 5.

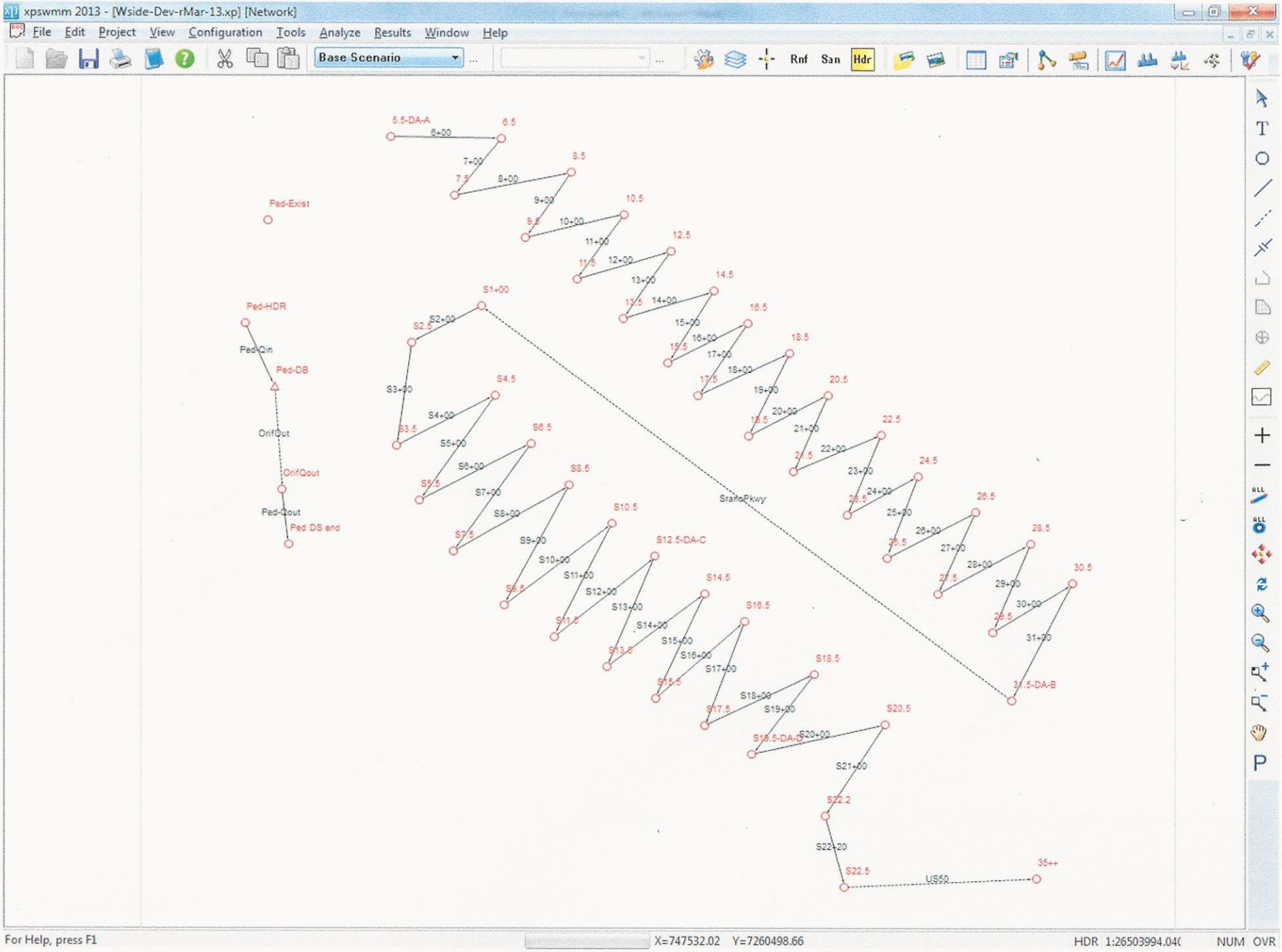
Table 5. General Guidelines for Lakes/ Water Quality Basins

Site ID	Trib Area (ac)	% Imp	WQ Vol. (af)	Min Pond Vol. (af)
Basin 1-Upstream	27*	81.2	1.5	1.9
Basin 2- Downstream	35*	79.5	1.9	2.4

*Development area only

Additional design criteria include design depth of 4 to 8 feet, side slopes of 3:1 to 4:1, and the basin shape be designed for maximize distance between the inflow and outflow.
Depending on phasing and grading design, runoff from all of the tributary area or only the development area will flow through the basins. A low-flow release plus an emergency spillway will be part of the design of the basins. See Appendix C.

Additionally, Water quality Best Management Practices (BMPs) will be implemented based on the most current NPDES Phase II Small MS4 General Permit and El Dorado County Storm Water Quality Standards, effective at the time of approval. Once more detailed, parcel specific, design information becomes available, Low Impact Design (LID) credits can be developed to determine treatment control and hydromodification control necessity or extent which may affect water quality pond sizing, locations or necessity.



Appendix A Modeling Map

Pg 1 of 2

2 of 2

Node Name (Analysis Pt)	Max Crown Elev (ft)	Exist Max WSE (ft)	Dev Max WSE (ft)	Enrcoached Max WSE (ft)	Invert Elevation ft	Water Level Rise (Encroach-Dev) (ft)	Comments
5.5-DA-A	688.6	687.9	688.0	688.0	682.5	0.0	Shed A- US End of Study Reach
6.5	688.5	685.2	685.5	685.5	681.0	0.0	
7.5	691.0	685.0	685.3	685.3	679.1	0.0	
8.5	688.9	682.0	682.3	682.3	677.0	0.0	
9.5	686.8	680.4	680.6	680.6	676.0	0.0	
10.5	685.3	677.9	678.1	678.1	675.5	0.0	
11.5	682.9	675.8	676.0	676.0	672.9	0.0	
12.5	682.0	674.5	674.8	674.8	670.2	0.0	
13.5	680.8	670.3	670.6	670.6	664.4	0.0	
14.5	677.0	665.7	666.0	666.0	660.6	0.0	
15.5	678.4	660.7	661.0	661.0	655.8	0.0	
16.5	674.6	655.1	655.5	655.5	649.4	0.0	
17.5	671.6	651.4	651.7	651.7	645.1	0.0	
18.5	668.9	648.1	648.5	648.5	641.6	0.0	
19.5	666.1	645.2	645.6	645.6	638.6	0.0	
20.5	663.5	642.7	643.2	643.2	636.0	0.0	
21.5	661.2	641.0	641.8	642.0	633.9	0.2	Encroachment along LB
22.5	658.5	640.4	641.4	641.6	632.4	0.2	
23.5	655.6	640.1	641.2	641.5	631.2	0.2	
24.5	652.9	640.0	641.2	641.4	631.0	0.3	
25.5	651.7	639.9	641.1	641.4	630.7	0.3	
26.5	649.6	639.8	641.1	641.3	630.6	0.3	
27.5	647.6	639.7	641.0	641.3	630.5	0.3	
28.5	646.3	639.6	641.0	641.2	630.3	0.3	
29.5	645.7	639.6	640.9	641.2	630.2	0.3	
30.5	645.6	639.6	640.9	641.2	630.1	0.3	
31.5-DA-B	645.5	639.5	640.9	641.2	630.0	0.3	Inflow from Shed B
							Serrano Parkway
S1+00	643.0	626.4	626.4	626.5	624.0	0.0	
S2.5	637.2	623.2	623.4	623.4	620.7	0.0	
S3.5	635.6	622.8	622.9	623.0	619.2	0.0	
S4.5	633.8	622.6	622.8	622.8	617.4	0.0	
S5.5	628.5	622.2	622.3	622.4	616.3	0.0	
S6.5	627.5	621.3	621.5	621.5	615.2	0.0	
S7.5	628.8	618.9	619.1	619.1	613.0	0.0	
S8.5	627.0	617.1	617.3	617.3	611.2	0.0	
S9.5	623.8	616.6	616.7	616.7	610.7	0.0	
S10.5	621.9	616.1	616.2	616.2	610.4	0.0	
S11.5	621.2	615.0	615.2	615.2	610.0	0.0	
S12.5-DA-C	620.0	614.5	614.7	614.7	608.5	0.0	Inflow from Shed C
S13.5	619.8	612.4	612.6	612.6	607.7	0.0	
S14.5	619.0	611.9	612.0	612.0	606.9	0.0	
S15.5	617.4	611.1	611.3	611.3	605.9	0.0	
S16.5	617.2	610.5	610.7	610.7	604.8	0.0	
S17.5	617.1	607.7	607.9	607.8	603.8	0.0	
S18.5	616.1	606.9	607.2	607.2	602.7	0.0	
S19.5-DA-D	615.1	606.6	606.9	606.9	601.7	0.0	Inflow from Shed D
S20.5	614.2	606.0	606.3	606.3	600.8	0.0	Encroachment along LB
S22.2	612.0	605.0	605.8	605.8	598.0	0.1	
S22.5	611.5	605.0	605.7	605.8	597.5	0.1	
35++	601.5	597.7	598.1	598.1	594.5	0.0	DS of 2x 7'hx6'w RCB at Hwy 50

xpswmm 2012 - [Dynamic Section View]

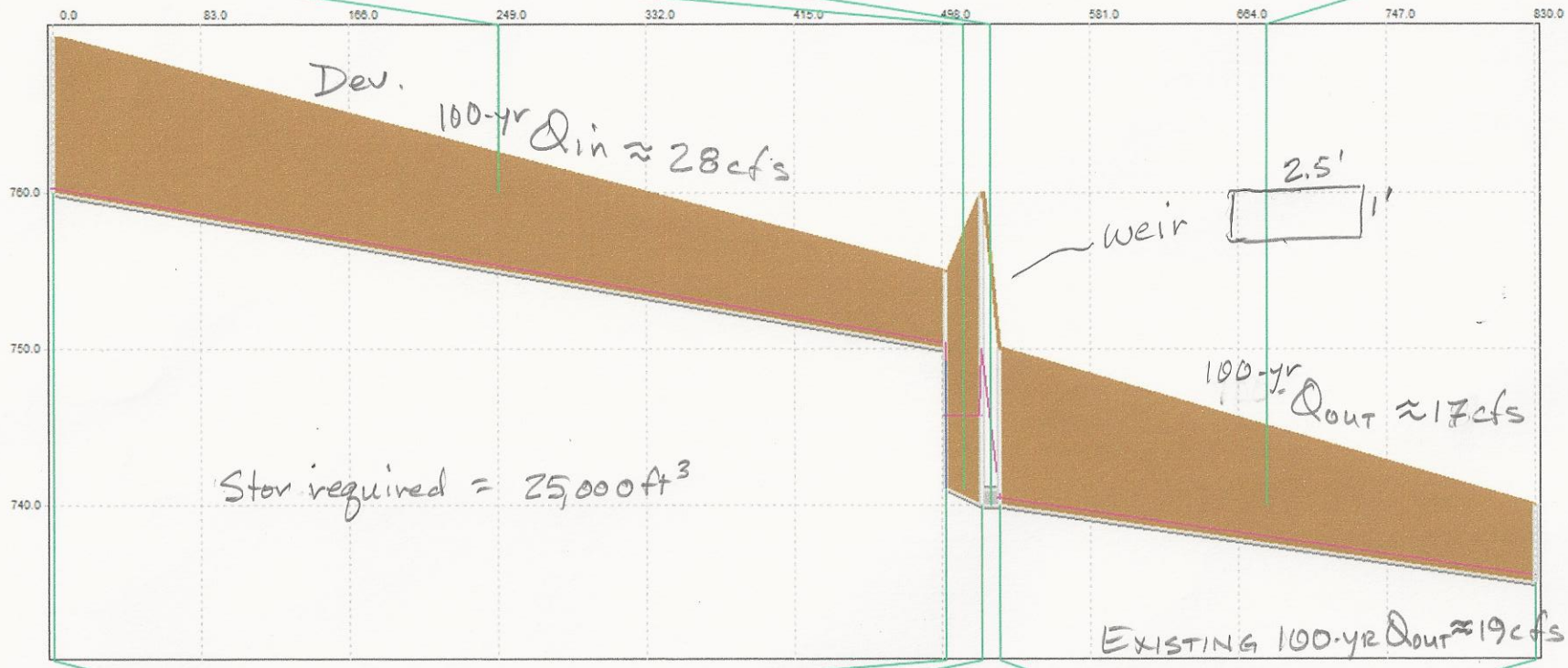
File Window

Base Scenario

100-year Water Surface Profile- Westside
Day [0] Time 00:03:00 Step 6

Table E1 | Link | WEILink | LinkPlotData

	HDR	Link529	PedWr	PedWr	DBOrif	chnl
Upstream No	Ped-HDR	Node537	Ped-DB	Ped-DB	Ped-DB	PedOut
Link Name	HDR	Link529	OrifOut	OrifOut	OrifOut	chnl
Max Flow	27.866	27.120	15.210	27.843	18.797	18.796



	Ped-HDR	Node537	Ped-DB	PedOut	DSend
Subcatchme	1				
Node Name	Ped-HDR	Node537	Ped-DB	PedOut	DSend
Area	13.000	0.000	0.000	0.000	0.000
Max Flow	27.887	0.000	0.000	0.000	0.000
Max Water El	760.364	745.768	745.768	740.447	735.447

Node | WEINode | PlotData

App B 1 of 2

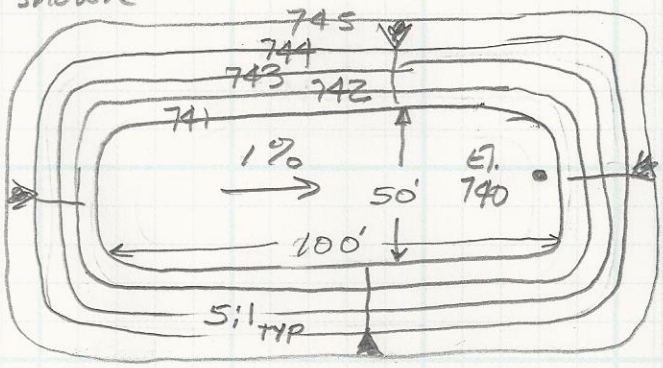
Attachment C Schematic of Drainage Facilities with Peak Flows

Watermark Engineering, Inc.
3153 Jenna Court
Roseville, CA 95747
(916) 774-1111 Fax (916) 774-1181
pstiehr@wtrmark.com

JOB Westside - Pedregal
SHEET NO _____ OF _____
CALCULATED BY PLS DATE 5-24-14
CHECKED BY _____ DATE _____

Detention Analysis for Pedregal

Assumed rectangular dry basin as shown

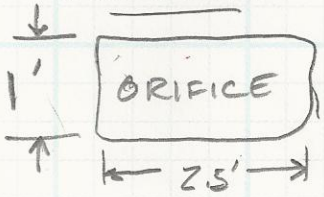


Stage-Storage Relation

	Depth	Area (ac)	Cum. Stor (ft³)
740	0	0.01	0.0
741	1	0.11	2,220
742	2	0.15	7,860
743	3	0.19	15,250
744	4	0.24	24,600
745	5	0.29	36,100

100 WSE
= 744.0

OUTFALL



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pstiehr@wtrmark.com

JOB Westside Water Quality
SHEET NO _____ OF _____
CALCULATED BY PS DATE 5-24-14
CHECKED BY _____ DATE _____

APPENDIX C

WET BASIN Upstream of Serrano Parkway

* Appendix E Sac WQ Manual

HDR	17.1 ac	80% imp
MF	4.5 ac	70% "
Roads	5.2 ac	95%
	26.8 ac	81.2%

Volume Required (0.67 in)* 26.8 ac = 1.5 af = WQV

Wet Basin = 1.25 (WQV) = 1.25(1.5) = 1.9 af

Min Permanent Pool Storage = 1.9 af

Wet Basin Downstream of Serrano Parkway

HDR	20.5 ac	80
MF	9.2	70
Roads	5.1	95
	34.8	79.6 wt%

Vol = 34.8 (0.64 in)* = 1.9 af

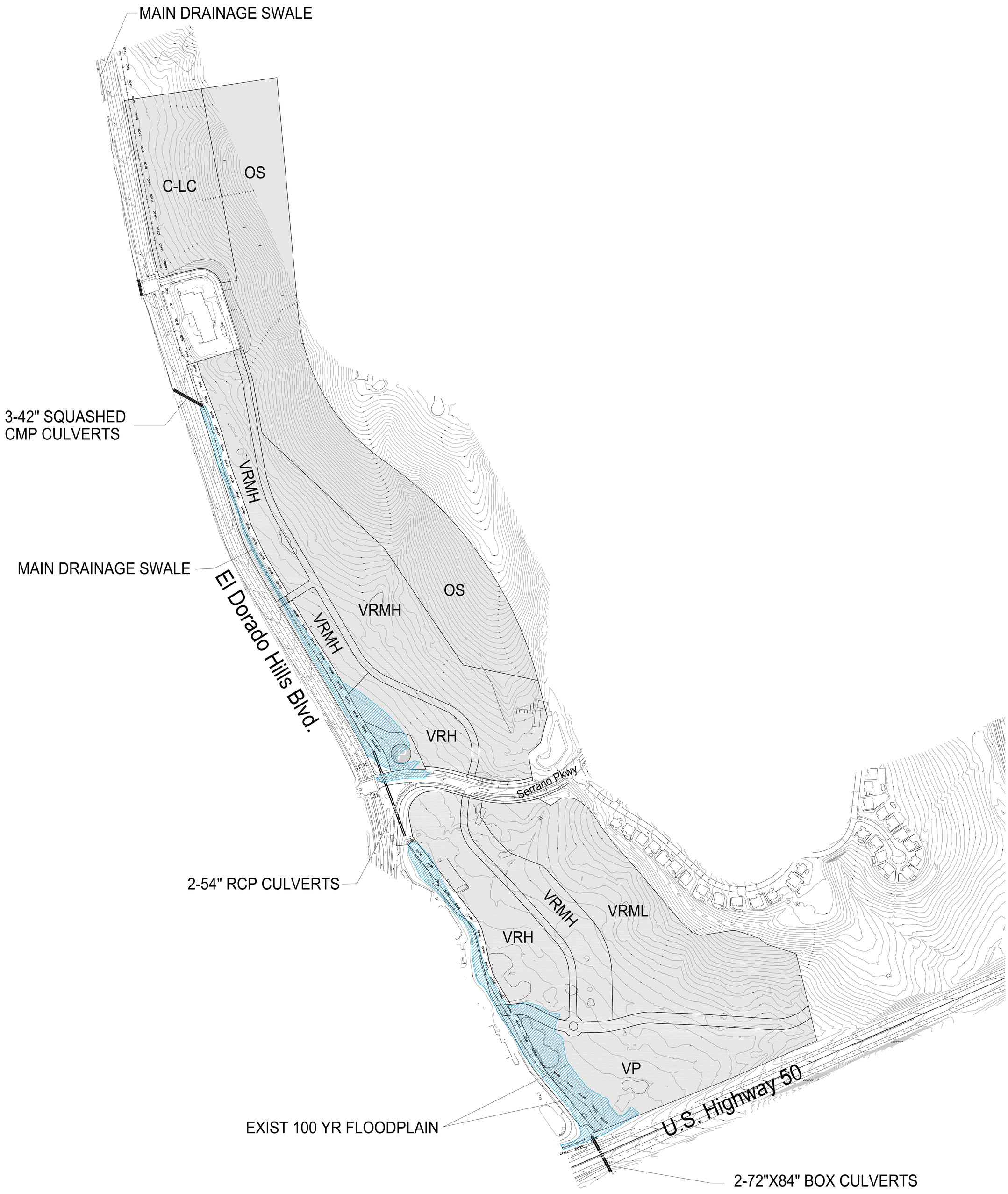
Min Permanent Pool = 1.25(1.9) = 2.4 af

MAP 2

CENTRAL EL DORADO HILLS SPECIFIC PLAN

100-YR FLOOD PLAIN

COUNTY OF EL DORADO
CALIFORNIA



0 100' 200' 400'
SCALE IN FEET

905 Sutter Street Suite 200 Folsom CA 95630
(916) 366-3040 Fax (916) 366-3303
R. E. Y. ENGINEERS, Inc.
Civil Engineers / Land Surveyors

Watermark Engineering, Inc.

Date: February 23, 2015

To: County of El Dorado Transportation Division

From: Patrick Stiehr

RE: Additional Analysis of Drainage Facilities Downstream of Westside Development

OVERVIEW

The proposed Westside development is located east of El Dorado Hills (EDH) Boulevard and the La Borgata/Raley's Shopping Complex, just north of Highway 50. Much of the area was part of the EDH Golf Course which closed several years ago. The development will cover about 104 acres, consisting of high density residential, multifamily, a park, and open space.

North of Highway 50, EDH Boulevard generally goes north along the bottom of a small valley. A drainage channel parallels the road and then continues south along the east or back side of the Raley's Shopping Complex, discharging via a double box culvert under Highway 50. This drainage channel has been identified as Tributary 2 in Carson Creek Regional Drainage Study completed in 1996 by Shari Bottorff and as Channel 2 within the Wood Rodgers' drainage studies. The proposed Westside development drains to Tributary 2 both upstream and downstream of the Serrano Parkway crossing.

Immediately downstream of Highway 50, Tributary 2 continues through significant nature preserves and storage areas that are part of the Town Center amenities. It then flows under White Rock Road and twice under Concordia Drive, discharging into the main stem of Carson Creek several hundred farther downstream.

A drainage study was prepared for Westside by Watermark Engineering dated August 28, 2014. That study stopped at Highway 50 with the following explanation taken from that study.

> *No analyses of the Town Center facilities have been done as part of the Westside study. It has been assumed that the Town Center facilities were designed assuming fully developed conditions upstream of Highway 50. In addition, the culvert crossing under Highway 50 slightly attenuates the amount of flow that can pass under the freeway.*
>
> *Based on the assumptions described above, no detention or attenuation facilities are proposed as part of the Westside development. ...*

The drainage studies prepared for the Town Center improvements were hard to locate in order to confirm or reject the above assumption. Recently, several studies were located. Review of the applicable studies indicates the original 1996 land use assumptions upstream of Highway 50 were used without consideration of land use changes that have occurred or are expected in the future..

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This analysis was therefore necessary to determine if adequate storage was available within the Town Center facilities to attenuate developed flows for the proposed Westside development.

TOWN CENTER IMPROVEMENTS

The available Wood Rodgers drainage reports for the Town Center improvements were as follows:

- *Tributary 2 Floodplain Analysis for Town Center Development*, May 2002;
- *On-Site Drainage Analysis for Town Center East Commercial Development*, June 2002;
- *Drainage Analysis for Town Center Development*, September 2002; and
- *Carson Creek Tributary Channel Analysis*, August 2003.

There were three main drainage improvements for the Town Center Development. The existing facilities and proposed improvements were as follows:

1. The downstream end of the attenuation storage, downstream of the rock weir and identified as the South Crossing, was controlled by three large CMP arches (103" by 71"). The proposed improvements were to leave the one arch with the lowest flowline elevation in place, remove the other two, and install a single-smaller CMP arch at a flowline elevation higher than the one that remained in place. A recent field inspection indicates that the lower arch is in place as proposed, the second arch was completely plugged, and the lower 3.5± feet of the third existing arch was filled with concrete.
2. The existing crossing at White Rock was two 6'x 5' concrete box culverts (RCBs). The recommended improvements were four 6' x 4' RCBs and those four culverts are in place.
3. Channel enlargement along the right bank and cleaning was proposed from the South Crossing downstream to the White Rock Road culverts. During the site visit, the extent of the channel work was not clear. The estimation was that some or most of the excavation had been completed, but there was significant vegetation in the channel.

This is a separate comment but during the site visit, it was noted that there is a large (6"- 9" dia.) branch growing across the mouth of the lowest arch culvert at the South Crossing. It is part of a mature willow tree growing at the right side of the culvert entrance. The tree could be left in place but the branches affecting the entrance should be removed.

ANALYSIS

The XP-SWMM model used for Tributary 2 upstream of Highway 50 for the Westside Study was extended downstream based on cross-section plots and other information available from the Wood Rodgers (WR) drainage reports.

Forty-eight cross-sections were used to define the downstream channel and six crossings from the south side of Highway 50 to approximately 1400 feet downstream of the first Concordia Way crossing. There were no changes to the facilities downstream of White Rock Road, so the reach downstream of Concordia was the last reach evaluated. Roughness values and geometric data were also taken from the existing reports.

The peak flow estimates for both pre and developed conditions for the subsheds upstream of Highway 50 were taken from the Westside Drainage Study. Peak flow estimates for both pre and

post developed conditions for subsheds that are tributary to the Town Center area were generated based on the same hydrologic methodology (SCS Curve Number) and subshed parameters as those presented in the WR reports.

Table 1 provides a summary of the basin parameters. The basin boundaries upstream of Highway 50 are the same as shown in the Westside Drainage Study and the boundaries for the sheds downstream of Highway are shown within the WR studies.

Table 1. Subshed Parameters

Shed ID	Area (ac)	SCS CN	% Imp (Exist)	% Imp (Dev)	Lag (min) (Exist)	Lag (min) (Dev)
5.5-A	277	80	20	35	55	50
31.5-B	235	80	15	30	45	40
S12.5-C	214	80	10	50	45	40
S19.5-D	60	80	80	80	30	30
Downstream Of Hwy 50		**Pre Dev**	**Post Dev**	**Not used**		
CM83	34	84	94		11.5	No change
CM82	25	84	94		11.5	“
CM81	26	84	94		11.5	“
CM8R	14	84	94		11.5	“
CM8	28.5	82	89		9	“
CU	87	88	88		29	“

Table 2 provides a summary of 100-year peak flows from the selected subsheds. The peak flows were the same as presented in the respective studies upstream and downstream of Highway 50.

Table 2. Summary of 100-year Peak Flows

Shed ID (us of Hwy 50)	Area (ac)	100-yr Pk Flows (cfs)			Shed ID (ds of Hwy 50)	Area (ac)	100-yr Pk Flows (cfs)	
		Exist	Dev				Exist	Dev
5.5-A	277	284	329		CM83	34	34	72
31.5-B	235	259	301		CM82	25	43	53
S12.5-C	214	227	307		CM81	26	45	55
S19.5-D	60	109	109		CM8R	14	24	30
					CM8	28.5	47	56
					CU	87	141	141

Table 3 provides a summary of flows and maximum water elevations at selected points along Tributary 2 from Serrano Parkway downstream about 1000 feet south of the first Concordia Way crossing. Three conditions were analyzed to determine the impact the Westside Development would have on the Town Center facilities.

Figure 1 shows the locations of the Analysis Points. Attachment 1 is a XP-SWMM plot of water levels through the Town Center for “all developed conditions”.

Table 3. Summary of Peak Flows and Water Surface Elevations along Channel 2

Description/Location	Pre Development		Westside Exist, Town Center Dev		Westside & Town Center Developed	
	Flow (cfs)	Elev (ft)	Flow (cfs)	Elev (ft)	Flow (cfs)	Elev (ft)
US of Serrano Parkwy	394	640.5	394	640.5	422	642.3
US of Hwy 50	619	604.9	619	604.9	714	605.7
North Crossing	607	595.7	607	595.7	697	596.2
Conspan Crossing	606	590.0	605	590.0	697	590.1
Rock Weir	627	590.0	630	590.0	722	590.1
South Crossing	631	583.6	567	588.0	626	589.2
White Rock Road	638	583.0	575	579.6	635	580.0
Concordia Way	675	578.1	599	577.7	661	578.0
DS of Concordia Way	675	565.4	599	565.2	661	565.3

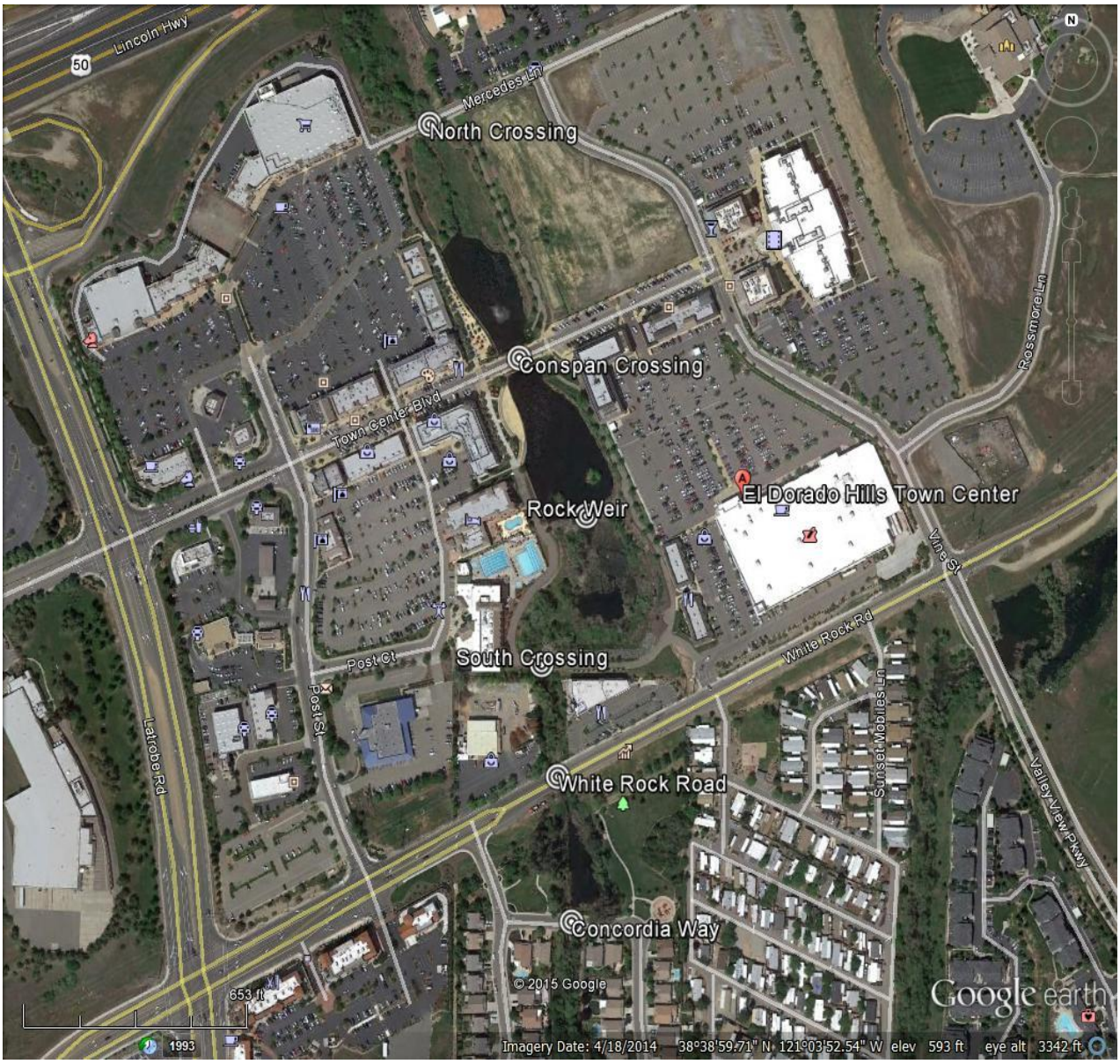


Figure 1. Location of Analysis Points at Town Center, downstream of Highway 50.

The locations downstream of Highway 50 where the water surface elevation is higher under the "all developed" scenario are at the upstream analysis points and at the South Crossing. The higher water levels upstream of the South Crossing are the results of the higher incoming flow. The higher water level at the South Crossing is the result of the design feature to store more water by reducing the size and conveyance of the South Crossing culverts.

There is attenuation such that downstream flows and corresponding water levels are at or below predevelopment levels, including the Westside development. There is acceptable freeboard (2+ feet) within the pool upstream of the South Crossing. There is also an emergency spillway if the culverts become restricted by debris during a major storm event.

Although not specifically designed to attenuate developed flows from Westside, the existing facilities at Town Center do provide the necessary attenuation so that flows entering Carson Creek downstream of Tributary 2 are at or below predevelopment levels.

Additional modeling information and the electronic XP-SWMM files are available upon request.

xpswmm 2014 - [Dynamic Long Section]

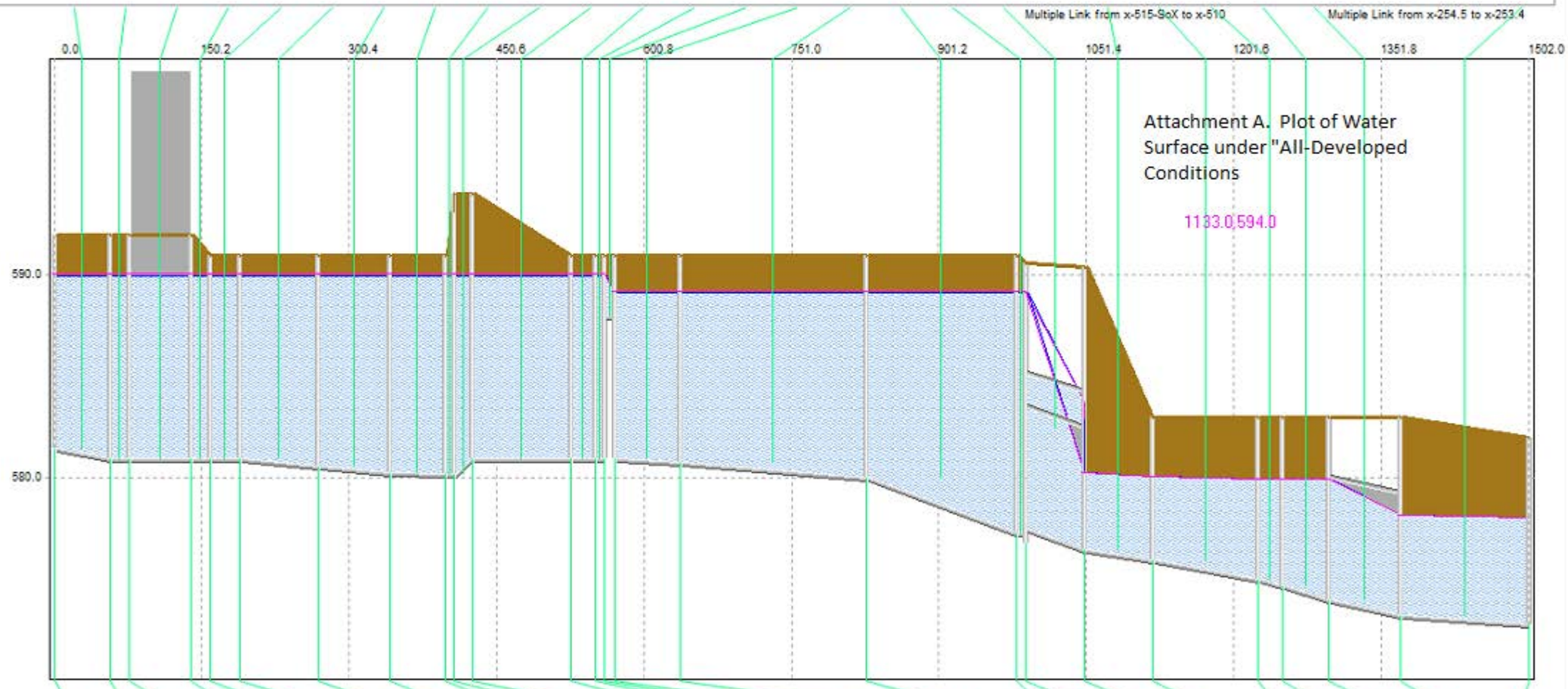
File View Window

Base Scenario | 100-yr | Active Subcatchments | Close

100-year Water Surface Profile- W100-year Water Surface Profile- Westside
Day [0] Time 11:21:00 Step 1362

Table E1 | Link | WEILink | LinkPlotData

	Rx-57	Rx-56	Cons	Rx-555	Rx-55	Rx-55	Rx-54	Rx-543	Rx-54	Rx-53	Rx-537	Rx-53	Rx-53	Rx-53	Rx-531	Rx-53	Rx-52	Rx-51	LitlAr	BigAr	Rx-51	Rx-495	Rx-49	Rx-25	WiteR	WiteR	WiteR	WiteR	Rx-253
Storm	100-yr	100-yr	100-yr	100-yr	100-yr	100-yr	100-yr	100-yr	100-yr	100-yr	100-yr	100-yr	100-yr	100-yr	100-yr	100-yr	100-yr	100-yr	100-yr	100-yr	100-yr	100-yr	100-yr	100-yr	100-yr	100-yr	100-yr	100-yr	100-yr
Upstream No	x-570	x-566	x-565	x-555-	x-554	x-550	x-547	x-543	x-540	x539.5	x-537	x-533	x-532-	x-531.	x-531	x-530	x-520-	x-515-	x-515-	x-515-	x-510	x-495	x-490-	x-255.	x-254.	x-254.	x-254.	x-254.	x-253.
Link Name	Rx-57	Rx-56	Consp	Rx-555	Rx-55	Rx-55	Rx-54	Rx-543	Rx-54	Rx-53	Rx-537	Rx-53	Rx-53	Rx-53	Rx-531	Rx-53	Rx-52	Rx-51	Rx-515	Rx-51	Rx-51	Rx-495	Rx-49	Rx-25	WiteR	WiteR	WiteR	WiteR	Rx-253
Max Flow	696.6	696.7	696.7	711.9	712.0	712.0	711.9	711.8	711.8	711.8	711.6	711.5	722.4	722.4	712.1	672.9	638.0	628.6	95.2	531.2	626.4	626.4	634.9	634.9	158.7	158.7	158.7	158.7	635.0



	x-570	x-566	x-565	x-555-	x-554	x-550	x-547	x-543	x-540	x539.5	x-537	x-533	x-532-	x-531.7	x-531	x-530	x-520-	x-515-	x-515-S	x-510	x-495	x-490-	x-255.5	x-254.5	x-253.4	x-252-
Storm	100-yr	100-yr	100-yr	100-yr	100-yr	100-yr	100-yr	100-yr	100-yr	100-yr	100-yr	100-yr	100-yr	100-yr	100-yr	100-yr	100-yr	100-yr	100-yr	100-yr	100-yr	100-yr	100-yr	100-yr	100-yr	100-yr
Subcatchme				1									1				1	1				1				1
Node Name	x-570	x-566	x-565	x-555-C	x-554	x-550	x-547	x-543	x-540	x539.5	x-537	x-533	x-532-C	x-531.7	x-531	x-530	x-520-C	x-515-C	x-515-S	x-510	x-495	x-490-C	x-255.5	x-254.5	x-253.4	x-252-C
Area	0.0	0.0	0.0	34.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.0	0.0	0.0	0.0	26.0	14.0	0.0	0.0	0.0	28.5	0.0	0.0	0.0	87.0
Max Flow	0.0	0.0	0.0	72.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	53.3	0.0	0.0	0.0	55.4	29.8	0.0	0.0	0.0	[illegible]	0.0	0.0	0.0	140.6
Max Water El	590.1	590.1	590.1	590.1	590.1	590.1	590.1	590.1	590.1	590.1	590.1	590.1	590.1	590.1	589.2	589.2	589.2	589.2	589.2	580.3	580.1	580.0	580.0	580.0	578.2	578.1

Node | WEINode | PlotData | weiTable

Appendix J

CEQA Guidelines Appendix F: Energy Conservation

APPENDIX F:
ENERGY CONSERVATION

I. Introduction

The goal of conserving energy implies the wise and efficient use of energy. The means of achieving this goal include:

(1) decreasing overall per capita energy consumption,

(2) decreasing reliance on fossil fuels such as coal, natural gas and oil, and

(3) increasing reliance on renewable energy sources.

In order to assure that energy implications are considered in project decisions, the California Environmental Quality Act requires that EIRs include a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful and unnecessary consumption of energy (see Public Resources Code section 21100(b)(3)). Energy conservation implies that a project's cost effectiveness be reviewed not only in dollars, but also in terms of energy requirements. For many projects, cost effectiveness may be determined more by energy efficiency than by initial dollar costs. A lead agency may consider the extent to which an energy source serving the project has already undergone environmental review that adequately analyzed and mitigated the effects of energy production.

II. EIR Contents

Potentially significant energy implications of a project shall be considered in an EIR to the extent relevant and applicable to the project. The following list of energy impact possibilities and potential conservation measures is designed to assist in the preparation of an EIR. In many instances specific items may not apply or additional items may be needed. Where items listed below are applicable or relevant to the project, they should be considered in the EIR.

A. Project Description may include the following items:

1. Energy consuming equipment and processes which will be used during construction, operation and/or removal of the project. If appropriate, this discussion should consider the energy intensiveness of materials and equipment required for the project.
2. Total energy requirements of the project by fuel type and end use.
3. Energy conservation equipment and design features.
4. Identification of energy supplies that would serve the project.
5. Total estimated daily vehicle trips to be generated by the project and the additional energy consumed per trip by mode.

B. Environmental Setting may include existing energy supplies and energy use patterns in the region and locality.

C. Environmental Impacts may include:

1. The project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the project including construction, operation, maintenance and/or removal. If appropriate, the energy intensiveness of materials maybe discussed.
2. The effects of the project on local and regional energy supplies and on requirements for additional capacity.
3. The effects of the project on peak and base period demands for electricity and other forms of energy.
4. The degree to which the project complies with existing energy standards.
5. The effects of the project on energy resources.

6. The project's projected transportation energy use requirements and its overall use of efficient transportation alternatives.

D. Mitigation Measures may include:

1. Potential measures to reduce wasteful, inefficient and unnecessary consumption of energy during construction, operation, maintenance and/or removal. The discussion should explain why certain measures were incorporated in the project and why other measures were dismissed.
2. The potential of siting, orientation, and design to minimize energy consumption, including transportation energy, increase water conservation and reduce solid waste.
3. The potential for reducing peak energy demand.
4. Alternate fuels (particularly renewable ones) or energy systems.
5. Energy conservation which could result from recycling efforts.

E. Alternatives should be compared in terms of overall energy consumption and in terms of reducing wasteful, inefficient and unnecessary consumption of energy.

F. Unavoidable Adverse Effects may include wasteful, inefficient and unnecessary consumption of energy during the project construction, operation, maintenance and/or removal that cannot be feasibly mitigated.

G. Irreversible Commitment of Resources may include a discussion of how the project preempts future energy development or future energy conservation.

H. Short-Term Gains versus Long-Term Impacts can be compared by calculating the project's energy costs over the project's lifetime.

I. Growth Inducing Effects may include the estimated energy consumption of growth induced by the project.

Note: Authority cited: Sections 21083 and 21087, Public Resources Code. Reference: Sections 21000-21176. Public Resources Code.

Revised 2009

SUMMARY OF SPECIFIC PLAN POLICIES AFFECTING ENERGY

Appendix C

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Policy # [1]	Policy

C.1 AIR QUALITY AND PUBLIC HEALTH

8.51 (M)	Installation of open-hearth wood-burning fireplaces shall be prohibited in favor of more energy-efficient and less polluting heating devices using cleaner burning fuels, such as natural gas. All fireplaces and stoves shall be natural gas fired.

C.2 CIRCULATION

4.1	The Plan Area must include choices among methods of transportation, including roadways, bikeways, and pedestrian ways that are well-connected for a walkable community.
4.2	Design the land use plan in a manner that accommodates a potential connection between the Serrano Westside Planning Area and Silva Valley Parkway as a collector road and parallel capacity to U.S. Highway 50.
4.3	Design the local roadways in the Plan Area as internal systems that do not connect to existing roadways in neighboring subdivisions, unless required for Emergency Vehicle Access (EVA).
4.5	Development of the Plan Area shall comply with General Plan Policies TC-Xa through TC-Xi (Measure Y).

C.5 ENERGY EFFICIENCY

8.11 (M)	All buildings shall exceed energy efficiency standards in Title 24, Part 6 of the 2008 California Building Standards Code by a minimum of 15 percent, according to the performance method prescribed in the code (CALGreen Residential: A4.203.1; Nonresidential: A5.203.1; CAPCOA BE-1).
8.12 (V)	All buildings should, if feasible, incorporate site design measures that reduce heating and cooling needs by orienting buildings on the site to reduce heat loss and gain, depending on the time of day and season of the year.

[1] *Policies noted with a (V) or (M) indicate the voluntary or mandatory nature of the CALGreen standards and illustrate how this Specific Plan exceeds CALGreen requirements. Notwithstanding the voluntary or mandatory nature of the CALGreen code, the policies stated herein become the adopted policies of the Specific Plan and shall apply in the respective circumstances as worded by the policies.*

Policy # [1]	Policy
8.13 (V)	Cool roofing materials shall be encouraged in both residential and nonresidential buildings, consistent with CalGreen Tier 1 voluntary measures (CALGreen A4.106.5 for Residential; A5.106.11.2 for Nonresidential).
8.14 (M)	All buildings shall be designed to incorporate the use of high quality, energy-efficient glazing to reduce heat loss and gain.
8.15 (V)	All buildings shall include programmable thermostats, home energy management systems, or other similar technologies (CAPCOA BE-2).
8.16 (V)	Appliances and any applicable equipment installed prior to occupancy shall be EnergyStar certified, including residential appliances and HVAC systems, nonresidential appliances, office equipment, HVAC, and lighting control systems (CAPCOA BE-4).
8.17 (V)	Any covenants, conditions, and restrictions shall allow for the temporary use of clothes lines, drying racks, or similar temporary structures, in order to encourage natural air-drying of laundry and conservation of energy.
8.18 (V)	The use of vegetative or man-made shading devices for east-, south-, and west-facing walls with windows shall be encouraged in order to reduce heat gain. Where feasible, wall surface materials shall be minimum SRI 25 (aged), for 75 percent of opaque wall areas (CALGreen A5.106.7).
8.19 (V) (M)	All new construction shall obtain third-party commissioning and verification prior to occupancy to ensure that all building systems and components are planned, designed, installed, tested, and operated and maintained to meet the owner's project requirements (CALGreen 5.410.2 for commercial (M), A4.207.2 for residential (V); CAPCOA BE-3).
8.20 (V)	Lighting in publicly- or commonly-accessed outdoor areas in all Village Residential - Medium and Village Residential - High, Civic-Limited Commercial, and Village Park designations shall both minimize energy use and protect dark-sky conditions through the installation of high-efficiency LED or similar lighting with automatic, dimmable controls (CAPCOA LE-1; LE-2).
8.21 (V)	Public street-lighting shall be high-efficiency LED (light emitting diode) or incorporate similar technologies, and be designed with automatic, dimmable controls to both minimize energy use and protect dark-sky conditions, as allowed by the local public agency (CAPCOA LE-1).
8.22 (V) (M)	Commercial, residential, and public buildings shall be designed to allow for the installation of renewable energy systems including active solar, wind, or other emerging technologies, and shall comply with the following standards: ▪ All buildings shall, at a minimum, be prewired for future solar photovoltaic (PV) system installation. Conduit shall be installed from the building roof or eave to a location within the building identified as suitable for future installation of a charge controller (regulator) and inverter (CALGreen A5.211.4) (V); ▪ Where applicable, rooftop PV arrays or solar water heating systems (SWHS) shall be installed in accordance with the State Fire Marshal safety regulations and guidelines (M);

Policy # [1]	Policy
	▪ Standard rooftop mechanical equipment shall be located in a manner that does not preclude the installation of solar panels (V); ▪ Alternative energy mechanical equipment and accessories installed on the roof of a building shall be integrated with roofing materials and/or blend with the structure's architectural form, if feasible (V); and ▪ Any covenants, conditions, and restrictions shall allow for the installation of appropriate solar energy collection systems or other architectural features to collect, store, or utilize renewable energy on-site, provided that the systems comply with design guidelines and height limits established in the Specific Plan development standards and applicable provisions of the County Code.
8.23 (V)	Solar water heating systems, radiant heating systems, or similar types of energy efficient technologies, shall be required in commercial and multi-family buildings, and encouraged in single-family homes and swimming pools, where applicable.

C.9 LAND USE

3.2	Establish new residential uses in a manner that blends densities with existing subdivisions and locate multi-family sites in proximity to existing services or public transit opportunities to minimize automobile use.
8.1 (V)	Minimum off-street parking requirements shall be flexible where shared parking arrangements, on-street parking, car-sharing, or other applicable measures or programs lead to reduced peak parking demand ((CAPCOA) PDT-1; CALGreen A5106.6 Parking Capacity).
8.2 (V)	Short term and long term bicycle parking and support facilities shall be provided in all Civic-Limited Commercial, Village Park, Village Residential - Medium, and Village Residential - High designations in accordance with CALGreen Nonresidential Tier 1 Voluntary Measures (see CALGreen A5 106.4; CAPCOA SDT-6 and 7).
8.3 (V)	Off-street parking in all Civic-Limited Commercial, Village Park, Village Residential - Medium, and Village Residential - High land use designations shall include a minimum number of dedicated public parking spaces for Low-Emitting and Fuel-Efficient Vehicles , in accordance with CALGreen Nonresidential Tier 1 Voluntary Measures (see CALGreen A5.106.5.1 for specific standards).
8.4 (V)	Off-street parking in all Civic-Limited Commercial, Village Park, and Village Residential - High designations shall provide some dedicated parking for plug-in electric vehicles (PEVs) and install minimum Level 2 PEV charging stations in each dedicated PEV parking space, in accordance with CALGreen Nonresidential Tier 1 Voluntary Measures (see CALGreen A5.106.5.3 for specific standards; CAPCOA SDT-8).
8.5 (V)	Off-street parking in private garages or other dedicated enclosed off-street parking spaces in all Village Residential - Low and Village Residential - Medium designations are encouraged to be pre-wired for future installation of minimum Level 2 PEV charging stations, in accordance with Section 406.7 of the California Building Code.

Policy # [1]	Policy
8.6 (V)	Electrical outlets shall be provided along the front and rear exterior walls in all Residential designations to allow for the use of electric landscape maintenance tools (CAPCOA A-3).
8.7 (V)	The use of "*cool pavement*" materials will be encouraged, where feasible and subject to the approval of the local agency, in the designs and specifications for all paved surfaces, including, but not limited to, sidewalks, driveways, parking lots, and streets; thereby reducing surface temperatures and radiant heat from paved surfaces. Cool pavements include those meeting Solar Reflectance Index (SRI) values of 29 or greater (LEED-ND GIB Credit 9: Heat Island Reduction).
8.8 (V)	Trees shall be interspersed throughout all parking lots so that in fifteen (15) years, fifty (50) percent of the parking lot will be in shade at high noon. At planting, trees shall be equivalent to a 15 gallon container or larger.
8.9 (V)	Solar canopies, intended to both shade parking lots and generate renewable energy, shall be encouraged.

C.11 MOBILITY AND CONNECTIVITY

4.6	Reserve a location in the southwest segment of the Serrano Westside Planning Area for a U.S. 50 Highway pedestrian overcrossing. The incorporation of public art features is strongly encouraged to highlight El Dorado County's agri-tourism industry.
4.7	Develop a cohesive pedestrian network of public sidewalks and street crossings that make walking a convenient and safe way to travel. Provide direct links between streets and major destinations, such as future transit stops, parks, and shopping centers, when feasible.
4.8	Relocate the Class I bike path on El Dorado Hills Boulevard between Wilson Boulevard and Serrano Parkway to a riparian area on the western edge of the Serrano Westside Planning Area to improve pedestrian safety and eliminate potential vehicular conflicts.
4.9	Utilize the existing undercrossing at Serrano Parkway to provide an un-interrupted bikeway from Wilson Boulevard to U.S. Highway 50.
8.10 (V)	The Master Owners' Association (MOA) shall work with area residents, businesses, and other interested parties, such as the Highway 50 Corridor TMA, to create or participate in a transportation management association (TMA), and prepare and implement a multi-strategy Transportation Management Plan (TMP) for the Plan Area. The TMP shall incorporate transportation demand management strategies as described in Section 8.4.2 (Transportation Demand Management), and will be managed through the TMA, as administered by the MOA or other similar organizations (CAPCOA TRT-1 through TRT-15).

Policy # [1]	Policy

C.15 POTABLE WATER, RECYCLED WATER, WASTEWATER, AND DRY UTILITIES

7.1	Design and construct the necessary potable water, recycled water for irrigation, wastewater, and storm water infrastructure required to serve the Plan Area. All infrastructure improvements shall follow the conceptual Water, Wastewater, Recycled Water, and Storm Water Master Plans, and shall be constructed in sequence to meet the immediate needs of the individual development projects.
7.2	Final master utility plans for water, recycled water, and wastewater shall be reviewed and approved by EID in a Facility Plan Report (FPR) at the improvement plan stage.
7.3	Final master utility plans for dry utilities (gas, electric, telephone, and cable) shall be reviewed and approved by the appropriate public utility purveyor in joint trench designs and composite plans at improvement plan stage.

C.16 PUBLIC SERVICES *(Fire Protection, Solid Waste Collection, Schools, and Parks)*

6.21	All construction projects shall be consistent with the County's Construction and Demolition Debris Diversion Ordinance to reuse or recycle a minimum of 65 percent (consistent with Policy 8.29 of this Specific Plan) of construction and demolition debris.
6.22	Green waste service for residential units shall be provided to the maximum extent feasible, and as determined by the El Dorado Hills CSD's Multi-Cart program and franchise agreement with El Dorado Disposal.

C.17 RECREATION

3.10	Provide private neighborhood parks and public village parks at an overall minimum standard of 5 acres per 1,000 residents, linking them to residential areas and activity centers through a network of sidewalks, bike paths, and trails.
3.11	All multi-family and high-density residential sites are encouraged to incorporate on-site recreational amenities for their residents.
6.1	To promote walking and cycling, village and neighborhood parks shall be connected to the pedestrian and bicycle network.

Policy # [1]	Policy
6.2	Locate neighborhood parks reasonably central to the neighborhoods they are intended to serve.
6.7	Village parks shall be located adjacent to public arterial or collector roadways.
6.12	Master plans shall be prepared for all public village parks and shall include a lighting plan, if applicable.
6.13	All park lighting fixtures shall be shielded and energy efficient.
6.14	Design and landscape parks to provide shade, easy maintenance, and water efficiency.

C.19 TRAFFIC CALMING

4.11	Reduce vehicular speed by designing local roads with narrower traffic lanes, roundabouts, well-marked pedestrian crossings, bulb-outs, or median treatments to improve pedestrian travel and comfort.

C.20 WASTE REDUCTION AND RECYCLING

8.24 (V)	Residential construction shall incorporate foundation systems, which result in not less than a 20 percent reduction in cement use in the foundation mix design through use of fly ash, slag, silica fume, or rice hull ash (CALGreen Residential A4.403.2).
8.25 (V)	Nonresidential construction shall use cement and concrete made with recycled products (CALGreen Nonresidential A5.405).
8.26 (V)	Residential and nonresidential construction shall incorporate efficient framing techniques, where applicable (Residential: CALGreen A4.404; Nonresidential: A5.404.1).
8.27 (V)	Residential and nonresidential construction shall incorporate sustainably-sourced, regional, bio-based, and reused materials, where applicable and available (CALGreen Res. A4.405 and Nonres. A5.405, CAPCOA MISC-3).
8.28 (M)	Prior to construction, applicants shall prepare a construction waste management plan for individual construction projects, in accordance with local and state requirements (El Dorado County C&D Waste Ordinance, CALGreen mandatory measures 4.408, 5.408).

Policy # [1]	Policy
8.29 (V)	A minimum of 65 percent of the non-hazardous construction waste generated at a construction site shall be recycled or salvaged for reuse (CALGreen A4.408.1, CAPCOA SW-2).
8.31 (M)	One hundred percent of trees, stumps, rocks, and associated vegetation and soils resulting primarily from land clearing associated with subdivision construction shall be reused or recycled, to the extent feasible (CALGreen Mandatory Measure 5.408.4).
8.32 (V)	Any covenants, conditions, and restrictions shall allow for on-site composting of residential yard waste and non-hazardous household food waste.
8.33 (V)	On-site composting of commercial food waste, landscaping green waste, and other forms of organic waste shall be allowed in Civic-Limited Commercial and Village Park designations, in accordance with any applicable local and state regulations.
8.34 (V)	On-site reuse of compost and mulch shall be encouraged in privately-owned gardens and landscaping or within common landscaped areas in the Plan Area.
8.35 (V)	Easily-accessible, screened, and well-maintained recycling and composting areas shall be provided for the depositing, storage, and collection of all non-hazardous recyclable or compostable materials (including paper, plastic, glass, metal, and yard and food waste).

C.21 WATER CONSERVATION

8.36 (M)	Residential indoor water use shall be reduced by a minimum of 20 percent from the 2008 Plumbing Code baseline as demonstrated by the prescriptive fixture-based method or according to a water use baseline, in accordance with CALGreen Mandatory Measures (CALGreen Residential 4.303 and Nonresidential 5.303, CAPCOA WUW-1).
8.37 (V)	Nonresidential indoor water use shall be encouraged to be reduced by a minimum of 30 percent as demonstrated by the prescriptive fixture-based method or according to a water use baseline, in accordance with CALGreen Nonresidential Voluntary Tier 1 Measures (CALGreen Nonresidential 5.303, CAPCOA WUW-1).
8.38 (V)	Maximum flow rates for residential kitchen sink faucets shall not be greater than 1.5 gallons per minute at 60 psi (CALGreen Residential A4.303.1, CAPCOA WUW-1).
8.39 (V)	Waterless urinals and toilets shall be encouraged in all Civic-Limited Commercial and Village Park buildings or facilities, where applicable (CALGreen Residential A4.303.2, CAPCOA WUW-1).

Policy # [1]	Policy
8.40 (V)	A backbone recycled water system shall be designed and installed within the Serrano Westside Planning Area to supply recycled water to residential yards, commercial landscaping, park sites, landscape corridors, and other landscaped spaces. (CAPCOA WSW-1, EID Board Policy 7010).
8.41 (V)	The use of site-specific gray-water irrigation systems shall be encouraged within residential buildings in the Pedregal Planning Area, in accordance with CALGreen Tier 1 Voluntary Measures (CALGreen Residential A4.305.1, Nonresidential A5.304.8).
8.42 (V)	Nonresidential buildings and facilities in the Serrano Westside Planning Area shall be dual-plumbed for potable and recycled water systems for toilet flushing when indoor recycled water is available for use, if allowed by the enforcing authority (CALGreen A5.305.5).
8.43 (V) (M)	Outdoor water conservation measures shall include weather-based irrigation controllers (M), low-water consumption irrigation systems, the establishment of water budgets, and other measures where applicable (V) (CALGreen Residential 4.304 (M) and A4.304 (V), Nonresidential 5.304 (M), CAPCOA WUW-3,4 (V)).
8.44 (V)	Hydro-zoning techniques shall be incorporated into landscape designs for all post-construction landscapes (CALGreen A4.106.3, CAPCOA WUW-3).
8.45 (V)	A minimum 75 percent of the Plan Area planting palette shall feature California Central Valley and foothills native plant species as described in the most current edition of River-Friendly Landscape Guidelines and drought tolerant adaptive plant species (CALGreen A4.160.3; CAPCOA WUW-3, -5, -6). Neighborhood entry gateways and similar high visibility locations in the Plan Area may feature conventional ornamental plant species.
8.46 (V)	Consistent with CALGreen Tier 2 voluntary measures, all non-public uses within the Plan Area shall limit the use of turf to no more than 25 percent of the total landscaped area (CALGreen A4.106.3, CAPCOA WUW-5).
8.47 (M)	The use of turf is not allowed on slopes greater than 25 percent where the toe of the slope is adjacent to an impermeable hardscape (Model Water Efficient Landscape Ordinance, Section 492.6).

Table J-1. Estimated Construction GHG Emissions (metric tons per year)

Construction Year	CO_2	CH_4	N_2O	Other	CO_2e
2016	745	0.20	<0.01	0.00	751
2017	831	0.16	0.01	1.42	837
2018	941	0.27	<0.01	0.00	948
2019	1,024	0.26	<0.01	0.12	1,031
2020	525	0.09	<0.01	0.00	527
2021	384	0.08	<0.01	0.27	386
2022	577	0.14	<0.01	0.00	581
2023	576	0.14	<0.01	0.00	580
2024	355	0.08	<0.01	0.00	357
2025	309	0.07	<0.01	0.00	311
2026	0	0.00	0.00	0.00	0
2027	215	0.07	<0.01	0.00	217
2028	392	0.11	<0.01	0.00	395
2029	666	0.09	<0.01	0.00	670
2030	564	0.02	<0.01	1.55	565
Total construction emissions	8,103	1.77	0.02	3.36	8,157
Maximum annual emissions (2019)	1,024	0.27	0.01	1.55	1,031
Regional draft GHG threshold	–	–	–	–	1,100

Source: CalEEMod version 2013.2.2 and RCEM version 7.1.5.1(based on ICF modeling).

Appendix K

Water Supply Assessment

El Dorado Irrigation District

SB 610 Water Supply Assessment for the Central El Dorado Hills Specific Plan

SB 610 Water Supply Assessment

Prepared for the
Central El Dorado Hills Specific Plan

Final

August 2013

Prepared by:

Tully & Young
Comprehensive Water Planning

Prepared for:

El Dorado Irrigation District

Approved by Eldorado Irrigation District Board of Directors
on August 26, 2013 as action item #8

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SECTION 1 – PROJECT INTRODUCTION

1.1 INTRODUCTION

In December 2012, the El Dorado Irrigation District (EID) received a letter from the El Dorado County Planning Department (County) requesting the completion of a Water Supply Assessment (WSA) for the Central El Dorado Hills Specific Plan (hereafter referred to as the "Proposed Project"). As the proposed water supply purveyor for the Proposed Project, EID has prepared this WSA to assess the availability and sufficiency of EID's water supplies to meet the Proposed Project's estimated water demands. This document provides the necessary information to comply with the assessment of sufficiency as required by statute.

Statutory Background

Enacted in 2001, Senate Bill 610 added section 21151.9 to the Public Resources Code requiring that any proposed "project," as defined in section 10912 of the Water Code, comply with Water Code section 10910, et seq. Commonly referred to as a "SB 610 Water Supply Assessment," Water Code section 10910 outlines the necessary information and analysis that must be included in an environmental analysis of the project (e.g. CEQA compliance) to ensure that proposed land developments have a sufficient water supply to meet existing and planned water demands over a 20-year projection.

Proposed "projects" requiring the preparation of a SB 610 water supply assessment include, among others, residential developments of more than 500 dwelling units, shopping centers or business establishments employing more than 1,000 persons or having more than 500,000 square feet of floor space, commercial office buildings employing more than 1,000 persons or having more than 250,000 square feet of floor space and projects that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.[1]

The Proposed Project requires a WSA because it contemplates more than 500 new dwelling units as detailed in Section 1.2.

Document Organization

This WSA supports the Proposed Project's environmental review process and analyzes the sufficiency of water supplies to meet projected water demands of the Proposed Project through the required planning horizon. The WSA is organized according to the following sections:

- **Section 1: Proposed Project Introduction**. This section provides an overview of WSA requirements, and a detailed description of the Proposed Project, especially the land-use elements that will require water service.

[1] Water Code § 10912, subdivision (a).

- **Section 2: Proposed Project Estimated Water Demands**. This section describes the methodology used to estimate water demands of the Proposed Project and details the estimated water demands at build-out of the Proposed Project.

- **Section 3: Other Estimated Water Demands**. This section details the other water demands currently served by EID and anticipated to be served based on information in the El Dorado County's (County) General Plan as well as known and potential planned modifications since the County's adoption of the General Plan.

- **Section 4: Water Supply Characterization**. This section characterizes the EID water supply portfolio that will serve the Proposed Project along with other current and future water demands. Water rights, along with water service contracts and agreements are characterized for normal, single dry, and multiple dry year conditions.

- **Section 5: Sufficiency Analysis**. This section assesses whether sufficient water will be available to meet the Proposed Project water demands, while recognizing existing and other potential planned water demands within the EID service area. To provide the necessary conclusions required by statute, the analysis integrates the demand detailed in Section 2 and Section 3 with the characterization of EID's water supply portfolio detailed in Section 4.

1.2 PROPOSED PROJECT DESCRIPTION

The Proposed Project is an infill development along El Dorado Hills Boulevard, north of Highway 50 encompassing approximately 256 acres in the unincorporated community of El Dorado Hills (see **Figure 1-1**).

The Proposed Project includes 1,028 residences, limited commercial space, a large active use park, a smaller neighborhood park, and open space. Proposed residential dwelling units include 65 ½ to 1-acre custom lots, 123 lots with densities of 5 to 8 dwelling units per acre (designated "medium density-low"), 310 lots with densities of 9 to 14 dwelling units per acre (designated "medium density-high"), and 530 high-density units. The large park for active use will be approximately 15 acres, while the neighborhood park will be about 2 acres. The Proposed Project also includes a civic-limited commercial land use designation that includes 11 acres of civic or recreational use, or a maximum of 50,000 finished square feet of commercial/general office use.

The development is split into two planning areas: Serrano Westside Planning Area (Area 1), and Pedregal Planning Area (Area 2). Area 1 runs along the east side of El Dorado Hills Boulevard, while Area 2 is located on the west side north of Wilson Boulevard and south of Gillette Drive. **Table 1-1** summarizes the proposed land use acreages.

Figure 1-1 – Proposed Project Location and Land Uses

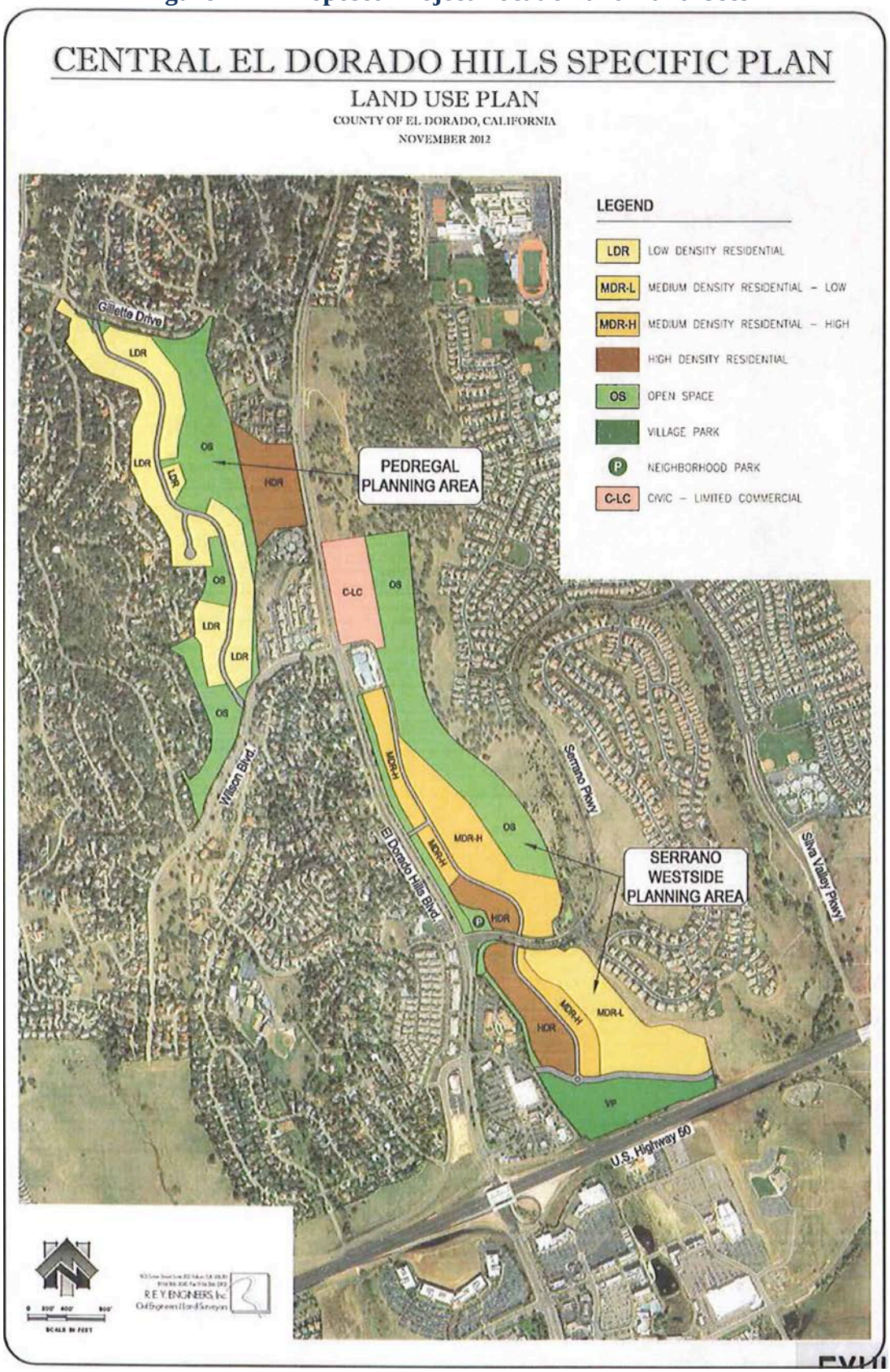


Table 1-1 – Summary of Proposed Project Land Uses and Acreages[2]

Planning Area	Land Use	Section 2.4 Comparison	Acres	Units
2	Low Density Residential	.5-1 Acre Lots	43	65
1	Medium Density Residential - Low	5,000-7,000 sf lots	23	123
1	Medium Density Residential - High	Condo/Townhomes	36	310
1	High Density Residential	Apartments	16	330
2	High Density Residential	Apartments	13	200
1	Limited Commercial	--	11	--
1	Village Park	--	15	--
1	Open Space	--	46	--
2	Open Space	--	39	--
1	ROW and Landscaping	--	8	--
2	ROW and Landscaping	--	6	--
		Total	**256**	**1,028**

1.3 Proposed Project Phasing

Table 1-2 describes the Proposed Project's three construction phases. Each phase represents a portion of the development, focusing on particular land-use classifications. Before constructing homes, commercial space, or other parts of the development, the proponents will begin site grading and project-wide infrastructure development. Some infrastructure and site grading will continue throughout all phases of the Proposed Project, as necessary. These activities include installing facilities for potable water, recycled water (as appropriate for the Proposed Project), sewer, electric, telecommunications, gas, stormwater, and roads. During these activities, a small water demand will exist – referred to in this Water Supply Assessment as "construction water." This demand is included in the yearly water demands presented in Section 2.

The initial phase will result in approximately one third of the Proposed Project demanding water service by 2020, with the two subsequent phases each adding an additional third as they are completed. All construction is planned to be completed by 2030, within the 20-year planning horizon of this WSA.

Table 1-2 – Proposed Number of Units per Project Phase

Land Use	Phase 1 By 2020	Phase 2 2021-2025	Phase 3 2026-2030	Total
Low Density Residential	5	60	--	65
Medium Density Residential - Low	60	63	--	123
Medium Density Residential - High	104	206	--	310
High Density Residential	230	--	300	530

[2] The Specific Plan Land Use Summary was provided by El Dorado County of Development Services Department.

SECTION 2 – PROPOSED PROJECT ESTIMATED WATER DEMANDS

2.1 INTRODUCTION

This section describes the methodology, provides the supporting evidence, and presents the estimated water demands for the Proposed Project. For the purpose of estimating water demand, the Proposed Project is planned to develop according to the phasing in **Table 1-2**.

2.2 DETERMINING UNIT WATER DEMAND FACTORS

As detailed in Section 1, the Proposed Project has specific residential and non-residential land-uses with defined residential lot-sizes, types of commercial uses and other characteristics. As these attributes vary among the types of proposed land-uses, so too will the water needs. To understand the water needs of the entire Proposed Project, unique demand factors that correspond with each unique land use are necessary. This subsection presents the methodology for determining the baseline unit water use demand factors that become the basis of the Proposed Project water demand estimates. Two distinct groups of demand factors are presented: (1) residential, and (2) non-residential.

2.3 PRIMARY SOURCE OF BASELINE WATER USE DATA

Because the Proposed Project is very similar in nature to particular elements built as part of the Serrano and El Dorado Hills developments over the past few decades, recent water use data for comparable products in these neighborhoods provides a reliable foundation for EID to establish new project-specific water demands. Through comparison of Proposed Project land-use elements to existing land uses, EID determined appropriate existing, established neighborhoods and non-residential facilities that best aligned with each unique residential and non-residential project element. For each comparable neighborhood, EID gathered and assessed total annual water use for the years 2008 through 2012. This selected period of water use best represents 1) the greatest number of homes occupied within each selected area (including established back-yard landscapes), and 2) varied water use over a range of climatic conditions reflecting various rainfall amounts and timing. Average annual uses were derived from the data and are discussed under the respective land-use categories.

2.4 BASELINE RESIDENTIAL WATER USE DEMAND FACTORS

The Proposed Project anticipates specific residential products that fall within general lot-size designations. The size of the lot will have the largest impact on the annual per-lot demand for water. Indoor demands remain relatively consistent regardless of lot size, with the exception of apartments, which tend to have fewer people living in each unit and thus a slightly lower indoor use.

For purposes of this WSA, the per-lot demand for residential lots will be described as "the acre-feet of water use annually per dwelling unit" – or simply put, acre-feet/dwelling unit (af/du). This value will reflect indoor and outdoor uses expected for a typical dwelling unit for each of the following classifications:[3]

- ½-acre to 1-acre custom/production lots
- 5,000 to 7,000 square-foot production lots
- Condominiums/townhouses
- Multi-family housing with community facilities including pool and/or clubhouse

The method and basis for determining the baseline unit water demand factor for each of these classifications is detailed in the following subsections.

½ Acre to 1-Acre Custom/Production Lots

Water demand factors for the proposed large lots are based on recent water use data records for residential lots in the Serrano development – specifically existing residential lots located on Renaissance Way and Renaissance Place. The proposed lots range in size from ½-acre to 1-acre. However, this WSA assumes that the larger 1-acre lots will have restrictions placed on each lot that limits the developable area to no more than ½-acre. For instance, a lot may include hillside and/or areas of oak woodland that must be protected, resulting in a diminished area for the home's footprint, outdoor hardscapes, and landscaping. Generally, the house itself is large, with extensive outdoor features including pools, hardscapes, water features, and significant landscaping with well-maintained turf areas.

Based on available historic meter data for similar developments served by EID, the baseline unit water demand factor for this land-use category is approximately 0.87 af/du.

5,000 to 7,000 square-foot Production Lots

The Proposed Project includes several lots designated in this approximate size classification. These lots typify residential subdivisions built throughout the region – including ample size homes, but with nominal outdoor area for hardscapes and landscaping. As a result of the limited outdoor area, many of these lots are limited to front-yard landscaping with well-maintained turf, and back yards often only including hardscapes, pools or other amenities, and lower water using landscapes. Unit water demands are based on recent water use data records for similar lots in the Serrano development – specifically Village D1A and Village E, which include numerous similar-sized lots.

Based on the available historic meter data for similar developments served by EID, the baseline unit water demand factor for this land-use category is 0.50 af/du.

[3] These classifications reflect EID's defined water demand factor categories as EID believes they best relate to the Proposed Project's land-use classifications as shown in the Table 1-1.

Condominiums/Townhouses

The Proposed Project includes numerous proposed lots characterized as "medium density-high" (9 to 14 units per acre). These proposed lots are anticipated to be similar to projects in the El Dorado Hills area, most notable the Regalo Project in Serrano. The Proposed Project includes large attached housing units, with large individual landscape yards and common areas.

Based on the available historic meter data for similar developments served by EID, the baseline unit water demand factor for this land-use category is 0.40 af/du.

Multi-family Housing

The Proposed Project includes numerous multi-family housing elements. These lots will include community landscaping, multi-story housing structures, community pools and other amenities. These projects are anticipated to be similar to the existing indoor and outdoor demands of the Sterling Apartment and Vineyard Apartment properties currently served by EID. Although both of these properties differ in their layouts and landscape types and coverage, both use approximately the same quantity of water on a per-dwelling unit basis.

Based on the available historic meter data for similar developments served by EID, the baseline unit water demand factor for this land-use category is 0.16 af/du – inclusive of both indoor and outdoor demands.

Residential Indoor Water Use

Based on EID meter data for the past several years, indoor water use for typical single-family homes averages about 0.18 af/du.[4] The value drops for apartments as a result of less people on average living in each apartment unit.[5] This value can be used to derive separation of residential demands that could be served with non-potable supplies, such as recycled water from the Deer Creek and/or El Dorado Hills wastewater treatment facilities (see Section 2.7.2).

2.5 MODIFYING BASELINE VALUES

All of the above-developed water demand factors for the residential classifications are based on similar existing developments in the El Dorado Hills area. However, since construction of the existing houses, a few changes have occurred that will reduce the Proposed Project's water demands from the baseline unit water demands derived from existing meter data. These include:

- CAL Green Code
- California Model Water Efficient Landscape Ordinance

[4] This value is a subset of the total usage estimated for a dwelling unit under each land-use category. Data from 2012 Water Resources and Service Reliability Report, EID, August 13, 2012, Appendix Table A, p.42

[5] El Dorado County indicates the average household size is 2.63 persons per occupied unit. (El Dorado County General Plan, 2008 Housing Element, August 2008 (Amended April 2009), p. 4-7).

CAL Green Code

In January 2010, the California Building Standards Commission adopted the statewide mandatory Green Building Standards Code (CAL Green Code) that requires the installation of water-efficient indoor infrastructure for all new projects beginning January 1, 2011. CAL Green Code was incorporated as Part 11 into Title 24 of the California Code of Regulations.[6] The CAL Green Code applies to the planning, design, operation, construction, use and occupancy of every newly constructed building or structure. All proposed land uses must satisfy the indoor water use infrastructure standards necessary to meet the CAL Green Code. The CAL Green Code requires residential and nonresidential water efficiency and conservation measures for new buildings and structures that will reduce the overall potable water use inside the building by 20 percent. The 20 percent water savings can be achieved in one of the following ways: (1) installation of plumbing fixtures and fittings that meet the 20 percent reduced flow rate specified in the CAL Green Code, or (2) by demonstrating a 20 percent reduction in water use from the building "water use baseline."[7] The Proposed Project will satisfy one of these two requirements through the use of appliances and fixtures such as high-efficiency toilets, faucet aerators, on-demand water heaters, as well as Energy Star and California Energy Commission-approved appliances.

California Model Water Efficient Landscape Ordinance

In 2006, the Water Conservation in Landscaping Act was enacted, which required the Department of Water Resources to update the Model Water Efficient Landscape Ordinance (MWELO).[8] In fall of 2009, the Office of Administrative Law (OAL) approved the updated MWELO, which required that a retail water supplier adopt the provisions of the MWELO by January 1, 2010 or enact its own provisions equal to or more restrictive than the MWELO provisions.

The provisions of the MWELO are applicable to new construction with a landscape area greater than 2,500 square feet.[9] The MWELO provides a methodology to calculate total water use based upon a given plant factor and irrigation efficiency. Finally, MWELO requires the landscape design plan to delineate hydrozones (based upon plant factors) and then assign a unique valve for each hydrozone (low, medium, high water use).[10] The design of landscape irrigation systems is anticipated to better match the needs of grouped plant-types and thus result in more efficient outdoor irrigation.

Applying Conservation to Baseline Demand Factors

Collectively, these and other factors will put downward pressure on the baseline residential unit water demand factors – potentially dropping each unit demand by up to 10 percent for the larger

[6] The CAL Green Code is Part 11 in Title 24.
[7] See CAL Green Code.
[8] Gov. Code §§ 65591-65599
[9] CCR Tit. 23, Div. 2, Ch. 27, Sec. 490.1.
[10] CCR Tit. 23, Div. 2, Ch. 27, Secs. 492.3(a)(2)(A) and 492.7(a)(2).

lots. Table 2-1 provides a summary of the baseline demand factor for each residential land-use category, the anticipated savings from the conservation mandates, and the resulting unit demand factor used to estimate the Proposed Project's water use.

Table 2-1 – Summary of Residential Baseline and Proposed Project Demand Factors

EID Water Demand Category (Relates to Table 1-1 Land Use)	Density Range	Current Factor (af/du)	Conservation Applied	Factor Used (af/du)
1/2 to 1 Acre Custom Lots	1-2 DU/Ac	0.87	8%	0.80
5,000-7,000 sf Lots	5 - 8 DU/Ac	0.50	5%	0.48
Condominiums/Town Homes	9 - 14 DU/Ac	0.40	5%	0.38
Multi-Family Housing[1]	15 - 24 DU/Ac	0.16	2%	0.16

1. The Multi-family Housing values remain constant due to rounding. The "current factor" was determined to be 0.165 af/du.

2.6 Baseline Non-Residential Water Use Demand Factors

Similar to the residential water demand factors, non-residential factors are based upon recent water use trends for similar types of land classifications.

For purposes of this WSA, the per-lot demand for non-residential lots is described as "the acre-feet of water use annually per acre of land" – or simply put, acre-feet/acre (af/ac). This value reflects indoor and outdoor water needs expected for a typical non-residential use for each of the following classifications:

- Neighborhood commercial
- Public and neighborhood parks
- Other miscellaneous uses, including street medians and environmental mitigation

The method and basis for determining the baseline unit water demand factor for each of these classifications is detailed in the following subsections.

Civic/Limited Commercial

The proposed civic/limited commercial facilities are anticipated to be "office space" in nature, rather than retail. However, analysis of recent meter data for both the La Borgata retail facility on El Dorado Hills Boulevard and the Village Green office/public facility at the corner of Silva Valley and Serrano Parkways indicates that water use on a per-acre basis is nearly consistent, with the retail space using about 2.15 af/ac and the office facility using 1.95 af/ac. Although the Village Green indoor facilities have lower use, the area has more turf landscaped area (not including Village Green park), which matches, on a gross acre-by-acre comparison with the higher indoor retail demands and limited landscaping of the restaurants at La Borgata.

Based on the available historic meter data for similar facilities served by EID, the unit water demand factor is 2.0 af/ac.

Public and Neighborhood Parks

The Proposed Project includes both a "Village" park and a neighborhood park that will include expansive turf areas, playfields and other park amenities. Based upon recent water meter data for similar park facilities in the El Dorado Hills area – namely Bella Terra Park, Allan Lindsey Park, and the Village A, C, L3, and L4 parks – a representative water demand factor was identified. A "smart meter" controls the irrigation system at each existing park. These devices adjust water use to actual climate data, including precipitation events. Thus, the recent meter data is very indicative of expected demands for the new parks, which will also be outfitted with similar technology.

Based on the available historic meter data for similar facilities served by EID, the unit water demand factor is 2.77 af/ac.

Other Miscellaneous Uses

The Proposed Project has additional miscellaneous uses including environmental mitigation requirements and construction water. These uses have minimal impacts to the overall per-project total water use due to their limited size and water needs and are temporary in nature.

Oak Woodlands Management

As of the preparation of this WSA, the mitigation requirements for impacts to oak woodlands resulting from the Proposed Project are as detailed in the County's Policy 7.4.4.4.[11] For purposes of estimating the water demands of this Proposed Project element, the WSA assumes mitigation will include establishing new trees, likely with associated irrigation water to assure seedlings are established. As defined in the County's Oak Woodland Management Plan Monitoring Program:

> *"Replacement of removed tree canopy . . . is subject to intensive to moderate management and 10 to 15 years of monitoring, respectively. The survival rate shall be 90 percent as specified in the approved monitoring plan for the project, prepared by a qualified professional. Acorns may be used instead of saplings or one gallon trees."*

[11] The County Board of Supervisors has an Oak Woodland Management Plan (OWMP) codified as Chapter 17.73 of the County Code (Ord. 4771. May 6, 2008.). The primary purpose of this plan is to implement the Option B provisions of Policy 7.4.4.4. On September 24, 2012, the Board of Supervisors directed the Development Services Department to prepare a General Plan amendment to amend Policies 7.4.2.8, 7.4.2.9, 7.4.4.4, 7.4.4.5, 7.4.5.1, and 7.4.5.2 and their related implementation measures to clarify and refine the County's policies regarding oak tree protection and habitat preservation. (This excerpt was copied from the following El Dorado County web site: http://www.edcgov.us/Government/Planning/General_Plan_Oak_Woodlands.aspx on May 4, 2013.)

"Management intensity assumes that 10 years after planting 1 year old saplings that trees that have been nurtured with high management intensity will be on average 2 inches DBH with 90 percent survival; moderate management intensity will result in trees that are on average 1.5 inches DBH with 85 percent survival."

More precisely, an intensive management program is required to obtain 90 percent survival. The management includes10 years of monitoring for one-gallon/one year old saplings and 15 years of monitoring if acorns are planted. Any trees/acorns that do not survive within the monitoring periods are to be replaced within that time, so that 90 percent survival is achieved at the end of the monitoring period.

Because establishment of new trees is highly dependent on site conditions (soil depth and composition, depth to water table, slope, aspect, existing vegetation), planting conditions (water year, starting from acorns or saplings, weed mats, mulch, density of plantings and other adjacent veg, etc.), establishment and maintenance practices (manual or installed irrigation systems, and irrigation intervals), and the required success criteria (target % survival), the estimated water demands are difficult to predict.[12] However, in order to be reasonably conservative, this WSA assumes that each acre of habitat mitigation will require 1 acre-foot per acre of annual irrigation for a period of 15 years.[13] For instance, if the Proposed Project must mitigate with 10 acres of woodland, the demand would be 10 acre-feet annually. All oak woodland will be established prior to build-out and require no on-going irrigation.

Construction Water

As stated in Section 1, early phases of the Proposed Project will include site grading and infrastructure installation. These and other construction elements will require dust suppression and other incidental water uses. These are estimated to be nominal, and do not continue beyond the construction phases of the Proposed Project. For purposes of identifying incremental water demands, construction water is assumed within this WSA to be 2 af per year (this is well over 600,000 gallons – or over 150 fill-ups of a 4,000 gallon water truck).

Modifications to Reflect Additional Water Use Reductions

Similar to the residential demand factors, the above-developed water demand factors for the non-residential classifications are based on similar existing developments in the El Dorado Hills area. Considerations to reduce these baseline values for conservation factors, however, are not required, since demand factors for many of the landscaped features, such as parks, will not change from the existing values – with the exception of commercial land-uses. The landscape-

[12] A qualified professional will likely develop the project specific oak management plan. More detailed water use will be available in this plan. Review of information from oak mitigation projects in the area revealed a range of planting types, irrigation methods, and management time frames. Overall, irrigation demands were all low as would be expected for a native species.

[13] A conservative water demand number and a long management window were assumed to provide the Proposed Project applicants flexibility in meeting the oak woodland mitigation requirements.

dominant demand factors are affected primarily by climatic conditions that drive plant evapotranspiration. In other words, an acre of turf at a park will still use the same amount of water in the new parks as the existing parks. Commercial land-uses, however, are adjusted downward slightly to reflect the CAL Green Code and likely modifications to landscape designs (compared to existing establishments) to limit outdoor water use. **Table 2-2** provides a summary of the non-residential demand factors used to estimate the Proposed Project's future demands.

Table 2-2 – Summary of Non-Residential Demand Factors

Land Use	Current Factor (af/ac)	Conservation % Applied	Factor Used (af/ac)
Commercial	2.00	3%	1.94
Parks	2.77	0%	2.77
ROW Landscaping	3.30	0%	3.30
Open Space	0.00	0%	0.00

2.7 Proposed Project Water Demand Projection

Combining the Proposed Project's land-use details and phasing as summarized in **Table 1-1** and **Table 1-2** with the demand factors presented in **Table 2-1** and **Table 2-2**, the water demands for the project from initiation to build-out are estimated. At completion, the Proposed Project is estimated to need 398 acre-feet of water annually (prior to considerations of non-revenue water, described in the next subsection) as shown in **Table 2-3**.

2.7.1 Non-Revenue Water Demands

The demand factors presented earlier in this section represent the demand for water at the customer's meter for each category. To fully represent the demand on EID's water resources, non-revenue water also needs to be included. Non-revenue water represents all of the water necessary to deliver to the customer accounts and reflects distribution system leaks, water demands from potentially un-metered uses such as fire protection, hydrant flushing, and unauthorized connections, and inescapable inaccuracies in meter readings.[14] In most instances, the predominant source of non-revenue water is from system leaks – the loss from fittings and connections from EID's water sources through treatment plants, tanks, pumping plants, major delivery system back-bone pipelines, and community distribution systems. Because a significant portion of the delivery system used to bring water to the Proposed Project already exists, the benefits of new piping within the Proposed Project has limited effect on the overall percentage of non-revenue water necessary to operate the system

[14] The American Water Works Association and the California Urban Water Conservation Council recognize the inherent non-revenue water that is either lost or mis-accounted in urban treated water distribution systems and suggest purveyors strive for a value of 10% of all delivered water. Obtaining this value is dependent on numerous factors including the age and extent of distribution system infrastructure, meter rehabilitation programs, and how a purveyor accounts for actions such as fire flows and hydrant flushing.

Although EID has an established program for identifying and accounting for most unbilled and other system losses, there are still pipeline leaks, unmetered uses, unauthorized connections, meter inaccuracies, and other losses that are difficult to specifically quantify. Consistent with the District's methodology for calculating future water meter availability, as defined in the *2012 Water Resources and Service Reliability Report*, non-revenue water is projected at a fixed rate of 13 percent. Non-revenue demand is estimated to add 52 acre-feet per year at build-out to the Proposed Project's land-use demands, bringing the estimated build-out water demand attributed to the Proposed Project to 450 acre-feet annually (see **Table 2-3**).

2.7.2 Recycled Water Demand

A portion of the Proposed Project's demands (Serrano Westside Planning Area, see **Figure 1-1**) could partially be met with recycled water provided by EID (see Section 4.3). As previously noted, other than the high-density multi-family units, residential potable demands require about 0.18 acre-feet annually per household. The remaining portion of the unit demand factor for each type of residential lot could be met with recycled water (see **Table 2.1** for unit demand factors). For the high-density residential units, the potable water requirement is lower due to fewer customers per unit on average when compared to other housing types. Using these unit water demand assumptions, coupled with the number of residential units, the Proposed Project could meet approximately 140 acre-feet of the 314 acre-feet of residential water demand with recycled water – prior to consideration of non-revenue water demands.

Non-residential components of the Proposed Project could also be met with recycled water, especially the parks. Removing the small potable demands for parks and the limited commercial properties, the Proposed Project could meet 79 acre-feet of the 84 acre-feet of total demand with recycled water – prior to the consideration of non-revenue water demands. Combined, recycled water could serve about 219 acre-feet of the Proposed Project's demand (see **Table 2-4**).

Table 2-4 – Estimated Demand Met with Recycled Water

	Demand (af/yr)		
	Residential	Non-Res	Total
Potable	174	5	179
Recycled	140	79	219
Total Demand	**314**	**84**	**398**

Table 2-3 – Estimated Proposed Project Water Demands from Start-up to Build-out

	Unit Count or Acreage						Demand Factor (af/du or af/ac)						Demand (af/yr)					
Category	Current	2015	2020	2025	2030	2035	Current	2015	2020	2025	2030	2035	Current	2015	2020	2025	2030	2035
Residential																		
1/2 to 1 Acre Custom Lots	0	0	5	65	65	65	0.87	0.80	0.80	0.80	0.80	0.80	0	0	4	52	52	52
5,000-7,000 sf Lots	0	0	60	123	123	123	0.50	0.48	0.48	0.48	0.48	0.48	0	0	29	58	58	58
Condominiums/Town Homes	0	0	104	310	310	310	0.40	0.38	0.38	0.38	0.38	0.38	0	0	40	118	118	118
Multi-Family Housing	0	0	230	230	530	530	0.16	0.16	0.16	0.16	0.16	0.16	0	0	37	37	86	86
												Subtotal		0	109	266	314	314
Commercial																		
Limited Commercial	0	0	0	0	12	12	2.00	1.94	1.94	1.94	1.94	1.94	0	0	0	0	23	23
Park Alternative	0	0	0	5	5	5	2.77	2.77	2.77	2.77	2.77	2.77	0	0	0	14	14	14
												Subtotal		0	0	14	37	37
Public																		
Village Park	0	0	0	15	15	15	2.77	2.77	2.77	2.77	2.77	2.77	0	0	0	41	41	41
Neighborhood Park	0	0	2	2	2	2	2.77	2.77	2.77	2.77	2.77	2.77	0	0	6	6	6	6
Open Space	0	85	85	85	85	85	0	0	0	0	0	0	0	0	0	0	0	0
												Subtotal		0	6	47	47	47
Other																		
Mitigation	0	10	25	25	15	0	1	1	1	1	1	1	0	10	25	25	15	0
Construction Water	0	2	2	2	0	0	1	1	1	1	1	1	0	2	2	2	0	0
												Subtotal		12	27	27	15	0
												Total Water Demand	**0**	**12**	**142**	**354**	**413**	**398**
												Non-Revenue Demand at 13%	0	2	18	46	54	52
												Total Proposed Project Demand	**0**	**14**	**160**	**400**	**466**	**450**

SECTION 3 – OTHER ESTIMATED WATER DEMANDS

3.1 INTRODUCTION

As stated in this excerpt from Water Code Section 10910(b)(3): *"[T]he water supply assessment for the project shall include a discussion with regard to whether the public water system's total projected water supplies available…will meet the projected water demand associated with the proposed project, in addition to the public water system's existing and planned future uses…"* This section details EID's other "existing and planned future uses." For purposes of this WSA, existing and planned future uses are subdivided into the following:

- **Other Currently Proposed Projects** – in addition to the Proposed Project, El Dorado County (County) is the Lead Agency (pursuant to CEQA) for four additional proposed development projects. As Lead Agency, the County has requested separate WSAs from EID for each of these other projects. Because detailed land-use information is available for three of the four projects and separate WSAs are being developed for these three in parallel to this WSA, each of these three projects have unique water demand estimates that are included in this WSA.[15]

- **All Other Existing and Planned Future Uses –** in addition to the Proposed Project and the Other Currently Proposed Projects, existing customers and anticipated growth in the County must be quantified. The subdivisions of this category are:

    - **Current Customers and Uses** – using 2012 as a baseline condition, this category reflects the current range of EID's potable and recycled water customers. Because these customers and uses already exist, keeping them separate from planned future uses allows an analysis to reflect anticipated reductions in use over time as EID continues to implement its urban water conservation programs targeted at many of the existing customers.[16]

    - **Adjusted General Plan Update Land Use Growth** – in addition to the identified development projects currently undergoing County CEQA review, the County's 2004 General Plan Update (GPU) anticipates continued urban growth throughout the EID service area. This growth is accounted for in the EID *Integrated Water*

[15] EID understands the fourth project, San Stino, to be undergoing changes to its land-use plans at the time of drafting this WSA. Lacking the details needed to determine water demands similar to the other WSAs currently being completed, the San Stino project is reflected in the next subgroup of demands (see Section 3.3).

[16] New customers added to EID's system will have lower demand factors, as discussed in Section 2, and will be less likely to implement additional conservation or see much reduction when changes are made. For instance, many existing customers may still have 3 gallon per flush toilets or even 1.6 gallon per flush toilets, which when replaced, will likely only use 1.28 gallons. New houses will be constructed, per the CAL Green Code, with 1.28 gallon per flush toilets. EID has had conservation and incentives programs for more than 20 years.

Resources Master Plan (IWRMP) and serves as the primary water demand driver into the future. Adjustments to anticipated GPU growth to reflect the "Other Currently Proposed Projects" and other proposed land-use changes, however, must be made. The adjustments discussed under this category include: (1) potential changes in the 2004 General Plan land use designations as identified in Facility Improvement Letters received and analyzed by EID; and (2) the removal of the Proposed Project and other proposed project uses being developed under concurrent WSAs.

- **Other Authorized Uses** – EID does not anticipate increases above 2012 levels in other authorized potable water uses such as fire flows, meter testing, water quality flushing, and ditch system operations. Demands for this category of water use is removed from the general plan growth and included separately.

- **Non-Revenue Water** – As discussed in Section 2.7.1, an additional demand is seen by EID to treat and deliver water to all customers. Referred to as non-revenue water, this water demand represents a 13 percent increase added to estimated customer demands. This value represents a long-term average experienced by EID.

3.2 OTHER CURRENTLY PROPOSED PROJECTS

As mentioned in the previous section, El Dorado County is the Lead CEQA Agency for four additional proposed development projects and has requested EID to prepare WSA's for each development concurrent with this Proposed Project WSA. EID is currently drafting three of these four WSAs.[17] The estimate of water demand for each WSA follows the same methods used in Section 2 of this WSA, with specific unit demand factors applied to each unique land use element. The other projects are:

- The Village of Marble Valley Specific Plan – located southeast of the Proposed Project, this development features many additional water use elements such as vineyards, schools, parks, a large lake, and a diverse range of housing types and lot sizes.
- Lime Rock Valley Specific Plan – located adjacent to the Village of Marble Valley, this development is a planned residential community with a variety of lot sizes and housing types.
- Dixon Ranch Residential Project – located northeast of the Proposed Project, this development is a planned residential community with a range of lot sizes and housing types, including a number of "age-restricted" units, accompanied by a community club house, parks, ponds, and trails.

[17] EID understands that the San Stino development project is undergoing changes to the land-use plans previously submitted to the County. Therefore, EID has not begun the WSA for that project.

Based on the detailed analysis completed in the other WSAs, these "Other Currently Proposed Projects" represent approximately 2,900 acre-feet per year of new demand by 2035. **Table 3-1**, presented later in this section, summarizes the estimated water demands as determined and detailed in the concurrent WSAs for each unique project. The values shown are the estimated customer and use demands and do not include the additional water associated with non-revenue percentages attributable to the treatment and distribution for each project (see Section 3.5).

3.3 All Other Existing and Planned Future Uses

In simple terms, this category of use would typically reflect all the other water demands anticipated by EID that are in addition to the Proposed Project. However, because of the unique circumstance that other WSAs are concurrently being drafted by EID, this category must be adjusted to remove those other well-defined water demands. Furthermore, because other potential changes to the 2004 GPU have been brought to EID's attention, and EID anticipates changes to current customer uses, a more detailed assessment of future demands is warranted. This subsection describes:

- Current Customers and Uses
- Adjusted GPU Land Use Growth
- Other Authorized Uses

3.3.1 Current Customers and Uses

Current customers and uses in the contiguous EID service area provide a baseline from which to assess additional demand from the Proposed Project and other potential planned uses. For purposes of the WSA, the deliveries to current customers in 2012 were used to define this baseline. Based on the 2012 EID *Water Diversion Report*, EID diverted 36,580 acre-feet into its potable water system. In addition to the potable water, EID served 2,404 acre-feet of recycled water to meet customer demands.[18] Combined, the current water demand is represented as 38,984 acre-feet. This value includes the non-revenue water (see Section 2.7.1), including system losses, necessary to deliver these supplies from their respective treatment plants to the customer meter. This value also includes 1,269 acre-feet sold to the City of Placerville.[19]

Since the WSA uses 2012 as a baseline, the "current" demand varies from that used in the recently adopted IWRMP, which used the year 2008 for its baseline.[20] Given on-going conservation efforts, adoption of new rate structures, and other drivers, EID has seen an overall decrease in the annual customer use since the IWRMP selected its baseline. Therefore the 2012

[18] See EID 2013 Water Resources and Reliability Report (Table 14)
[19] See EID Consumption Report: Reporting Year 2012 (Table on p. 7)
[20] The IWRMP, adopted by the EID Board in March 2013, began several years ago and at the time used 2008 as a baseline. Since that time, EID's annual diversions have dropped from a high in 2008 of about 45,000 acre-feet to 35,678, 33,453, and 36,580 in 2010, 2011, and 2012, respectively. Combined with recycled water deliveries, the 2012 demand is lower than that used for the 2013 IWRMP, but greater than 2010 and 2011.

baseline used for this WSA is more representative of the baseline use expected into the future from these existing customers and uses.

A slight adjustment to this baseline is necessary, however, to project it into the future. Although this demand will remain relatively constant since it does not add any new uses (additional uses are discussed in the next subsections), a slight decrease is assumed that reflects on-going implementation of conservation and instillation of new water-using fixtures by existing customers. EID's continued leadership in conservation will enable existing customers to retrofit toilets, receive appliance rebates for new household items such as dishwashers, water heaters and clothes washers, and implement irrigation efficiency improvements through various incentives. Additional reductions in existing customer demands will also occur simply as a result of the natural replacement of old fixtures and appliances with lower water-use devices. For purposes of the WSA, EID estimates the reduction in current customer demand will be approximately 2% by 2020 and an additional 1% by 2035. This is consistent with EID's expectations necessary to meet its per-capita water use targets as detailed in the 2010 Urban Water Management Plan.[21]

3.3.2 Adjusted GPU Land Use Growth

In the 2004 GPU, the County made growth projections using land-use zoning throughout the County. Within the contiguous EID water service area, the GPU land-use zoning correlates to EID defined unit water demand factors. During preparation of the recently adopted 2013 IWRMP, EID used GIS-based land-use designations, combined with the water demand factors, to develop estimated growth in water demand. Absent any changes to the 2004 GPU land-use designations, the 2013 IWRMP demand projections would provide a valid representation of future water needs. However, because several proposed changes to the GPU land-use designations have been submitted – both through the County's formal process, such as is the situation with the Proposed Project and Other Planned Projects, and through an EID process explained below – the 2013 IWRMP demand projections require refinement. The steps to adjust these demands included:

- Removal of Proposed Project and Other Planned Projects water demands
- Modifying land-use zoning based on Facility Improvement Letters
- Determining Growth to Year 2035

Once these steps were completed, the analysis reassessed the water demand using the water demand factors applied in the 2013 IWRMP.

Step 1: Removal of Proposed Project and Other Planned Project Water Demands

The first step in adjusting the water demands was to remove the detailed water demands estimated in this WSA for the Proposed Project and for the Other Planned Projects (see

[21] See Section 3 of the 2010 UWMP available here: http://www.eid.org/modules/showdocument.aspx?documentid=338

Section 2 and Section 3.2). This step involved removing the specific acreage and water demand factors from the 2013 IWRMP analysis. The 2004 GPU included land-use zoning for the lands underlying the Proposed Project as well as the Other Planned Projects. In the 2013 IWRMP, water demands were estimated using the existing zoning. Removing these land uses eliminates the potential to double-count the associated acreage when assessing the remaining GPU expected growth.

Step 2: Modifying Land-use Zoning based on FILs

When investigating water service from EID for development projects (e.g. lot splits, land use changes, and new service to existing parcels), existing landowners submit a Facilities Improvement Letter (FIL). This document allows EID to assess whether infrastructure or supplies are available to serve the proposed project. In some instances, the FILs include proposed land-use zoning changes not previously incorporated into EID water demand projections. By using GIS to map the locations of the FILs requesting a change in land-use zoning, EID was able to identify where changes to the 2013 IWRMP demand estimates would occur. About 25 specific FILs were identified as having land-use designation changes. These identified parcels were removed from the prior analysis to eliminate potential double counting of demands.

In a separate analysis, the water demand for this subset of parcels was recalculated using the appropriate water demand factor for the new proposed land-use classification (e.g. water needs for these parcels may have previously been calculated based on very-low density housing, but is requesting a change to higher density housing). Through the analysis, an increased demand of approximately 3,000 acre-feet over the 2013 IWRMP projections was identified.

Step 3: Determining Growth to 2035

The GPU identifies anticipated build-out conditions for the County and, as a subset, for the EID contiguous water service area. Since this WSA assesses water demands in 5-year increments only to 2035 – well short of the anticipated timing of the County's build-out – the amount of build-out growth occurring by 2035 must be determined. This was done for both the parcels identified with new land-use zoning through the FIL analysis, and for the remaining parcels with original GPU land-use designations.

Because there is little detail about planned development rates for the FIL-related parcels, this WSA assumed that these parcels would have full water demand usage by 2035.[22] This is a conservative estimate, since some of these lands may not develop by 2035 or may never

[22] This assumption also considers that a landowner would likely only submit a FIL to EID if they are seriously contemplating the development activity. Thus, there is a higher likelihood that these parcels will develop at a faster rate than other generally anticipated growth for the remaining parcels in the GPU.

develop. Thus, the estimated increase in demand of approximately 3,000 acre-feet was assumed to occur by 2035 with the 2013 IWRMP growth rate applied.

For the remaining parcels, growth rates used to determine the degree of development were based on EID's 2013 IWRMP. In the 2013 IWRMP, growth rates for the El Dorado Hills, and Western/Eastern water service areas were identified for specific year-ranges.[23] This WSA uses those growth rates for the remaining parcels. Using the 2013 IWRMP growth rates, the analysis determined build-out for the El Dorado and Western/Eastern service areas occurs after 2035.

During this adjustment, special attention was provided to the City of Placerville. The City purchases potable water from EID for distribution to its residents. The 2013 IWRMP projected future water demands for the City based on the City's existing General Plan. This WSA assumes the same rate of growth and build-out demand as the 2013 IWRMP for the City.

Upon completion of these steps, the adjusted demand for the GPU land uses was determined. **Table 3-1** summarizes the anticipated increase in water demand during each 5-year increment as a result of these adjustments to the GPU land-uses.

3.3.3 Other Authorized Uses

In addition to the sale of water to metered customers, EID has a set of water demands it refers to as "Other Authorized Uses." This designation is for the following existing uses:

- Knolls Reservoir Assessment District
- Private Fire Services
- Temporary Water Use Permit
- Bulk Water Stations - Permanent
- Bulk Water Stations - Temporary
- Lift Stations
- Collection System Flushing
- Spills, Overflows, and Flushing
- Clear Creek Aesthetics Flow Maintenance District

Of these, the Clear Creek aesthetic flows comprise over 80 percent of the annual authorized uses. Lift stations and temporary use permits comprise another 10 percent. The current demand of approximately 2,200 acre-feet is already reflected in the "Current Customers and Uses." EID anticipates no growth in these authorized water uses, with the total demand to remain constant at 2,200 acre-feet through 2035.

[23] EID Integrated Water Resources Master Plan, adopted March 2013 (Table 9-2).

3.4 NON-REVENUE WATER DEMANDS

The subtotal values in **Table 3-1** represent the demand for water at the customer's meter for each category. To fully represent the demand placed on EID's water resources, non-revenue water also needs to be included. Non-revenue water represents all of the water necessary to deliver to the meter and reflects distribution system leaks, water demands from potentially un-metered uses of fire protection, fire hydrant flushing, and unauthorized connections, and inescapable inaccuracies in meter readings.[24] In most instances, the predominant source of non-revenue water is from system losses – the loss from fittings and connections from the District's water sources through treatment plants, tanks, pumping plants, major delivery system back-bone pipelines, and community distribution systems.

Although the District has an established program for identifying and accounting for most unbilled and other system losses, there are still pipeline leaks, unmetered uses, unauthorized connections, meter inaccuracies, and other losses that are difficult to specifically quantify. Consistent with the District's methodology for calculating future water meter availability, as defined in the *2012 Water Resources and Service Reliability Report*, non-revenue water is projected at a fixed rate of 13 percent.

As shown in **Table 3-1**, non-revenue demand for Existing and Planned Future Uses is estimated to be about 7,700 acre-feet per year by 2035.

3.5 ESTIMATED EXISTING AND PLANNED FUTURE USES

Combining the estimated water demand for Other Currently Planned Projects (see Section 3.2 with the All Other Existing and Planned Future Uses demand (Current Customers and Uses plus the Adjusted GPU Land Use values), the total estimated demand during each 5-year increment to 2035 is derived (see subtotal water demand in **Table 3-1)**.

[24] See footnote 14

Table 3-1 – All Other Existing and Planned Future Uses

Category	Estimated Demand (af/yr)					
	Current	2015	2020	2025	2030	2035
Other Currently Proposed Projects	0	275	1,193	1,836	2,505	2,861
Current Customers and Uses [1]	38,984	34,154	33,809	33,694	33,579	33,464
Adjusted GPU Land Use [2]	0	514	2,853	7,975	14,718	22,830
Subtotal Water Demand	**38,984**	**34,944**	**37,855**	**43,505**	**50,803**	**59,156**
	Current	2015	2020	2025	2030	2035
Non-Revenue Water at 13%	--	4,543	4,921	5,656	6,604	7,690
Total Water Demand	**38,984**	**39,486**	**42,777**	**49,161**	**57,407**	**66,845**

1. The "Current Customers and Uses" demand value includes the "Other Authorized Uses." The Value is greater under the "Current" condition because "Non-Revenue Water" is included in the current year. All other years will have "non-revenue water" added on a separate line. A 3% conservation decrease occurs by 2035.
2. "Adjusted GPU Land Use" reflects changes to the 2004 GPU as determined by FILs submitted to EID. This value also does NOT include the other proposed projects currently undergoing County CEQA review.

3.6 TOTAL ESTIMATED DEMAND

The other existing and planned future water demands described in this section represent the total demands anticipated *in addition to* the water demands of the Proposed Project. Combining the estimated Proposed Project water demands of 450 acre-feet annually (see **Table 2-3**) with the estimated Existing and Planned Future water demands of approximately 66,850 acre-feet annually (see **Table 3-1**), a total estimated demand for EID water supplies by 2035 is determined. Estimated existing and planned future water demands, inclusive of non-revenue water needs, for each 5-year increment to 2035 are presented in **Table 3-2**. The estimated demand for EID Water supplies is 67,295 acre-feet annually.

Table 3-2 – Total Estimated Water Demands

Category	Estimated Demand (af/yr)					
	Current	2015	2020	2025	2030	2035
Proposed Project	0	14	160	400	466	450
Existing and Planned Future Uses	38,984	39,486	42,777	49,161	57,407	66,845
Total Water Demand	**38,984**	**39,500**	**42,937**	**49,560**	**57,874**	**67,295**

Of note is that the estimated water demand for 2035 presented in **Table 3-2** fits within the range of total demands presented in Table 9-1 of the 2013 IWRMP (estimated to be between 61,262 acre-feet and 77,315 acre-feet). The primary differences is that the 2013 IWRMP used 2008 as a baseline demand, which is substantially higher than EID has seen in the last several years. This WSA uses 2012 as a baseline. The 2008 value was approximately 45,000 acre-feet, while the 2012 value is 38,984 – or about 39,000 acre-feet. This represents a difference of about 6,000

acre-feet. Starting from a different baseline quantity and year, and then applying the 2013 IWRMP growth rates, results in a different estimated total demand when reaching 2035.

SECTION 4 – WATER SUPPLY CHARACTERIZATION

4.1 INTRODUCTION

This section explains the intended water supply that EID will use to serve the Proposed Project.[25] EID will meet the Proposed Project's water demands by utilizing water assets derived from its existing sources as well as through future asset acquisition efforts with El Dorado County Water Agency. This section details the Proposed Project's available water supplies and entitlements as well as its planned water supplies and entitlements in both normal water years and dry water years. The Proposed Project exists completely in El Dorado Irrigation District's contiguous water service area (see **Figure 4-1**) and may be served with both treated water and recycled water.[26]

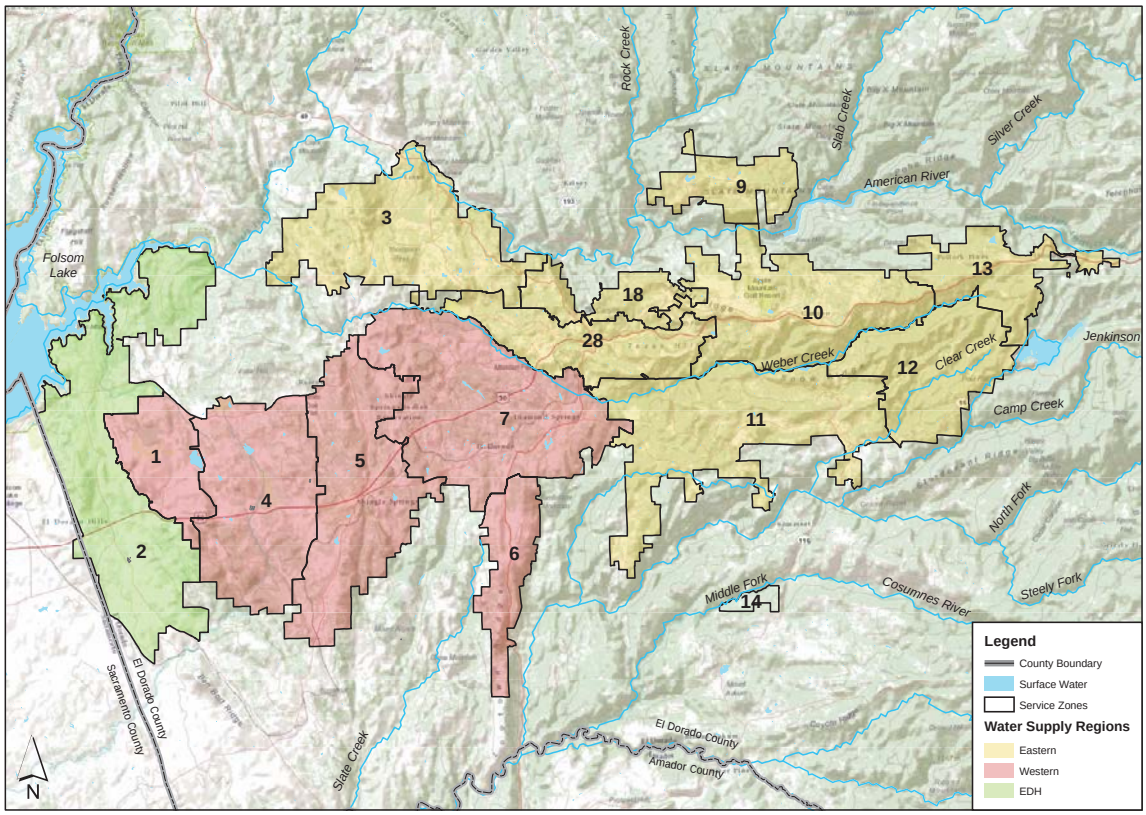
El Dorado Irrigation District maintains two primary interconnected water systems in its contiguous service area: the El Dorado Hills system and the Western/Eastern system, along with a separate recycled water system. The El Dorado Hills water system obtains its primary supplies under rights and entitlements from Folsom Reservoir. The Western/Eastern system derives its supplies from sources under rights and entitlements emanating from further up the American River watershed and the Cosumnes River watershed. The recycled water system serves treated wastewater from the El Dorado Hills wastewater treatment plant and the Deer Creek wastewater treatment plant.

The water assets can be further categorized by the service area they primarily serve and the treatment plant they flow through. Water derived from Folsom Reservoir is delivered to the El Dorado Hills water treatment plant and serves the El Dorado Hills area. Water derived from upstream American River watershed diversions and storage reservoirs generally use the Reservoir 1 Water Treatment Plant while the Cosumnes River diversions use Reservoir A Water Treatment Plant to serve the Western/Eastern area. Water assets from these upstream diversions can be delivered by gravity feed to the El Dorado Hills area, but assets from Folsom Reservoir are not delivered outside the El Dorado Hills area due to infrastructure limitations. The following subsections describe these water supplies and delivery mechanics in more detail.

[25] CWC § 10910(d)(1) requires that "The assessment… include an identification of any existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the proposed project, and a description of the quantities of water received in prior years by the public water system…under existing water supply entitlements, water rights, or water service contracts. (2) An identification of existing water supply entitlements, water rights, or water service contracts held by the public water system…shall be demonstrated by providing information related to all of the following: (A) Written contracts or other proof of entitlement to an identified water supply. (B) Copies of a capital outlay program for financing the delivery of a water supply that has been adopted by the public water system. (C) Federal, state, and local permits for construction of necessary infrastructure associated with delivering the water supply. (D) Any necessary regulatory approvals that are required in order to be able to convey or deliver the water supply."

[26] EID also has surface water assets that it serves to two non-contiguous areas as well as raw water assets that are used for agricultural purposes. These water assets are irrelevant to the Proposed Project contemplated in this Water Supply Assessment and are, therefore, not analyzed.

Figure 4-1 – El Dorado Irrigation District Service Area
(from Figure 8-7, Integrated Water Resources Master Plan, EID, March 2013)



4.2

TREATED WATER SUPPLIES

EID's treated water supplies identified for the Proposed Project are derived from a number of water rights and entitlements as detailed in **Table 4-1**. The maximum available water assets column in **Table 4-1** does not account for other hydrological, technical, regulatory, and contractual limitations that apply to the water assets for normal year and dry year deliveries. These issues are addressed in the other two columns in the table. EID's water assets available for the Proposed Project include water rights and entitlements that EID currently has in its possession and planned water rights and entitlements that it will control in the future.

4.2.1 Water Rights and Entitlements Description

Generally, EID's water assets are derived from pre-1914 appropriative water rights, licensed and permitted appropriative water rights, Central Valley Project (CVP) contracts, Warren Act contracts (that allow non-federal water assets to be wheeled through the federal storage and conveyance facilities), and recycled water generated from the effluent treated at the District's two wastewater treatment plants. The District's counsel has recently confirmed all of these water rights and entitlements. Pertinent information regarding these water assets is included in **Appendix A** of this document as required by Water Code section 10910(d).

Water for the Proposed Project will be derived from both Folsom Reservoir and upstream American River and Cosumnes River diversions. As shown in **Table 4-1**, the primary water assets for diversion at Folsom Reservoir are: CVP Contract 14-06-200-1375A-LTR1, and License 2184 and several pre-1914 water rights incorporated into Warren Act contract 06-WC-20-3315. EID is seeking to finalize its Warren Act contract for diversions of Permit 21112 at Folsom Reservoir. EID also has additional water assets under the El Dorado – SMUD Cooperation Agreement and a Central Valley Project water entitlement derived from El Dorado County Water Agency's Fazio water supply. These water assets will be described in **Section 4.2.2**.

Table 4-1 – Water Rights, Entitlements, and Supply Availability

Water Right or Entitlement	Maximum Water Assets Available (Ac-ft)	Normal Year Planned Supply Availability (Ac-ft)	Dry-Year Planned Supply Availability (Ac-ft)
License 2184 and pre-1914 ditch rights including Warren Act Contract 06-WC-20-3315	4,560	4,560	3,000
Licenses 11835 and 11836	33,400	23,000	20,920 [A]
CVP Contract 14-06-200-1375A-LTR1	7,550	7,550	5,660
Pre-1914 American River diversion and storage rights	15,080	15,080	15,080
Permit 21112	17,000	17,000	17,000
Subtotal Existing	**77,590**	**67,190**	**61,660**
Central Valley Project Fazio water entitlement (PL 101-514 (1990) Fazio) [D]	7,500	7,500	5,625
Applications 5645X12, 5644X02 and partial assignment of Applications 5645, 5644 with El Dorado-SMUD Cooperation Agreement [E]	40,000 [B]	30,000	5,000 [C]
Subtotal Planned	**47,500**	**37,500**	**10,625**
Recycled Water	5,600	5,600	5,600
Total	**130,690**	**110,290**	**77,885**

[A] This is the modeled safe-yield of this water right during a single dry-year. For planning purposes, the second and third dry years of a three-year dry period are assumed to be 17,000 acre-feet, and 15,500 acre-feet, respectfully
[B] Section 5.1.1 of the El-Dorado SMUD Cooperation Agreement indicates that 40,000 acre-feet of SMUD water will be available after 2025. For conservative Normal Year planning purposes, the District uses 30,000 acre-feet of available supply.
[C] Available supply is 15,000 acre-feet in a single dry year but in preparing for multiple dry years EID anticipates using only 5,000 acre-feet per year for a three-year period.
[D] Available starting in 2015
[E] Available starting in 2025

License 2184 and Pre-1914 Water Rights

Water rights associated with Weber Dam, Weber Creek (Farmer's Free Ditch), Slab Creek (Summerfield Ditch), and Hangtown Creek (Gold Hill Ditch) are available to be diverted at Folsom Reservoir under a long-term Warren Act Contract, with approximately 4,560 acre-feet available each year from these sources. A Warren Act Contract allows the use of federal facilities to take non-CVP water such as these supplies. The 40-year contract commenced on

March 1, 2011 and has a maximum net contract amount of 4,560 acre-feet per year. The contract total also assumes a 15% conveyance loss between the former points of diversion and Folsom Reservoir, which can be adjusted at a later date by mutual agreement without amending the contract. The annual water diversion season is limited to April through November 15 and the water must be used for municipal and industrial purposes in the El Dorado Hills and Cameron Park areas.

Licenses 11835 and 11836

Licenses 11835 and 11836 allow for 33,400 acre-feet of diversion in EID's upstream system in the Cosumnes River watershed. These diversions are stored in Jenkinson Lake, the largest storage reservoir in EID, formed by two earth and rock dams across Sly Park Creek near Pollock Pines with a maximum capacity of 41,033 acre-feet. The dam was constructed as a portion of the United States Bureau of Reclamation (USBR) CVP in 1955. With the transfer of ownership from the USBR of the Sly Park dam and associated lands and facilities in 2003, EID not only operates and maintains the Jenkinson Lake and Sly Park Dam facilities, including recreational aspects, but also holds the water rights. The average annual use from this facility is approximately 23,000 acre-feet, though EID's annual water right is for 33,400 acre-feet of total beneficial use. This water supply is used entirely within EID's contiguous service area. Under average flow conditions, Jenkinson Lake is operated to maintain 14,000 to 18,000 acre-feet of carryover storage each year. The outlet works at Sly Park Dam have a maximum capacity of 125 cfs. Water is released to the Reservoir A Water Treatment Plant for subsequent treatment, transmission, and distribution.

Jenkinson Lake contributes approximately 20,920 acre-feet per year to EID's system firm yield. Over the past five years, EID's annual diversions from Jenkinson Lake have averaged approximately 22,600 acre-feet per year. EID's maximum and minimum diversions from this particular water source during this five-year period were 25,745 and 20,800 acre-feet per year, respectively.

USBR CVP Contract 14-06-200-1375A-LTR1

Surface water from Folsom Reservoir is provided to the El Dorado Hills area. By contract with the USBR for Folsom Reservoir water, EID is entitled to 7,550 acre-feet per year. The contract includes provisions for use in a particular area that generally encompasses the El Dorado Hills and Cameron Park areas. Folsom Reservoir is operated by the USBR as part of the CVP, a multipurpose project that provides flood control, hydroelectricity, drinking water, and water for irrigation.

The El Dorado Hills County Water District entered into a USBR Contract in 1964 for water supply from Folsom Reservoir. The contract had a not-to-exceed limit of 37,600 acre-feet per year. When EID annexed the El Dorado Hills County Water District in 1973, the contract was assigned to EID, and subsequently, in 1979, an amendatory contract replaced the original 1964

contract and reduced the maximum annual supply quantity of Folsom Reservoir water to 6,500 acre-feet per year. In 1983, the USBR increased the maximum annual supply quantity from 6,500 to 7,500 acre-feet per year. EID also annexed and succeeded to a USBR Contract for 50 acre-feet per year to supply the Lakehills area in El Dorado Hills. In 2006, these two contracts were consolidated into a single 40-year USBR Contract with a maximum quantity of 7,550 acre-feet per year.

Pre-1914 South Fork American River and Project 184

EID acquired Project 184 from Pacific Gas and Electric (PG&E) in 1999. Project 184 includes reservoirs and associated dams, 22 miles of canals, a 21 Mw powerhouse, and other ancillary facilities. Prior to the transfer of ownership and water rights, EID held a contract to purchase water from PG&E and its predecessor, Western States Gas and Electric Co. The original water rights claims date back to 1856, with additional claims being filed in the 1860s and 1870s. The water rights for diversions from Echo Lake were established in 1880 in a California Supreme Court decision. Then, in 1918, the California Railroad Commission (predecessor to the California Public Utilities Commission) recognized the use of water from the El Dorado Canal for irrigation and domestic purposes.

The sources of this water supply include natural flows in the South Fork American River and its tributaries, and stored water in Silver, Aloha, Echo, and Caples Lakes. The supply is diverted from the South Fork American River at Kyburz and is conveyed via the El Dorado Canal to the El Dorado Forebay. Some additional water is obtained by diversions into the El Dorado Canal from streams tributary to the South Fork American River. EID takes consumptive use of the water supply at the Main Ditch Intake, located at the El Dorado Forebay. This particular supply contributes 15,080 acre-feet per year to EID's system firm yield.

Water diversions of up to 156 cfs can be made from the South Fork American River at the diversion dam. In addition to these direct diversion rights, EID also has pre-1914 diversion and storage rights associated with portions of the waters stored in Silver Lake, Caples Lake, and Lake Aloha and all of the waters stored in Echo Lake.

El Dorado Forebay is filled by the surface water supply from the Project 184 facilities upstream in the South Fork American River basin and at Echo Lake. EID has a consumptive water entitlement of 15,080 acre-feet per year delivery at the Forebay. The entitlement is a pre-1914 water right, and diversions are made in compliance with the 40-year Federal Energy Regulatory Commission Project 184 operating license issued to EID in October 2006. Because the full entitlement can be provided in all years including the most severe historic single dry year of 1977, this source of water is considered assured, and not subject to shortage from hydrologic droughts.

Permit 21112 and Warren Act Contract

The State Water Resources Control Board (SWRCB) issued EID a water right permit in 2001 for an additional 17,000 acre-feet per year of water supply associated with Project 184 facilities and power operations to be taken at Folsom Reservoir. This water supply was authorized under Permit 21112 for diversion and consumptive use anywhere within EID's contiguous service area. There are no cutback provisions on this supply.

The El Dorado County Water Agency (EDCWA) and EID applied to the SWRCB to obtain water rights for consumptive use of waters previously stored and released for power generation from Caples, Silver, and Aloha Lakes, as well as certain direct diversions from the South Fork American River, all of which have been used by Project 184 for hydroelectric power generation or instream flows. The EDCWA later assigned all of its rights under this application to EID. The SWRCB granted the right to appropriate 17,000 acre-feet per year of water. Permit 21112 allows EID to make direct diversions from the South Fork American River at Folsom Reservoir; to store in Caples, Silver, and Aloha Lakes; and to re-divert the water released from storage. The sole approved point of take for consumptive purposes is Folsom Reservoir.

A diversion from Folsom Reservoir requires acquiescence from the USBR and issuance of a Warren Act Contract. EID has diverted water under this right under a temporary urgency basis and the Warren Act Contract is pending.

Recycled Water Supplies

EID produces recycled water at both the El Dorado Hills and Deer Creek wastewater treatment plants which is then used by EID's customers for irrigation of residential landscape and commercial landscape. The availability of recycled water is currently limited to the El Dorado Hills and Cameron Park areas. EID anticipates a 2035 recycled water supply totaling 5,600 acre-feet per year (see Section 4.3 for further details).

4.2.2 Planned Water Supplies

EID has plans to acquire and use two additional water supplies from EDCWA for use within its service area to make available for the Proposed Project – water under the El Dorado-SMUD Cooperation Agreement and water under EDCWA's Fazio CVP supply. This section describes these supplies.

El Dorado-SMUD Cooperation Agreement

As shown in **Table 4-1**, the additional supplies include a grouping of water right applications and assignment of existing water right applications totaling approximately 40,000 acre-feet of water. This supply is being developed by the El Dorado Water and Power Authority (EDWPA). EDWPA is a Joint Powers Authority consisting of El Dorado County, El Dorado County Water Agency and El Dorado Irrigation District (collectively, El Dorado Parties). EDWPA was formed to pursue additional water supplies for the western slope of El Dorado County as determined by

the El Dorado County General Plan. This need is identified in the El Dorado County Water Agency Water Resources Development and Management Plan (Water Plan).[27] The Water Plan is designed to coordinate water resource planning activities within El Dorado County and identifies water supply needs for the western slope of El Dorado County of approximately 34,000 acre-feet per year at the 2025 demand level.

In 2005, the El Dorado Parties signed the "El Dorado – SMUD Cooperation Agreement" (included within **Appendix A**), which would help meet the Water Plan's identified water supply needs. This Agreement requires SMUD to make annual deliveries of up to 30,000 acre-feet of water through 2025 and 40,000 acre-feet thereafter from SMUD's Upper American River Project (UARP) to the El Dorado Parties. In 2008, EDWPA petitioned the SWRCB for partial assignment of two applications for diversion and storage to obtain water supplies necessary to trigger SMUD's obligations. A Draft Environmental Impact Report has been prepared in support of the water rights application and was circulated in July 2010. EDWPA is currently in the protest settlement phase and the CEQA process is anticipated to be completed in 2014 with award of water rights shortly thereafter.

The El Dorado-SMUD Cooperation Agreement also obliges SMUD to provide carryover storage and delivery to EID of up to 15,000 acre-feet of drought protection water supplies to be obtained by EDWPA. Based on demand projections, EID anticipates that only 30,000 acre-feet of the 40,000 acre-feet identified in the water right applications and the El Dorado – SMUD Cooperative Agreement will be available to EID in normal years. Moreover, EID has planned that a mere 5,000 acre-feet of the water supply will be available for EID's uses in each dry year. This number is derived from Appendix H of the El Dorado – SMUD Cooperation Agreement describing deliveries available from carryover storage. Both of these conservative assumptions are shown in **Table 4-1**. EID has planned this supply to be available starting in 2025.

Fazio CVP Supply

EID is also in the final stages of securing 7,500 acre-feet of CVP water supplies in conjunction with EDCWA. In 1990, Congress directed the Secretary of the Interior, through the USBR, to enter into a new CVP Municipal and Industrial (M&I) water service contract with EDCWA for up to 15,000 acre-feet of water annually (Section 206 of P.L. 101-514). The CVP water service contract requires requisite compliance by EDCWA and the USBR with CEQA, NEPA, and ESA statutes.

In 2009, a draft EIS/EIR was released for public review and comment for the CVP M&I water rights contract. In 2010, USBR advised EDCWA that it would take another 5 years before the CVP-Operations Criteria and Plan (OCAP) related litigation would allow the EIS to move forward. As a result, EDCWA made the decision to detach the EIR from the EIS – essentially separating the CEQA and NEPA processes. EDCWA certified the Final EIR and approved the

[27] http://www.edcgov.us/water/final_water_resources_plan.html

project in January 2011. EDCWA then prepared and submitted to USBR a draft Biological Assessment (BA) in September 2011 and a draft Final EIS in October 2011. USBR submitted the draft Final EIS to NOAA Fisheries in December 2011. Final EIS completion and contract execution is pending completion of ESA consultation with NOAA Fisheries.

The CVP contract seeks to acquire 15,000 acre-feet of CVP project water, of which at least 7,500 acre-feet would be made available to EID by subcontracts with EDCWA.[28] Diversions by EID would occur at its existing intake in Folsom Reservoir, conveyed to the El Dorado Hills Water Treatment Plant, and delivered to a specific place of use location in El Dorado Hills and Cameron Park areas as shown in Figure ES-2 of EDCWA's EIR.

The contract negotiations and environmental compliance efforts are ongoing. These actions allow EID to use this water supply in this WSA as a planned supply that will be available to EID in the future to serve the Proposed Project. The approval of the contract terms as well as finalization of the environmental documents will allow EID to apply the water supplies under this contract entitlement to municipal and industrial beneficial uses. EID has planned this water supply to be available starting in 2015.

4.2.3 Normal Year Water Supply Availability

As shown in **Table 4-1**, EID's total water entitlements under its existing and planned supplies does not equate to the amount of water available in normal years in the future. The normal year water supplies will be described in this section.

Excluding recycled supplies, EID's secured water rights and entitlements available for the Proposed Project total 67,190 acre-feet. As shown in the sufficiency analysis in Section 5, this amount is insufficient to serve EID's future demand incorporating the Proposed Project and all planned future projects. Accordingly, this section assesses both EID's secured supplies and additional planned supplies. EID's water supplies associated with the entire secured and planned water assets totals 110,290 acre-feet per year.

The 67,190 acre-feet of secured supplies include appropriative water right license 2184 and pre-1914 appropriative water rights associated with Slab Creek, Hangtown Creek and Weber Creek. As described above, these rights are collectively combined for conveyance purposes in a Warren Act Contract, No. 06-WC-20-3315, that allows for storage in and diversion from Folsom Reservoir. The total volume is 4,560, net of a negotiated 15% conveyance loss under the terms of the Warren Act contract. For purposes of serving the Proposed Project, EID assumes full diversion at 4,560 in normal years under these water assets.

[28] Central Valley Project Water Supply Contracts Under Public Law 101-514 (Section 206): Proposed Contract Between the U.S. Bureau of Reclamation and the El Dorado County Water Agency, and Proposed Subcontracts Between the El Dorado County Water Agency and the El Dorado Irrigation District, and Between the El Dorado County Water Agency and the Georgetown Divide Public Utility District Final Environmental Impact Report at ES-1, January 2011.

Appropriative water right licenses 11835 and 11836 are also secured supplies. These supplies can be diverted from several creeks in the Cosumnes River watershed (Camp, Hazel, and Sly Park) and are typically stored in Jenkinson Lake. The maximum rate of diversion is 500 cfs for a total possible diversion volume of 33,400. However, due to limitations in storage availability in Jenkinson Lake assessed through OASIS hydrologic modeling, the maximum available normal year supply for the Proposed Project is 23,000 acre-feet.[29] Although EID has diverted as much as 25,745 acre-feet from this reservoir, EID does not anticipate using more than 23,000 acre-feet under this right for its normal year diversions in the future.

Central Valley Project Contract 14-06-200-1375A-LTR1 is a secured supply available for immediate use for the Proposed Project. This CVP contract entitlement requires the USBR to deliver up to 7,550 acre-feet of water from its SWRCB water right permits on the American River to EID.

As described in Section 4.2.1, EID also has a number of pre-1914 appropriative water rights on the American River with storage components in Silver Lake, Lake Aloha, Caples Lake, and Echo Lake. For purposes of this document, these are collectively called the pre-1914 American River water rights.[30] The total volume of water available under the pre-1914 American River water rights is 15,080 acre-feet in normal years.

Appropriative water right permit 21112 is a secured supply for purposes of this WSA. Permit 21112 allows EID to divert up to 17,000 acre-feet of water per year from Folsom Reservoir to be used in EID's service area. EID has diverted water under this permit as part of a temporary urgency in 2008. EID must finalize its Warren Act Contract to divert this water at Folsom Reservoir. However, based upon the availability of the supply in Permit 21112, the ability to store the water in Caples, Silver, and Aloha lakes, and the pending conveyance agreement with USBR, the normal-year availability of this supply is 17,000 acre-feet.[31]

As described in Section 4.2.2, EID's planned water supplies include the CVP Fazio supply of 7,500 acre-feet as authorized under federal law. Once secured, EID should receive normal-year deliveries of the full entitlement just as USBR promises to other CVP M&I contract holders on the American River system. There is no reason to believe that this contract entitlement will be different than other CVP contract entitlements on the American River system.

Last, as described in Section 4.2.2, EID's planned water supplies derived from the EDWPA appropriative water right applications filings and assignments, as well as the El Dorado – SMUD Cooperation Agreement, indicate that EID should receive normal-year water deliveries of 30,000

[29] 2013 Water Resources Report

[30] California Water Code section 10910(d)(2)(A) requires "proof of entitlement" of each individual water right that is combined into this pre-1914 American River water rights grouping. These documents are contained in **Appendix A** of this Water Supply Assessment.

[31] EID Urban Water Management Plan 2010 Update, July 2011 at page 4-7 of 22. Follow-up discussion with EID Counsel on water availability on April 23, 2013.

acre-feet per year starting in 2025 and then as much as 40,000 acre-feet of deliveries thereafter. Based on demand projections, the District uses 30,000 acre-feet of normal-year deliveries under these collective applications and the El Dorado-SMUD Cooperation Agreement.

4.2.4 Dry-Year Water Supply Availability

As shown in **Table 4-1**, EID anticipates less water being available in dry years than is otherwise available in normal years as described in Section 4.2.3. Dry-year supplies include supply reductions attributable to hydrologic droughts and regulatory curtailments. The dry-year water supplies are described in this section.

EID's entire normal-year secured and planned water assets total 110,290 acre-feet per year. In dry years, EID's total water assets equal 77,885 acre-feet. Of this total supply, 61,660 acre-feet are secured water assets and 16,225 acre-feet are planned water assets.

As described in Section 4.2.3, the secured water assets include License 2184 and the additional pre-1914 appropriative rights that are included in Warren Act contract 06-WC-20-3315, Licenses 11835 and 11836, CVP Contract 14-06-200-1375A-LTR1, the pre-1914 American River water rights grouping, and Permit 21112. All of these water rights are subject to different regulatory and hydrological restrictions that could result, in some instances, in reduction of the water supplies available under the right or entitlement in dry years.

The water rights contained in the Warren Act Contract 06-WC-20-3315 have some level of regulatory restrictions and hydrological uncertainty. EID's 2010 UWMP indicates that the estimated dry-year yield associated with this water asset is 3,000 acre-feet per year based upon regional hydrologic conditions.[32] Accordingly, based upon the presumed hydrologic conditions, the dry-year reliability for this supply in three consecutive dry years is 3,000 acre-feet per year.

Licenses 11835 and 11836 have a full diversion entitlement of 33,400 acre-feet per year. Of that amount, carryover storage in Jenkinson Lake and diminished inflow reduce that entitlement to a normal-year supply of 23,000 acre-feet per year. In dry years, this amount is further reduced based upon hydrologic conditions as well as carryover storage needs for future years from Jenkinson Lake. Accordingly, based upon the OASIS hydrologic modeling report, EID reduces this supply's availability to 20,920 acre-feet in a single dry year. Thus, 20,920 acre-feet per year is used in this WSA as the dry-year safe yield number for a single dry year. To be conservative, EID plans for this supply to be further reduced during year two and again in year three of and three consecutive dry years. This WSA uses 17,000 acre-feet and 15,500 acre-feet as the available supply in year two and year three of a multi-year drought, respectfully.

[32] EID Urban Water Management Plan 2010 Update, July 2011 at page 4-6 of 22. Follow-up discussion with EID Counsel on water availability on April 23, 2013.

CVP Contract 14-06-200-1375A-LTR1 has a normal-year entitlement of 7,500 acre-feet per year. The USBR, however, assesses the dry-year supply availability of its CVP M&I contracts through the CVP M&I Shortage Policy. Based on inflow and storage criteria developed at the joint operations center, USBR can reduce contract water supplies under the CVP M&I Shortage Policy by up to 25% of historic use with various adjustments made for population, use of non-CVP water and extraordinary conservation actions.[33] With these adjustments in mind, USBR calculates the reduced CVP M&I delivery essentially based upon the average of the three previous normal years of use under the CVP contract. Under the strictest interpretation of this policy, if the water under the CVP contract was not used, then the dry year water is not available. But, USBR has considered that use of non-CVP supplies in lieu of CVP water use may be used to calculate use under this shortage policy. For purposes of this analysis, however, we have determined that based upon normal growth in demand in EID's service area, EID's customers would utilize the entire contract entitlement in normal years in the future. As such, EID calculates its dry-year reduction for this Proposed Project based upon three years of full use of its contract allocation. Accordingly, the dry year supply under this water contract entitlement is 5,660 acre-feet per year.

EID's pre-1914 American River water rights-grouping has a normal-year reliability of 15,080 acre-feet per year. Based upon the early priority date of these water assets and the storage capability within EID's system associated with these water assets, they are not reduced at all in a single dry year or three consecutive dry years.

Permit 21112 is another secure dry-year water asset. EID's 2010 UWMP states "there are no cutback provisions on this supply."[34] As such, the dry year reliability of Permit 21112 is 17,000 acre-feet per year.

As described in Section 4.2.2, EID's planned supplies include the CVP Fazio supply, and the several rights and contract that make up the UARP SMUD water. All of these assets combined have a three consecutive dry year supply reliability of 10,625 acre-feet per year.

The CVP Fazio supply is another CVP M&I contract supply that is subject to the same Municipal and Industrial shortage provisions described above for EID's other CVP contract entitlement. EID's expected portion of the Fazio supply has a normal-year contract allocation of 7,500 acre-feet per year. Assuming under the rules described above that EID is able to use its entire contract entitlement in the future, a 25% reduction from the contract entitlement reduces the delivery by 1,875 acre-feet per year. As such, the single dry year reliability and three consecutive dry year reliability under this contract is 5,625 acre-feet per year.

[33] Reclamation has the authority to reduce the supply volumes even further under extreme conditions – Health and Safety criteria – but this sort of supply reduction would only occur in extreme drought and would be offset by reductions in demand in EID's service area, as needed, to maintain basic Health and Safety conditions. The District's drought contingency plans address these situations.

[34] This assertion was confirmed in a telephone conversation with the District's Counsel on April 23, 2013.

Last, the UARP SMUD water that is derived from the numerous water right applications and assignments as well as the El Dorado-SMUD Cooperative Agreement indicates that the water available under these components in dry years could be severely curtailed. Appendix H of the Agreement states that annual deliveries can be superseded and deliveries from carryover drought storage can be reduced to as little as 5,000 acre-feet in a declared Critically Dry year if SMUD reservoir storage drops below 100,000 acre-feet (approximately 25%). Out of an abundance of caution, EID anticipates only 5,000 acre-feet of carryover drought-supply water would be available each year over the course of a three-year drought.

4.3 RECYCLED WATER SUPPLIES

EID uses recycled water to meet some current non-potable demands within its service area. EID may expand its development and use of recycled water in the future to meet a portion of the non-potable demands associated with the Proposed Project and other anticipated new demands. EID's current recycled water use is about 2,200 acre-feet per year. This use will expand incrementally over time. By 2035, EID anticipates a supply of 5,600 acre-feet of recycled water per year within its service area.[35]

EID's recycled water system consists of supply from the El Dorado Hills wastewater treatment plant and the Deer Creek wastewater treatment plant. These treatment plants have an interconnected network of transmission and distribution pipelines, pump stations, storage tanks, pressure reducing stations, and appurtenant facilities located within the communities of El Dorado Hills and Cameron Park.[36] EID mandates the use of recycled water through Board Policy 7010, wherever economically and physically feasible as determined by the Board, for non-domestic purposes.[37] At this time, non-domestic use includes commercial landscape irrigation, residential or multi-family dual-plumbed landscape irrigation, construction water, and recreational impoundments.

Recycled water availability is an outcome of increased municipal and domestic demand and wastewater production as a byproduct of this demand. In other words, annual recycled water production capabilities are based on the total wastewater flows to the treatment plants. With the population and industrial demands growing in this region, as described in Section 3, the availability of recycled water will increase. EID is taking a conservative view of the growth in recycled water based upon its current production levels, estimated regional population growth, facility expansion identified in its 2013 IWRMP and WWFMP, treated water discharge requirements, and its ability to capture and store recycled water supplies in the future. The total recycled water available for use in 2035 is estimated to be 5,600 acre-feet per year.[38]

[35] EID Integrated Water Resources Master Plan, March 31, 2013
[36] EID Urban Water Management Plan 2010 Update, July 2011 at page 4-10 of 22.
[37] EID Urban Water Management Plan 2010 Update, July 2011 at page 4-6 of 22.
[38] EID Integrated Water Resources Master Plan, March 31, 2013 at page 221.

Accordingly, Table 4-2 shows the incremental recycled water assets that would be available over time for the District's non-potable water uses.

Table 4-2 – Timing of Recycled Water and Quantities

Year	Recycled Water Supply (acre-feet)
Current	2,200
2015	2,400
2020	2,600
2025	3,100
2030	4,200
2035	5,600

4.4 FACILITY COSTS AND FINANCING

EID's recently completed 2013 IWRMP and WWFMP identify and allocate the future costs of capital expansion and replacement needs, and addresses financing mechanisms for EID's water assets. These costs and financing mechanisms are hereby incorporated by reference.

The District establishes and periodically updates its Facility Capacity Charges (FCCs) to recover the cost of those portions of existing District facilities that will be used by future customers and to fund needed expansion, or additional capacity, of District facilities to serve new users. The District periodically reviews its FCCs to ensure they accurately reflect the costs of providing service to new customers. Currently the District is updating the FCCs to incorporate projects identified in the adopted 2013 IWRMP. The FCC update is currently under review by the Board and a developer committee, and the District anticipates adoption of the updated FCCs in August 2013.

4.5 REGULATORY APPROVALS AND PERMITS

As described in Section 4.2.2, EID has water assets that require further regulatory approvals, permit compliance, and contract approvals. Each water asset has its own set of regulatory requirements that are assessed in this section.

Appropriative water right Permit 21112 issued by the SWRCB has not been perfected. In order to perfect an appropriative water right, EID must put all of the water assets under that permit to beneficial use. Upon putting the water to beneficial uses and meeting all of the other conditions in the water right permit, EID will be eligible to obtain a water right license for this appropriative water right. Attaining a water right license further fortifies the legitimacy of the water right for EID's continual use in the future. There is no indication that EID will have difficulty in obtaining a water right license for Permit 21112.

Permit 21112 also requires a Warren Act Contract to be negotiated and approved by the USBR. The Warren Act Contract will allow EID to divert water from Folsom Reservoir for delivery to the El Dorado Hills Water Treatment Plant. Although the District may choose to divert some of the water upstream of Folsom Reservoir through other SWRCB regulatory processes, a Warren Act Contract is essential for any diversions emanating from Folsom Reservoir. EID is currently in negotiations with USBR to obtain a long-term contract. While those negotiations continue, short-term Warren Act Contracts are also obtainable, if needed. There are no foreseeable reasons that these negotiations will not succeed. Both EID's Board of Directors and USBR officials will need to execute the contract once the terms have been drafted, and EID will need to obtain judgment in a judicial action to validate the contract.

The Fazio water supply also has additional regulatory approvals and permits pending. This CVP contract entitlement is authorized by Public Law 101-514. The 15,000 acre-feet of water supply is contemplated to be split equally between Georgetown Divide Public Utilities District and EID. As described in Section 4.2.2, EDCWA is negotiating with USBR on behalf of EID to secure the CVP contract entitlement authorized by this federal statute and finalize the EIS. Accordingly, EID will continue to work with EDCWA and USBR to finalize acquisition of this water supply. Upon completion of the EIS, the EDCWA's designee and USBR officials will need to execute the CVP water supply contract, and EDCWA may need to obtain judgment in a judicial action validating the contract.

The pending water right applications and application assignments before the SWRCB as well as the El Dorado – SMUD Cooperation Agreement constitute the last water supply that is pending further regulatory approvals. As described in Section 4.2.2, EDWPA is awaiting approvals from SWRCB for these water assets. Upon SWRCB approval, EID will obtain 30,000 acre-feet of water under the El Dorado – SMUD Cooperation Agreement.

The SWRCB water right process requires the SWRCB to conduct an internal project review of the applicable technical and hydrological information as well as consider the broader effects on other legal users of water throughout the watershed before issuing a permit. This regulatory process may eventually necessitate a SWRCB hearing where testimony from proponents and opponents of the water right permit is heard and weighed by the SWRCB Board Members before issuing the conditioned permits. Once permits have been issued, then the District must comply with the permit terms and perfect application of the water supplies to beneficial use in order to acquire water right licenses associated with the appropriative water rights.

The El Dorado – SMUD Cooperation Agreement is an agreement among the various parties to cooperate in facilitating the storage and delivery of these water assets to the identified purveyors. As such, through the processing of the water right applications and the furtherance of compliance with the terms of those agreements, the water assets considered there are likely to be available to

EID. The regulatory approvals and permits needed to finalize EID's control over these water assets are moving forward.

4.6 SUPPLY SUMMARY

EID has two broad categories of water assets that are available for the Proposed Project – the secured water assets and planned water assets. Collectively, these supplies total 110,290 acre-feet in normal water years and 77,885 acre-feet in a single dry water year. In year two and year three of a multi-year drought, supplies are further reduced to 73,965 acre-feet and 72,465 acre-feet, respectfully.

As described above, the secured water assets include appropriative water right License 2184 and the accompanying pre-1914 appropriative water rights held under Warren Act Contract 06-WC-20-3315, appropriative water right Licenses 11835 and 11836, CVP Contract 14-060200-1375A-LTR1, the pre-1914 American River storage and diversion appropriative water rights, and Permit 21112. The normal year water supplies available to EID under the secured assets total 67,190 acre-feet per year. In dry years, the water supplies available to EID under the secured assets totals 61,660 acre-feet per year.

The planned water assets, although partially secured, are not yet fully available for EID's use to serve the Proposed Project contemplated in this WSA. As described above, these assets are sufficiently secure to be considered planned supplies for the Proposed Project in 2035. In normal years, the water supplies under these assets total 37,500 acre-feet. In dry years, the water supplies under these assets total 10,625 acre-feet.

Finally, the recycled water assets in both normal and dry years, derived from planned growth and continual indoor water usage regardless of year type, total 5,600 acre-feet in 2035.

SECTION 5 – SUFFICIENCY ANALYSIS

5.1 INTRODUCTION

The analysis detailed in this section provides a basis for determining whether sufficient water supplies exist to meet the estimated water demand of the Proposed Project.[39]

This section includes:

- Analysis of sufficiency, considering variations in supply and demand characteristics under normal, single-dry and multi-dry hydrologic conditions,
- Analysis conclusions

5.2 SUFFICIENCY ANALYSIS

The sufficiency analysis integrates the water demands detailed in Section 2 and Section 3 with the water supplies characterized in Section 4. The results are presented in **Table 5-1** beginning with "current" conditions (recognized as 2012) and continuing with 5-year increments from 2015 through 2035. While the analysis at various intervals before build-out is important, the most critical projection for the sufficiency analysis occurs in 2035. This analysis assumes that the Proposed Project, along with the other projects simultaneously undergoing a WSA analysis (see Section 3.3), are fully constructed by 2035, and other anticipated growth continues as described in Section 3.4.

Table 5-1 incorporates the Proposed Project water demand projection in **Table 2-3**, assuming the Proposed Project develops as detailed in Section 1, and the estimated water demands for all other existing and planned future uses through 2035 as detailed in **Table 3-2**. **Table 5-1** also presents the available water supplies for the contiguous EID service area during normal, single-dry and multiple-dry years, as detailed in Section 4. The water demands and available supplies in a single dry-year and multiple dry-year condition are discussed in the following subsections.

[39] CWC § 10910 (c)(4) provides that "If the city or county is required to comply with this part pursuant to subdivision (b), the water supply assessment for the project shall include a discussion with regard to whether the total projected water supplies, determined to be available by the city or county for the project during normal, single dry, and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the proposed project, in addition to existing and planned future uses, including agricultural and manufacturing uses."

Table 5-1 – Comparable Analysis of Supply and Demand

Year	Project Water Demand (af/yr)	All Other EID Water Demands (af/yr)	Total Water Demands (af/yr)	Non-Revenue Water @ 13%	Demands with Loss	EID Water Supplies: Surface Water: Hydrologic Year Type		EID Water Supplies: Surface Water: EDH Service Area (af/yr)	EID Water Supplies: Surface Water: West/East Service Area (af/yr)	EID Water Supplies: Surface Water: Total (af/yr)	EID Water Supplies: Recycled Water (af/yr)	EID Water Supplies: Total Available Water Supply (af/yr)	Projected Surplus/ (Shortfall) (af/yr)
Current	0	38,984	38,984	N/A	38,984	**Normal**		29,110	38,080	67,190	2,200	69,390	30,406
	0	40,933	40,933	N/A	40,933	**Single Dry**		25,660	36,000	61,660		63,860	22,927
	0	40,933	40,933	N/A	40,933	**Multiple Dry**	Year 1	25,660	36,000	61,660		63,860	22,927
	0	38,068	38,068	N/A	38,068		Year 2	25,660	32,080	57,740		59,940	21,872
	0	34,793	34,793	N/A	34,793		Year 3	25,660	30,580	56,240		58,440	23,647
2015	12	34,944	34,956	4,544	39,500	**Normal**		36,610	38,080	74,690	2,400	77,090	37,590
	13	36,691	36,704	4,771	41,475	**Single Dry**		31,285	36,000	67,285		69,685	28,210
	13	36,691	36,704	4,771	41,475	**Multiple Dry**	Year 1	31,285	36,000	67,285		69,685	28,210
	12	34,123	34,134	4,437	38,572		Year 2	31,285	32,080	63,365		65,765	27,193
	11	31,187	31,198	4,056	35,254		Year 3	31,285	30,580	61,865		64,265	29,011
2020	142	37,855	37,997	4,940	42,937	**Normal**		36,610	38,080	74,690	2,600	77,290	34,353
	149	39,748	39,897	5,187	45,084	**Single Dry**		31,285	36,000	67,285		69,885	24,801
	149	39,748	39,897	5,187	45,084	**Multiple Dry**	Year 1	31,285	36,000	67,285		69,885	24,801
	139	36,966	37,104	4,824	41,928		Year 2	31,285	32,080	63,365		65,965	24,037
	127	33,786	33,912	4,409	38,321		Year 3	31,285	30,580	61,865		64,465	26,144
2025	354	43,505	43,859	5,702	49,561	**Normal**		19,610	85,080	104,690	3,200	107,890	58,329
	371	45,681	46,052	5,987	52,039	**Single Dry**		14,285	58,000	72,285		75,485	23,446
	371	45,681	46,052	5,987	52,039	**Multiple Dry**	Year 1	14,285	58,000	72,285		75,485	23,446
	345	42,483	42,828	5,568	48,396		Year 2	14,285	54,080	68,365		71,565	23,169
	316	38,828	39,144	5,089	44,233		Year 3	14,285	52,580	66,865		70,065	25,832
2030	413	50,803	51,216	6,658	57,874	**Normal**		19,610	85,080	104,690	4,100	108,790	50,916
	433	53,343	53,777	6,991	60,768	**Single Dry**		14,285	58,000	72,285		76,385	15,617
	433	53,343	53,777	6,991	60,768	**Multiple Dry**	Year 1	14,285	58,000	72,285		76,385	15,617
	403	49,609	50,012	6,502	56,514		Year 2	14,285	54,080	68,365		72,465	15,951
	368	45,342	45,710	5,942	51,652		Year 3	14,285	52,580	66,865		70,965	19,313
2035	398	59,156	59,554	7,742	67,295	**Normal**		19,610	85,080	104,690	5,600	110,290	42,995
	418	62,113	62,531	8,129	70,660	**Single Dry**		14,285	58,000	72,285		77,885	7,225
	418	62,113	62,531	8,129	70,660	**Multiple Dry**	Year 1	14,285	58,000	72,285		77,885	7,225
	389	57,765	58,154	7,560	65,714		Year 2	14,285	54,080	68,365		73,965	8,251
	355	52,796	53,152	6,910	60,061		Year 3	14,285	52,580	66,865		72,465	12,404

5.2.1 Single Dry Year Supply and Demand Conditions

Under this condition, EID would anticipate a variance from the normal-year analysis, including: (1) shortage in full availability of supplies as detailed in **Section 4**, and (2) an increase in water demand. The increase in demand is based on the following:

- Landscape irrigation demands will increase to reflect the generalized earlier start of the landscape irrigation season due to limited rainfall in the single driest year. Since this increase only applies to the outdoor portion of a customer's demand, an adjustment factor of 5 percent is applied to the total normal-year water demand values.
- Historically, during single dry year circumstances, EID does not implement its shortage contingency plan,[40] since the extent of the dry conditions into future years is unknown. EID follows adopted policies and its 2008 *Drought Preparedness Plan* when implementing any voluntary or mandatory demand reduction measures.

As a result of these factors, the Proposed Project water demand and those of the other existing and planned uses is expected to increase in a single dry year above the demand expected under normal hydrologic circumstances. Additionally, as detailed in Section 4, EID anticipates a decrease in available water supplies. These changes are shown in **Table 5-1**.

5.2.2 Multi-Dry Year Supply and Demand Conditions

When a single dry year expands into a series of dry years, water supply and demand conditions will continue to evolve. Under such a multi-dry year, EID would anticipate many similar conditions that were assumed for the single-dry year, including: (1) shortage in full availability of supplies as detailed in Section 4, and (2) increases in projected demands. However, when entering the second and third year of a sequence of dry-years, EID would implement necessary policies to manage limited water supplies.[41] Demands over a series of three dry years are adjusted as follows:

- Year 1 – the first year mimics a "single-dry year" condition, where demands increase approximately 5 percent and EID shortage policies are not yet invoked (see Section 5.2.1).
- Year 2 – The demands again mimic a "single-dry year" and would be expected to increase by 5 percent above normal year conditions. However, when recognizing a second dry-year, EID would invoke the first stage of the Drought Preparedness Plan. This stage states: "*The objective of Stage 1 is to initiate public awareness of predicted water shortage conditions, and encourage voluntary water conservation to decrease*

[40] See EID Board Policy AR 5011-Water Supply Management Conditions (available at http://www.eid.org/modules/showdocument.aspx?documentid=2687).
[41] See EID Board Policy AR 5011-Water Supply Management Conditions (available at http://www.eid.org/modules/showdocument.aspx?documentid=2687).

normal demand up to 15%."[42] As part of this stage, EID implements drought water rates among other specified activities to encourage conservation. For purposes of this WSA, the demand reduction achieved under Stage 1 is estimated to be 7 percent of the already higher single dry-year demand.

- Year 3 – Upon entering the third dry year, EID would invoke the second stage of the Drought Preparedness Plan. This stage states: "*The objective of Stage 2 is to increase public understanding of worsening water supply conditions, encourage voluntary water conservation measures, and then if necessary, enforce mandatory conservation measures in order to decrease normal demand up to 30%*."[43] Under this Stage, EID increases efforts to reduce demand. For purposes of this WSA, the savings achieved under Stage 2 is estimated to be 15 percent of the already higher single dry-year demand.

As a result of these factors, the Proposed Project water demand and those of the Other Existing and Planned Uses is expected to increase in the first year of a multi dry-year condition above that estimated during normal hydrologic circumstances. In subsequent years, the demand will drop as elements of EID's Drought Preparedness Plan are implemented. These changes are shown in **Table 5-1**.

5.2.3 Analysis

As shown in **Table 5-1**, the demand and supply are compared under each hydrologic condition for each 5-year increment out to 2035. The resulting "supply surplus" or "supply shortfall" is shown in the final column. Based on the analyses, EID anticipates it will have sufficient water under all hydrologic conditions in each of the 5-year increments through 2035. Notably, the "surplus" supply is lowest during a single-dry year and the first year of a multi-dry year condition, since this is the circumstance where demand increases, while supplies are constrained. Yet, even under such circumstances, sufficient water should be available.

5.3 SUFFICIENCY ANALYSIS CONCLUSIONS

As detailed in **Section 2**, this WSA estimates water demands for the Proposed Project of 450 acre-feet per year at build-out (including non-revenue water demands). The annual water demand estimate for all existing and planned projects in the contiguous EID service area, as detailed in **Section 3**, is approximately 67,295 acre-feet per year by 2035. After accounting for these demand projections for the next twenty years, EID should have sufficient water to meet the demands of the Proposed Project and its other service area demands for at least the next 20 years.

[42] See EID Board Policy AR 5011.2-Water supply slightly restricted Drought Stage 1 – Voluntary reductions in use (available at http://www.eid.org/modules/showdocument.aspx?documentid=2687).
[43] See EID Board Policy AR 5011.3-Water supply slightly restricted Drought Stage 2 – Voluntary and mandatory reductions (available at http://www.eid.org/modules/showdocument.aspx?documentid=2687).

The conclusion that EID should have sufficient water available to meet the needs of the Proposed Project, in addition to the other demands in its service area through 2035, rests on the following set of assumptions:

- EID, EDCWA, and EDWPA successfully execute the contracts and obtain the water right permit approvals for currently unsecured water supplies discussed in Section 4. Absent these steps, the water supplies currently held by EID and recognized to be diverted under existing contracts and agreements would be insufficient in 2035 to meet the Proposed Project demands along with all other existing and planned future uses.
- EID will commit to implement Facility Capacity Charges in an amount sufficient to assure the financing is available as appropriate to construct the necessary infrastructure as detailed in the March 2013 EID *Integrated Water Resources Master Plan*.
- Demand in single-dry years includes an additional 5 percent of demand over the normal year demand during the same time period. This conservative assumption accounts for the likelihood that EID customers will irrigate earlier in the season to account for dry spring conditions. This hypothetical demand augmentation may or may not manifest in dry years, but this conservative assumption further tests the sufficiency of water supplies during dry conditions.
- The estimated demands include 13 percent to account for non-revenue water losses (e.g. distribution system losses).

The finding of this WSA is that EID should have sufficient water to meet the demands of Proposed Project and its other service area demands for the next 20 years.

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MEMORANDUM

To: Shahira Ashkar, ICF International

Date: May 30, 2014

From: Greg Young, Tully & Young

Subject: Water Supply Options to El Dorado Irrigation District's Long-Term Planned Water Supplies for use in the Central El Dorado Hills CEQA Compliance Document

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The purpose of this memorandum is to document the water supply options to El Dorado Irrigation District's (hereafter the "EID") long-term planned water supplies as detailed in the Central El Dorado Hills Specific Plans Water Supply Assessment (hereafter "Central EDH WSA") adopted by EID on August 26, 2013. The information and text included in this memorandum can be directly inserted, as best determined by ICF, into the body of the CEQA document that ICF is preparing for the subject project.[1]

In *Vineyard Area Citizens for Responsible Growth v. City of Rancho Cordova* (2007) 40 Cal 4th 412 (hereafter *Vineyard*), the California Supreme Court identified specific requirements for an adequate analysis of water supply issues in an Environmental Impact Report (EIR). The court explained that future water supplies identified and analyzed in an EIR must be reasonably likely to prove available. Speculative water sources and unrealistic water allocations do not provide an adequate basis for a public agency's decision-making. The Supreme Court said that when a full analysis of future water supplies for a project leaves some uncertainty regarding the availability of the identified future supplies, the EIR must discuss possible replacement or alternative supply sources. In addition, the EIR must discuss the environmental effects of resorting to those alternative supply sources. The court held that it is not sufficient to address issues relating to future water supplies by simply stating that future development will not go forward in the absence of a sufficient water supply. (*Vineyard* at 431).

[1] Tully & Young must have an opportunity for review and approval of any changes to the information and/or text presented in this memo that may be recommended by ICF in its adaptation of information into the Central El Dorado Hills Specific Plan's CEQA documentation.

The court also recognized that the ultimate question under CEQA "is not whether an EIR establishes a likely source of water, but whether it adequately addresses the reasonably foreseeable impacts of supplying water to the project." (*Vineyard* at 450). Accordingly, if uncertainties inherent in long-term planning make it impossible to identify the future water sources with certainty, an EIR may satisfy CEQA if it acknowledges the degree of uncertainty involved, discusses the reasonably foreseeable water supply alternatives, and discloses the significant foreseeable environmental effects of each alternative, as well as mitigation measures to minimize each adverse impact. (*Vineyard* at 434).

Accordingly, the *Vineyard* opinion outlined the following general principles governing an EIR's analysis of water supply issues:

- An adequate environmental impact analysis for a long-range development plan cannot be limited to the water supply for the first stage of development. It must consider supplies necessary for the entire development.
- Future water supplies identified and analyzed in an EIR must be reasonably likely to prove available. Speculative sources and unrealistic paper allocation do not provide an adequate basis for decision making under CEQA.
- When, despite a full analysis, "it is impossible to confidently determine that anticipated future water sources will be available," CEQA requires some discussion of possible replacement or alternative supply sources, and of the environmental consequences of resorting to those sources. (*Vineyard* at 432)
- An EIR for a land use plan need not demonstrate that the water supply for the project is assured through enforceable agreements with a provider and built or approved treatment and delivery facilities. To interpret CEQA as requiring firm assurances of future water supplies at early stages of the planning process would be inconsistent with the water supply statutes, which call for an assured supply only at the end of the approval process. (*Vineyard* at 432).
- The "ultimate question under CEQA is not whether an EIR establishes a likely source of water, but whether it adequately addresses the reasonably foreseeable impacts of supplying water to the project." (*Vineyard* at 434)

For the El Dorado County development that is the subject of this analysis, the Central EDH WSA identified a potential water shortfall in very dry years absent planned water supplies (as detailed below). Accordingly, under the guidance of the *Vineyard* decision, the information that follows characterizes alternative water sources for the identified development.

As detailed in Section 4 of the Central EDH WSA and summarized in the Central EDH WSA's Table 4-1 (included below), the EID water supplies are separated into two classifications: existing and planned. Combined, the Central EDH WSA concluded that these supplies provide sufficient water for the proposed project (see **Figure 1**).

While there is reasonable certainty that all of the existing EID water supplies are available, there is a degree of uncertainty whether the planned Central Valley Project Fazio water entitlement (hereafter the "Fazio supply"), or the supplies anticipated under the El Dorado-SMUD Cooperation Agreement (hereafter the "UARP supply") will manifest in the quantities or on the schedule currently planned as EID proceeds through regulatory approval and contracting processes.

Therefore, as directed by the *Vineyard* principles outlined previously, an analysis of options that would provide sufficient water for the proposed project is necessary. The following discussion characterizes three water supply options (hereafter "Water Supply Options") that are viable alternative sources that could reasonably be available to serve the project.

Figure 1 – Project Water Supplies from the Central EDH WSA

Table 4-1 – Water Rights, Entitlements, and Supply Availability

Water Right or Entitlement	Maximum Water Assets Available (Ac-ft)	Normal Year Planned Supply Availability (Ac-ft)	Dry-Year Planned Supply Availability (Ac-ft)
License 2184 and pre-1914 ditch rights including Warren Act Contract 06-WC-20-3315	4,560	4,560	3,000
Licenses 11835 and 11836	33,400	23,000	20920[A]
CVP Contract 14-06-200-1375A-LTR1	7,550	7,550	5,660
Pre-1914 American River diversion and storage rights	15,080	15,080	15,080
Permit 21112	17,000	17,000	17,000
Subtotal Existing	**77,590**	**67,190**	**61,660**
Central Valley Project Fazio water entitlement (PL 101-514 (1990) Fazio) [D]	7,500	7,500	5,625
Applications 5645X12, 5644X02 and partial assignment of Applications 5645, 5644 with El Dorado-SMUD Cooperation Agreement [E]	40,000[B]	30,000	5,000[C]
Subtotal Planned	**47,500**	**37,500**	**10,625**
Recycled Water	5,600	5,600	5,600
Total	**130,690**	**110,290**	**77,885**

[A] This is the modeled safe-yield of this water right during a single dry-year. For planning purposes, the second and third dry years of a three-year dry period are assumed to be 17,000 acre-feet, and 15,500 acre-feet, respectfully
[B] Section 5.1.1 of the El-Dorado SMUD Cooperation Agreement indicates that 40,000 acre-feet of SMUD water will be available after 2025. For conservative Normal Year planning purposes, the District uses 30,000 acre-feet of available supply.
[C] Available supply is 15,000 acre-feet in a single dry year but in preparing for multiple dry years EID anticipates using only 5,000 acre-feet per year for a three year period.
[D] Available starting in 2015
[E] Available starting in 2025

Quantity of Water to Replace

To understand the quantity each Water Supply Option must provide, an evaluation of the Central EDH WSA's conclusions about surplus water is necessary. Table 5-1 of the Central EDH WSA summarizes the assessment of supply and demand for the year 2035. As demonstrated in that table, surplus water exists under all hydrologic conditions: normal, single-dry, and multi-dry years. Absent the Fazio and the UARP water supplies, however, the surpluses shown in the Central EDH WSA Table 5-1 are reduced or even become shortfalls under some conditions. **Table 1** presents the surplus as analyzed in the Central EDH WSA and the resulting change when the Fazio and UARP planned water supplies are removed.

Table 1 – Comparison of Surplus/Shortfall Conditions with and without Planned Supplies at Build-out Conditions (2035)

Hydrologic Year Type	Surplus Water (T. 5-1 of WSA) acre-feet/year	Quantity of "Planned Supplies" acre-feet/year		Surplus/(Shortfall) Water w/o "Planned Supplies" acre-feet/year
		Fazio	UARP	
Normal	42,995	7,500	30,000	5,495
Single Dry	7,225	5,625	5,000	(3,400)
Multi dry (Year 1)	7,225			(3,400)
Multi dry (Year 2)	8,251			(2,374)
Multi dry (Year 3)	12,404			1,779

As demonstrated in **Table 1**, at build-out conditions (2035) during a normal year there is still surplus water even absent the planned supplies, and thus no alternative supply is necessary.

However, during single-dry and multi-dry hydrologic conditions, the absence of the "planned supplies" causes a shortfall under several circumstances. The worst-case shortfall occurs during a single-dry hydrologic year – when supplies are curtailed, demands are elevated due to limited rainfall, and temporary demand management efforts are yet to be triggered by EID. Under these hypothetical shortfall conditions, EID would not have sufficient water to serve the proposed project and other existing and planned uses. Thus, as directed by the *Vineyard* decision, an alternative water supply that would provide up to 3,400 acre-feet during a single dry-year must be identified and its impacts assessed.

Water Supply Options

To enable an assessment in the EIR of Water Supply Options, this memorandum characterizes three Water Supply Options that have been developed to meet the 3,400 ac-ft shortfall:

- Option 1 – Construct Alder Reservoir
- Option 2 – Construct recycled water seasonal storage and implement additional conservation

- Option 3 – Participate in regional groundwater banking and exchange programs

Option 1 – Construct Alder Reservoir

Water Supply Option 1 (Option 1) envisions the construction of a new dam and storage reservoir in the Alder Creek watershed. Option 1 would provide more than ample dry-year water supplies to meet the targeted shortfall identified in **Table 1**. A storage facility on Alder Creek has been studied for many years, with the most recent analysis included in EID's 2013 *Integrated Water Resources Master Plan* (IWRMP). In the IWRMP, construction of the Alder Reservoir is an integral part of the EID recommended water resources plan. The IWRMP is included in this memo by reference.[2]

As described in the IWRMP:

> *"[T] he Alder Dam would be a rock-fill dam approximately 143 feet high with a crest length of 800 feet and width of 30 feet at elevation 5,333 feet. The Alder Reservoir would have a capacity of 31,700 ac-ft and capture approximately 23,100 ac-ft of water in an average runoff year from the Alder Creek drainage basin of 18.6 square miles. A new penstock and 10 MW powerhouse would be located near the existing El Dorado Canal allowing water withdrawn from Alder Reservoir to be used for hydroelectric generation and released into the El Dorado Canal downstream of the Alder Creek inverted siphon."*(IWRMP, p. 201)

Figure 2 represents the proposed location of Alder Dam and the resulting footprint of Alder Reservoir. The new reservoir is projected to provide a dry-year safe yield of 11,250 acre-feet.

Water captured and stored during the spring snowmelt runoff period would be released throughout the remaining months at either (1) Jenkinson Lake via the Hazel Creek Tunnel, (2) the Forebay Reservoir, (3) Folsom Reservoir, or (4) a new point of diversion such as the proposed White Rock diversion.

While the estimated safe yield of 11,250 acre-feet is more than three times the quantity necessary for a Water Supply Option, the Alder Reservoir project as currently planned by EID provides a well-documented alternative that has already undergone assessment and is included in the EID Board-adopted IWMRP.

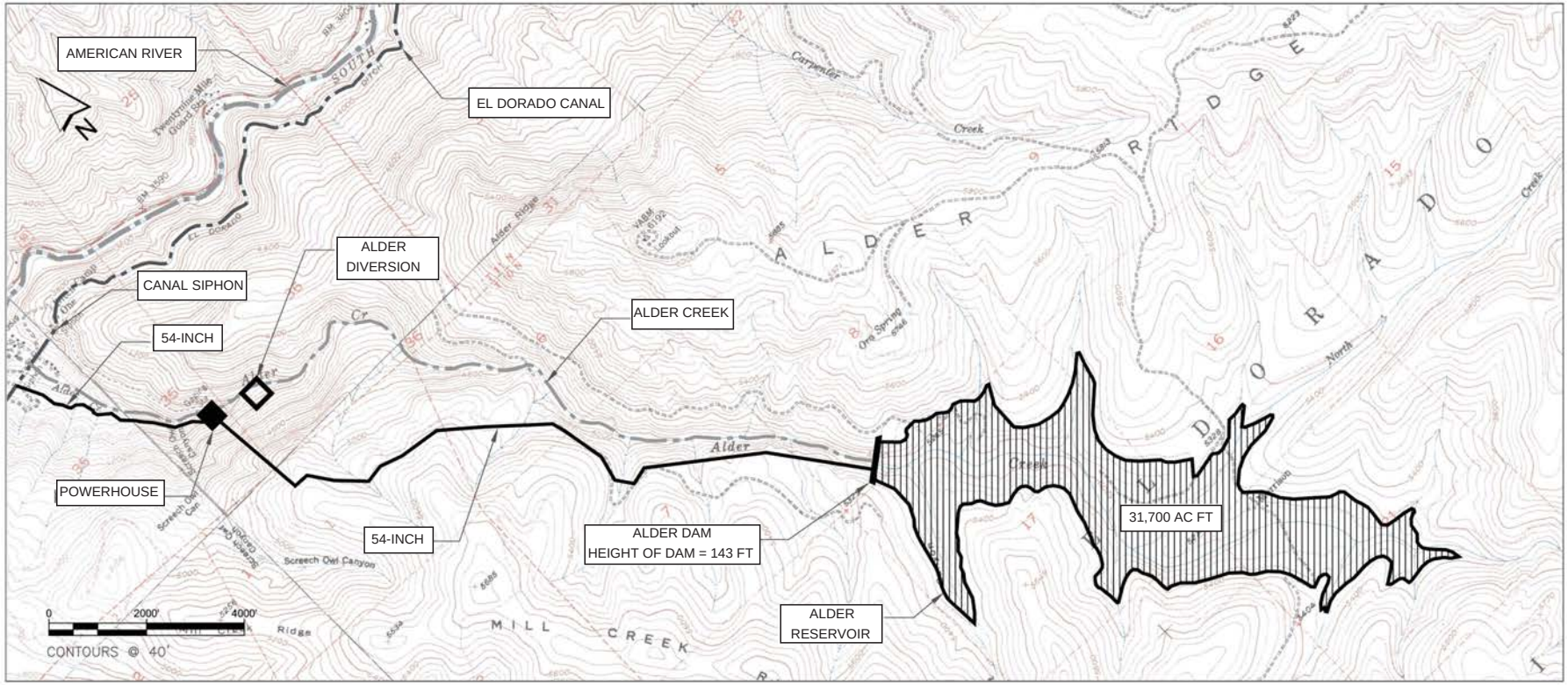
Water Supply Certainty

As detailed in the IWRMP, Alder reservoir would have a capacity of 31,700 acre-feet, capturing about 23,000 acre-feet in an average runoff year from the Alder Creek watershed. The safe yield of the reservoir is estimated to be about 11,250 acre-feet per year. This option provides significantly more water than is necessary to replace the WSA's planned water supplies. Thus,

[2] Integrated Water Resource Master Plan, March 2013, accessed on EID's website via http://www.eid.org/modules/showdocument.aspx?documentid=3554

even if the hydrology estimates produced lower runoff quantities, there would still be significantly more water than is required for replacement of the Central EDH WSA's "planned supplies," resulting in a high level of certainty of availability during dry-years.

Figure 2 – Location of Alder Dam and resulting Alder Reservoir
(source: EID IWRMP, Figure 8-4, p 203)



Source: EID Water Supply Optimization Study, Conceptual Designs and Cost Analyses TM (Domenichelli & Assoc., Inc., 2011)

HDR
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Alder Reservoir Facilities
Figure 8-4

Option 2 – Construct Recycled Water Seasonal Storage and Implement Additional Conservation

Water Supply Option 2 (Option 2) includes two components: (1) a recycled water seasonal storage reservoir to capture treated wastewater produced by EID that is otherwise in excess of the daily demand for recycled water, and (2) additional water conservation actions implemented by EID and its customers to reduce customer demand and/or reduce delivery system losses.

Seasonal Storage Reservoir

The first component, seasonal storage for recycled water, has been analyzed by EID. In a report published in May of 2011, EID detailed an assessment of potential seasonal storage locations (see *Basis of Design Report - EID Recycled Water Seasonal Storage Reservoir*, May 2011 [hereafter referred to as the "Design Report"]), included as **Attachment 1**.

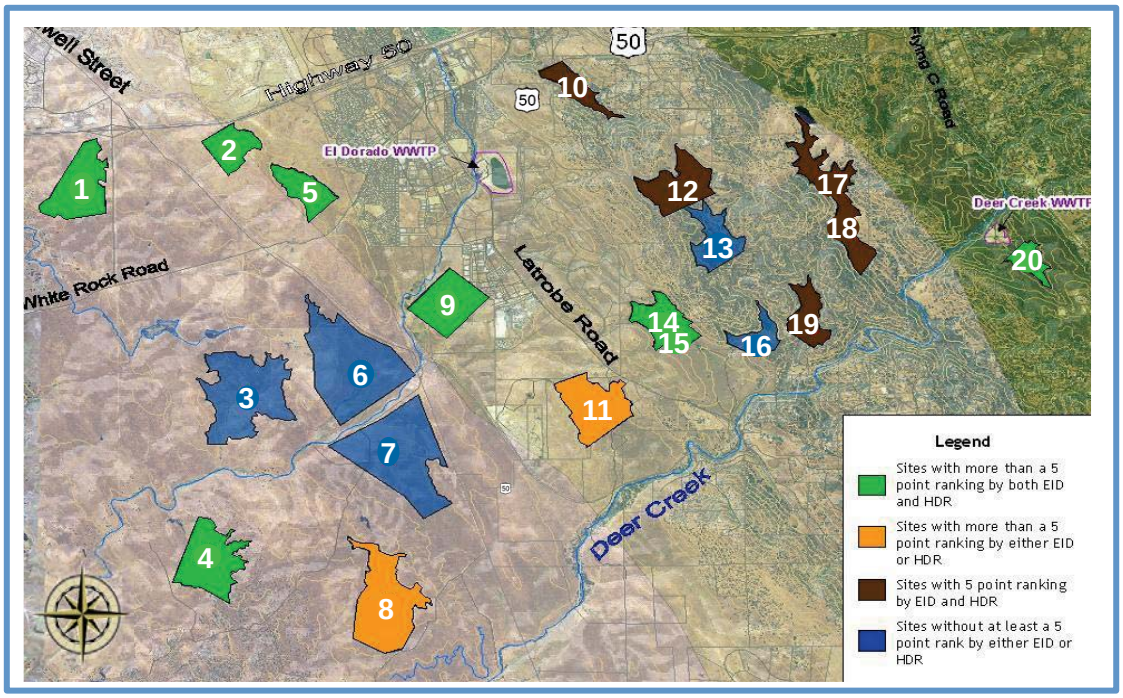
Of the twenty locations assessed in the Design Report, two locations were determined most suitable for additional analysis (see **Figure 3**). These were:

- El Dorado Hills Reservoir - Site 15 located south of the El Dorado Hills Wastewater Treatment Plant
- Deer Creek Reservoir – Site 20 located just south of the Deer Creek Wastewater Treatment Plant

These sites were thoroughly investigated to determine each location's ability to store 2,500 acre-feet of annual recycled water supply, allowing the supply to shift in time for use during peak summer months when demand otherwise exceeds recycled water production quantities. With the ability to store up to 2,500 acre-feet of recycled water produced during the off-season, EID can expand its water supplies. Currently, and as documented in the Central EDH WSA, EID must augment recycled water supplies with treated water supplies during the year due to the lack of storage. With storage, more recycled water can be used to meet demands, allowing other existing water supplies to be directed to other existing and planned future uses.

Section 4 of the Design Report provides detailed information regarding site location, geology, embankment design, pipeline routing, and other relevant information.

Figure 3 – Sites investigated in the EID Design Report
(source: EID's Basis of Design Report - EID Recycled Water Seasonal Storage Reservoir, May 2011, Figure 3-5, p. 22)



Water Conservation

With availability of 2,500 acre-feet from a recycled water storage reservoir to help meet the 3,400 acre-foot shortfall in dry years, the water conservation component of Option 2 would need to provide an additional 900 acre-feet. This supply may manifest either as additional reduction in EID customer demands, or as a reduction in distribution system losses.

Currently, EID implements a variety of water conservation practices consistent with the best management practices (BMPs) identified in the California Urban Water Conservation Council's (CUWCC) Memorandum of Understanding. These programs are part of EID's on-going operations, and include, but are not limited to: tiered pricing, water meters, leak audits, and public education. EID's Water Efficiency Programs offer numerous options directed towards conserving customer's water uses for commercial, residential, and landscaping purposes.

As demonstrated in Section 3.3 of the Central EDH WSA and summarized in the Central EDH WSA's Table 3-1, the existing EID customers are anticipated to reduce their demands through implementing conservation actions over the analysis period. Specifically, EID anticipates current customer demands will reduce by 2% by 2020 and an additional 1% by 2035. As shown in the Central EDH WSA Table 3-1, these savings are estimated to reduce current customer demands by 690 acre-feet annually.

Under this portion of Option 2, additional conservation actions will target generating an additional 900 acre-feet, slightly more than the conservative estimates of conservation identified in the Central EDH WSA.

Though there may begin to be limits for additional conservation opportunities from existing EID customers, EID also recognizes opportunities to conserve water through improvements to its existing water delivery infrastructure. As detailed in Section 3.4 of the Central EDH WSA, a "non-revenue" component of total water demands represents the system losses, meter inaccuracies, illegal connections, and other factors that help explain the differences between metered customer use and water entering EID's distribution system. For purposes of the Central EDH WSA, and as a conservative planning tool in other EID water planning efforts, this non-revenue value is assumed to hold constant at 13% of the overall customer demand. The 13% reflects over 4,500 acre-feet of water essentially unaccounted-for in EID's system under current delivery conditions. With increased customer demands, this value increases to over 7,500 by 2035. By fixing system leaks and addressing other elements of non-revenue demands, water can be recaptured and made available to meet customer demands.

As a routine part of its operations, EID works to identify sources of non-revenue demand, seeking to improve delivery system efficiencies as economically feasible. Though the specific requirements and resulting water savings from addressing overall distribution system losses and inefficiencies are an evolving process, EID has been successful in the past and will continue to do so into the future. As issues are identified, EID evaluates options, assesses costs, and details savings opportunities. As these plans are developed they are assigned a project number, priority level, and moved into EID's Capital Improvement Plan (CIP) as specific projects.

One example of a water conservation project EID has assessed and included as part of its CIP is the Main Ditch piping project from Forebay Reservoir to the Reservoir 1 Water Treatment Plant. The conservation savings from piping a 3-mile long earthen canal that carries as much as 15,080 acre-feet annually are estimated as high as 1,300 acre-feet per year. In addition to the water savings from this project, public health benefits will also accrue including lower sediment levels in the raw water reaching the treatment plant and greatly reduced risk of contamination. EID has included this project in its latest Board approved CIP and is currently working to secure funding.[3] For purposes of Option 2, this particular system loss reduction project is assumed to achieve the additional 900 acre-feet of conservation supply.

In 2004 EID participated in the testing of the new American Water Works Association water audit methodology (AWWA audit) to evaluate the losses from its delivery system. From the AWWA audit, EID recognized it had significantly reduced its water losses over

[3] EID 2014-2018 CIP, Project Number 11032

the previous decade, from 28% in 1991 to 13% in 2004. With a decade passing since the AWWA audit, there have been improvements in leak detection technologies as well as growth in the number and experience of contractors specializing in leak detection and repair. As EID continues to improve its distribution system to efficiently meet customer needs, some of the opportunities identified by the 2004 AWWA audit may now be cost effective to investigate, assess and implement.

Along with continued investigation, assessment and implementation of actions to reduce non-revenue demands, EID can expand current rebate programs and other customer-focused water conservation measures. An additional one percent reduction in the demands of current customers, beyond the savings already anticipated in the Central EDH WSA, could reduce demand by another 350 acre-feet annually.

As a conservative assumption, an additional one percent reduction in customer demands through conservation measures and a one percent reduction in the non-revenue demands could produce over 900 acre-feet of water annually. Greater reduction in either category and/or piping the Main Ditch would only increase the savings further.

Water Supply Certainty

Combined, the recycled water seasonal storage reservoir and additional conservation measures could generate at least 3,400 acre-feet needed in dry years. Because the seasonal storage facility would capture and regulate the consistent outflows of EID's wastewater treatment plants, the identified yield is considered to be highly reliable under all hydrologic conditions. Long-term reductions in customer demand and fixes to distribution system inefficiencies also provide a consistent savings regardless of hydrologic conditions. Thus, this Water Supply Option provides a high level of certainty of availability during dry years.

Option 3 – Participate in Regional Groundwater Banking and Exchange Program

Under Water Supply Option 3, EID would coordinate with other regional water purveyors to exchange wet and normal year EID surface water supplies for use of non-EID water supplies in critical dry years. Option 3 could be achieved in partnership with one or more of many water purveyors that share access to the American River. Any opportunity, however, is premised on an agreement among the parties and regulatory approvals to allow EID surface water supplies to be used or stored outside of EID's existing place of use during normal and wet conditions, and EID's use of a partner's American River-related water supplies during dry conditions.

Like the other two options, this Option 3 needs to assure a minimum of 3,400 acre-feet of water is available to EID during a single dry year.

As presented in the Central EDH WSA and summarized in **Table 1**, at build-out during normal and wet years, EID has a surplus of secured ("existing") water supplies totaling about 5,500 acre-feet annually. All or a portion of this supply is assumed available for delivery to another regional water purveyor to enable the conjunctive use exchange opportunities envisioned under this option. **Table 2** includes a sample 13-year condition illustrating a potential exchange of water among the parties.[4]

Several water purveyors with surface water rights and entitlements on the American River could participate with EID to develop this water supply option.

As envisioned, EID would exchange normal year water for use of a portion of the partner's surface supplies (e.g., if Sacramento County Water Agency was the partner, the supply exchanged to EID could be SCWA's dry year CVP contract water supply or other SCWA water rights). In wetter and normal water years, EID would deliver its 5,500 acre-feet surplus to its conjunctive use partner for use in the partner's service area (e.g. SCWA would deliver the surface water to its customers). In taking EID's surplus surface water, the partnering agency would forego groundwater use and thus "bank" groundwater supplies as stored water in the underground aquifer. During critical dry years, the partnering agency would rely upon this banked groundwater to meet local needs and allow EID to divert up to 3,400 acre-feet of its surface rights or entitlements at an existing EID facility in Folsom Reservoir or another existing EID diversion and treatment facility.

[4] The sample period reflects the CA Department of Water Resources' Sacramento Valley water year index for 2000 through 2012 from Bulletin 120.

Table 2 – Sample exchange of water among parties to facilitate dry-year water supplies for EID

Year	Sample Hydrology (2000-2012)	EID supply "banked" (af/yr)	Other water to EID (af/yr)	Balance
0	above normal	5,500	0	5,500
1	dry	0	3,400	2,100
2	dry	0	2,374	-274
3	above normal	5,500	0	5,226
4	below normal	0	3,400	1,826
5	above normal	5,500	0	7,326
6	wet	5,500	0	12,826
7	dry	0	3,400	9,426
8	critical	0	2,374	7,052
9	dry	0	2,374	4,678
10	below normal	0	2,374	2,304
11	wet	5500	0	7,804
12	below normal	0	3,400	4,404

Notes:
(1) Sample series of water year types is derived from the CA Department of Water Resources Bulletin 120 series for the Sacramento Valley.
(2) In a second dry year, the EID demand for supplemental water is reduced as shown in Table 1

Water Supply Certainty

This Water Supply Option could generate up to 3,400 acre feet of water for diversion by EID in dry years on a reasonably certain basis – given that any conjunctive use partnership would only be established with a purveyor(s) able to reliably provide adequate dry year surface supplies to EID.

Water Supply Option 3, which would exchange groundwater supplies and surface supplies in the Sacramento region, entails concerns related to the long-term reliability of groundwater supplies. In addition, there are also concerns related to the migration of existing groundwater contamination in eastern Sacramento County as a result of additional pumping under this water supply option. However, these and other water banking considerations are actively being investigated as part of regional conjunctive use opportunities.[5]

[5] For instance, the Sacramento Groundwater Authority has a defined water accounting framework to track groundwater resource that could be available for exchange via "banking" operations. The Sacramento Central Groundwater Authority is also actively investigating conjunctive use opportunities.

Appendix L

Transportation Impact Analysis

Central El Dorado Hills Specific Plan Transportation Impact Analysis

March 2015

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County of El Dorado

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1.0 INTRODUCTION

1.1 REPORT OVERVIEW

This study presents the results of a transportation impact analysis completed for the Central El Dorado Hills Specific Plan (CEDHSP) (project) in El Dorado Hills, California, which is an unincorporated area of El Dorado County (County). The project includes two planning areas: the Serrano Westside planning area east of the intersection of El Dorado Hills Boulevard and Serrano Parkway, and the Pedregal planning area west of El Dorado Hills Boulevard between Wilson and Olson Way, adjacent to the Ridgeview subdivision. Given the close proximity of the planning areas, a consolidated traffic impact assessment was conducted for the entire project and the surrounding transportation network.

The purpose of this impact analysis is to identify potential environmental impacts to transportation facilities as required by the California Environmental Quality Act (CEQA). This study was performend in accordance with the *El Dorado County Department of Transportation's Traffic Impact Study Protocols and Procedures*, and the scope of work developed in colloboration with County staff and Caltrans.

The remaining sections of this report document the proposed project, analysis methodolgies, impacts and mitigations.

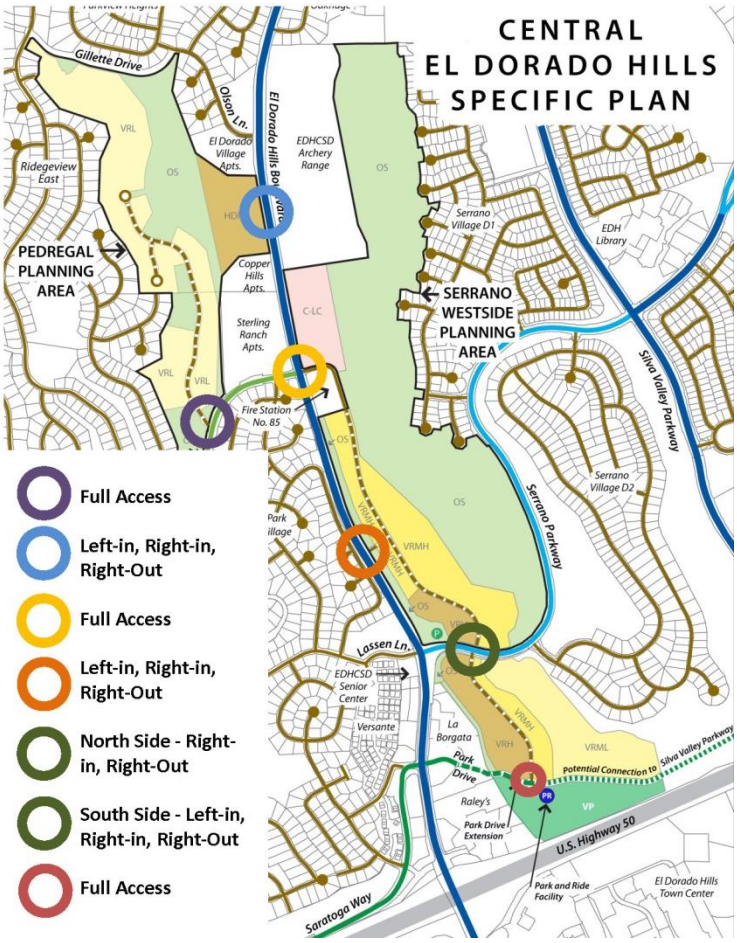
1.2 PROJECT DESCRIPTION

The proposed CEDHSP includes the development of up to 1,000 dwelling units, 11 acres of public facility/recreational use or 50,000 square feet of commercial use, 15 acres of public village park, and 169 acres of open space in the center of the El Dorado Hills Community. The proposed project also includes implementation of the CEDHSP and an amendment to the existing El Dorado Hills Specific Plan (EDHSP) approved in 1988 to transfer the density at Serrano Village D-1 (Lots C and D) to the proposed project. Figure 1, adapted from the project's *Notice of Preparation of a Draft Environmental Impact Report,* provides an overview of the proposed project and internal roadway network for the two planning areas that comprise the project.

Serrano Westside is immediately north of U.S. Highway 50 (US 50). Existing land uses adjacent to the Serrano Westside planning area include office and retail uses to the south and west (Raley's and La Borgata) and single-family residential uses at the Serrano Community to the east. The approximately 240-acre Serrano Westside planning area would be an extension of the existing Serrano development with

gated residential neighborhoods and would include 763 dwelling units, civic or commercial, and village park development.

The Pedregal planning area is less than 1 mile north of US 50 and less than 2 miles south of Folsom Lake. The Pedregal planning area is immediately adjacent to low-density residential uses (the existing Ridgeview neighborhood) to the west and three existing multi-family developments (the Copper Hill Apartments, El Dorado Village Apartments, and Sterling Ranch Apartments) along El Dorado Hills Boulevard to the east. The approximately 102-acre Pedregal planning area would include a residential neighborhood of approximately 37 single family (that may or may not be gated) and 200 multi-family dwelling units.



Proposed access for the Central El Dorado Hills Specific Plan is shown above. The single family portion of the Pedregal Planning Area will access Wilson Boulevard (no access to Gillette Drive is proposed) with access for the multi-family portion on El Dorado Hills Boulevard. The Serrano Westside Planning Area will access El Dorado Hills Boulevard, Serrano Parkway, and Park Drive.

1.3 NOTICE OF PREPARATION COMMENTS REVIEW

The project's Notice of Preparation (NOP), which is required by CEQA was issued on February 20, 2013. The NOP and subsequent public scoping meeting provided interested parties the opportunity to formally comment on the project. This transportation analysis is informed by comments received during the NOP comment period. The following list summarizes transportation-related comments received by affected agencies and the general public.

Agency Comments Received

- Caltrans request to review the transportation scope. Caltrans recommended specific procedures for the analysis of state facilities. *Note: Coordination with Caltrans was completed during the NOP phase and included a meeting between Caltrans and El Dorado County to review study area and analysis methods.*
- CalFire request to review dead end road length calculations. *Note: The project has been reviewed and meets the requested length parameter.*

Public Comments Received (By Topic)

As applicable, public comments were incorporated into the environmental analysis.

- Project Access
    - Realign Wilson Boulevard to include turn lanes and bike lanes. *Note: Proposed mitigation incorporates bike lane on Wilson Boulevard.*
    - Propose high density residential access from El Dorado Hills Boulevard instead of Olson Lane. *Note: Proposed access for Pedregal high-density residential land use is located on El Dorado Hills Boulevard.*
    - Concern over Serrano Parkway traffic with a specific recommendation to add a right turn lane from eastbound Serrano Parkway onto Vila Flor Place.
    - Address Gillette project access safety due to grade and proposed intersection location. *Note: Pedregal Plan Area has been revised. Gillette access is no longer proposed.*
    - Consider impact gated communities have on circulation. *Note: Pedregal Plan Area may or may not be gated.*
- Pedestrian, Bicycle, Parking
    - Accommodation of open space access and parking. *Note: Parking requirements will be based on County standards.*
    - Suggestion to provide a path between existing development and proposed shopping areas. *Note: Westside Plan Area includes access between the project and the Raley's Shopping Center.*
    - Include pedestrian facilities, sidewalk on Wilson and a bicycle path through the project. *Note: Proposed mitigation incorporates bike lane on Wilson Boulevard.*
    - Provide pedestrian and bicycle access to transit, especially in the dark. *Note: Analysis incorporates pedestrian and bicycle facilities, and transit service.*

- Traffic Operations
    - Impact on traffic flow and drop-off/pick-up at William Brooks Elementary.
    - Concern regarding traffic operations and safety at Olson Lane / El Dorado Hills Boulevard. *Note: Intersection included in analysis.*
    - Resolve present traffic issues at and near US 50/El Dorado Hills Boulevard interchange before considering more development. *Note: County is nearing completion of US 50/El Dorado Hills Boulevard interchange improvements.*
    - Complete US 50/Silva/White Rock interchange before more high density residential is allowed. *Note: County is beginning construction of US 50/Silva Valley Parkway interchange.*
    - Concern regarding congestion on the Green Valley corridor. *Note: Intersections on Green Valley Road included in analysis.*

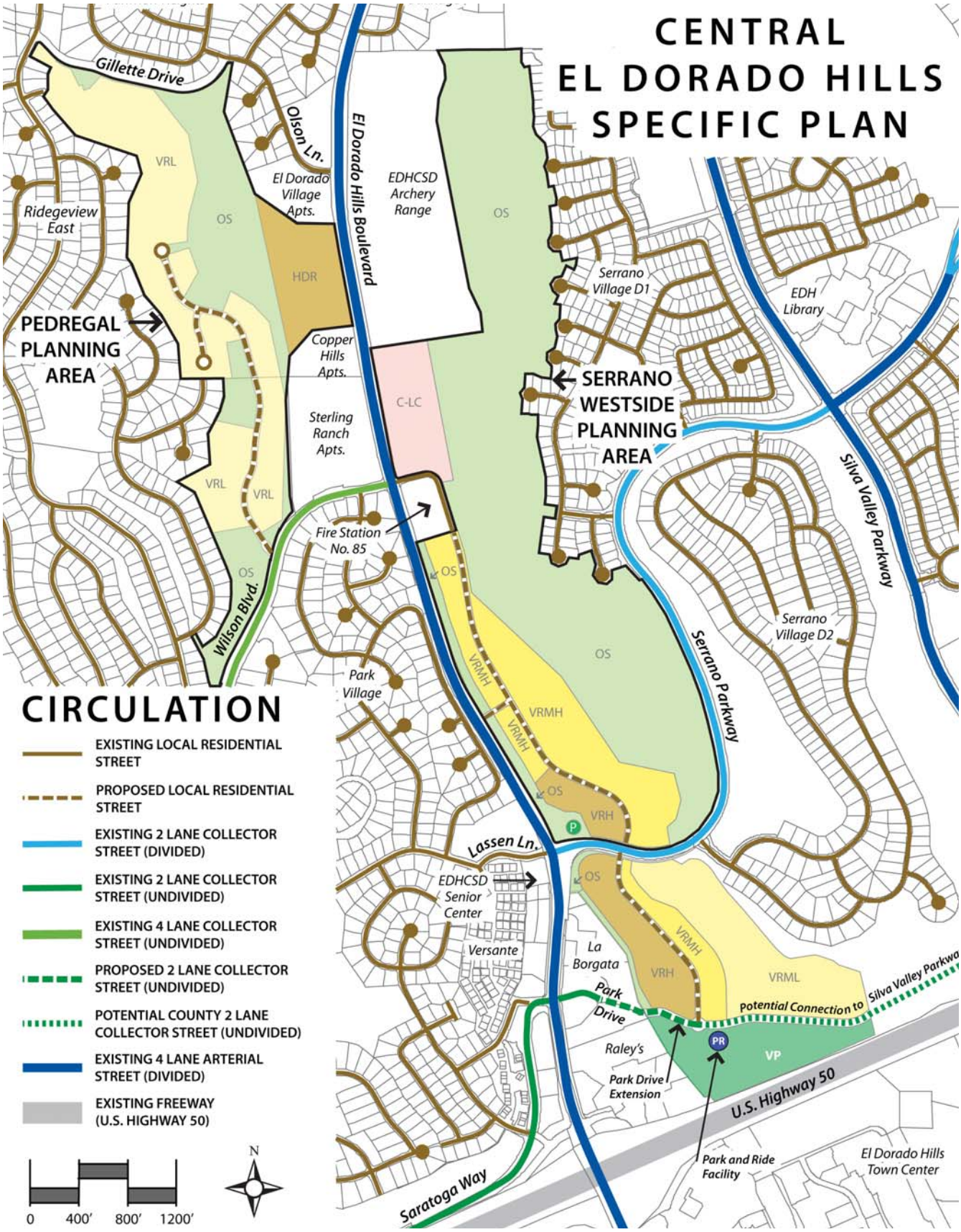

CENTRAL
EL DORADO HILLS
SPECIFIC PLAN
Gillette Drive
Olson Ln.
El Dorado Hills Boulevard
El Dorado Village Apts.
EDHCSD Archery Range
Ridegeview East
VRL
OS
HDR
PEDREGAL PLANNING AREA
Copper Hills Apts.
Sterling Ranch Apts.
C-LC
Serrano Village D1
EDH Library
SERRANO WESTSIDE PLANNING AREA
Silva Valley Parkway
Fire Station No. 85
Wilson Blvd.
Serrano Village D2
Serrano Parkway
Park Village
VRMH
VRH
Lassen Ln.
EDHCSD Senior Center
Versante
La Borgata
VRML
Park Drive
potential Connection to Silva Valley Parkway
Raley's
Park Drive Extension
VP
U.S. Highway 50
Park and Ride Facility
El Dorado Hills Town Center
Saratoga Way
CIRCULATION
EXISTING LOCAL RESIDENTIAL STREET
PROPOSED LOCAL RESIDENTIAL STREET
EXISTING 2 LANE COLLECTOR STREET (DIVIDED)
EXISTING 2 LANE COLLECTOR STREET (UNDIVIDED)
EXISTING 4 LANE COLLECTOR STREET (UNDIVIDED)
PROPOSED 2 LANE COLLECTOR STREET (UNDIVIDED)
POTENTIAL COUNTY 2 LANE COLLECTOR STREET (UNDIVIDED)
EXISTING 4 LANE ARTERIAL STREET (DIVIDED)
EXISTING FREEWAY (U.S. HIGHWAY 50)
0 400' 800' 1200'
N

Figure 1.

2.0 REGULATORY SETTING

Existing transportation polices, laws, and regulations that would apply to the proposed project are summarized below. This information provides a context for the impact discussion related to the project's consistency with applicable regulatory conditions.

2.1 STATE

2.1.1 CALIFORNIA DEPARTMENT OF TRANSPORTATION

The California Department of Transportation (Caltrans) is responsible for operating and maintaining the State highway system. In the project vicinity, US 50 falls under Caltrans jurisdiction. Caltrans provides administrative support for transportation programming decisions made by the California Transportation Commission (CTC) for state funding programs. The State Transportation Improvement Program (STIP) is a multi-year capital improvement program that sets priorities and funds transportation projects envisioned in long-range transportation plans.

In June 2014, Caltrans approved a *Transportation Concept Report and Corridor System Management Plan (TCR/CSMP) for United States Route 50*. Caltrans prepares a TCR/CSMP, which is a long-range (20-year) planning document, for each state highway. The purpose of each TCR/CSMP is to identify existing route conditions and future needs and to communicate the vision for the development of each route during a 20-year planning horizon. Caltrans has established LOS E as the 'concept LOS' consistent with the El Dorado County General Plan LOS policy. . Since LOS E is identified as the concept LOS no further degradation of service from existing "E" is acceptable. The Concept LOS is a generalized LOS for large study segments used by Caltrans that reflect the minimum level of service or quality of operations acceptable for each route segment.

According to the *Guide for the Preparation of Traffic Impact Studies* (Caltrans, December 2002), the existing LOS should be maintained if a freeway facility is currently operating at an unacceptable LOS (e.g., LOS F). A project impact is said to occur if the project degrades LOS from an acceptable to unacceptable level. A project impact may also occur when the addition of project trips exacerbates existing LOS F conditions and leads to a perceptible increase in density on freeway mainline segments or ramp junctions, or a perceptible increase in service volumes in a weaving area. In addition, a project impact is said to occur when the addition of project trips causes a queue on the off-ramp approach to a ramp terminal intersection to extend beyond its storage area and onto the freeway mainline.

2.2 LOCAL

2.2.1 SACRAMENTO AREA COUNCIL OF GOVERNMENTS

The Sacramento Area Council of Governments (SACOG) is an association of local governments in the six-county Sacramento Region. Its members include the counties of Sacramento, El Dorado, Placer, Sutter, Yolo, and Yuba as well as 22 cities. SACOG provides transportation planning and funding for the region, and serves as a forum for the study and resolution of regional issues. In addition to preparing the region's long-range transportation plan, SACOG assists in planning for transit, bicycle networks, clean air, and airport land uses.

The *Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS) for 2035* (SACOG 2012) is a federally mandated long-range fiscally constrained transportation plan for the six-county area. Most of this area is designated a federal non-attainment area for ozone, indicating that the transportation system is required to meet stringent air quality emissions budgets to reduce pollutant levels that contribute to ozone formation. To receive federal funding, transportation projects nominated by cities, counties, and agencies must be consistent with the MTP/SCS.

The *2013/16 Metropolitan Transportation Improvement Program (MTIP)* is a list of transportation projects and programs to be funded and implemented over the next 3 years. SACOG submits this document to Caltrans and amends the program on a quarterly cycle. Only projects listed in the MTP/SCS may be included in the MTIP.

2.2.2 EL DORADO COUNTY TRANSPORTATION COMMISSION (EDCTC)

The EDCTC is the Regional Transportation Planning Agency (RTPA) for El Dorado County, except for that portion of the County within the Tahoe Basin, which is under the jurisdiction of the Tahoe Regional Planning Agency (TRPA).

One of the fundamental responsibilities which results from RTPA designation is the preparation of the County's Regional Transportation Plan. The *El Dorado County Regional Transportation Plan 2010 – 2030 (RTP)* is designed to be a blueprint for the systematic development of a balanced, comprehensive, multi-modal transportation system. The EDCTC submits the RTP to SACOG for inclusion in the MTP/SCS process.

The *El Dorado County Bicycle Transportation Plan - 2010 Update* provides a blueprint for the development of a bicycle transportation system on the western slope of El Dorado County. The plan updates the currently adopted El Dorado County Bicycle Master Plan, which was adopted in January 2005.

In May 2013, The EDCTC completed the *El Dorado Hills Community Transit Needs Assessment and US 50 Corridor Operations Plan* (Plan), which explores how the recent growth and projected development impact the need for transit services, and identifies the most appropriate type and level of service needed given the demand. The Plan represents a recommendation from the Western El Dorado County 2008 Short-Range Transit Plan to study and consider improved transit service in the El Dorado Hills area.

In August 2008, The EDCTC adopted the *Coordinated Public Transit – Human Services Transportation Plan,* which is intended to improve mobility of individuals who are disabled, elderly, or of low-income status. The plan focuses on identifying needs specific to those population groups and identifying strategies to meet their needs.

2.2.3 COUNTY OF EL DORADO

The County of El Dorado provides for the mobility of people and goods within El Dorado Hills, which is an unincorporated area of the County.

The Transportation and Circulation Element of the El Dorado County General Plan (amended January 2009) outlines goals and policies that coordinate the transportation and circulation system with planned land uses. The following goals and their associated policies are relevant to the project.

- GOAL TC-1: To plan for and provide a unified, coordinated, and cost-efficient countywide road and highway system that ensures the safe, orderly, and efficient movement of people and goods.
- GOAL TC-X: To coordinate planning and implementation of roadway improvements with new development to maintain adequate levels of service on County roads. (The LOS policy specific to this project is described in Section 4.2.)
- GOAL TC-2: To promote a safe and efficient transit system that provides service to all residents, including senior citizens, youths, the disabled, and those without access to automobiles that also helps to reduce congestion, and improves the environment.
- GOAL TC-3: To reduce travel demand on the County's road system and maximize the operating efficiency of transportation facilities, thereby reducing the quantity of motor vehicle emissions and the amount of investment required in new or expanded facilities.
- GOAL TC-4: To provide a safe, continuous, and easily accessible non-motorized transportation system that facilitates the use of the viable alternative transportation modes.
- GOAL TC-5: To provide safe, continuous, and accessible sidewalks and pedestrian facilities as a viable alternative transportation mode.

The El Dorado County Community Development Agency's Transportation Impact Study Guidelines set forth the protocols and procedures for conducting transportation analysis in the County (El Dorado

County, 2014), including the identification of the study area. All of the study intersections for the proposed project are within the County's jurisdiction. This traffic analysis is consistent with the County-established methods at the commencement of the project.

2.2.4 EL DORADO COUNTY TRANSIT AUTHORITY

El Dorado County Transit Authority (EDCTA) operates El Dorado Transit, which provides public transit service within the project area. El Dorado Hills is currently served by El Dorado Transit Dial-A-Ride services, Commuter Service, and the Iron Point Connector Route.

The El Dorado Park-and-Ride Facilities Master Plan, November 2007 calls for constructing nine new facilities over 20 years. The Plan calls for EDCTA to assume primary responsibility for existing Park-and-Ride facilities in the county and sets forth an annual program to fund the upkeep and operation. The Plan reiterates that demand exceeds supply at the Park-and-Ride lot, referred to as the El Dorado Hills Multi-modal Facility, located in the northeast corner of the White Rock Road/Latrobe Road intersection. In particular, Table 2 of the Plan suggests that future (year 2027) deficiency at this location is 172 additional spaces. The Plan identifies the construction of a 325-space multi-story parking garage with ground floor retail as priority project #12 in the Capital Improvement Program list. The proposed location is the existing Park-and-Ride lot.

3.0 METHOD OF ANALYSIS

3.1 ANALYSIS PROCEDURES

Intersections, roadways, and freeway facilities were selected for analysis based on coordination with the El Dorado County Community Development Agency, Long Range Planning staff and Caltrans, and based on the expected distribution of project trips and review of the El Dorado County Community Development Agency's *Transportation Impact Study Guidelines*.

Each study roadway facility was analyzed using the concept of Level of Service (LOS). LOS is a qualitative measure of traffic operating conditions whereby a letter grade, from A (the best) to F (the worst), is assigned. These grades represent the perspective of drivers and are an indication of the comfort and convenience associated with driving. In general, for intersections and roadways LOS A represents conditions with little to no delay and congestion, and LOS F represents greater delay and more congestion. For basic freeways segments (i.e., like US 50 west of El Dorado Hills Boulevard), LOS A represents a vehicle density of up to 11 passenger cars per mile per lane and vehicle speeds (a secondary performance measure) at or above 65 miles per hour, and LOS F represents a vehicle density of greater than 45 passenger cars per mile per lane and vehicle speeds less than 52 miles per hour.

3.1.1 INTERSECTIONS

Traffic operations at the study intersections were analyzed using procedures and methodologies contained in the Highway Capacity Manual (HCM), Transportation Research Board, 2000 and 2010 (as confirmed with County staff). These methodologies were applied using Synchro or SimTraffic software packages (Version 7), developed by Trafficware. Table 1 displays the delay range associated with each LOS category for signalized and unsignalized intersections based on the HCM.

The micro-simulation analysis software, SimTraffic, was used to analyze operations at the US 50/El Dorado Hills Boulevard interchange (Town Center Boulevard to Saratoga Way to accurately analyze the effect of closely-spaced intersections. Simulation was requested by El Dorado County staff and Caltrans. The SimTraffic micro-simulation analysis applied the following methodology:

- The simulation was conducted for the entire peak hour (i.e., 60 minutes) using four 15-minute intervals with the peak hour factor applied in the second interval
- The results were based on the average of ten model runs
- Each of the ten simulation runs applied a ten-minute seeding time

The existing conditions SimTraffic model was validated to field measured traffic volumes and observed maximum vehicle queue lengths.

The HCM methodology determines the level of service (LOS) at signalized intersections by comparing the average control delay (i.e. delay resulting from initial deceleration, queue move-up time, time actually stopped, and final acceleration) per vehicle at the intersection to the established thresholds. The LOS for traffic signal controlled and all-way stop controlled intersections is based on the average control delay for the entire intersection. For side-street stop-controlled intersections, the LOS is evaluated separately for each individual movement with delay reported for the critical (i.e., worst case) turning movement.

The following procedures and assumptions were applied for the analysis of existing and cumulative conditions:

- Roadway geometric data were gathered using aerial photographs and field observations.
- Peak hour traffic volumes were entered according to the peak hour of each intersection, except for the US-50/El Dorado Hills Boulevard interchange and adjacent intersections. For the interchange and adjacent intersections, a consistent peak hour was used so that volumes would balance (a requirement for accurate simulation analysis). Due to volume balancing, some of the turning movement volumes used for analysis will not match existing turning movement traffic counts, since peak hour travel occurs at different times at several of the intersections. The volume balancing was small relative to the traffic through the interchange and within the daily variation of traffic flows. The traffic simulation was supported by extensive field observations of driver behavior, driver aggressiveness, and travel origin/destination flows at the interchange. The peak hour of the freeway is based on traffic counts.
- Headway factors were adjusted based on the observed driver behavior. Drivers were observed to be more aggressive and use smaller headway to travel through the intersections near the US 50/El Dorado Hills Boulevard interchange.
- The peak hour factor (PHF) was calculated based on traffic counts and applied by approach, except for the interchange and adjacent intersections, which applied the intersection PHF (a requirement for accurate simulation analysis).
- The counted pedestrian and bicycle volumes will be used with a minimum of two pedestrians per approach per peak hour.
- Heavy vehicle percentages were based on traffic counts and applied by movement.
- Signal phasing and timings were based on existing signal timing sheets provided by El Dorado County and field observations at the US 50/El Dorado Hills Boulevard interchange.
- Speeds for the model network were based on the posted speed limit.
- The PHF calculated for existing conditions was used for cumulative conditions, except for the interchange and adjacent intersections. Those intersections used a PHF of 0.95.
- The existing heavy vehicle percentages were maintained for cumulative conditions.
- The existing pedestrian and bicycle volumes were maintained for cumulative conditions.
- Traffic signals were optimized to serve future traffic volumes.

TABLE 1: INTERSECTION LEVEL OF SERVICE CRITERIA

Level-of-Service	Average Control Delay (seconds/vehicle)		Description
	Signalized	Stop Controlled	
A	< 10.0	< 10.0	Very low delay. At signalized intersections, most vehicles do not stop.
B	10.1 to 20.0	10.1 to 15.0	Generally good progression of vehicles. Slight delays.
C	>20.1 to 35.0	>15.1 to 25.0	Fair progression. At signalized intersections, increased number of stopped vehicles.
D	>35.1 to 55.0	>25.1 to 35.0	Noticeable congestion. At signalized intersections, large portion of vehicles stopped.
E	>55.1 to 80.0	>35.1 to 50.0	Poor progression. High delays and frequent cycle failure.
F	>80.0	>50.0	Oversaturation. Forced flow. Extensive queuing.

Source: Highway Capacity Manual (Transportation Research Board, 2010)

3.1.2 ROADWAY SEGMENTS

Roadway segment LOS was determined by comparing traffic volumes for selected roadway segments with peak hour LOS capacity thresholds. These thresholds are shown in Table 2 and were calculated based on the methodology contained in the Highway Capacity Manual (Transportation Research Board, 2000) and applied for the analysis of the 2004 El Dorado County General Plan.

TABLE 2:
PEAK HOUR ROADWAY SEGMENT CAPACITIES BY FUNCTIONAL CLASSIFICATION AND LOS

Functional Classification	Lanes	Roadway Segment Capacity (Vehicles per Hour)				
		LOS A	LOS B	LOS C	LOS D	LOS E
Arterial (Divided)	4	N/A	N/A	1,850	3,220	3,290
	5	N/A	N/A	2,350	4,060	4,110
	6	N/A	N/A	2,760	4,680	4,710
	7	N/A	N/A	3,215	5,410	5,420
Arterial (Undivided)	2	N/A	N/A	850	1,540	1,650
	4	N/A	N/A	1,760	3,070	3,130

Source:
Peak hour roadway segment capacities based on the HCM 2010 and developed by El Dorado County Community Development Agency, Long Range Planning. Five-lane capacity calculated by adding half of the difference between the two-lane and four-lane capacity to the four-lane capacity. Seven-lane capacity calculated by adding half of the difference between the four-lane and six-lane capacity to the four-lane capacity.

3.1.3 FREEWAY FACILITIES

The Highway Capacity Manual (Transportation Research Board), 2010, includes three different tiers of analysis for freeway facilities, which include planning, design, and operations analysis. The different tiers are intended to provide flexibility to the user in selecting the appropriate analysis level given available resources (e.g., time and availability of analysis inputs) and the desired breadth of analysis coverage (e.g., more locations with less detail vs. fewer locations with more detail). For example, a planning level analysis requires relatively generalized analysis inputs and is regularly used when the breadth of coverage is more important than analysis detail. For example, Caltrans uses planning level analysis for long-range planning efforts like the US 50 Corridor System Management Plan, which groups many freeway facilities into single analysis segments. The project level analysis in this report is based on operations analysis methods and analyzes each freeway facility separately, focusing on analysis detail instead of breadth of coverage. The operations analysis method is consistent with General Plan Policy TC-Xd and Caltrans traffic impact study guidelines.

Freeway operations were analyzed using the procedures and methodologies contained in the Highway Capacity Manual (Transportation Research Board, 2010)). Table 3 describes the HCM LOS criteria for freeway mainline, freeway ramp junctions, and freeway weaving segments. For weaving segments, Caltrans District 3 prefers analysis based on the Leisch Method, which is described in the *Highway Design Manual* (Caltrans, last updated July 1, 2008). For consistency with both the El Dorado County General Plan and Caltrans preference, analysis of freeway weaving segments was conducted using both the HCM and Leisch Methods.

TABLE 3:
FREEWAY FACILITY LEVEL OF SERVICE CRITERIA

Level of Service	Density (vehicles/mile/lane)		
	Mainline	Ramp Junction	Weaving
A	≤ 11	≤ 10	
B	11 – 18	10 – 20	
C	18 – 26	20 – 28	
D	26 – 35	28 – 35	
E	35 – 45	> 35	
F	> 45	Demand exceeds capacity	

Source: Transportation Research Board, 2010

3.2 THRESHOLDS OF SIGNIFICANCE

In accordance with CEQA, the effects of a project are evaluated to determine if they will result in a significant adverse impact on the environment. Informed by the 2014 California Environmental Quality Act (CEQA) Statues and Guidelines, specifically Appendix G, the following criteria have been established to determine whether or not the project would have a significant impact on transportation and circulation.

The intent of CEQA Section 15064 is for the responsible agency to establish the thresholds in the context of what their specific values are towards environmental resources or impacts. Therefore, the standards of significance in this analysis are based on the framework presented in CEQA Appendix G and the current practice of the appropriate regulatory agencies. For most areas related to transportation and circulation, policies from the *2004 El Dorado County General Plan (amended January 2009)* the El Dorado County Community Development Agency's *Transportation Impact Study Guidelines* (El Dorado County, 2014) were used. For the freeway system, Caltrans' standards were used. Implementation of the project would have a potentially significant impact on transportation and circulation if it causes any of the following outcomes:

- Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness (MOEs) for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the

circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit. The following specific MOEs, which have been generated by the regulatory agencies, are applicable to this project.

- General Plan Circulation Policy TC-Xd provides Level of Service standards for County-maintained roads and state highways as follows[1]:
    - Level of Service (LOS) for County-maintained roads and state highways within the unincorporated areas of the county shall not be worse than LOS E in the Community Regions or LOS D in the Rural Centers and Rural Regions except as specified in Table TC-2. The volume to capacity ratio of the roadway segments listed in Table TC-2 as applicable shall not exceed the ratio specified in that table. *(Note: None of the study roadways are presented in Table TC-2)*
    - If a project causes the peak hour level of service or volume/capacity ratio on a county road or state highway that would otherwise meet the County standards (without the project) to the LOS threshold, then the impact shall be considered significant.
    - If any county road or state highway fails to meet the above listed county standards for peak hour level of service or volume/capacity ratios under existing conditions, and the project will "significantly worsen" conditions on the road or highway, then the impact shall be considered significant. The term "significantly worsen" is defined for the purpose of the paragraph according to General Plan Policy TC-Xe as follows:
        A. A two (2) percent increase in traffic during the AM peak hour, PM peak hour or daily, OR
        B. The addition of 100 or more daily trips, OR
        C. The addition of 10 or more trips during the AM peak hour or the PM peak hour.
- Caltrans considers the following to be significant impacts:
    - Off-ramps with vehicle queues that extend into the ramp's deceleration area or onto the freeway (i.e., exceed the available storage capacity);
    - Project traffic increases that cause any ramp's merge/diverge level of service to be worse than the freeway's level of service.
    - Any additional traffic generated by the project is added to a facility already operating at LOS F[2].

[1] El Dorado County Community Development Agency's *Transportation Impact Study Guidelines*

- 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 regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.
    - The County has published the following issues and General Plan goals as relevant to traffic impact study assessments. The project may trigger a potentially significant impact if it's in conflict with any of the following:
        - Access to Public Transit Services consistent with General Plan Circulation Element Goal TC-2: "To promote a safe and efficient transit system that provides service to all residents, including senior citizens, youths, the disabled, and those without access to automobiles that also helps to reduce congestion, and improves the environment."
        - Transportation System Management consistent with General Plan Circulation Element Goal TC-3: "To reduce travel demand on the County's road system and maximize the operating efficiency of transportation facilities, thereby reducing the quantity of motor vehicle emissions and the amount of investment required in new or expanded facilities."
        - Non-Motorized Transportation consistent with General Plan Circulation Element Goal TC-4: "To provide a safe, continuous, and easily accessible non-motorized transportation system that facilitates the use of the viable alternative transportation modes."
- Conflict with adopted policies, plans or programs regarding the delivery of goods and services.

[2] The US 50 Transportation Corridor Concept Report identifies LOS F as the "Concept LOS" for US 50 from the Sacramento/El Dorado County line to Cameron Park Drive.

4.0 EXISTING SETTING

4.1 STUDY AREA

Based on coordination with the El Dorado County Community Development Agency (Long Range Planning) staff and Caltrans, the expected distribution of project trips, and review of the *El Dorado County Department of Transportation's Traffic Impact Study Protocols and Procedures,* the following study intersections, roadway, and freeway facilities have been selected for analysis during both the AM and PM peak hours. Figure 2 identifies the study area.

The following lists both existing intersections and intersections proposed as part of the project. Intersections 25 and 26 are applicable only to the Cumulative Conditions analysis.

Existing Intersections:

1. Green Valley Road / Francisco Dr
2. Green Valley Road / El Dorado Hills Blvd
3. Green Valley Road/Silva Valley Pkwy
4. El Dorado Hills Blvd / Francisco Dr
5. Silva Valley Pkwy / Apian Way
6. El Dorado Hills Blvd / Harvard Way
7. Harvard Way / Silva Valley Pkwy
8. El Dorado Hills Boulevard/Olson Lane
9. El Dorado Hills Boulevard/Wilson Boulevard
10. El Dorado Hills Boulevard/Serrano Parkway
11. Serrano Parkway/Penela Way
12. Serrano Parkway/Silva Valley Parkway
13. El Dorado Hills Boulevard/Saratoga Way/Park Drive (Project Access)
14. El Dorado Hills Boulevard/Park Drive
15. El Dorado Hills Boulevard/US 50 Westbound Ramps
16. Latrobe Road/ US 50 Eastbound Ramps
17. Latrobe Road /Town Center Boulevard
18. Latrobe Road /White Rock Road
19. White Rock Road/Post Street
20. White Rock Rd./Valley View Parkway/Vine St.

Future Intersections:

21. El Dorado Hills Boulevard/Pedregal Multi-Family Access – Left-in and Right-in/Right-out
22. El Dorado Hills Boulevard/Project Access - Left-in and Right-in/Right-out
23. Serrano Parkway/Project Access
24. Wilson Boulevard/Project Access

25. Silva Valley Parkway/US 50 Westbound Ramps (Cumulative Conditions)
26. Silva Valley Parkway/US 50 Eastbound Ramps (Cumulative Conditions)

Roadways:

- El Dorado Hills Boulevard
- Latrobe Road
- White Rock Road
- Silva Valley Parkway
- Serrano Parkway
- Saratoga Way
- Wilson Way
- Olson/Gillette Drive
- Harvard Way

Freeway Facilities:

- US 50 Mainline (Eastbound and Westbound) – Sacramento County to Cameron Park Drive
- El Dorado Hills Boulevard Interchange
- Bass Lake Road Interchange
- Cameron Park Interchange
- Silva Valley Parkway Interchange (Future Conditions)

4.2 ROADWAY NETWORK

The characteristics of the roadway system in the vicinity of the project are described below. Where applicable, the roadway designation given in the *2004 El Dorado County General Plan (amended January 2009)* is provided.

US Route 50 (US 50) is an east-west freeway located south of the project site. Generally, US 50 serves the majority of El Dorado County's major population centers and provides regional connections to the west (i.e., Sacramento) and to the east (i.e., State of Nevada). Primary access to the project from US 50 is provided via the US 50/El Dorado Hills Boulevard/Latrobe Road interchange. Near the project, westbound US 50 has a high-occupancy vehicle (HOV) lane and two general purpose travel lanes and eastbound US 50 has an HOV lane and three general purpose travel lanes. The General Plan identifies US 50 as an eight

lane freeway under future conditions. US 50 serves about 80,000 vehicles per day east of Latrobe/El Dorado Hills Boulevard.

The US 50/El Dorado Hills Boulevard/Latrobe Road interchange is currently under construction to improve the westbound on- and off-ramps, add 1,000 feet of auxiliary lane to westbound US 50, and provide westbound ramp metering and a dedicated HOV on-ramp lane. Future improvements are planned for this interchange as described in Section 6.1, Table 14.

The new US 50/Silva Valley Parkway/White Rock Road interchange just east of the project area is under construction. The interchange will be constructed in two phases. Phase 1 (CIP Project No: 71328) will construct a new connection to US 50 with new signalized slip on- and off-ramps westbound and a slip off-ramp and loop on-ramp eastbound. The mainline will have an overcrossing for Silva Valley Parkway and will be improved to include eastbound and westbound auxiliary lanes between the US 50/El Dorado Hills Boulevard/Latrobe Road interchange and the new US 50/Silva Valley interchange. Completion of Phase 1 is scheduled for 2016. Phase 2 will construct a westbound loop on-ramp and eastbound slip on-ramp (CIP Project No: 71345). The westbound loop on-ramp will begin the addition of an auxiliary lane that will continue westbound through the El Dorado Hills Boulevard interchange and terminate at the planned US 50/Empire Ranch interchange (CIP Project No: 53120).

The planned reconstruction of the US 50/Bass Lake Road interchange (CIP Project No: 71330 and GP148), will add a westbound auxiliary lane between the Bass Lake Road and Silva Valley Parkway interchanges.

El Dorado Hills Boulevard is a north-south roadway that continues as Salmon Falls Road on the north and Latrobe Road on the south. The roadway is four lanes with a center median between Park Drive and Governor Drive. Between US 50 and Park Drive, the roadway section widens to three lanes northbound to accommodate vehicle demand near the US 50 interchange. The County's General Plan identifies El Dorado Hills Boulevard as a four lane divided road except near US 50 where the designation changes to a six lane divided road. Project access points are proposed on El Dorado Hills Boulevard. El Dorado Hills Boulevard serves about 22,000 vehicles per day north of Wilson Boulevard.

Gillette Drive is a two-lane local roadway that connects to El Dorado Hills Boulevard via Olson Lane. Gillette Drive serves less than 3,000 vehicles per day.

Green Valley Road is an east-west roadway that connects Placerville with western portions of El Dorado County and eastern Sacramento County, south of Folsom Lake. Through the project area, Green Valley Road provides one travel lane in each direction to just west of El Dorado Hills Boulevard. West of Francisco Drive, Green Valley is a four lane facility. The General Plan identifies Green Valley Road as a four

lane divided road between the El Dorado County / Sacramento County line and Deer Valley Road. Green Valley Road serves about 27,000 vehicles per day west of Francisco Drive.

Harvard Way is a relatively short (2,000-foot) east-west roadway that connects El Dorado Hills Boulevard on the west and Silva Valley Parkway on the east. It is an undivided four lane roadway that provides direct access to Oak Ridge High School. Rolling Hills Middle School is located directly opposite Harvard Way at the Silva Valley Parkway intersection. Harvard Way serves about 6,000 vehicles per day.

Latrobe Road is a north-south roadway and is the continuation of El Dorado Hills Boulevard south of US 50. Latrobe Road is six lanes near the US 50 interchange, narrows to four lanes south of White Rock Road and eventually narrows to two lanes as it continues south to connect with State Route 16 in Amador County. The General Plan identifies Latrobe Road as a six lane divided roadway near the US 50 interchange transitioning to a four lane divided road, then a two lane major road and eventually a two lane regional road serving the southwest portion of the County. Latrobe Road serves about 26,000 vehicles per day north of White Rock Road.

Olson Lane is a two lane local roadway serving as one of the primary access points to residential areas west of El Dorado Hills Boulevard. Olson Road terminates at Gillette Drive. Olson Lane serves about 3,000 vehicles per day west of El Dorado Hills Boulevard

Park Drive is a two lane local roadway serving the Raley's shopping center located in the northeast quadrant of the US 50/El Dorado Hills Boulevard interchange. Park Drive intersects El Dorado Hills Boulevard at two locations, opposite the new US 50 westbound loop off-ramp, and Saratoga Way. Park Drive is proposed as a project access for the portion of the Serrano West Side Planning Area south of Serrano Parkway. Park Drive serves about 6,000 vehicles per day east of El Dorado Hills Boulevard.

Saratoga Way is currently two lanes and extends west of El Dorado Hills Boulevard to Finders Way. Saratoga is planned as a four-lane divided arterial that will connect to Iron Point Road in the City of Folsom. Saratoga Way serves about 3,000 vehicles per day west of El Dorado Hills Boulevard.

Serrano Parkway primarily serves residential land uses east of El Dorado Hills Boulevard. The roadway provides one lane in each direction with a landscaped median between El Dorado Hills Boulevard and Silva Valley Parkway. The General Plan identifies this segment of Serrano Parkway as a major two lane road. Serrano Parkway is proposed as a project access for the Serrano Westside site. Serrano Parkway serves about 9,000 vehicles per day west of Silva Valley Parkway.

Silva Valley Parkway is a north-south roadway that generally runs parallel to El Dorado Hills Boulevard north of US 50. Silva Valley Parkway ranges from two lanes to four lanes with a center median within the

study area. The General Plan identifies Silva Valley Parkway as a four lane divided road. A new US 50 interchange at Silva Valley/White Rock Road is under construction and included in the Cumulative conditions transportation analysis. The interchange project provides a realigned Silva Valley Parkway that will connect to the existing four-lane Silva Valley Parkway to the north and the existing two-lane White Rock Road on the south. A new signalized intersection will be installed where the new Silva Valley Parkway will intersect old White Rock Road on the south. Silva Valley Parkway serves about 9,300 vehicles per day north of US 50.

White Rock Road is the continuation of Silva Valley Parkway south of US 50. White Rock Road is predominately a two or three lane roadway until west of Latrobe Road where the cross section widens to four lanes. White Rock Road was recently widened east of Latrobe Road to Monte Verde Drive to accommodate four lanes, sidewalks and Class II bicycle lanes. The General Plan identifies White Rock Road as a six lane divided road east of Latrobe Road and a four lane divided road west of Latrobe Road. The US 50/Silva Valley Parkway/White Rock Road interchange will modify the roadway alignment and introduce a new signalized intersection at the intersection of White Rock Road/Existing Silva Valley Parkway/New Silva Valley Parkway and is assumed under Cumulative conditions. White Rock Road serves about 10,000 vehicles per day west of Latrobe Road.

Wilson Boulevard primarily serves residential areas west of El Dorado Hills Boulevard. Wilson Boulevard is proposed as a project access for the Pedregal site. Wilson Boulevard continues for one mile west of El Dorado Hills Boulevard, with four lanes between El Dorado Hills Boulevard and Ridgeview Drive and two lanes west of Ridgeview Drive, where it dead ends. Wilson Boulevard terminates just east of El Dorado Hills Boulevard where a roadway extension is proposed as part of the project. This new connection would serve as a primary roadway within the Serrano Westside site with a direct connection to Serrano Parkway on the south. Wilson Boulevard serves about 5,000 vehicles per day west of El Dorado Hills Boulevard.

4.3 EXISTING CONDITIONS PEAK HOUR TRAFFIC VOLUMES

Intersection, roadway segment, and freeway counts were collected to determine the existing traffic operations of study facilities. Weather conditions were generally dry and local schools were in full session, during the traffic count data collection.

For study intersections, AM peak period (7 AM to 9 AM) and PM peak period (4 PM to 6 PM) intersection turning movement counts were collected in May 2012 and January 2013. For study roadways, 24-hour traffic counts were collected in May 2012. Construction was ongoing at the US 50/El Dorado Hills Boulevard interchange. Field observations conducted during the AM and PM peak periods identified extensive vehicle queuing near the US 50/El Dorado Hills Boulevard interchange, with the longest queues

southbound during the AM peak hour and northbound during the PM peak hour. However, all queued vehicles were served during the peak hour, so the traffic counts are representative of peak hour travel demand. Each intersection's peak hour within the peak period was used for the analysis. For the majority of study intersections, the counts indicate that the AM peak hour is between 7:15 and 8:15 and the PM peak hour is between 5:00 and 6:00. Figure 3 provides peak hour traffic volumes, lane configurations and traffic controls at each of the study intersections.

Roadway segment traffic counts were collected for 26 roadway segments on El Dorado Hills Boulevard, Latrobe Road, White Rock Road, Silva Valley Parkway, Serrano Parkway, Saratoga Way, Wilson Way, Olson Lane, Gillette Drive, and Harvard Way.

For US 50, directional traffic counts were collected during the AM peak period (6 AM to 9 AM) and PM peak period (3 PM to 6 PM) and included vehicle classification (i.e., automobiles and trucks) and vehicles using the high occupancy vehicle (HOV) lanes. The freeway traffic counts were conducted midweek (i.e., Tuesday, Wednesday, and Thursday) in August 2013. The August 2013 traffic counts were verified for reasonableness by comparing to traffic data from Caltrans' Performance Measurement System (PeMS) and the Transportation Systems Network (TSN) data. PeMS data is collected continuously from traffic counts detectors located in the travel lanes of freeway facilities (HOV, general purpose, and on- and off-ramps). The TSN data includes an estimate of peak hour traffic based on seven day traffic counts. Figure 4 provides peak hour traffic volumes and lane configurations on US 50. Based on the August 2013 counts, heavy vehicles (i.e., trucks) represented one- and two-percent of westbound traffic during the morning and evening peak hours, respectively. In the eastbound direction, heavy vehicles represented four- and one-percent of traffic during the morning and evening peak hours, respectively. These peak hour heavy vehicle percentages are lower than rates based on daily traffic volumes, since heavy vehicles avoid peak hour conditions.

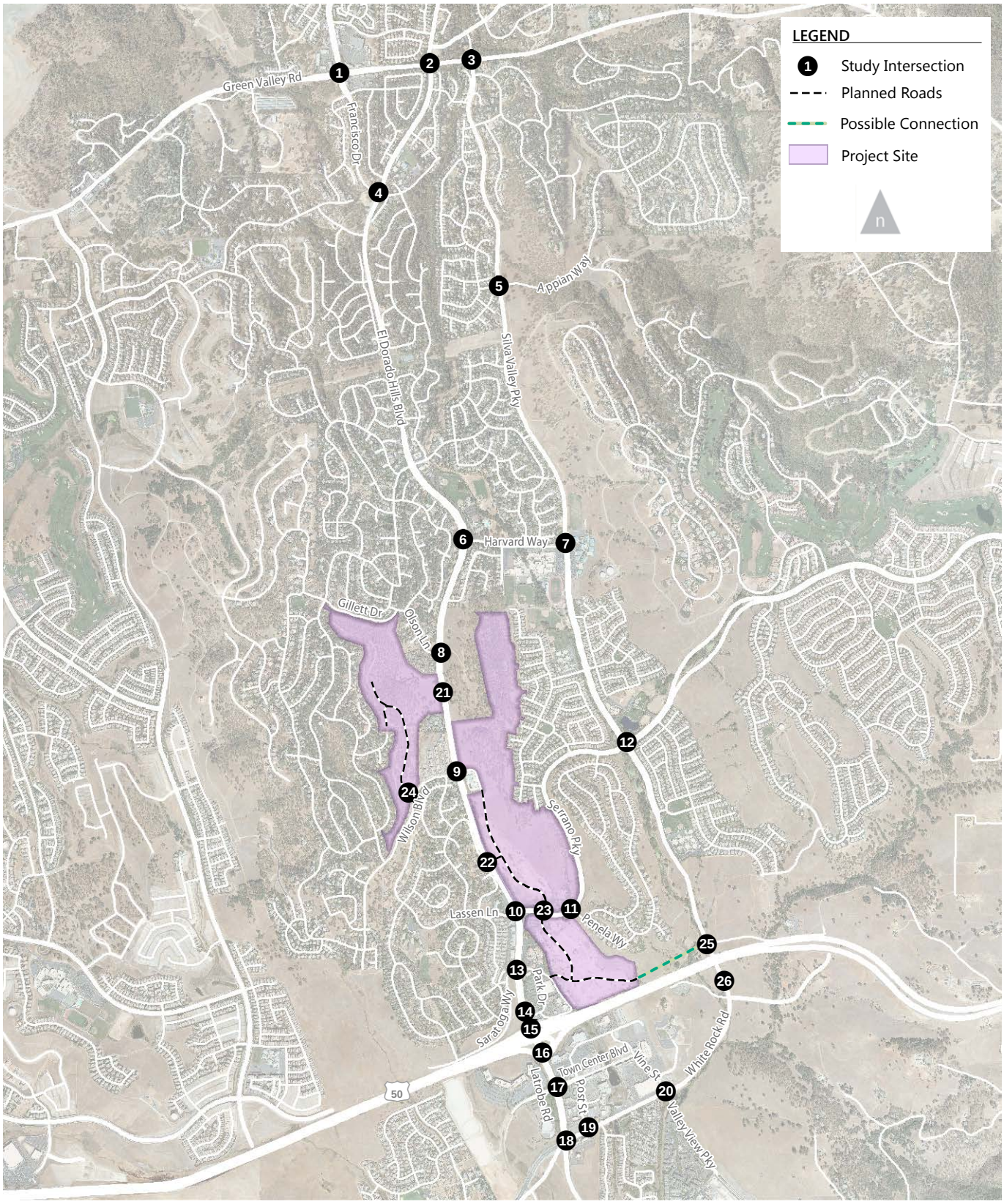


Figure 2.

Study Area

FEHR PEERS

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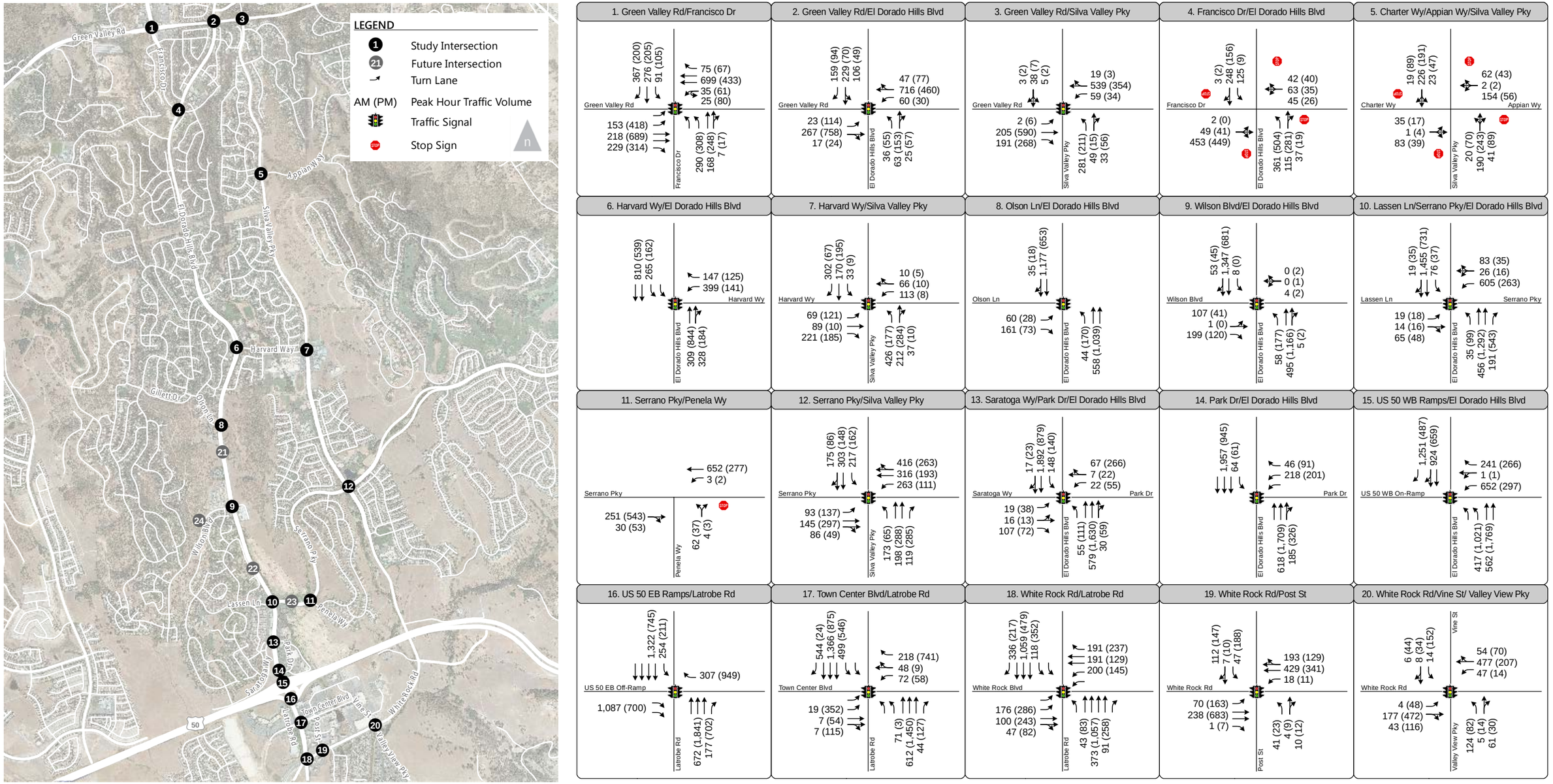

Figure 3.

Peak Hour Traffic Volumes and Lane Configurations - Existing Conditions

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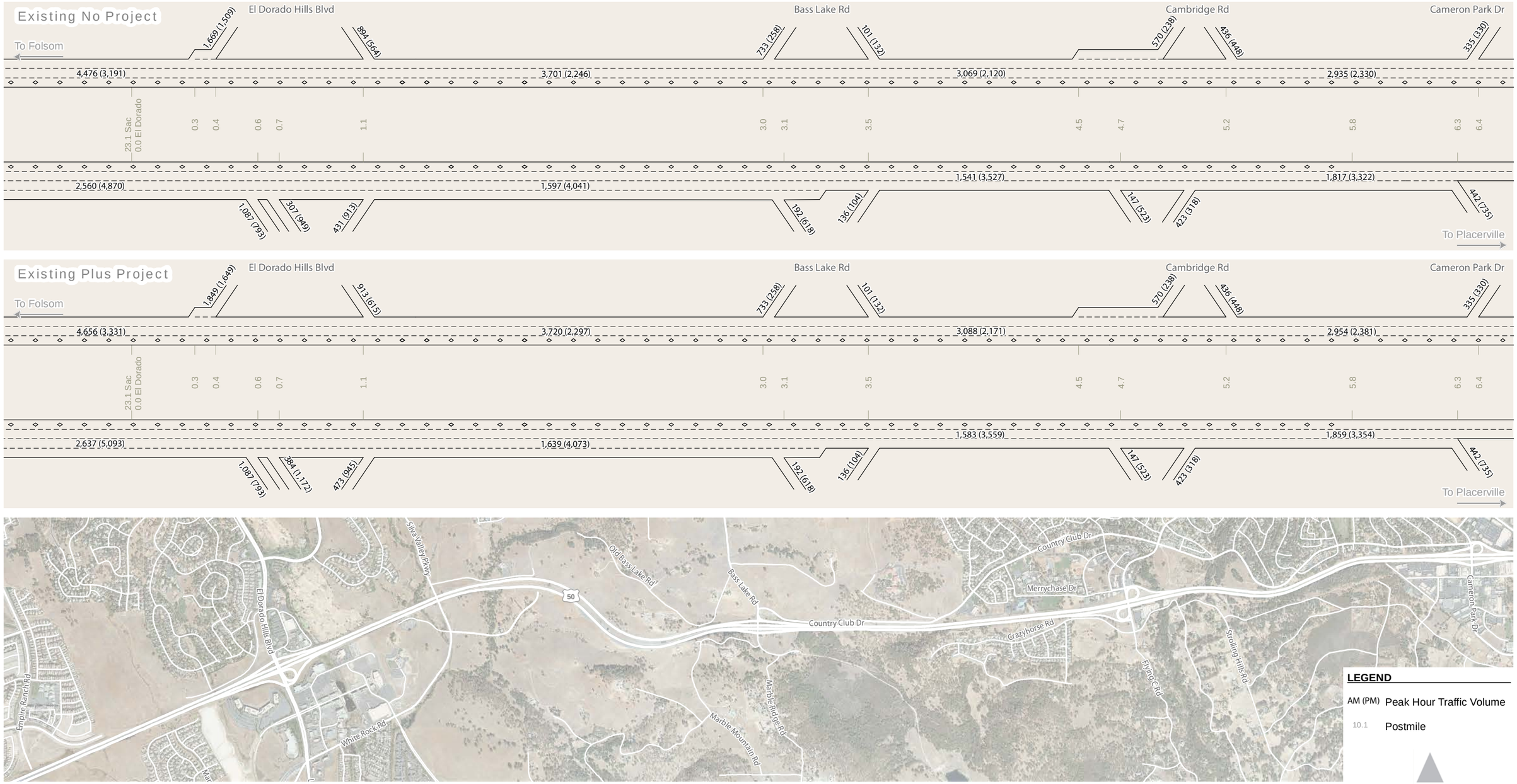

Figure 4.

US 50 Freeway Mainline and Ramp Peak Hour Traffic Volumes - Existing Conditions

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4.4 EXISTING CONDITIONS PEAK HOUR VEHICLE LEVEL OF SERVICE

4.4.1 INTERSECTIONS

Table 4 summarizes existing conditions AM and PM peak hour Level of Service (LOS) for the study intersections. The LOS of a facility is a qualitative measure used to describe operating conditions. LOS ranges from A (best), which represents short delays, to LOS F (worst), which represents long delays and a facility that is operating at or near its functional capacity.

As described in Section 4.2, an intersection that is operating at LOS E or better in a Community Region is considered to operate at an acceptable level. One study intersection, Francisco Drive / El Dorado Hills Boulevard, operates unacceptably (LOS F) during both the AM and PM peak hours. The intersection is currently all-way stop controlled. This intersection will be improved by the county to provide an eastbound to southbound free right-turn pocket. Construction is anticipated in early 2015. Future roadway improvements (i.e., roadway realignment, signalization, etc.) are proposed as described in Section 6.1, Table 14.

Construction was ongoing at the US 50/El Dorado Hills Boulevard interchange. Field observations conducted during the AM and PM peak periods identified extensive vehicle queuing near the US 50/El Dorado Hills Boulevard interchange, with the longest queues southbound during the AM peak hour and northbound during the PM peak hour. The vehicle queuing results in LOS D operations at the Serrano Parkway/Lassen Lane and Saratoga Way intersections during the AM peak hour and at the Town Center Boulevard intersection during the PM peak hour and is a result of poor lane utilization caused by the interchange construction.

Detailed LOS analysis sheets are contained in Appendix A. See section 3.1 and Table 1 for a definition of LOS as it relates to intersection delay.

TABLE 4: PEAK HOUR LEVEL OF SERVICE – EXISTING CONDITIONS (INTERSECTION)

Intersection	Traffic Control	LOS / Delay (seconds)	
		AM Peak Hour	PM Peak Hour
1. Green Valley Rd / Francisco Dr	Signal	D / 40	D / 46
2. Green Valley Rd/El Dorado Hills Blvd/Salmon Falls Rd	Signal	E / 67	D / 46
3. Green Valley Rd / Silva Valley Pkwy	Signal	C / 31	B / 20
4. Francisco Dr / El Dorado Hills Blvd	AWSC	**F / 88**	**F / 69**
5. Silva Valley Pkwy / Apian Wy	AWSC	C / 23	B / 15
6. El Dorado Hills Blvd / Harvard Wy	Signal	C / 30	B / 17
7. Silva Valley Pkwy / Harvard Wy	Signal	D / 39	C / 22
8. El Dorado Hills Blvd/Olson Ln	Signal	B / 12	A / 9
9. El Dorado Hills Blvd/Wilson Blvd	Signal	B / 20	B / 16
10. El Dorado Hills Blvd/Serrano Pkwy/Lassen Ln	Signal	D / 49	C / 21
11. Serrano Pkwy/Penela Wy	SSSC	D / 32	C / 23
12. Serrano Pkwy/Silva Valley Pkwy	Signal	D / 40	C / 30
13. El Dorado Hills Blvd/Park Dr/Saratoga Wy	Signal	D / 36	C / 25
14. El Dorado Hills Blvd/Saratoga Wy	Signal	E / 56	B / 15
15. El Dorado Hills Blvd/US 50 WB Ramps	Signal	D / 43	C / 29
16. Latrobe Rd/US 50 EB Ramps	Signal	B / 15	B / 14
17. Latrobe Rd/Town Center Blvd	Signal	C / 29	E / 75
18. Latrobe Rd/White Rock Rd	Signal	C / 35	D / 44
19. White Rock Rd/Post St	Signal	C / 24	C / 31
20. White Rock Rd/Valley View Dr/Vine St	Signal	C / 21	C / 27

Notes: SSSC = side-street stop-control, AWSC = all-way stop control
The average delay is measured in seconds per vehicle. For signalized and AWSC intersections, the delay shown is the average control delay for the overall intersection. For SSSC intersections, the LOS and control delay for the worst movement is shown.
Intersection LOS and delay is calculated based on the procedures and methodology contained in the *HCM* (TRB, 2000). Intersections 1-12, and 18-20 are analyzed in Synchro 7. Intersections 13-17 are analyzed in SimTraffic. Source: Fehr & Peers, 2014

4.4.2 ROADWAY SEGMENTS

Table 5 summarizes existing conditions AM and PM peak hour LOS for the study roadways. All study area roadway segments operate at acceptable levels (better than LOS F), with most operating at LOS C or better.

Detailed LOS analysis sheets are contained in Appendix A. See section 3.1 and Table 2 for a definition of LOS as it relates to roadway segments.

TABLE 5: PEAK HOUR LEVEL OF SERVICE – EXISTING CONDITIONS (ROADWAY SEGMENTS)

Roadway	Segment	Facility Type	Volume / Volume – Capacity (V/C) Ratio / LOS	
			AM Peak Hour	PM Peak Hour
El Dorado Hills Blvd	Green Valley Rd to Francisco Dr	2 lane arterial	430 / 0.26 / C[1]	389 / 0.24 / C[1]
	Francisco Dr to Governor Dr	2 lane arterial	1,259 / 0.76 / D	1,435 / 0.87 / D
	Governor Dr to Wilson Blvd	4 lane divided arterial	2,010 / 0.61 / D	1,935 / 0.59 / D
	Wilson Blvd to Serrano Pkwy	4 lane divided arterial	2,108 / 0.64 / D	2,148 / 0.65 / D
	Serrano Pkwy to Saratoga Way	5 lane divided arterial	2,807 / 0.70 / D	2,976 / 0.74 / D
	Saratoga Way to US 50	6 lane divided arterial	2,685 / 0.57 / C[1]	2,806 / 0.60 / D
Latrobe Rd	US 50 to Town Center Blvd	6 lane divided arterial	3,339 / 0.71 / D	4,081 / 0.87 / D
	Town Center Blvd to White Rock Rd	6 lane divided arterial	2,253 / 0.48 / C[1]	2,628 / 0.56 / C[1]
	White Rock Rd to Golden Foothill Pkwy	4 lane divided arterial	1,813 / 0.55 / C[1]	2,104 / 0.64 / D
	Golden Foothill Pkwy to Sun Ridge Meadow Rd	2 lane arterial	1,225 / 0.74 / D	1,246 / 0.76 / D
	Sun Ridge Meadow Rd to S. Shingle Rd	2 lane arterial	256 / 0.16 / C[1]	295 / 0.18 / C[1]
White Rock Rd	Scott Rd to Four Seasons Dr	2 lane arterial	603 / 0.37 / C[1]	863 / 0.52 / D
	Four Seasons Dr to Latrobe Rd	4 lane divided arterial	893 / 0.27 / C[1]	1,040 / 0.32 / C[1]
	Latrobe Rd to Vine St	2 lane arterial	831 / 0.5 / C[1]	969 / 0.59 / D
	Vine St to US 50	2 lane arterial	830 / 0.5 / C[1]	945 / 0.57 / D
Silva Valley Pkwy	Green Valley Rd to Glenwood Wy	2 lane arterial	651 / 0.39 / C[1]	591 / 0.36 / C[1]
	Glenwood Wy to Appian Wy	2 lane arterial	555 / 0.34 / C[1]	630 / 0.38 / C[1]
	Appian Wy to Harvard Wy	2 lane arterial	796 / 0.48 / C[1]	681 / 0.41 / C[1]

TABLE 5: PEAK HOUR LEVEL OF SERVICE – EXISTING CONDITIONS (ROADWAY SEGMENTS)

Roadway	Segment	Facility Type	Volume / Volume – Capacity (V/C) Ratio / LOS	
			AM Peak Hour	PM Peak Hour
	Harvard Wy to Serrano Pkwy	4 lane divided arterial	1,402 / 0.43 / C[1]	1,084 / 0.33 / C[1]
	Serrano Pkwy to US 50	2 lane arterial	1,142 / 0.69 / D	946 / 0.57 / D
Serrano Pkwy	EDH Blvd to Silva Valley Pkwy	2 lane arterial	995 / 0.6 / D	910 / 0.55 / D
	Silva Valley Pkwy to Villagio Dr	4 lane divided arterial	1,476 / 0.45 / C[1]	1,311 / 0.4 / C[1]
	Villagio Dr to Bass Lake Rd	2 lane arterial	453 / 0.27 / C[1]	417 / 0.25 / C[1]
Saratoga Wy	EDH Blvd to Arrowhead Dr	2 lane arterial	222 / 0.13 / C[1]	279 / 0.17 / C[1]
Wilson Wy	EDH Blvd to Ridgeview Dr	4 lane undivided arterial	418 / 0.13 / C[1]	384 / 0.12 / C[1]
Olson Ln/Gillette Dr	EDH Blvd to Gillette Dr	2 lane arterial	300 / 0.18 / C[1]	289 / 0.18 / C[1]
Harvard Wy	EDH Blvd to Silva Valley Pkwy	4 lane undivided arterial	1,139 / 0.36 / C[1]	612 / 0.20 / C[1]

Notes: Volume-to-Capacity ratio and LOS is based on the peak hour level of service thresholds contained in Table 5.4-1 of the *El Dorado County General Plan DEIR* (EDAW, 2003)
[1] LOS at this location is C or better
Source: Fehr & Peers, 2014

4.4.3 FREEWAY FACILITIES

Freeway facilities in the County are under the jurisdiction of the California Department of Transportation (Caltrans). In recent years, US 50 and interchanges within or proximate to the study area have undergone or are undergoing various improvements to increase capacity and improve traffic operations. These improvements include: extension of High Occupancy Vehicle (HOV) lanes east to Cameron Park Drive and modifications to the US 50/El Dorado Hills Boulevard/Latrobe Road interchange westbound ramps (currently under construction). As described in Section 2.2, the US 50/Silva Valley Parkway/White Rock Road interchange is under construction.

Table 6 summarizes existing peak hour freeway operations. All of the study facilities currently operate acceptably. A secondary performance measure, average speed, was used to verify the results shown in Table 6 that are based on the primary performance measure of density. Average midweek (i.e., Tuesday, Wednesday, and Thursday non-holiday) speed data was collected from the Caltrans Performance Measurement System (PeMS) for the period from October 2013 through September 2014. The speed data was collected for general purpose lanes (i.e., not the HOV lane) on eastbound and westbound US 50 near the El Dorado/Sacramento county line. As a secondary performance measure, the PeMS speed data is consistent with and confirms the LOS results shows in Table 6 for the segments of US 50 at the county line. The PeMS data identifies average speeds of 60 and 59 miles per hour on eastbound and westbound US 50, respectively, during peak hours. Detailed LOS analysis sheets are contained in Appendix A. See section 3.1 and Table 3 for a definition of LOS as it relates to freeway facilities.

TABLE 6: FREEWAY FACILITY PEAK HOUR LEVEL OF SERVICE – EXISTING CONDITIONS

Freeway	Segment	Facility Type	Existing Density[1] / LOS	
			AM	PM
US 50 EB	Latrobe Rd off-ramp	Diverge	22 / C	31 / D
	El Dorado Hills Blvd off-ramp	Diverge	14 / B	27 / C
	Latrobe Rd on-ramp	Merge	14 / B	26 / C
	El Dorado Hills Blvd on-ramp to Bass Lake Rd off-ramp	Basic	10 / A	20 / C
	Bass Lake Rd off-ramp	Diverge	14 / B	25 / C
	Bass Lake Rd on-ramp	Merge	16 / B	28 / C
	Bass Lake Rd on-ramp to Cambridge Rd off-ramp	Basic	13 / B	25 / C
	Cambridge Rd off-ramp	Diverge	18 / B	31 / D
	Cambridge Rd on-ramp	Merge	18 / B	26 / C
US 50 WB	Cambridge Rd off-ramp	Diverge	27 / C	22 / C
	Cambridge Rd on-ramp to Bass Lake Rd off-ramp	Merge	19 / B	12 / B
	Cambridge Rd on-ramp to Bass Lake Rd off-ramp	Basic	23 / C	16 / B
	Bass Lake Rd off-ramp	Diverge	28 / D	21 / C
	Bass Lake Rd on-ramp	Merge	31 / D	20 / C
	Bass Lake Rd on-ramp to El Dorado Hills Blvd off-ramp	Basic	29 / D	17 / B
	El Dorado Hills Blvd off-ramp	Diverge	33 / D	22 / C
	El Dorado Hills Blvd on-ramp	Merge	34 / D	24 / C

Notes: 1 Density reported as passenger cars per mile per lane. Density is not reported for LOS F operations.

Source: Fehr & Peers, 2014

4.5 PEDESTRIAN CIRCULATION

Attached or landscape-separated detached sidewalks are provided intermittently throughout the project study area. Given the primarily rural residential nature of El Dorado Hills, it is not necessarily the desire to provide sidewalks in all areas. However, some of the following major roadway facilities lack sidewalks and result in pedestrian network gaps:

- The majority of the west side of El Dorado Hills Boulevard lacks sidewalk
- Both sides of Latrobe Road lack sidewalk except for detached sidewalk on the east side between US 50 and Town Center Drive
- Both sides of White Rock Road lack sidewalk except for west of Post Street (both sides) and on the north side adjacent to development just west of Vine Street
- The east side of Silva Valley Parkway north of Harvard and both sides of the street north of US 50 to Oak Meadow Elementary School
- The north side of Serrano Parkway has a sidewalk/path that begins at El Dorado Hills and continues east.
- Wilson Boulevard lacks pedestrian facilities between Ridgeview Drive (and approximately 500 feet west of El Dorado Hills Boulevard)
- Olson Lane / Gillette Drive do not have sidewalks
- Green Valley mostly lacks sidewalk except for the south side between Miller Road on the west and east of Francisco Drive

Most study intersections provide signal-controlled pedestrian crossings with marked crosswalks. As described in Section 2.6 below, Class I bicycle paths double as pedestrian facilities. In particular, the New York Creek Nature Trail, adjacent to El Dorado Hills Boulevard, provides connectivity between the Pedregal and Serrano Westside planning areas.

4.6 BICYCLE CIRCULATION

Existing bicycle facilities within the study area are displayed in Figure 5. Bicycle facilities are classified into three categories.

- Class I Bicycle Path– Off-street bike paths within exclusive right-of-way; usually shared with pedestrians
- Class II Bicycle Lane – Striped on-road bike lanes adjacent to the outside travel lane on preferred corridors for biking
- Class III Bicycle Route– Shared on-road facility, usually delineated by signage and pavement markings

According to the *El Dorado Bicycle Transportation Plan, 2010 Update (El Dorado County Transportation Commission)*, mapping information provided by the County, and field observations, the following major bikeway facilities are present within the study area:

- Class II bicycle lanes on Serrano Parkway, Saratoga Way, White Rock Road, Latrobe Road and Green Valley Road (west of Francisco Drive) and portions of Silva Valley Parkway and El Dorado Hills Boulevard
- Class I bicycle path, New York Creek Nature Trail, which is adjacent to El Dorado Hills Boulevard on the east side between Serrano Parkway to St Andrews Drive
- Class I bicycle path adjacent to El Dorado Hills Boulevard on the west side north of Telegraph Hill Road to Green Valley Road
- Class I bicycle path, Bull Frog Gully trail, on the north/west side of Serrano Parkway opposite Penela Way

Figure 5 also identifies planned bikeways presented in the *El Dorado Bicycle Transportation Plan, 2010 Update and the Sacramento Area Council of Governments (SACOG) Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS) for 2035.*

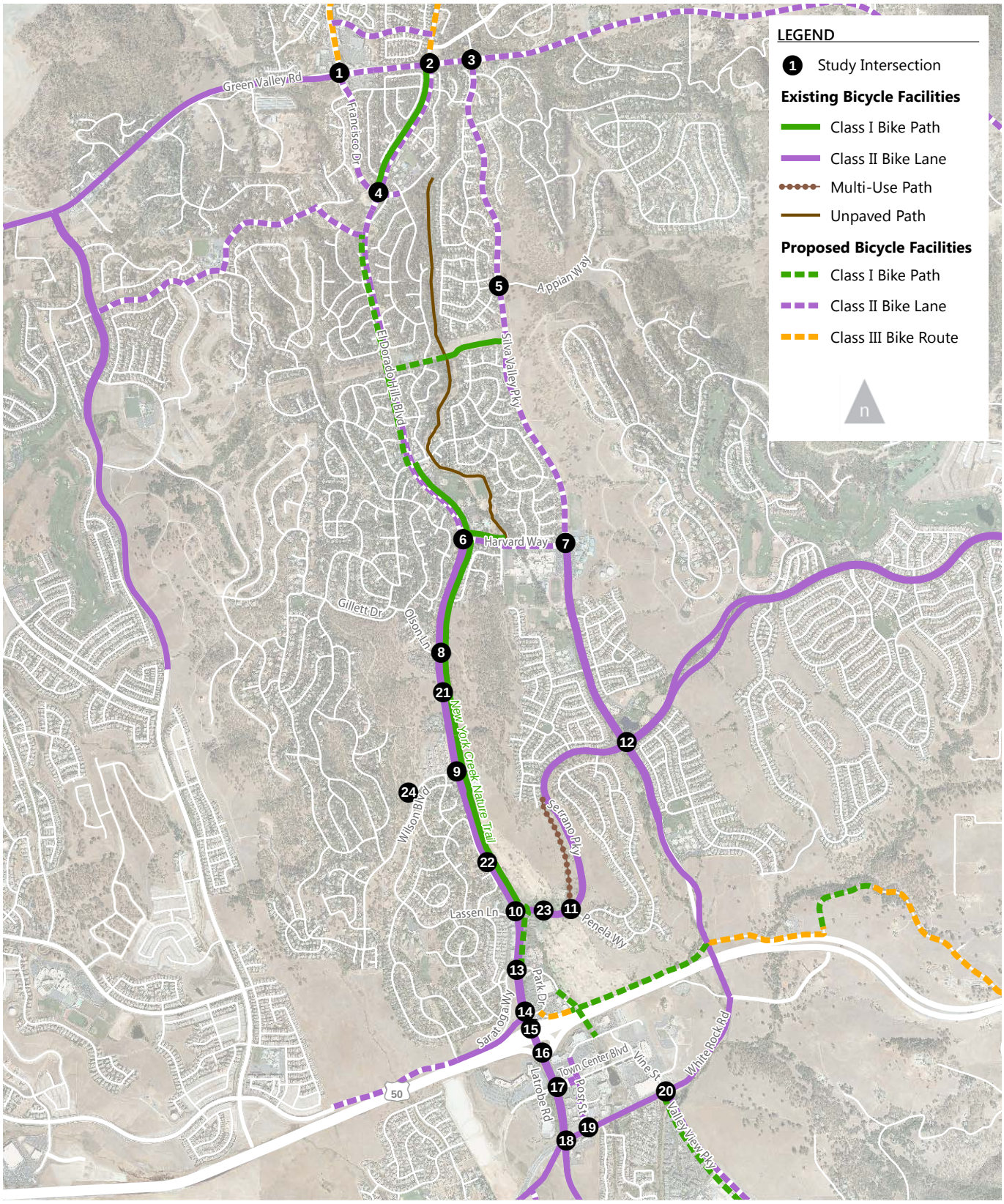

Figure 5.

Bicycle Facilities

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4.7 TRANSIT

El Dorado County Transit Authority (El Dorado Transit) provides public transit service within the project area. El Dorado Hills is currently served by El Dorado Transit Dial-A-Ride services, Commuter Service, and the Iron Point Connector Route. Both the Commuter Service and the Iron Point Connector Route serve only the El Dorado Hills Park-and-Ride Lot and do not circulate within the community.

In May 2013, The EDCTC completed the *El Dorado Hills Community Transit Needs Assessment and US 50 Corridor Operations Plan* (Plan), which explores how the recent growth and projected development impact the need for transit services, and identifies the most appropriate type and level of service needed given the demand. All three services are addressed in the Plan and are described briefly below.

- **Dial-A-Ride** service is a demand response service designed for seniors and disabled passengers, with limited access available for the general public. The service is available on a first-come, first-serve basis Monday through Friday between the hours of 7:30 AM and 5:00 PM, and between 8:00 AM and 5:00 PM on Saturdays and Sundays. El Dorado Hills is one of twelve geographic zone service areas.
- **Commuter Service** is offered Monday through Friday between El Dorado County and downtown Sacramento. Morning departures from El Dorado County locations are scheduled from 5:10 AM to 8:00 AM, and afternoon eastbound departures from Sacramento occur from 2:40 PM to 6:00 PM. A reverse commuting service is offered. The El Dorado Hills Park-and-Ride located in Town Center at the White Rock Road/Post Street intersection is the nearest stop location for the project. According to the Plan, nearly half of commute passengers boarded at the El Dorado Hills Park-and-Ride in the morning, which makes this location the highest boarding stop offered as part of the Commuter Service.
- **Iron Point Connector (IPC) Route** provides direct service from El Dorado County to Folsom with connections to Sacramento Regional Transit light rail on weekdays. This route runs twice in the morning and twice in the afternoon from the Central Transit Center to the Iron Point Light Rail Station in Folsom. The El Dorado Hills Park-and-Ride located in Town Center at the White Rock Road/Post Street intersection is the nearest stop location for the project.

The El Dorado Hills Park-and-Ride Lot provides 120 parking spaces. The Plan reports that parking demand exceeds supply. Specifically, Table 19 of the Plan reports 96% parking utilization in 2004 and 108% parking utilization in 2005 based on Sacramento Area Council of Governments and Caltrans data. The Plan also describes other transit providers that serve western El Dorado County, including the Senior Shuttle Program, which has recently initiated service in El Dorado Hills.

In addition, the Serrano El Dorado Owners' Association provides rideshare services for its residents.

5.0 EXISTING PLUS PROJECT CONDITIONS

5.1 TRIP GENERATION

Based on information contained in the Notice of Preparation and subsequent correspondence with County staff and the applicant, Fehr & Peers prepared trip generation estimates for the project based on methodologies and trip rates presented in Trip Generation, 9th Edition (Institute of Transportation Engineers), with adjustments to account for internal vehicle trips and walking trips given the proximity and access that portions of the project will have to nearby retail and commercial services located in the Raley's and La Borgata shopping centers and along El Dorado Hills Boulevard.

This traffic study determined that the combined effects of the Project's land use, location, and development scale would contribute to a reduction in off-site average weekday vehicle "trips" (e.g., one vehicle trip is when a person drives from their home to shopping or their job. Their return drive home is another trip). This reduction is due largely to the Project's proximity to commercial and retail services and connections between the project and these services. That is, most of the reduction in total off-site vehicle trips generated by the Project is attributable to those trips beginning on the Project site, traveling to adjacent services, and ending on the Project site without using off-site roadways or by walking.

Traditionally, traffic engineers and transportation planners have estimated internalization of project trips using one of two methods. First, they would estimate it based on their professional judgment. Alternatively, professionals relied on the Institute of Transportation Engineers' (ITE) internalization methodology presented in the ITE Trip Generation Handbook. Although this has been applied in thousands of studies in California, the methodology was limited as it was based on only six surveys in Florida. Additionally, the ITE internalization methodology only accounts for the land use types on the mixed-use site. Given the limited input information (land use amount and type) and the limited range of data (six surveys), the accuracy of the internalization estimates has recently been found to generally under-estimate internalization of trips from mixed-use projects.

Recognizing the limitations of the simplified methodology applied in the ITE handbook, the United States Environmental Protection Agency commissioned a study to develop a more substantial, statistically superior methodology. This methodology, identified as MXD (or mixed-use development trip generation), begins with ITE rates and developed trip internalization estimates based on a series of factors tied to numerous site attributes. It should also be noted that the MXD model has been developed in cooperation with the US Environmental Protection Agency (EPA) and ITE and that ITE is currently reviewing the model

for potential inclusion in their updated recommended practice for evaluating MXD projects. The MXD methodology is described in greater detail below.

MXD Trip Internalization Methodology

The internal capture percentage reported is not an "assumed" number, but rather is a number that was derived using a best practices trip generation model designed specifically for mixed-use development (MXD) projects and estimates trip generation and internal capture by adjusting trip generation rates to account for the influence of built environment variables. A variety of research studies have demonstrated that these variables influence vehicle trip generation.

The MXD model used was developed based on household travel survey data obtained from 239 existing mixed-use developments in six metropolitan regions throughout the U.S., including developments in Sacramento. The internal capture percentage calculated for the project is reflective of the land uses that would be developed as part of the Project and land use near the project, which would reduce the need to travel beyond the Project site or surrounding area. A set of 16 independent mixed use sites that were not included in the initial model were tested to help validate the model. Among the validation sites, use of the MXD model produced superior statistical performance when comparing the model results to observed data. Given the statistical robustness of the MXD model, it was deemed the most appropriate approach for estimating internalization of project trips.

MXD Model Inputs and Trip Generation Estimates

To determine the amount of trips that would be internal to the Project site, an MXD trip generation estimate was prepared. The MXD analysis first begins with gross trip rates identified in the Institute of Transportation Engineers' Trip Generation (9th Edition, 2012). It then incorporates the MXD methodology for "matching" trips to estimate the amount of internalization within the project site. Tables 7, 8 and 9 summarize project land use, assumed trip rates, calculated trip generation totals, and MXD adjustments for both Serrano Westside and Pedregal.

The entire project is projected to generate 8,757 daily vehicle trips, 694 AM peak hour vehicle trips and 979 PM peak hour vehicle trips. The daily total includes a modest reduction of 192 vehicle trips for internalization, which are vehicle trips made that remain within the project site or travel to nearby service adjacent to the project site without using external roadways. An additional reduction of 150 vehicle trips was made in acknowledgement of feasible walking trips in lieu of vehicle trips for the Serrano Westside site that is within a reasonable walking distance of nearby commercial and shopping land uses.

TABLE 7: TRIP GENERATION – SERRANO WESTSIDE

Land Use	Quantity	ITE Code	Trip Rate			Trips						
			Daily	AM	PM	Daily	AM			PM		
							In	Out	Total	In	Out	Total
Multifamily Housing (Dwelling Units)	330	220	6.65	0.51	0.62	2,195	34	134	168	133	72	205
Single Family Detached Housing (Dwelling Units)	433	210	9.52	0.75	1.00	4,122	81	244	325	273	160	433
Civic - Limited Commercial (1,000 Square Feet)	50	710	11.03	1.56	1.49	552	69	9	78	13	62	75
Village Park (Acres)	15	[1]	36.55	1.08	9.07	548	9	7	16	94	42	136
Gross Trips						7,416	193	394	587	513	335	848
Internal Capture						192	6	6	12	8	8	16
Walking Trips						150	3	8	11	9	6	15
Net Trips Made by Motor Vehicle						7,075	184	380	564	496	322	818

[1]Trip generation for the village park land use is based on field measured trip generation at the Promontory (Alexandra Drive) and El Dorado Hills Community Pare (El Dorado Hills Boulevard at Harvard Way). Observed activities included little league baseball, la Crosse, and softball.
Source: Fehr & Peers, 2014

TABLE 8: TRIP GENERATION – PEDREGAL

Land Use	Quantity	ITE Code	Trip Rate			Trips						
			Daily	AM	PM	Daily	AM			PM		
							In	Out	Total	In	Out	Total
Multifamily Housing (Dwelling Units)	200	220	6.65	0.51	0.62	1,330	20	82	102	81	43	124
Single Family Detached Housing (Dwelling Units)	37	210	9.52	0.75	1.00	352	7	21	28	23	14	37
Net Trips Made by Motor Vehicle						1,682	27	103	130	104	57	161

Source: Fehr & Peers, 2014

TABLE 9: TRIP GENERATION – CENTRAL EL DORADO HILLS (SERRANO WESTSIDE + PEDREGAL)

Land Use	Quantity	ITE Code	Trip Rate			Trips						
			Daily	AM	PM	Daily	AM			PM		
							In	Out	Total	In	Out	Total
Multifamily Housing (Dwelling Units)	530	220	6.65	0.51	0.62	3,525	54	216	270	214	115	329
Single Family Detached Housing (Dwelling Units)	470	210	9.52	0.75	1.00	4,474	88	265	353	296	174	470
Civic - Limited Commercial (1,000 Square Feet)	50	710	11.03	1.56	1.49	552	69	9	78	13	62	75
Village Park (Acres)	15	-[1]	36.55	1.08	9.07	548	9	7	16	94	42	136
Gross Trips						9,099	220	497	717	617	392	1,009
Internal Capture						192	6	6	12	8	8	16
Walking Trips						150	3	8	11	9	6	15
Net Trips Made by Motor Vehicle						8,757	211	483	694	600	379	979

[1]Trip generation for the village park land use is based on field measured trip generation at the Promontory (Alexandra Drive) and El Dorado Hills Community Pare (El Dorado Hills Boulevard at Harvard Way. Observed activities included little league baseball, la Crosse, and softball.
Source: Fehr & Peers, 2014

5.2 TRIP DISTRIBUTION AND ASSIGNMENT

The expected distribution of project trips is shown on Figure 6. The distribution was developed using the following sources and analytical techniques:

- Existing travel patterns based on the existing traffic counts
- Traffic assignment using the validated base year El Dorado County travel demand forecasting model
- Project access and internal circulation

As shown on Figure 6, the largest share of project trips (37 percent) will use US 50 to/from the west in the morning and evening with nine percent traveling on US 50 to/from the east. Travel to/from the north on El Dorado Hills Boulevard and to/from the south on Latrobe Road is fairly balanced at 25 percent and 24 percent, respectively. Figure 7 shows only project trips based on the trip distribution shown on Figure 6. The resulting AM and PM peak hour traffic volumes under existing plus project conditions are presented on Figure 8.

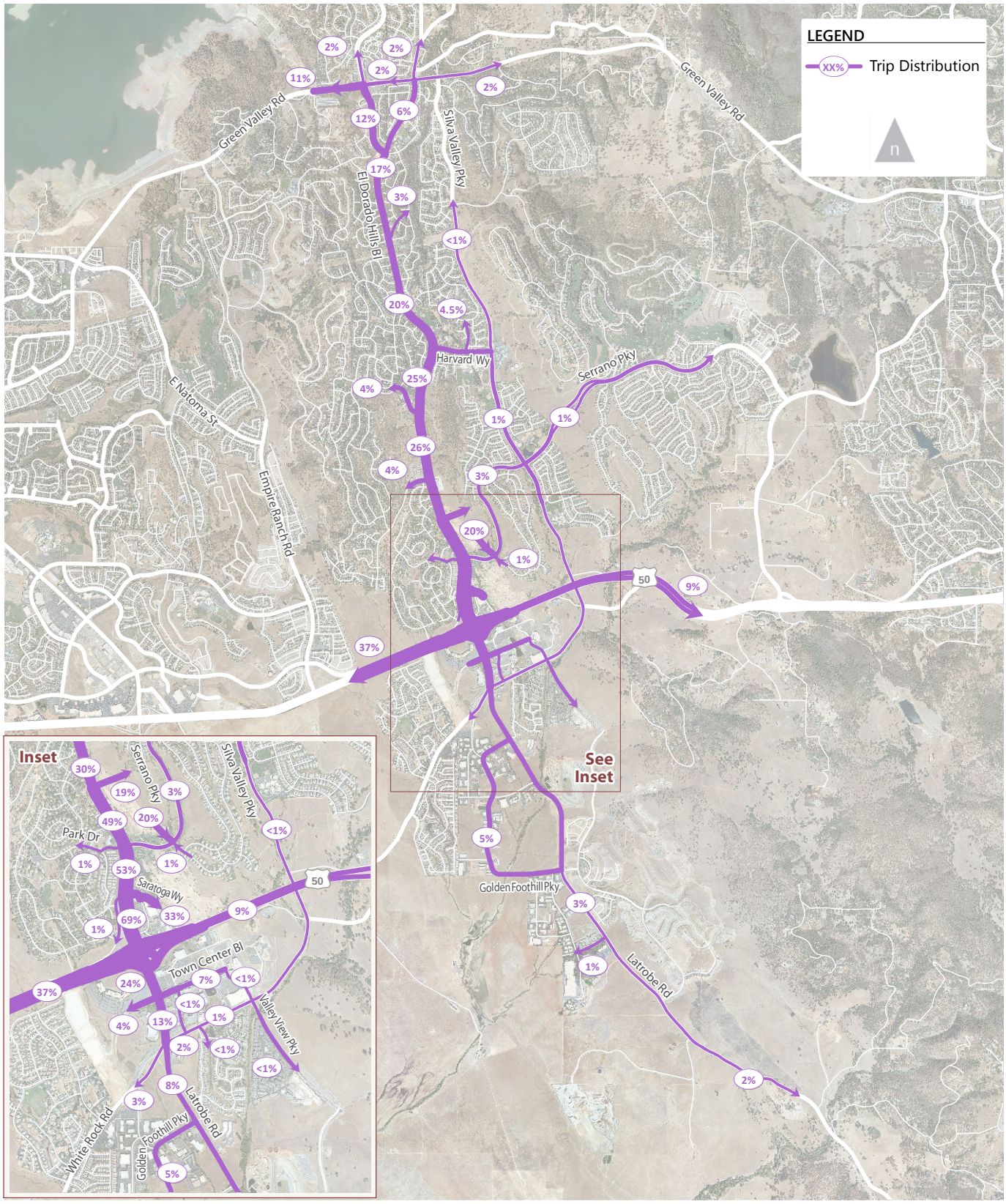

Figure 6.

Trip Distribution - Existing Conditions

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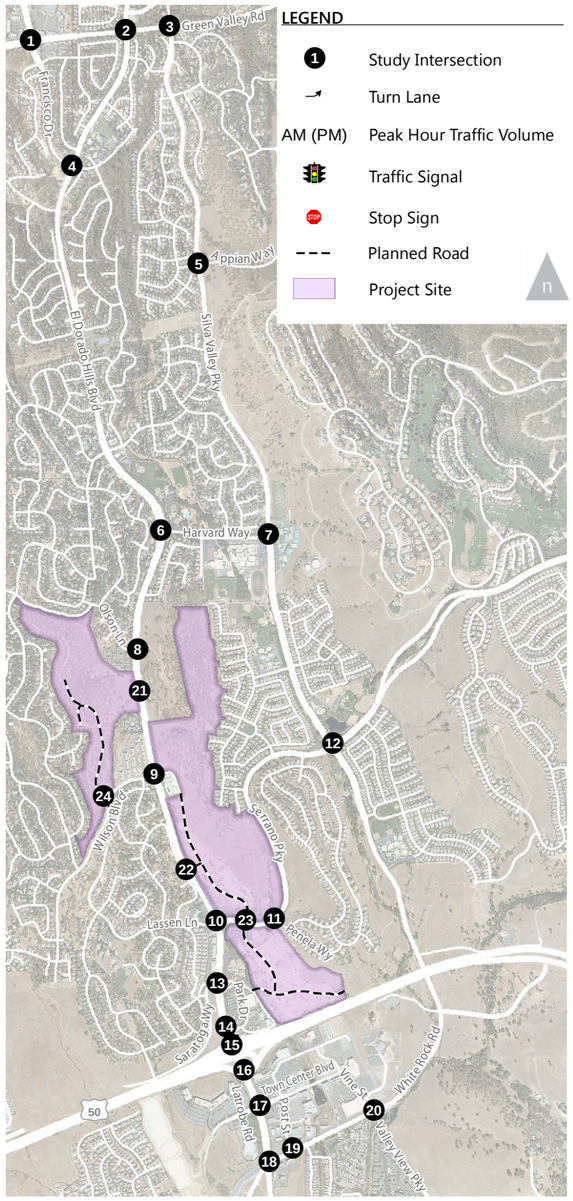

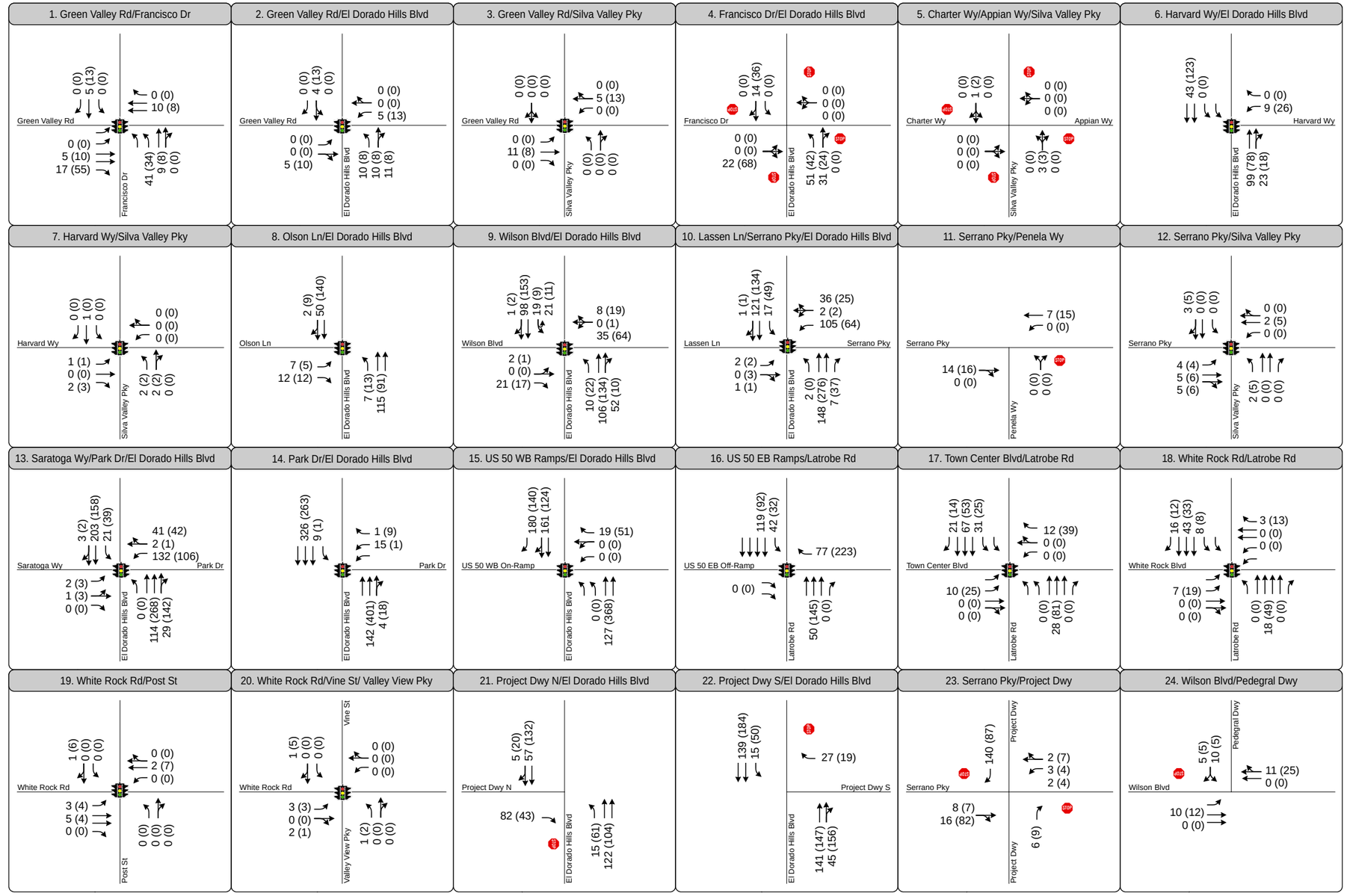

Figure 7.

Project Only Trip Assignment - Existing Conditions

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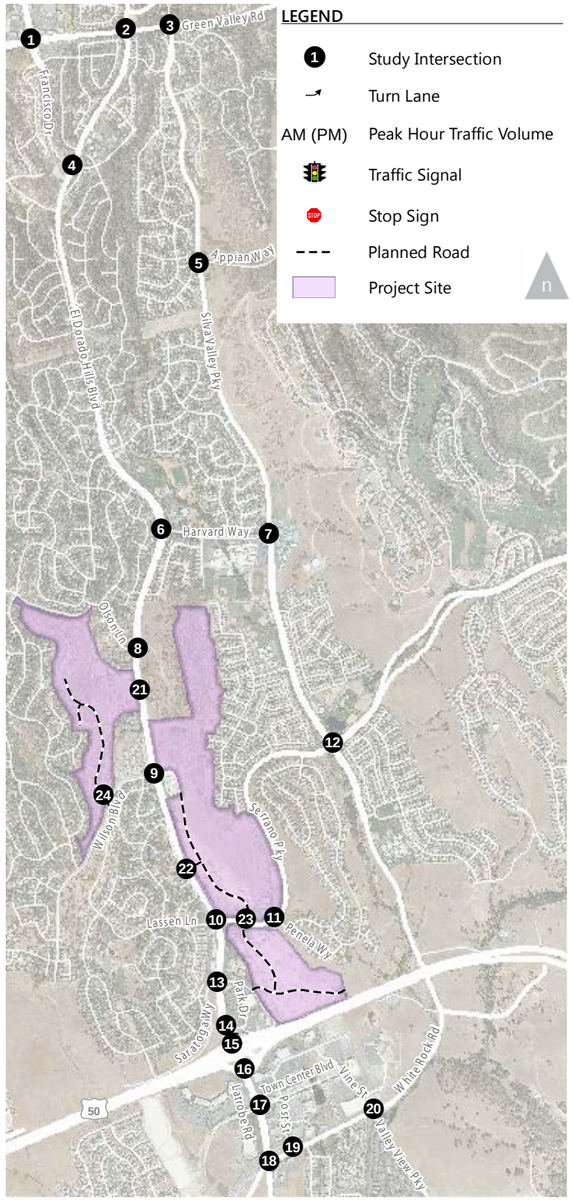

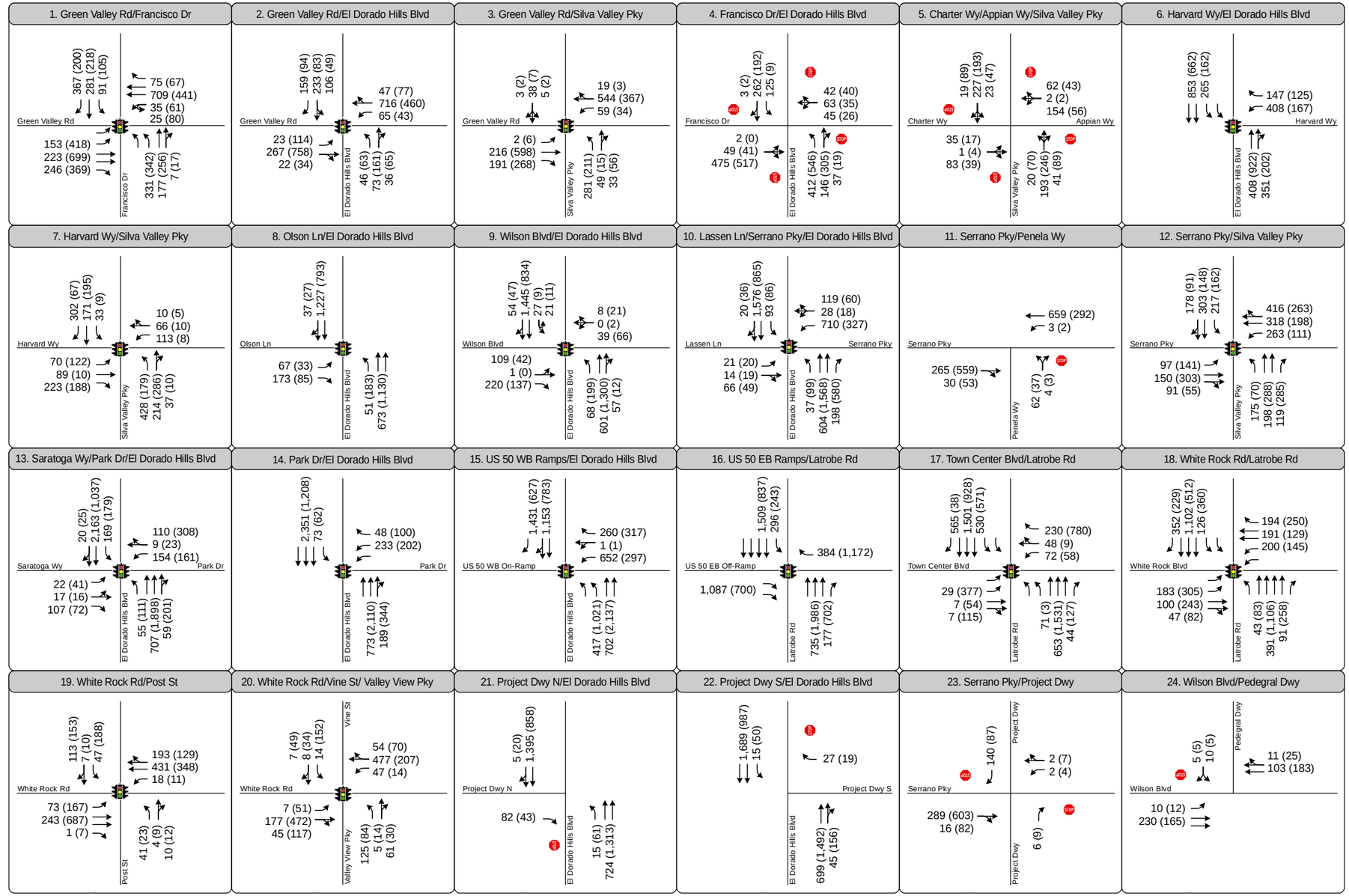

Figure 8.

Peak Hour Traffic Volumes and Lane Configurations - Existing Plus Project Conditions

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5.3 PEAK HOUR VEHICLE LEVEL OF SERVICE

5.3.1 INTERSECTIONS

Analysis results, which are presented in Table 10, indicate that most study intersections will operate acceptably, except for the all-way stop controlled Francisco Drive / El Dorado Hills Boulevard intersection, which will operate at LOS F during the AM and PM peak hours. Traffic generated by the project result in potential impacts at the following locations:

- Francisco Drive / El Dorado Hills Boulevard (intersection 4) – This location operates at LOS F without the project. The project adds more than 20 seconds of delay to overall intersection operations. According to established significance criteria, the project is projected to "significantly worsen" conditions, since it would add more than 10 trips to the intersection during the AM and PM peak hours.
- Latrobe Road / Town Center Boulevard (intersection 17) – This location operates acceptably LOS E without the project. The project results in unacceptable LOS F conditions during the PM peak hour.

5.3.2 ROADWAY SEGMENTS

Analysis results, which are presented in Table 11, indicate that all study roadway segments will operate acceptably. Traffic generated by the project is not anticipated to result in roadway segment impacts according to established significance criteria. A comparison of the results in Table 11 to the results in Table 10 shows that the number of through travel lanes on the study area roadways is adequate, but that improvements are needed at intersections, which are the locations where drivers experience delay traveling through the study area.

TABLE 10: INTERSECTION LOS AND DELAY – EXISTING PLUS PROJECT CONDITIONS

Intersection	Control	Existing Conditions (LOS / Delay)		Existing Plus Project (LOS / Delay)	
		AM	PM	AM	PM
1. Green Valley Rd / Francisco Dr	Signal	D / 40	D / 46	D / 41	D / 46
2. Green Valley Rd/El Dorado Hills Blvd/Salmon Falls Rd	Signal	E / 67	D / 46	E / 73	D / 54
3. Green Valley Rd / Silva Valley Pkwy	Signal	C / 31	B / 20	C / 32	B / 20
4. Francisco Dr / El Dorado Hills Blvd	AWSC	**F / 88**	**F / 69**	***F / 108***	***F / 98***
5. Silva Valley Pkwy / Apian Wy	AWSC	C / 23	B / 15	C / 23	B / 15
6. El Dorado Hills Blvd / Harvard Wy	Signal	C / 30	B / 17	C / 33	B / 18
7. Silva Valley Pkwy / Harvard Wy	Signal	D / 39	C / 22	D / 39	C / 22
8. El Dorado Hills Blvd/Olson Ln	Signal	B / 12	A / 9	B / 12	B / 10
9. El Dorado Hills Blvd/Wilson Blvd	Signal	B / 20	B / 16	C / 30	C / 30
10. El Dorado Hills Blvd/Serrano Pkwy/Lassen Ln	Signal	D / 49	C / 21	E / 70	C / 35
11. Serrano Pkwy/Penela Wy	SSSC	D / 32	C / 23	D / 34	C / 24
12. Serrano Pkwy/Silva Valley Pkwy	Signal	D / 40	C / 30	D / 41	C / 30
13. El Dorado Hills Blvd/Park Dr/Saratoga Wy	Signal	D / 36	C / 24	E / 62	D / 44
14. El Dorado Hills Blvd/Saratoga Wy	Signal	E / 56	B / 15	E / 58	C / 29
15. El Dorado Hills Blvd/US 50 WB Ramps	Signal	D / 43	C / 29	C / 32	D / 36
16. Latrobe Rd/US 50 EB Ramps	Signal	B / 15	B / 14	B / 15	D / 42
17. Latrobe Rd/Town Center Blvd	Signal	C / 29	E / 75	C / 30	***F / 128***

TABLE 10: INTERSECTION LOS AND DELAY – EXISTING PLUS PROJECT CONDITIONS

Intersection	Control	Existing Conditions (LOS / Delay)		Existing Plus Project (LOS / Delay)	
		AM	PM	AM	PM
18. Latrobe Rd/White Rock Rd	Signal	C / 35	D / 44	C / 35	D / 44
19. White Rock Rd/Post St	Signal	C / 24	C / 31	C / 24	C / 31
20. White Rock Rd/Valley View Dr/Vine St	Signal	C / 21	C / 27	C / 21	C / 27
21. El Dorado Hills Blvd / Project Dwy North	SSSC	-	-	B / 10	A / 10
22. El Dorado Hills Blvd / Project Dwy South	SSSC	-	-	A / 9	B / 14
23. Serrano Pkwy / Project Dwy	SSSC	-	-	C / 20	B / 13
24. Wilson Blvd / Pedregal Dwy	SSSC	-	-	A / 10	A / 10

Note: SSSC = side-street stop-control, AWSC = all-way stop control

Bold text indicates LOS worse than established threshold. *Italic and underlined* text identifies a potential impact.

The average delay is measured in seconds per vehicle. For signalized and AWSC intersections, the delay shown is the average control delay for the overall intersection. For TWSC intersections, the LOS and control delay for the worst movement is shown.

Intersection LOS and delay is calculated based on the procedures and methodology contained in the *HCM* (TRB, 2000). Intersections 1-12, and 18-25 are analyzed in Synchro 7. Intersections 13-17 are analyzed in SimTraffic.

Source: Fehr & Peers, 2014

TABLE 11: ROADWAY SEGMENT PEAK HOUR LEVEL OF SERVICE – EXISTING PLUS PROJECT CONDITIONS

Roadway	Segment	Facility Type	Existing Volume / Volume – Capacity (V/C) Ratio / LOS		Existing + Project Volume / Volume – Capacity (V/C) Ratio / LOS	
			AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
El Dorado Hills Blvd	Green Valley Rd to Francisco Dr	2 lane arterial	430 / 0.26 / C[1]	389 / 0.24 / C[1]	458 / 0.28 / C[1]	428 / 0.26 / C[1]
	Francisco Dr to Governor Dr	2 lane arterial	1,259 / 0.76 / D	1,435 / 0.87 / D	1,391 / 0.84 / D	1,621 / 0.98 / E
	Governor Dr to Wilson Blvd	4 lane divided arterial	2,010 / 0.61 / D	1,935 / 0.59 / D	2,177 / 0.66 / D	2,170 / 0.66 / D
	Wilson Blvd to Serrano Pkwy	4 lane divided arterial	2,108 / 0.64 / D	2,148 / 0.65 / D	2629 / 0.8 / D	2,882 / 0.88 / D
	Serrano Pkwy to Saratoga Way	5 lane divided arterial	2,807 / 0.70 / D	2,976 / 0.74 / D	3,265 / 0.82 / E	3,622 / 0.91 / D
	Saratoga Way to US 50	6 lane divided arterial	2,685 / 0.57 / C[1]	2,806 / 0.60 / D	3,143 / 0.67 / E	3,452 / 0.73 / D
Latrobe Rd	US 50 to Town Center Blvd	6 lane divided arterial	3,339 / 0.71 / D	4,081 / 0.87 / D	3,499 / 0.74 / D	4,306 / 0.91 / D
	Town Center Blvd to White Rock Rd	6 lane divided arterial	2,253 / 0.48 / C[1]	2,628 / 0.56 / C[1]	2,343 / 0.5 / C[1]	2,755 / 0.58 / C[1]
	White Rock Rd to Golden Foothill Pkwy	4 lane divided arterial	1,813 / 0.55 / C[1]	2,104 / 0.64 / D	1,869 / 0.57 / D	2,182 / 0.66 / D
	Golden Foothill Pkwy to Sun Ridge Meadow Rd	2 lane arterial	1,225 / 0.74 / D	1,246 / 0.76 / D	1,239 / 0.75 / D	1,266 / 0.77 / D

TABLE 11: ROADWAY SEGMENT PEAK HOUR LEVEL OF SERVICE – EXISTING PLUS PROJECT CONDITIONS

Roadway	Segment	Facility Type	Existing Volume / Volume – Capacity (V/C) Ratio / LOS		Existing + Project Volume / Volume – Capacity (V/C) Ratio / LOS	
			AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
	Sun Ridge Meadow Rd to S. Shingle Rd	2 lane arterial	256 / 0.16 / C[1]	295 / 0.18 / C[1]	263 / 0.16 / C[1]	305 / 0.18 / C[1]
White Rock Rd	Scott Rd to Four Seasons Dr	2 lane arterial	603 / 0.37 / C[1]	863 / 0.52 / D	624 / 0.38 / C[1]	892 / 0.54 / D
	Four Seasons Dr to Latrobe Rd	4 lane divided arterial	893 / 0.27 / C[1]	1,040 / 0.32 / C[1]	914 / 0.28 / C[1]	1,069 / 0.32 / C[1]
	Latrobe Rd to Vine St	2 lane arterial	831 / 0.5 / C[1]	969 / 0.59 / D	838 / 0.51 / C[1]	979 / 0.59 / D
	Vine St to US 50	2 lane arterial	830 / 0.50 / C[1]	945 / 0.57 / D	830 / 0.5 / C[1]	945 / 0.57 / D
Silva Valley Pkwy	Green Valley Rd to Glenwood Wy	2 lane arterial	651 / 0.39 / C[1]	591 / 0.36 / C[1]	654 / 0.4 / C[1]	596 / 0.36 / C[1]
	Glenwood Wy to Appian Wy	2 lane arterial	555 / 0.34 / C[1]	630 / 0.38 / C[1]	558 / 0.34 / C[1]	635 / 0.38 / C[1]
	Appian Wy to Harvard Wy	2 lane arterial	796 / 0.48 / C[1]	681 / 0.41 / C[1]	799 / 0.48 / C[1]	686 / 0.42 / C[1]
	Harvard Wy to Serrano Pkwy	4 lane divided arterial	1,402 / 0.43 / C[1]	1,084 / 0.33 / C[1]	1,409 / 0.43 / C[1]	1,094 / 0.33 / C[1]
	Serrano Pkwy to US 50	2 lane arterial	1,142 / 0.69 / D	946 / 0.57 / D	1,149 / 0.7 / D	956 / 0.58 / D
Serrano Pkwy	EDH Blvd to Silva Valley Pkwy	2 lane arterial	995 / 0.6 / D	910 / 0.55 / D	1,016 / 0.62 / D	939 / 0.57 / D

TABLE 11: ROADWAY SEGMENT PEAK HOUR LEVEL OF SERVICE – EXISTING PLUS PROJECT CONDITIONS

Roadway	Segment	Facility Type	Existing Volume / Volume – Capacity (V/C) Ratio / LOS		Existing + Project Volume / Volume – Capacity (V/C) Ratio / LOS	
			AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
	Silva Valley Pkwy to Villagio Dr	4 lane divided arterial	1,476 / 0.45 / C[1]	1,311 / 0.4 / C[1]	1,483 / 0.45 / C[1]	1,321 / 0.4 / C[1]
	Villagio Dr to Bass Lake Rd	2 lane arterial	453 / 0.27 / C[1]	417 / 0.25 / C[1]	455 / 0.28 / C[1]	420 / 0.25 / C[1]
Saratoga Wy	EDH Blvd to Arrowhead Dr	2 lane arterial	222 / 0.13 / C[1]	279 / 0.17 / C[1]	229 / 0.14 / C[1]	289 / 0.18 / C[1]
Wilson Wy	EDH Blvd to Ridgeview Dr	4 lane undivided arterial	418 / 0.13 / C[1]	384 / 0.12 / C[1]	425 / 0.14 / C[1]	394 / 0.13 / C[1]
Olson Ln/Gillette Dr	EDH Blvd to Gillette Dr	2 lane arterial	300 / 0.18 / C[1]	289 / 0.18 / C[1]	307 / 0.19 / C[1]	299 / 0.18 / C[1]
Harvard Wy	EDH Blvd to Silva Valley Pkwy	4 lane undivided arterial	1,139 / 0.36 / C[1]	612 / 0.20 / C[1]	1,170 / 0.37 / C[1]	656 / 0.21 / C[1]

Notes: Volume-to-Capacity ratio and LOS is based on the HCM 2010 peak hour level of service thresholds
1 LOS at this location is C or better
Bold text indicates LOS worse than established threshold. *Italic and underlined* text identifies a potential impact.
Source: Fehr & Peers, 2014

5.3.3 FREEWAY FACILITIES

Analysis results, which are presented in Table 12, indicate that all but one study freeway facilities segments will operate acceptably. Traffic generated by the project will result in LOS F conditions at the US 50 westbound on-ramp from El Dorado Hills Boulevard.

TABLE 12: FREEWAY FACILITY PEAK HOUR LEVEL OF SERVICE – EXISTING PLUS PROJECT CONDITIONS

Freeway	Segment	Facility Type	Existing Density[1] / LOS		Existing + Project Density[1] / LOS	
			AM	PM	AM	PM
US 50 EB	Latrobe Rd off-ramp	Diverge	22 / C	31 / D	23 / C	34 / D
	El Dorado Hills Blvd off-ramp	Diverge	14 / B	27 / C	14 / B	28 / C
	Latrobe Rd on-ramp	Merge	14 / B	26 / C	15 / B	26 / C
	El Dorado Hills Blvd on-ramp to Bass lake Rd off-ramp	Basic	10 / A	20 / C	11 / A	20 / C
	Bass Lake Rd off-ramp	Diverge	14 / B	25 / C	15 / B	26 / C
	Bass Lake Rd on-ramp	Merge	16 / B	28 / C	16 / B	28 / C
	Bass Lake Rd on-ramp to Cambridge Rd off-ramp	Basic	13 / B	25 / C	14 / B	26 / C
	Cambridge Rd off-ramp	Diverge	18 / B	31 / D	18 / B	31 / D
	Cambridge Rd on-ramp	Merge	18 / B	26 / C	19 / B	27 / C
US 50 WB	Cambridge Rd off-ramp	Diverge	27 / C	22 / C	27 / C	23 / C
	Cambridge Rd on-ramp to Bass Lake Rd off-ramp	Merge	19 / B	12 / B	19 / B	13 / B
	Cambridge Rd on-ramp to Bass Lake Rd off-ramp	Basic	23 / C	16 / B	23 / C	16 / B
	Bass Lake Rd off-ramp	Diverge	28 / D	21 / C	28 / D	21 / C
	Bass Lake Rd on-ramp	Merge	31 / D	20 / C	31 / D	21 / C

TABLE 12: FREEWAY FACILITY PEAK HOUR LEVEL OF SERVICE – EXISTING PLUS PROJECT CONDITIONS

Freeway	Segment	Facility Type	Existing Density[1] / LOS		Existing + Project Density[1] / LOS	
			AM	PM	AM	PM
	Bass Lake Rd on-ramp to El Dorado Hills Blvd off-ramp	Basic	29 / D	17 / B	29 / D	17 / B
	El Dorado Hills Blvd off-ramp	Diverge	33 / D	22 / C	33 / D	22 / C
	El Dorado Hills Blvd on-ramp	Merge	34 / D	24 / C	***- / F***	25 / C

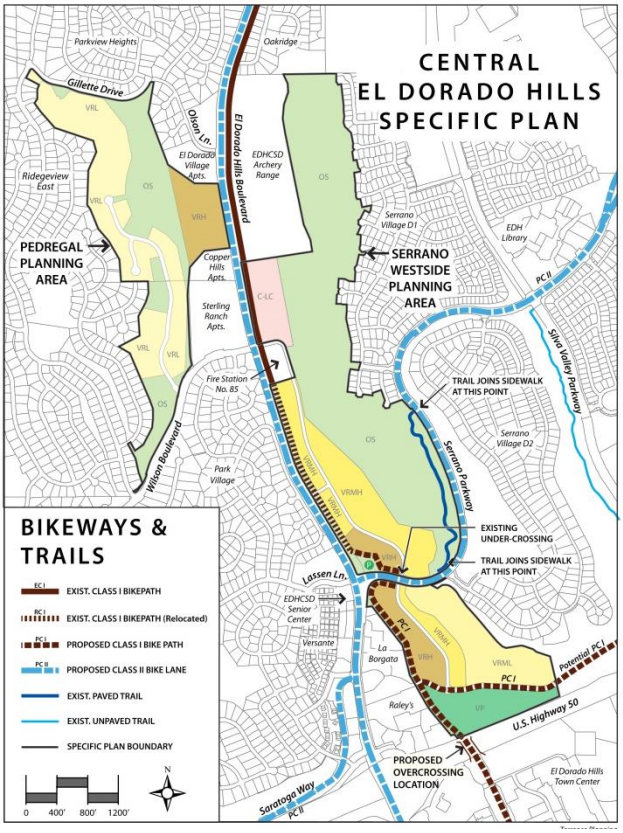
Notes: [1] Density reported as passenger cars per mile per lane. Density is not reported for LOS F operations.

Bold text indicates LOS worse than established threshold. *Italic and underlined* text identifies a potential impact.

Source: Fehr & Peers, 2014

5.4 PEDESTRIAN AND BICYCLE CIRCULATION

The project proposes the following bicycle and pedestrian facilities, which are shown to the right that will integrate with existing and planned facilities in the study area:



- Relocate the existing Class I (off street) bike path east separated from El Dorado Hills Boulevard to the existing drainage channel, extending from just south of the fire station to US 50 at the Village Park
- Connect the bike path to the exiting undercrossing of Serrano Parkway
- Relocate the planned bicycle/ pedestrian crossing of US 50 to connect the off-street bike path at the planned Village Park to El Dorado Hills Town Center (overcrossing to be constructed by the County)
- Connection between the project site and the Raley's and La Borgata shopping centers
- Connect to a potential Class I bike path between project boundary and Silva Valley Parkway that would complete a connection to the planned Country Club Drive extension

5.5 TRANSIT

The Specific Plan provides for a Park and Ride location in the Serrano Westside portion of the Plan Area, as a joint-use facility between El Dorado Transit and the El Dorado Hills CSD. As many as 50 parking stalls within the Village Park land use designation may be reserved for Park-n-Ride use during weekday business hours when park activities are minimal. The details of the Park-n-Ride facility will be determined at the time the Village Park is developed. In addition, opportunities exist to accommodate bus stop (turnout and shelter) on the east side of El Dorado Hills Boulevard next to the Serrano Westside Planning Area, provided the existing Class I bike path is relocated to the east side of the drainage channel. An addition bus stop (turnout and shelter) may be accommodated on the future extension of Park Drive near

the Village Park. Based on ridership data presented in the El Dorado Hills Community Transit Needs Assessment and US 50 Corridor Transit Operations Plan, Final Report, 41,760 annual commute trips are made by El Dorado Hills residents using El Dorado Transit Commuter Service. Residents of El Dorado Hills account for about 72 percent of boardings at the El Dorado Hills Park-n-Ride lot, which includes riders that park in the lot and riders that use other means to access the service (i.e., walk, bike, and drop-off).

Based on this information, about one annual commute trip is generated per El Dorado Hills resident, assuming a population of 42,100 (2010 Census) in El Dorado Hills. Therefore, the project's 1,000 dwelling units could result in demand of about 2,600 annual commute trips (assuming a household population of 2.6 persons), or about 10 commute trips per weekday.

6.0 CUMULATIVE CONDITIONS

6.1 TRAVEL DEMAND FORECASTS

For this project, the El Dorado County model was utilized to develop forecasts in the study area. However, as is standard practice with large area travel demand models, a thorough model review was completed and the model was refined to ensure that it produced reasonable results in the study area.

The following refinements were implemented in the study area:

- Added roadway network detail
- Updated land use to reflect 2012 conditions
- Refined the traffic analysis zones (TAZs) in order to get more refined loading of trips in the study area
- Updated network attributes in the study area to reflect existing conditions (e.g. verified roadway network speeds, number of lanes on the roadway, and roadway capacities to reflect existing conditions)
- Updated the future year roadway network in the study area to only reflect the SACOG Metropolitan Transportation Plan (MTP) constrained roadway network, which is consistent with the County's Capital Improvement Program (2013 CIP)
- Updated the future land use information to reflect approved and reasonably foreseeable projects in the study area
- Added peak hour assignment functionality

Specific information related to the model's performance is described below:

6.1.1 BASE YEAR MODEL VALIDATION

Before any model can be applied for use in a major specific plan application, it must first satisfy specific validation criteria identified by Caltrans, the Federal Highways Administration (FHWA), and the California Transportation Commission (CTC). These criteria were developed to ensure that a model is developed such that it can accurately forecast existing conditions based on land use and roadway network information, which improves the model's ability to accurately forecast future conditions. The state-of-the-practice for developing defensible forecasts for changes in the roadway network and/or changes in proposed land use is to use a valid base year model.

The first step of any model validation is to ensure that the model generally produces similar results to existing counts. Please note that, since the model is being used to generate AM peak hour and PM peak hour forecasts, the model must be valid at our study facilities for both time periods.

Key metrics for model validation guidelines are described below:

- The volume-to-count ratio is computed by dividing the volume assigned by the model and the actual traffic count for individual roadways (or intersections). The volume-to-count ratio should be less than 10%.
- The deviation is the difference between the model volume and the actual count divided by the actual count. Caltrans provides guidance on the maximum allowable deviation by facility type (e.g. lower-volume roadways can have a higher deviation than higher-volume roadways). 75% of the study facilities should be within the maximum allowable deviation.
- The correlation coefficient estimates the correlation between the actual traffic counts and the estimated traffic volumes from the model. The correlation coefficient should be greater than 0.88.
- The percent Root Mean Square Error (RMSE) is the square root of the model volume minus the actual count squared divided by the number of counts. It is a measure similar to standard deviation in that it assesses the accuracy of the entire model. The RMSE should be less than 40%.

The model validation statistics are summarized in Table 13. As shown in Table 13, the model meets or exceeds the identified model validation statistics in the study area. As such, the model is deemed appropriate for use in this assessment.

TABLE 13: TRAVEL DEMAND FORECASTING MODEL SUB AREA VALIDATION

Metric	Model Validation	Maximum Allowable Deviation
AM Peak Hour – 114 Count Locations		
Model/Count Ratio	1.04	Between 0.90 and 1.10
Percent Within Caltrans Maximum Deviation	85%	> 75%
Percent Root Mean Square Error	24%	< 40%
Correlation Coefficient	0.98	> 0.88
PM Peak Hour – 114 Count Locations		
Model/Count Ratio	1.06	between 0.90 and 1.10
Percent Within Caltrans Maximum Deviation	86%	> 75%
Percent Root Mean Square Error	21%	< 40%
Correlation Coefficient	0.98	> 0.88

Source: Fehr & Peers, 2014

6.1.2. FUTURE (YEAR 2035) MODELING ASSUMPTIONS

All modifications incorporated into the validated Base Year model were incorporated into the future year (2035) travel demand forecasting model. Additionally, as previously mentioned, the model was also updated to include only roadway improvements consistent with the SACOG's MTP and the County's 2013 CIP.

Table 14 describes capacity-enhancing improvements to roadway facilities in the project study area that are planned to occur prior to year 2035 and are included in the cumulative analysis. This information is primarily based on El Dorado County's 2013 CIP (Section 8.1 – West Slope Road/Bridge Individual Project Summaries) and SACOG's MTP/SCS (Appendix A1: MTP/SCS Project List). All relevant projects with the El Dorado County Department of Transportation as the lead agency are identified in Table 14. The validated El Dorado County model was used to develop AM and PM peak hour forecasts for the following scenarios:

- Cumulative No Project – Corresponds to a 2035 No Project Cumulative horizon that accounts for planned (and funded) roadway improvements, land use growth consistent with the 2004 General Plan, and with approved and reasonably foreseeable projects in the study area, including the following:

    - Bass Lake Hills Specific Plan
    - Cameron Estates
    - Carson Creek Specific Plan
    - Dixon Ranch
    - Lime Rock Valley Specific Plan
    - Marble Valley Specific Plan
    - Promontory
    - Rancho Dorado
    - Ridgeview
    - San Stino Residential Project
    - Serrano
    - Tilden Park
    - Valley View Specific Plan

    Please note that this scenario assumes the allowable development levels based on General Plan designation in the Pedregal Planning Area (144 multi-family dwelling units and 37 single family dwelling units) and development of Serrano Village D-1, Lots C and D (i.e., 135 single family dwelling units).

- Cumulative Plus Proposed Project – Includes similar assumptions to the Cumulative No Project scenario, but incorporates buildout of the Proposed Project and associated roadway network. As outlined in the NOP, the project includes a density transfer from Serrano Village D-1, Lots C and D

to the Serrano Westside Planning Area. Consequently, Lots C and D of Serrano Village D-1 would not be constructed.

Consistent with state-of-the-practice travel demand forecasting practice, model error was corrected using the methodologies identified in the National Cooperative Highway Research Program Report 255 (Transportation Research Board, 1982) using the "difference method" (e.g. add model predicted growth to existing volumes) for roadway segments and intersections.

Figures 9 and 10 present AM and PM peak hour traffic volume forecasts for cumulative conditions without and with the proposed project, respectively.

TABLE 14: CAPACITY–ENHANCING ROADWAY IMPROVEMENTS (ASSUMED COMPLETION BY 2035)

Project Name	Project Description	Estimated Completion
Bass Lake Road Frontage Improvements	Perform roadway operational improvements on Bass Lake Road constructed by Silver Springs development.	By 2020
Bass Lake Road Improvements - Phase 1A	Widen and reconstruct Bass Lake Road from US 50 to Hollow Oak Road to 2-lane divided road with 4-foot shoulders and bicycle/pedestrian paths. Includes an 8-foot median, sidewalk, and bike lane from Hollow Oak Road to US 50; median improvements only from Hollow Oak Road to Serrano Parkway; improvements of park-and-ride lot with frontage road improvement to Old Bass Lake Road and Tierra de Dios. (See ELD19225/CIP#GP166 for Phase 1B). CIP#66109	By 2035
Bass Lake Road Widening	Widen Bass Lake Road from US 50 to Silver Springs Pkwy to accommodate 4 lanes of traffic (divided), curb, gutter, and sidewalk. (See ELD19224 for Phase 1A)	By 2035
Country Club Drive – Silva Valley Parkway to "Old Lincoln Highway"	Construct new 2-lane road north of existing Tong Rd from Silva Valley Pkwy to the "Old Lincoln Hwy". This project is the first half of the ultimate project to connect Silva Valley Pkwy to Bass Lake Rd and provide parallel capacity to US 50. CIP#71335	By 2020
Country Club Drive Extension – Bass Lake Road to Silver Dove Road	Construct 2-lane extension of Country Club Drive from Bass Lake Road to Silver Dove Road. Roadway includes 6-foot paved shoulders and new intersection at Bass Lake Road. (Curb, gutter, and sidewalk may be included.) CIP#GP124	By 2035
Country Club Drive Extension - Silver Dove to west end Bass Lake Hills	Construct new 2-lane extension of Country Club Drive from Silver Dove Road to the west end of Bass Lake Hills Specific Plan boundary for future connection to Silva Valley Parkway. Project includes 6-foot paved shoulders. (Curb, gutter, and sidewalk may be included). CIP#GP125	By 2035

TABLE 14: CAPACITY–ENHANCING ROADWAY IMPROVEMENTS (ASSUMED COMPLETION BY 2035)

Project Name	Project Description	Estimated Completion
El Dorado Hills Boulevard / Francisco Drive – Realignment	Realign existing El Dorado Hills Boulevard / Francisco Drive / Brittany Way intersection and approach roadways to result in a new 4-way intersection with extensions and signal installation. Northern portion of El Dorado Hills Boulevard (at this intersection) will become new minor traffic way, and current Francisco Drive between El Dorado Hills Boulevard and Green Valley Road will become new major traffic way. CIP#72332	By 2035
El Dorado Hills Boulevard Widening - Lassen Lane to Park Drive	Widen El Dorado Hills Boulevard from Lassen Lane to Park Drive from 4 to 5 lanes (divided) by adding a third southbound lane. Project includes curb, gutter, and sidewalk. CIP#GP183	By 2035
Green Valley Rd Widening - Francisco to Salmon Falls	Widen Green Valley Rd from Francisco Dr to Salmon Falls Rd to 4-lanes divided with curb, gutter, and sidewalk. CIP#GP178	By 2035
Green Valley Road	Widen: 4-lanes from Salmon Falls Rd. east to Deer Valley Rd.	By 2035
Green Valley Road Widening - County Line to Francisco Drive	Construct a second eastbound through lane from the commercial area near Sophia Parkway intersection to Francisco Drive with traffic signal installation at the Green Valley Road/Browns Ravine/Miller Road intersection. Also add a second westbound lane from Francisco Drive to the commercial area near the Sophia Parkway intersection.	Completed
Latrobe Road Widening – Golden Foothill to Investment	Widen Latrobe Rd from Golden Foothill Pkwy (south end) to Investment Blvd from 2-lanes undivided to 4-lanes divided with curb, gutter, and Class II bike lanes; modify signal at Investment Blvd. CIP#72350	By 2035
Latrobe Road	Widen: 6 lanes (divided with 4-foot shoulders) from White Rock Rd. to Carson Creek (Suncast Ln.).	By 2035
Latrobe Rd / White Rock Rd Connector (New Road)	New connector road from the El Dorado Hills Business Park to White Rock Rd west of Four Seasons/Stonebriar intersection; Phase 1 to perform route alignment study and prepare PSR; Phase 2 will include environmental, design and construction; may require coordination with Sacramento County, City of Folsom, Southeast Connector JPA and area developers. CIP#66116	By 2035
Saratoga Wy Ext - Phase 1	Construct new 2-lane arterial to extend Saratoga Wy from current terminus near Finders Wy to Sacramento County Line; includes median, 6-ft shoulders, right-turn pocket onto Finders Way, asphalt path, drainage system, environmental clearance and secure ROW for future 4-lane road from County Line to El Dorado Hills Blvd. CIP71324 (Phase 2 CIP#GP147 - See ELD19234 in MTP.)	By 2035

TABLE 14: CAPACITY–ENHANCING ROADWAY IMPROVEMENTS (ASSUMED COMPLETION BY 2035)

Project Name	Project Description	Estimated Completion
Saratoga Wy. (Phase 2)	Widen: 4 lanes from the Sacramento/El Dorado County line to El Dorado Hills Blvd. Includes: full curb, gutter, and sidewalk. (See ELD16010 for Phase 1)	By 2035
Silva Valley Pkwy Widening from Entrada	Widen Silva Valley Pkwy (2 to 4 lanes) from Entrada Dr to 1000 feet south of Oak Meadow Elem School; includes sidewalk, bike lanes and left-turn storage for school entrance.CIP#72370	By 2020
Silva Valley Pkwy / Golden Eagle Ln - Signalization	Signalize intersection at Silva Valley Pkwy and Golden Eagle Ln (Silva Valley Elementary School). CIP#GP182	By 2035
Silver Springs Parkway to Bass Lake Road	It is anticipated that Silver Springs Parkway will be built as a two-lane standard divided roadway with shoulders. It is planned to realign Bass Lake Road south of Green Valley Road through the proposed Silver Springs subdivision, which is west of the existing Bass Lake Road. The new road is named Silver Springs Parkway. That development is responsible for building Silver Springs Parkway through their development. There is a portion of the new alignment that falls to the south of the Silver Springs development that must also be built to connect the new road to the existing Bass Lake Road to the south.	By 2020
Silver Springs Parkway to Green Valley Road	Construct new Silver Springs Parkway through the Silver Springs Development from Bass Lake Road to Green Valley Road and install signal at Silver Springs Parkway and Green Valley Road intersection. Connect to realigned Bass Lake Road north of Bass Lake.	By 2020
Sophia Parkway	Widen: 4 lanes (divided) from Alexandria Rd. to Empire Rancho Rd. at the County Line.	By 2035
US 50 / Bass Lake Road (Phase 2)	Add Auxiliary Lane: WB on US 50 between Bass Lake Rd. and Cambridge Rd. interchanges. Includes: additional ramp, road widening (Phase 2) (See ELD19182 for Phase 1).	By 2035
US 50 / Cambridge Road (Phase 2)	Add Auxiliary Lane: on US 50 EB between Cambridge Rd. and Cameron Park Dr. interchanges and WB between Cameron Park Dr. and Bass Lake Rd. interchanges. Includes bridge widening to add two lanes and ramp widening (Phase 2) (See Eld19181 for Phase 1).	By 2035
US 50 Aux Lane WB - El Dorado Hills to Empire Ranch	Widen US 50 and add auxiliary lane to westbound US 50 connecting the El Dorado Hills Blvd/Latrobe Rd Interchange to the future Empire Ranch Rd Interchange located in the City of Folsom; (City of Folsom will construct the EB aux lane.) Timing of construction to be concurrent with or after the El Dorado Hills Blvd Interchange (ELD15630/CIP71323) or Empire Ranch Interchange. CEQA/NEPA cleared through the Empire Ranch Interchange environmental document. CIP#53115	By 2035

TABLE 14: CAPACITY–ENHANCING ROADWAY IMPROVEMENTS (ASSUMED COMPLETION BY 2035)

Project Name	Project Description	Estimated Completion
US 50 50 Auxiliary Lane Eastbound – Cambridge to Ponderosa	Construct eastbound auxiliary lane on US 50 between Cambridge Rd and Ponderosa Rd interchanges. CIP GP150	By 2035
US 50 Bus / Carpool Lanes	Bus/Carpool Lanes – Phase 3: Us 50-Ponderosa Road to Greenstone Road.	By 2035
US 50 HOV Lanes – Phase 1	Phase 1 (El Dorado Hills to Bass Lake Grade) - Add HOV lanes in median of US 50 between El Dorado Hills Blvd/Latrobe Rd and Bass Lake Rd interchanges (PM 0.5 to PM 4.2 eastbound and PM 0.9 to PM 2.9 westbound); includes extension of EB truck climbing lane from Latrobe Rd to base of Bass Lake Grade, median widenings of Clarksville Rd and Bass Lake Rd undercrossings, and replacement of EDH Blvd undercrossings including EB off-ramp. (See ELD19287 for Phase 2A, ELD19290 for Phase 2B and ELD19289 for future unfunded Phase 3 in the MTP). Emission Benefits in kg/day: ROG 27, NOx: 28, PM10 15, CO 303. CIP#53110	Completed
US 50 HOV Lanes – Phase 2A	Phase 2A (Bass Lake Rd to Cameron Park Dr) - Add HOV lanes in median of US 50 between Bass Lake Rd and Cameron Park Dr Interchanges. PA&ED completed by Caltrans. Caltrans advancing project design through Cooperative Agreement with the County. Intergovernmental Agreement between County and Shingle Springs Band of Miwok Indians for funding (coded as Local Agency Funds). (Emission Benefits in kg/day: 19 ROG, 20 NOx, 12 PM10.) (See ELD19211/CIP53113 for Phase 1, ELD19290/CIP53122 for Phase 2B and ELD19289/CIP#53116 for future unfunded Phase 3 in the MTP). CIP#53113	Completed
US 50 HOV Lanes – Phase 2B	Phase 2B (Cameron Park Dr to Ponderosa Rd.) - Add HOV lanes in median of US 50 between Cameron Park Dr. and Ponderosa Rd. interchanges. PA&ED completed by Caltrans. Caltrans advancing project design through Cooperative Agreement with the County. Intergovernmental Agreement between County and Shingle Springs Band of Miwok Indians for funding (coded as Local Agency Funds). (See ELD19211/CIP53113 for Phase 1, ELD19290/CIP53122 for Phase 2B and ELD19289/CIP53116 for future unfunded Phase 3 in the MTP). CIP53113	By 2035
US 50 Mainline Widening at El Dorado Hills	Construct new westbound aux lane within median of US 50 between Silva Valley Pkwy and Empire Ranch Rd future new interchanges; requires coordination with Silva Valley I/C (ELD15610/CIP#71328), El Dorado Hills I/C (ELD15630/CIP71323) and Empire Ranch I/C (City of Folsom project). CIP#53120	By 2035

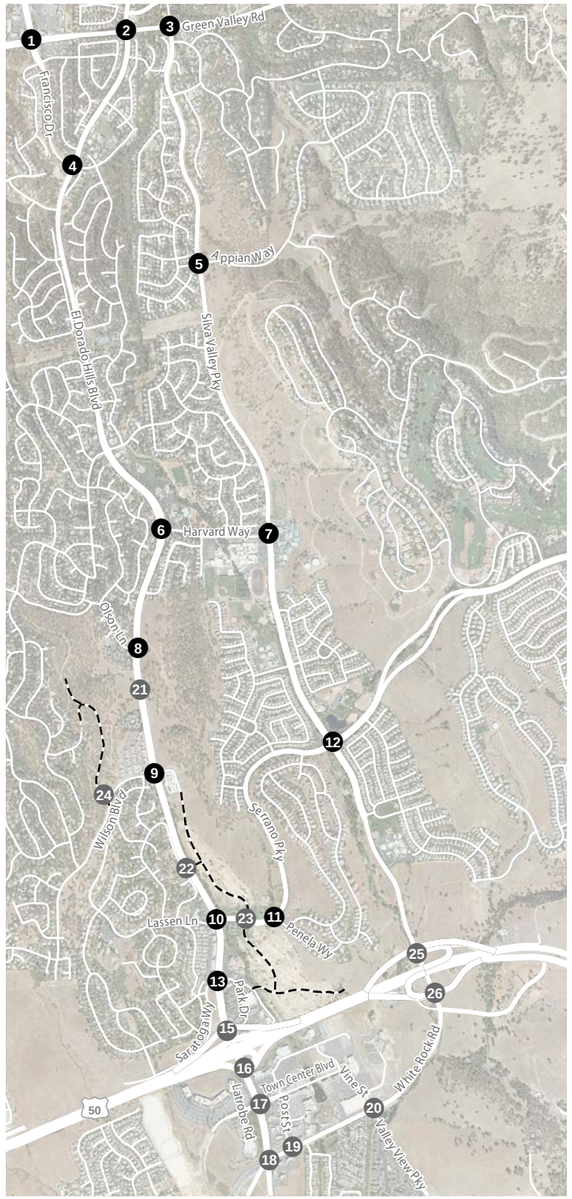
TABLE 14: CAPACITY–ENHANCING ROADWAY IMPROVEMENTS (ASSUMED COMPLETION BY 2035)

Project Name	Project Description	Estimated Completion
US 50 / Bass Lake Rd Interchange - Phase 1	Interchange Improvements: this phase includes detailed study to determine complete improvements needed; Phase 1 may include ramp widening, road widening, signals, and WB auxiliary lane between Bass Lake and Silva Valley interchanges; Phase 1 assumes bridge replacement. (See ELD19217 for Phase 2). CIP#71330	By 2035
US 50 / Cambridge Rd. Interchange – Phase 1	Interchange Improvements: this phase includes widening existing EB and WB on-/off-ramps; addition of new WB on-ramp; reconstruction of local intersections; and installation of traffic signals at EB and WB ramp terminal intersections; preliminary engineering for Phase 2 to be performed under Phase 1. (See ELD19218 for Phase 2) CIP#71332	By 2035
US 50 / Cameron Park Dr. Interchange Improvements	Interchange Improvements: this project includes detailed study to identify capacity improvement alternatives and selection of preferred alternative; assumes reconstruction of US 50 bridges to widen Cameron Park Dr. to 8 lanes under the overcrossing; road and ramp widening. CIP72361	By 2035
US 50 / El Dorado Hills Blvd Interchange Eastbound Ramps	Reconstruct eastbound diagonal on-ramp and eastbound loop off-ramp for the ultimate configuration; add a lane to northbound El Dorado Hills Blvd under the overpass (eliminates merge lane and improves traffic flow from the eastbound loop off-ramp); eastbound diagonal on-ramp will be metered and have an HOV bypass. Project split from ELD15630 (CIP#71323).	By 2020
US 50 / El Dorado Rd Interchange - Phase 1	Interchange Improvements: includes signalization and widening of existing ramps. (See ELD19272 for Phase 2). CIP#71347	By 2035
US 50 / El Dorado Rd Interchange - Phase 2	Interchange Improvements: this phase involves construction of left and right turn lanes and additional through traffic lanes in all approaches to the interchange. (See ELD19178/CIP#71347 for Phase 1). CIP#71376	By 2035
US 50 / El Dorado Hills Blvd Interchange – Final Phase	Interchange Improvements: this final phase constructs new WB off-ramp undercrossing, improves WB on-/off-ramps and widens El Dorado Hills Blvd. (Coordinates with ELD19215/CIP#53120, ELD19273/CIP#53115, ELD19173/CIP71340, and ELD19345). CIP#71323	Ongoing
US 50 / El Dorado Hills Blvd Pedestrian Overcrossing	Construct ped/bike overcrossing over US 50 just east of El Dorado Hills Blvd. Interchange; includes a Class 3 mixed use path; construction and ROW acquisition for 10-ft wide sidewalk and adjacent retaining walls, barriers, railings, and landscape replacement included with CIP71323 (see ELD15630). CIP71340.	By 2035

TABLE 14: CAPACITY–ENHANCING ROADWAY IMPROVEMENTS (ASSUMED COMPLETION BY 2035)

Project Name	Project Description	Estimated Completion
US 50 / Silva Valley Pkwy Interchange - Phase 1	New Interchange: Phase 1 includes US 50 on-/off-ramps, overcrossing, and US 50 aux lanes. (See ELD19291/CIP#71345 for Phase 2). CIP#71328	Ongoing
US 50 / Silva Valley Pkwy Interchange - Phase 2 (Connector Segment)	Final phase of new interchange: construction of eastbound diagonal and westbound loop on-ramps to US 50. (See ELD15610/CIP#71328 for Phases 1). CIP#71345	By 2035
White Rock Rd Widening - Manchester to County Line (Connector Segment)	Widen White Rock Rd from 2 to 4 lanes, divided, from Manchester Dr west to Sacramento County Line. CIP#GP137	By 2035
White Rock Rd Widening – Monte Verde to US 50 / Silva Valley (Connector Segment)	Widen White Rock Rd from 2-lanes undivided to 4 lanes divided, from Monte Verde Dr east to new future US 50/Silva Valley Pkwy Interchange (ELD15610/CIP71328); includes curb, gutter, sidewalk, and Class II bike lanes. ROW costs include acquisition for ultimate 6-lane facility (see CIP#GP152/ELD19235 in MTP). CIP#72374	By 2035
White Rock Rd Widening – Latrobe to Monte Verde (Connector Segment)	Widen White Rock Rd (2 lanes undivided to 4 lanes divided) from Post St to the culvert east of Monte Verde Dr; install new traffic signal at White Rock Rd/Windfield Wy; includes curb, gutter, sidewalk, and Class II bike lanes. CIP#72372	By 2020
White Rock Rd (Connector Segment)	Widen: 6 lanes (divided) from Latrobe Rd. to U.S. 50 / Silva Valley Pkwy. Interchange.	By 2035
White Rock Rd / Post St - Signalization (Connector Segment)	Signalize intersection at White Rock Rd and Post St in El Dorado Hills. CIP#73310	Completed

Source: El Dorado County's CIP (Section 8.1 – West Slope Road/Bridge Individual Project Summaries) and SACOG's MTP/SCS (Appendix A1: MTP/SCS Project List).



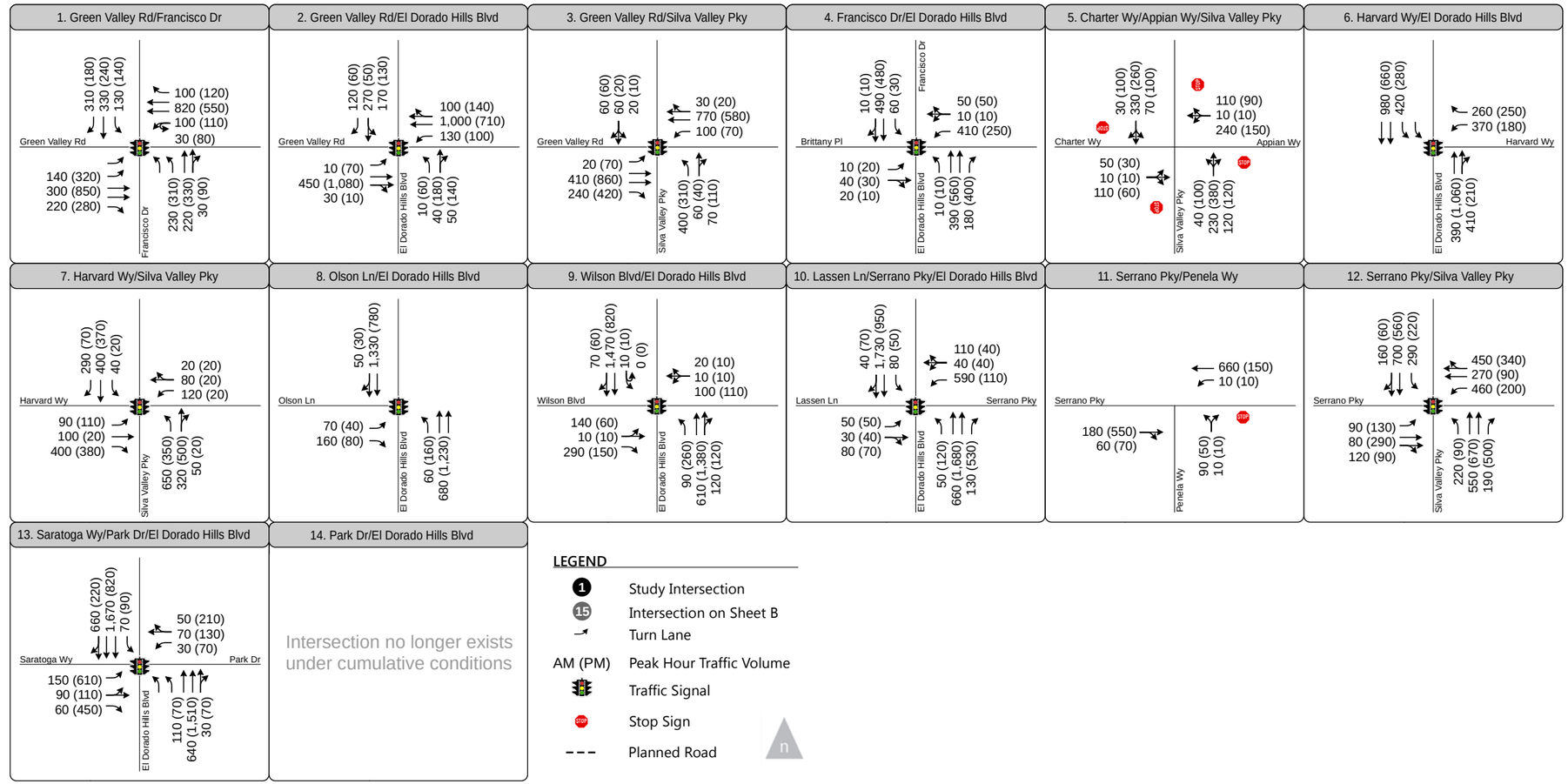


Figure 9A.

Peak Hour Traffic Volumes and Lane Configurations - Cumulative No Project Conditions

FEHR PEERS

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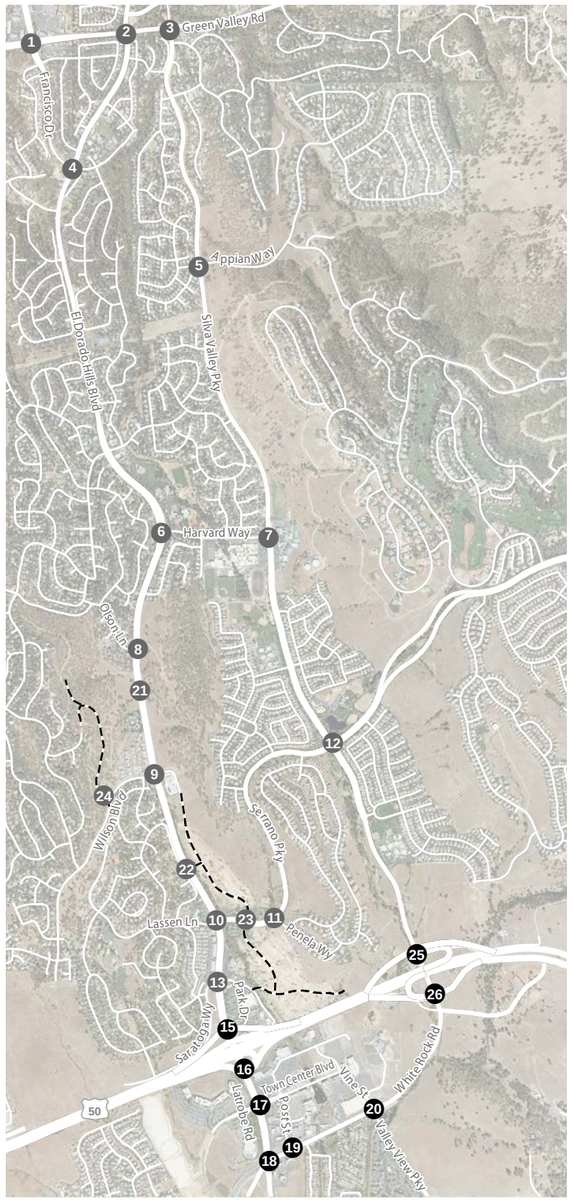

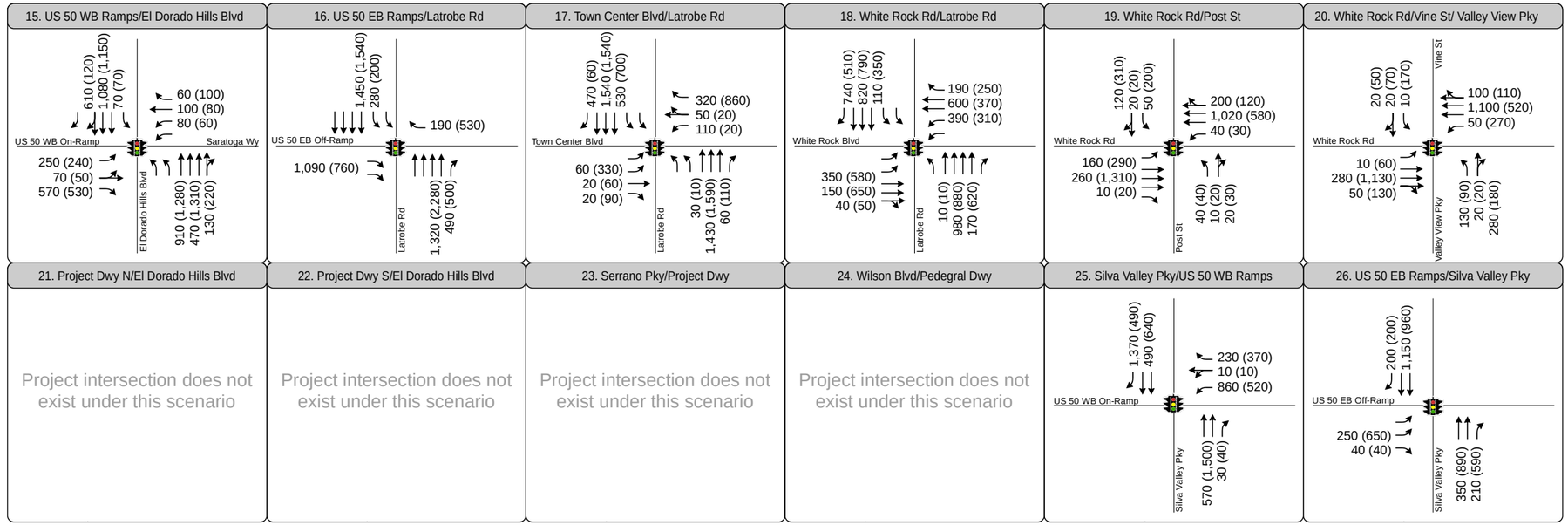

LEGEND

- 15 Study Intersection
- 1 Intersection on Sheet A or Future Intersection
- Turn Lane
- AM (PM) Peak Hour Traffic Volume
- Traffic Signal
- Stop Sign
- Planned Road

Figure 9B.

Peak Hour Traffic Volumes and Lane Configurations - Cumulative No Project Conditions

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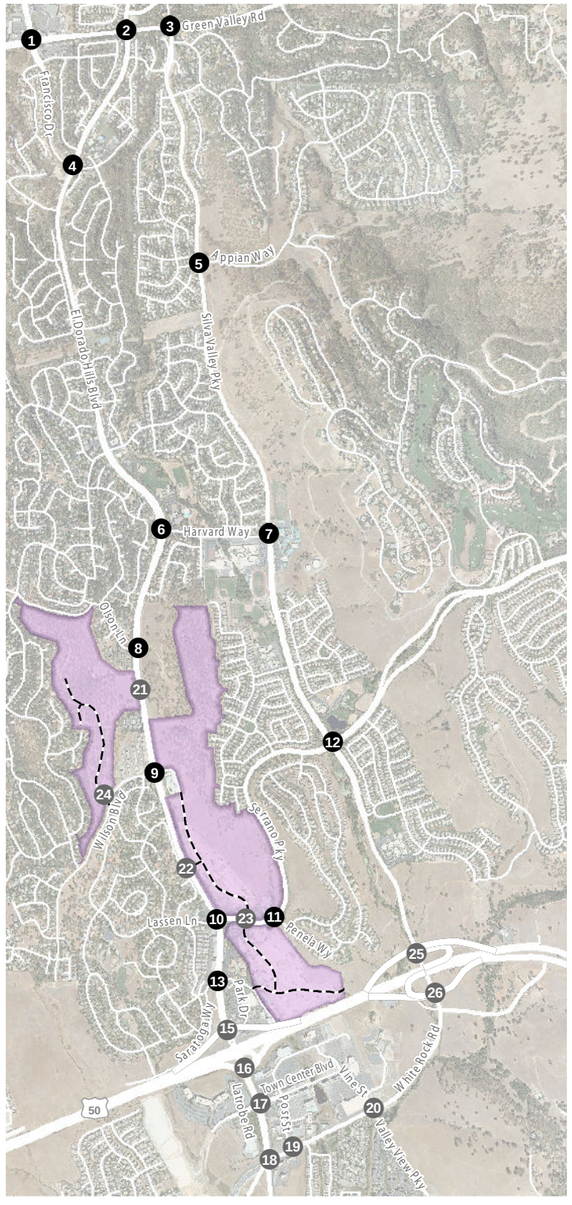

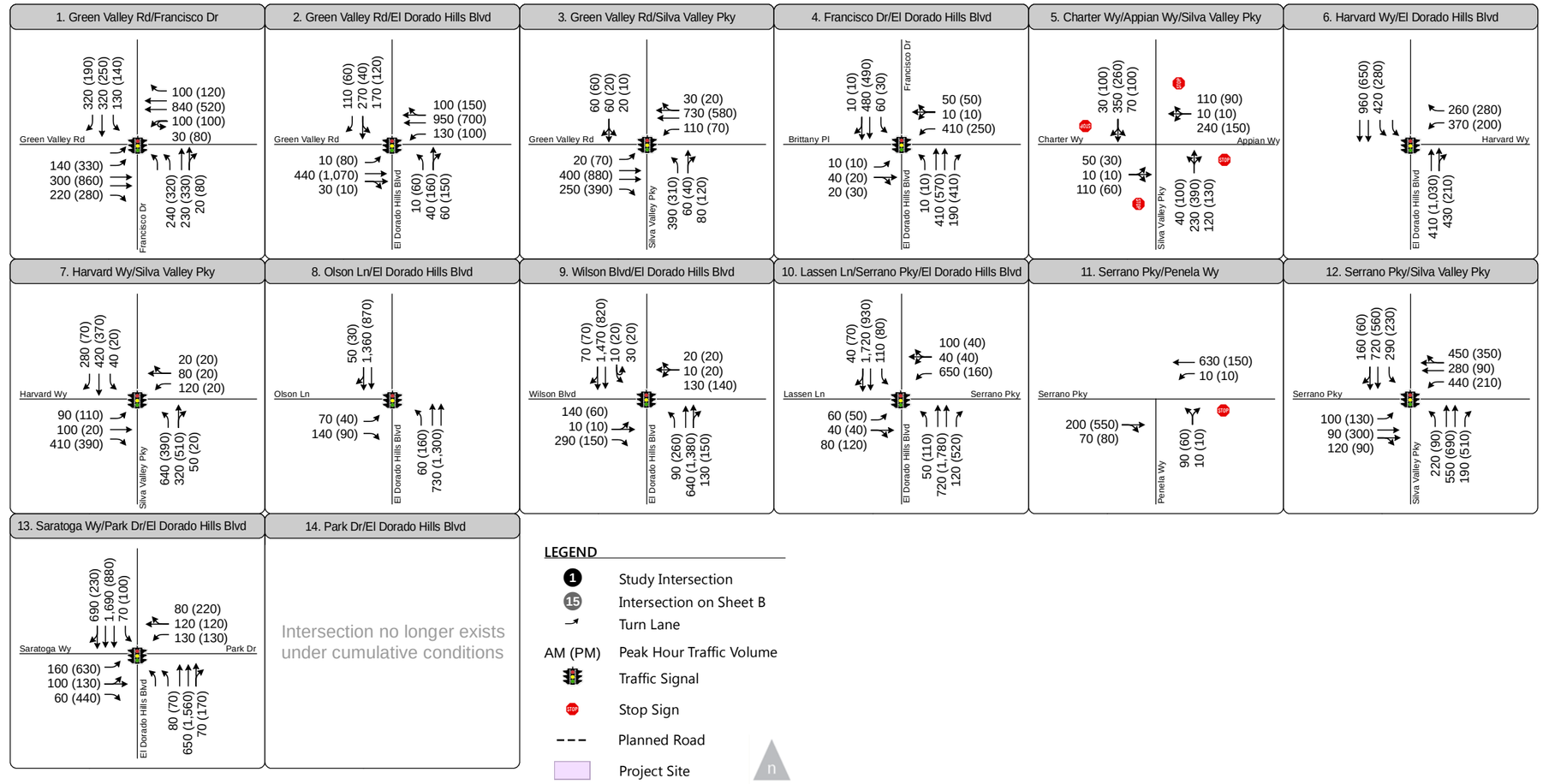

Figure 10A.

Peak Hour Traffic Volumes and Lane Configurations - Cumulative Plus Project Conditions

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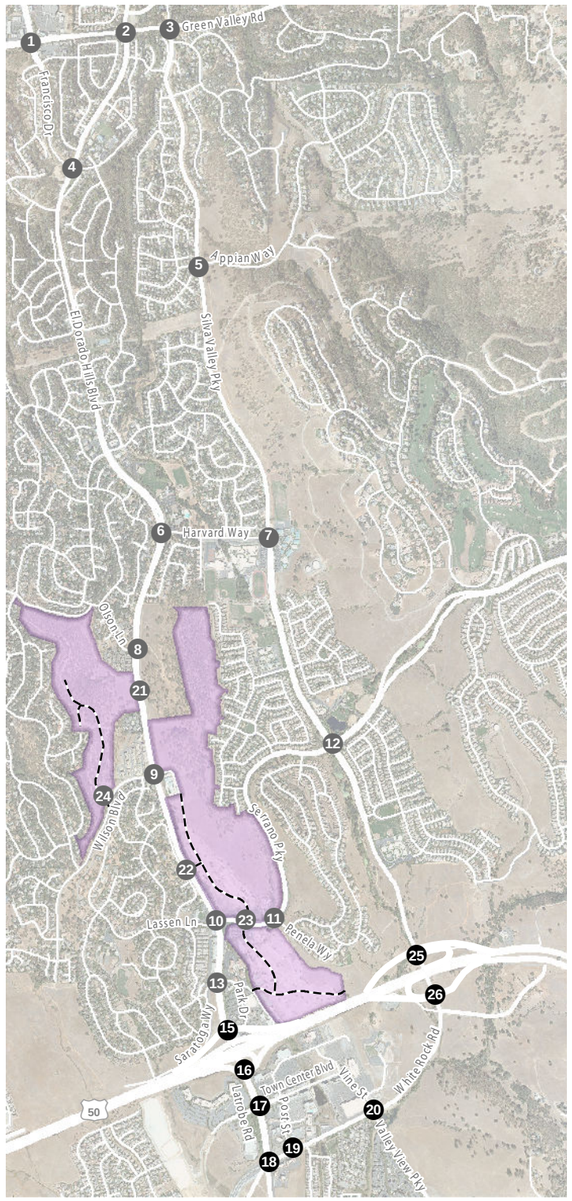

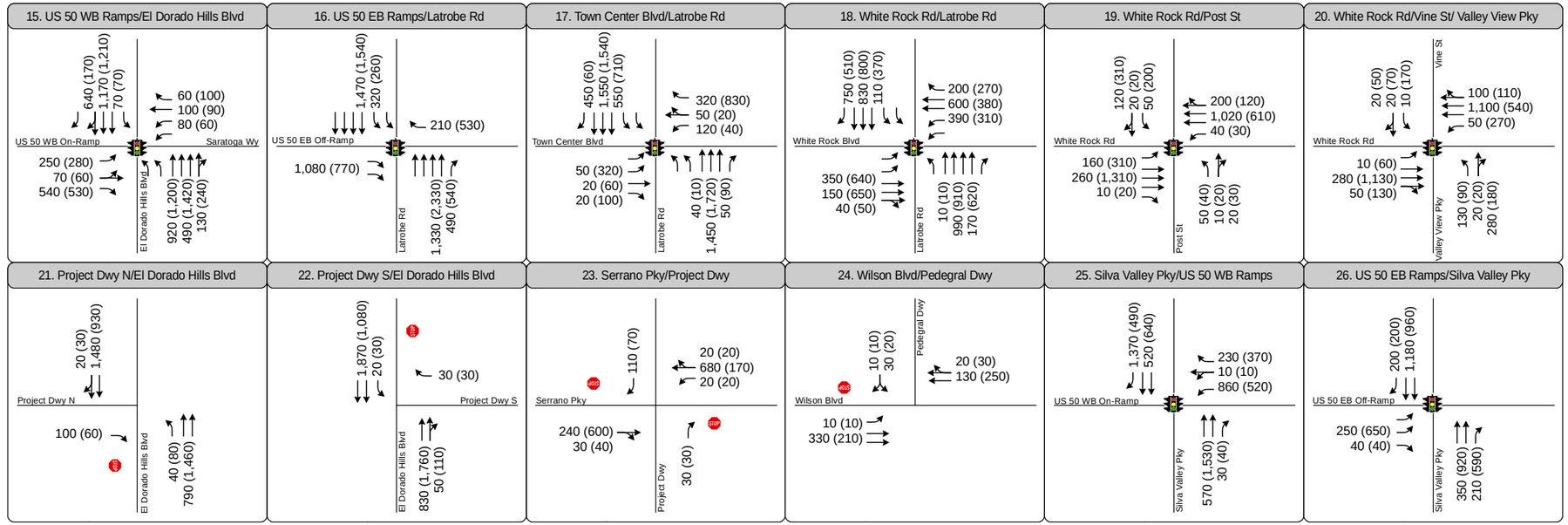

LEGEND

- 15 Study Intersection
- 1 Intersection on Sheet A or Future Intersection
- Turn Lane
- AM (PM) Peak Hour Traffic Volume
- Traffic Signal
- Stop Sign
- Planned Road
- Project Site

Figure 10B.

Peak Hour Traffic Volumes and Lane Configurations - Cumulative Plus Project Conditions

FEHR PEERS

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6.2 PEAK HOUR VEHICLE LEVEL OF SERVICE

6.2.1 INTERSECTIONS

Analysis results, which are presented in Table 15, indicate that most study intersections will operate acceptably under cumulative conditions, except for the following:

- Silva Valley Parkway / Appian Way (Intersection 5) – This intersection will operate unacceptably at LOS F without the project during both the AM and PM peak hours. According to established significance criteria, the project is projected to "significantly worsen" conditions, since it would add more than 10 trips to the intersection during the AM and PM peak hours.
- Silva Valley Parkway / Harvard Way (Intersection 7) – This intersection will operate unacceptably at LOS F without the project during the AM peak hour. According to established significance criteria, the project is projected to "significantly worsen" conditions, since it would add more than 10 trips to the intersection during the AM peak hour.
- El Dorado Hills Boulevard / Park Drive / Saratoga Way (Intersection 13) – This intersection will operate unacceptably at LOS F without the project during the PM peak hour. According to established significance criteria, the project is projected to "significantly worsen" conditions, since it would add more than 10 trips to the intersection during the PM peak hours.
- Latrobe Road / Town Center Boulevard (Intersection 17) – This intersection will operate unacceptably at LOS F without the project during the AM and PM peak hours. According to established significance criteria, the project is projected to "significantly worsen" conditions, since it would add more than 10 trips to the intersection during the AM and PM peak hours.

TABLE 15: INTERSECTION LOS AND DELAY – CUMULATIVE PLUS PROJECT CONDITIONS

Intersection	Control	Cumulative Conditions (LOS / Delay)		Cumulative Plus Project (LOS / Delay)	
		AM	PM	AM	PM
1. Green Valley Rd / Francisco Dr	Signal	D / 41	D / 47	D / 41	D / 46
2. Green Valley Rd/El Dorado Hills Blvd/Salmon Falls Rd	Signal	D / 46	D / 47	D / 45	D / 44
3. Green Valley Rd / Silva Valley Pkwy	Signal	D / 39	C / 27	D / 37	C / 27
4. Francisco Dr / El Dorado Hills Blvd	Signal	C / 27	B / 19	C / 27	B / 19
5. Silva Valley Pkwy / Appian Wy	AWSC	**F / >180**	**F / 105**	***F / >180***	***F / 113***
6. El Dorado Hills Blvd / Harvard Wy	Signal	C / 31	C / 22	C / 32	C / 23
7. Silva Valley Pkwy / Harvard Wy	Signal	**F / 93**	C / 33	***F / 97***	C / 35
8. El Dorado Hills Blvd/Olson Ln	Signal	B / 13	A / 10	B / 13	A / 10
9. El Dorado Hills Blvd/Wilson Blvd	Signal	D / 52	D / 39	E / 63	E / 62
10. El Dorado Hills Blvd/Serrano Pkwy/Lassen Ln	Signal	E / 58	C / 24	E / 64	C / 31
11. Serrano Pkwy/Penela Wy	SSSC	E / 38	C / 21	E / 37	C / 22
12. Serrano Pkwy/Silva Valley Pkwy	Signal	E / 72	E / 56	E / 73	E / 60
13. El Dorado Hills Blvd/Park Dr/Saratoga Wy	Signal	C / 34	**F / 112**	D / 45	***F / 115***
14. El Dorado Hills Blvd/Saratoga Wy	Signal	Does Not Exist			
15. El Dorado Hills Blvd/US 50 WB Ramps/Saratoga Wy	Signal	D / 46	D / 43	D / 47	D / 43
16. Latrobe Rd/US 50 EB Ramps	Signal	C / 24	C / 34	C / 22	C / 33
17. Latrobe Rd/Town Center Blvd	Signal	E / 76	**F / 173**	***F / 86***	***F / 166***

TABLE 15: INTERSECTION LOS AND DELAY – CUMULATIVE PLUS PROJECT CONDITIONS

Intersection	Control	Cumulative Conditions (LOS / Delay)		Cumulative Plus Project (LOS / Delay)	
		AM	PM	AM	PM
18. Latrobe Rd/White Rock Rd	Signal	D / 42	E / 69	D / 42	E / 78
19. White Rock Rd/Post St	Signal	C / 29	C / 34	C / 30	C / 34
20. White Rock Rd/Valley View Dr/Vine St	Signal	B / 19	D / 37	B / 19	D / 37
21. El Dorado Hills Blvd / Project Dwy North	SSSC	-	-	B / 11	A / 9
22. El Dorado Hills Blvd / Project Dwy South	SSSC	-	-	A / 9	B / 13
23. Serrano Pkwy / Project Dwy	SSSC	-	-	C) / 17	B / 14
24. Wilson Blvd / Pedregal Dwy	SSSC	-	-	B / 11	B / 11
25. Silva Valley Pkwy/US 50 WB Ramps	Signal	D / 48	C / 21	D / 52	C / 21
26. Silva Valley Pkwy/US 50 EB Ramps	Signal	A / 9	B / 10	A / 9	A / 10

Notes: SSSC = side-street stop-control, AWSC = all-way stop control

Bold and underlined text indicates LOS worse than established threshold. *Italic and underlined* text identifies a potential impact.

The average delay is measured in seconds per vehicle. For signalized and AWSC intersections, the delay shown is the average control delay for the overall intersection. For SSSC intersections, the LOS and control delay for the worst movement is shown.

Intersection LOS and delay is calculated based on the procedures and methodology contained in the *HCM* (TRB, 2000). Intersections 1-12, and 18-24 are analyzed in Synchro 7. Intersections 13-17 and 25-26 are analyzed in SimTraffic.

Source: Fehr & Peers, 2014

6.2.2 ROADWAY SEGMENTS

Analysis results, which are presented in Table 16, indicate that all but one study roadway segments will operate acceptably under cumulative conditions, due primarily to the capacity increasing roadway project included in the County's 2013 CIP, which are documented in Table 14. The two-lane segment of El Dorado Hills Boulevard would operate at LOS F during the PM peak hour under cumulative conditions without the proposed project. According to established significance criteria, the project is projected to "significantly worsen" conditions, since it would add more than 10 trips to the intersection during the PM peak hour.

TABLE 16: ROADWAY SEGMENT PEAK HOUR LEVEL OF SERVICE – CUMULATIVE PLUS PROJECT CONDITIONS

Roadway	Segment	Facility Type	Cumulative Volume / Volume – Capacity (V/C) Ratio / LOS		Cumulative + Project Volume / Volume – Capacity (V/C) Ratio / LOS	
			AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
El Dorado Hills Blvd	Green Valley Rd to Francisco Dr	2 lane arterial	440 / 0.27 / C[1]	440 / 0.27 / C[1]	440 / 0.27 / C[1]	420 / 0.25 / C[1]
	Francisco Dr to Governor Dr	2 lane arterial	1,450 / 0.88 / D	**1,680 / 1.02 / F**	1,450 / 0.88 / D	***1,670 / 1.01 / F***
	Governor Dr to Wilson Blvd	4 lane divided arterial	2,270 / 0.69 / D	2,300 / 0.70 / D	2,280 / 0.69 / D	2,280 / 0.69 / D
	Wilson Blvd to Serrano Pkwy	4 lane divided arterial	2,640 / 0.80 / D	2,800 / 0.85 / D	2,720 / 0.83 / D	2,850 / 0.87 / D
	Serrano Pkwy to Saratoga Way	5 lane divided arterial	3,210 / 0.78 / D	3,400 / 0.83 / D	3,330 / 0.81 / D	3,580 / 0.87 / D
	Saratoga Way to US 50	7 lane divided arterial	2,700 / 0.50 / C[1]	2,930 / 0.54 / C[1]	2,700 / 0.50 / C[1]	3,200 / 0.59 / C[1]
Latrobe Rd	US 50 to Town Center Blvd	7 lane arterial	4,290 / 0.79 / D	5,040 / 0.93 / D	4,330 / 0.80 / D	5,150 / 0.95 / D
	Town Center Blvd to White Rock Rd	6 lane divided arterial	3,130 / 0.66 / D	3,310 / 0.70 / D	3,180 / 0.68 / D	3,480 / 0.74 / D
	White Rock Rd to Golden Foothill Pkwy	6 lane divided arterial	2,300 / 0.49 / C[1]	2,680 / 0.57 / C[1]	2,310 / 0.49 / C[1]	2,660 / 0.56 / C[1]
	Golden Foothill Pkwy to Sun Ridge Meadow Rd	4 lane arterial undivided	1,600 / 0.51 / C[1]	1,590 / 0.51 / C[1]	1,600 / 0.51 / C[1]	1,590 / 0.51 / C[1]
	Sun Ridge Meadow Rd to S. Shingle Rd	2 lane arterial	590 / 0.36 / C[1]	600 / 0.36 / C[1]	590 / 0.36 / C[1]	600 / 0.36 / C[1]

TABLE 16: ROADWAY SEGMENT PEAK HOUR LEVEL OF SERVICE – CUMULATIVE PLUS PROJECT CONDITIONS

Roadway	Segment	Facility Type	Cumulative Volume / Volume – Capacity (V/C) Ratio / LOS		Cumulative + Project Volume / Volume – Capacity (V/C) Ratio / LOS	
White Rock Rd	Scott Rd to Four Seasons Dr	4 lane divided arterial	1,530 / 0.47 / C[1]	2,030 / 0.62 / D	1,550 / 0.47 / C[1]	2,180 / 0.66 / D
	Four Seasons Dr to Latrobe Rd	4 lane divided arterial	1,610 / 0.49 / C[1]	2,000 / 0.61 / D	1,630 / 0.5 / C[1]	2,130 / 0.65 / D
	Latrobe Rd to Vine St	6 lane divided arterial	1,430 / 0.30 / C[1]	1,840 / 0.39 / C[1]	1,430 / 0.3 / C[1]	1,830 / 0.39 / C[1]
	Vine St to US 50	6 lane divided arterial	1,760 / 0.37 / C[1]	2,350 / 0.50 / C[1]	1,750 / 0.37 / C[1]	2,340 / 0.5 / C[1]
Silva Valley Pkwy	Green Valley Rd to Glenwood Wy	2 lane arterial	920 / 0.56 / D	930 / 0.56 / D	920 / 0.56 / D	910 / 0.55 / D
	Glenwood Wy to Appian Wy	2 lane arterial	770 / 0.47 / C[1]	930 / 0.56 / D	770 / 0.47 / C[1]	900 / 0.55 / D
	Appian Wy to Harvard Wy	2 lane arterial	1,100 / 0.67 / D	1,030 / 0.62 / D	1,110 / 0.67 / D	1,030 / 0.62 / D
	Harvard Wy to Serrano Pkwy	4 lane divided arterial	2,150 / 0.65 / D	1,880 / 0.57 / D	2,170 / 0.66 / D	1,920 / 0.58 / D
	Serrano Pkwy to US 50	4 lane divided arterial	2,500 / 0.76 / D	2,500 / 0.76 / D	2,500 / 0.76 / D	2,520 / 0.77 / D
Serrano Pkwy	EDH Blvd to Silva Valley Pkwy	2 lane arterial	1,010 / 0.61 / D	920 / 0.56 / D	1,010 / 0.61 / D	920 / 0.56 / D
	Silva Valley Pkwy to Villagio Dr	4 lane divided arterial	1,680 / 0.51 / C[1]	1,590 / 0.48 / C[1]	1,670 / 0.51 / C[1]	1,630 / 0.5 / C[1]
	Villagio Dr to Bass Lake Rd	2 lane arterial	880 / 0.53 / D	960 / 0.58 / D	870 / 0.53 / D	980 / 0.59 / D
Saratoga Wy	EDH Blvd to Arrowhead Dr	2 lane arterial	1,100 / 0.67 / D	1,530 / 0.93 / D	1,150 / 0.70 / D	1,560 / 0.95 / E

TABLE 16: ROADWAY SEGMENT PEAK HOUR LEVEL OF SERVICE – CUMULATIVE PLUS PROJECT CONDITIONS

Roadway	Segment	Facility Type	Cumulative Volume / Volume – Capacity (V/C) Ratio / LOS		Cumulative + Project Volume / Volume – Capacity (V/C) Ratio / LOS	
Wilson Wy	EDH Blvd to Ridgeview Dr	4 lane undivided arterial	550 / 0.18 / C[1]	510 / 0.16 / C[1]	550 / 0.18 / C[1]	520 / 0.17 / C[1]
Olson Ln/Gillette Dr	EDH Blvd to Gillette Dr	2 lane arterial	310 / 0.19 / C[1]	300 / 0.18 / C[1]	310 / 0.19 / C[1]	300 / 0.18 / C[1]
Harvard Wy	EDH Blvd to Silva Valley Pkwy	4 lane undivided arterial	1,410 / 0.45 / C[1]	880 / 0.28 / C[1]	1,430 / 0.46 / C[1]	930 / 0.3 / C[1]

Notes: Volume-to-Capacity ratio and LOS is based on the HCM 2010 peak hour level of service thresholds
[1] LOS at this location is C or better
Bold text indicates LOS worse than established threshold. *Italic and underlined* text identifies a potential impact.
Source: Fehr & Peers, 2014

6.2.3 FREEWAY FACILITIES

Analysis results, which are presented in Table 16, indicate that all study freeway facilities will operate acceptably at LOS E or better under cumulative conditions without the proposed project. The capacity increasing projects from the County's 2013 CIP, which are documented in Table 14, include many projects that will add capacity of US 50, increase east/west parallel capacity, and add new interchange connections to US 50 that will provide alternatives to the existing US 50/El Dorado Hills Boulevard interchange. The following lists some of the more significant transportation improvements in the US 50 corridor:

Interchange Projects

- US 50/El Dorado Hills Boulevard Interchange Improvements (final improvement phases)
- US 50/Silva Valley Parkway Interchange (new connection to US 50)
- US 50/Empire Ranch Road Interchange (new connection to US 50)
- US 50/Bass Lake Road Interchange Upgrade
- US 50/Cambridge Road Interchange Upgrade

Mainline Projects

- Westbound US 50 interchange-to-interchange auxiliary lane (Bass Lake Road to Silva Valley Parkway)
- Westbound US 50 auxiliary lane (Silva Valley Parkway to Empire Ranch Road)
- Westbound US 50 interchange-to-interchange auxiliary lane (Silva Valley Parkway to El Dorado Hills Boulevard)
- Eastbound US 50 interchange-to-interchange auxiliary lane (El Dorado Hills Boulevard to Silva Valley Parkway)
- Westbound US 50 interchange-to-interchange auxiliary lane (Cambridge Drive to Bass Lake Road)
- Eastbound US 50 interchange-to-interchange auxiliary lane (Bass Lake Road to Cambridge Drive)

Arterial Roadway Projects

- Country Club Drive Extension from Bass Lake Road to Silva Valley Parkway
- Saratoga Way Extension from El Dorado Hills Boulevard to Iron Point Road
- Extension of Empire Ranch Road from US 50 to White Rock Road
- Latrobe Road Connector (new roadway between Latrobe Road and White Rock Road)

Figure 11 compares existing conditions on US 50 to US 50 with the interchange and mainline projects listed above. Figure 12 shows peak hour US 50 mainline and ramp volumes under cumulative conditions.

The westbound weaving sections between El Dorado Hills Boulevard and Empire Ranch Road will operate at LOS F during the AM peak hour with the proposed project, based on the HCM weave analysis method. About 11 percent of project trips will have an origin/destination in Rancho Cordova or other areas to the west.

However, analysis of the weaving section based on the Leisch Method (preferred by Caltrans District 3) indicates that these weave sections would operate at LOS D during the same period.

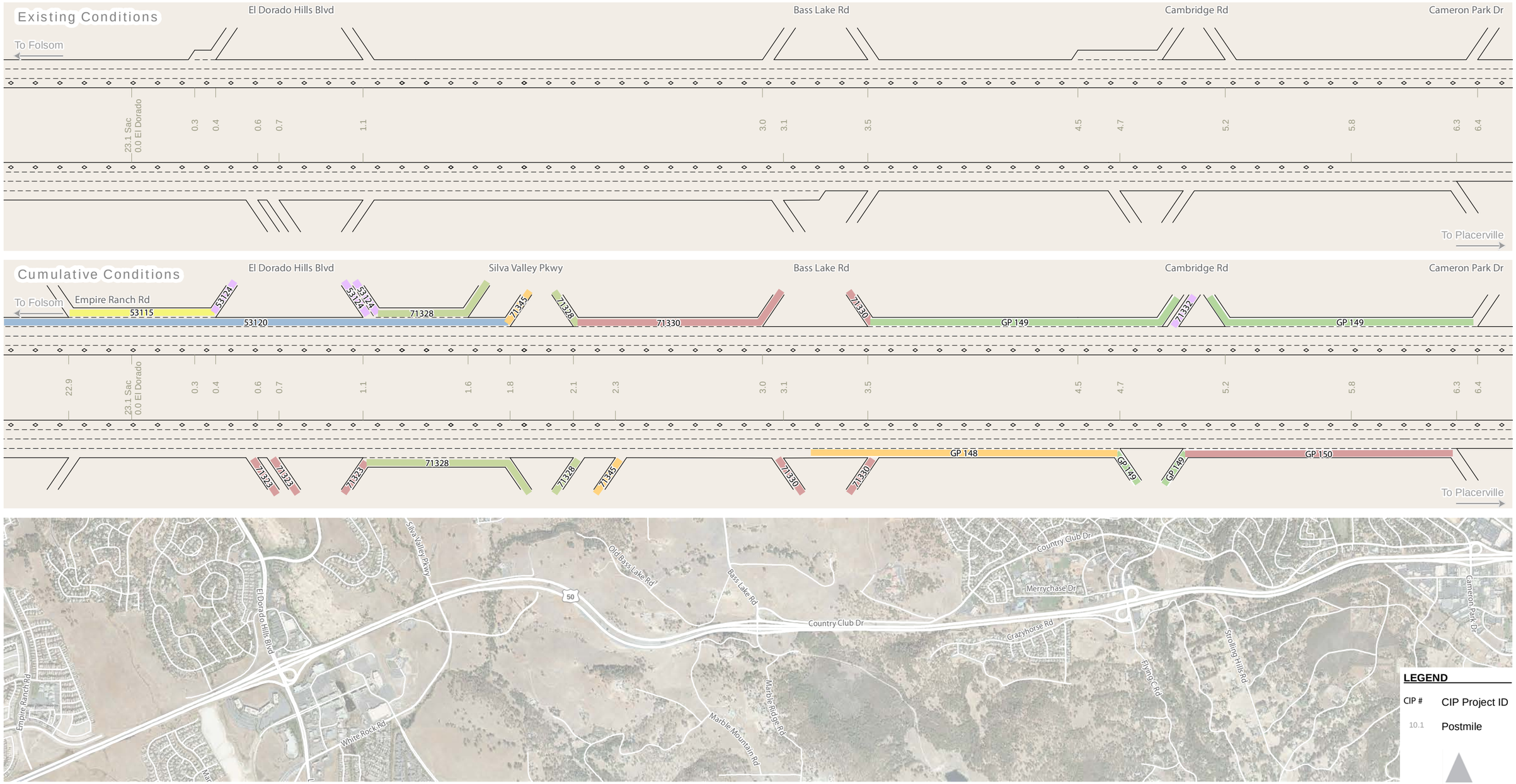

Figure 11.

Programmed Freeway Improvements

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Figure 12.

US 50 Freeway Mainline and Ramp Peak Hour Traffic Volumes - Cumulative Conditions

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TABLE 17: PEAK HOUR LEVEL OF SERVICE – CUMULATIVE PLUS PROJECT CONDITIONS (FREEWAY)

Freeway	Segment	Facility Type	Cumulative Density[1] / LOS		Cumulative + Project Density[1] / LOS		Notes
			AM	PM	AM	PM	
US 50 EB	Latrobe Rd off-ramp	Diverge	28 / C	35 / D	28 / C	34 / D	
	El Dorado Hills Blvd off-ramp	Diverge	20 / C	31 / D	21 / C	31 / D	
	El Dorado Hills Blvd on-ramp to Silva Valley Pkwy off-ramp	Weave (HCM)	22 / C	38 / E	23 / C	38 / E	
		Weave (Leisch)	- / B	- / D	- / B	- / D	
	Silva Valley Pkwy loop on-ramp	Merge	18 / B	25 / C	18 / B	26 / C	
	Silva Valley Pkwy slip on-ramp	Merge	17 / B	25 / C	17 / B	26 / C	
	Silva Valley Pkwy on-ramp to Bass Lake Rd off-ramp	Basic	20 / C	29 / D	21 / C	30 / D	
	Bass Lake Rd off-ramp	Diverge	25 / C	34 / D	25 / C	34 / D	
	Bass Lake Rd on-ramp to Cambridge Rd off-ramp	Weave (HCM)	30 / D		31 / D		
		Weave (Leisch)	Outside the realm of weaving				
		Basic	B / 16	21 / C	B / 16	23 / C	2

TABLE 17: PEAK HOUR LEVEL OF SERVICE – CUMULATIVE PLUS PROJECT CONDITIONS (FREEWAY)

Freeway	Segment	Facility Type	Cumulative Density[1] / LOS		Cumulative + Project Density[1] / LOS		Notes
			AM	PM	AM	PM	
	Cambridge Rd on-ramp to Cameron Park Dr off-ramp	Basic	21 / C	25 / C	21 / C	25 / C	2
	Cameron Park Dr on-ramp to Cambridge Rd off-ramp	Weave (HCM)	42 / E		42 / E		
		Basic	21 / C	24 / C	21 / C	25 / C	2
	Cambridge Rd on-ramp to Bass Lake Rd off-ramp	Basic	19 / C	20 / C	19 / C	20 / C	2
	Bass Lake Rd on-ramp to Silva Valley Pkwy off-ramp	Basic	25 / C	23 / C	26 / C	23 / C	2
US 50 WB	Silva Valley Pkwy Loop on-ramp	Merge	15 / B	14 / B	15 / B	14 / B	
	Silva Valley Slip on-ramp to El Dorado Hills Blvd off-ramp	Weave (HCM)	39 / E	27 / C	39 / E	27 / C	
		Weave (Leisch)	- / C		- / C		
		Basic		15 / B		16 / B	2
	El Dorado Hills on-ramp to Empire Ranch off-ramp	Weave (HCM)	44 / E	35 / D	***- / F***	34 / D	

TABLE 17: PEAK HOUR LEVEL OF SERVICE – CUMULATIVE PLUS PROJECT CONDITIONS (FREEWAY)

Freeway	Segment	Facility Type	Cumulative Density[1] / LOS		Cumulative + Project Density[1] / LOS		Notes
			AM	PM	AM	PM	
		Weave (Leisch)	- / D	- / C	- / D	- / C	

Notes: 1 Density reported as passenger cars per mile per lane. Density is not reported for LOS F operations or weave segments. Weave segment's operations are based on the HCM 2010 and Leisch Method. If the weave segment is outside the realm of weaving, it is analyzed as a basic segment.
Bold text indicates LOS worse than established threshold. *Italic and underlined* text identifies a potential impact.
2 Facility analyzed as basic segment due to a combination of weaving volume and segment length, which places the segment outside of the realm of weaving analysis.
Source: Fehr & Peers, 2014

6.3 PEDESTRIAN AND BICYCLE CIRCULATION

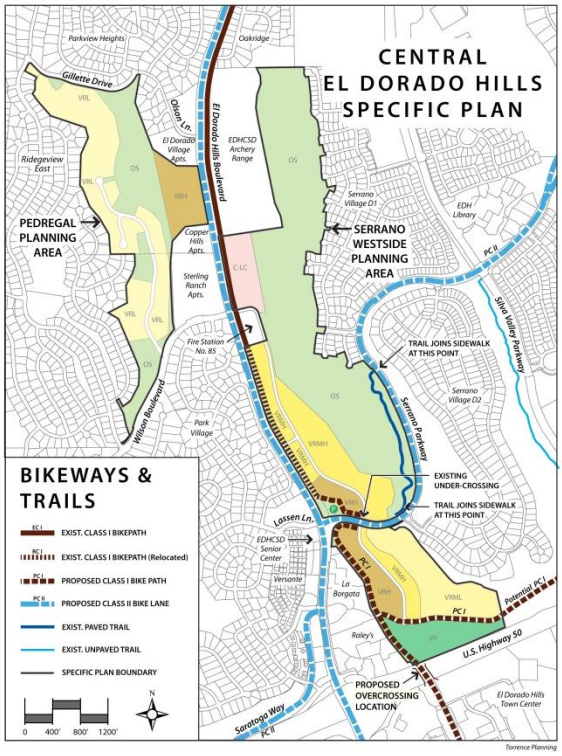
Bicycle network improvements are planned within the study area. Figure 5 identifies planned bikeways presented in the *El Dorado Bicycle Transportation Plan, 2010 Update* and the *Sacramento Area Council of Governments (SACOG) Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS) for 2035*. The following are planned improvement projects:

- El Dorado Hills Class I bike path - SMUD Corridor: Design and construct a Class I bike path between El Dorado Hills Boulevard and Silva Valley Parkway within the powerline easement operated by the Sacramento Municipal Utility District (SMUD). A portion of this project has been constructed between Silva Valley and New York Creek,
- Latrobe Road Class II bike lanes from Investment Boulevard to Deer Creek/SPTC
- Old Bass Lake Road – El Dorado Hills Boulevard to Bass Lake Road Connection, Phase 1: Use existing roadway as Class I path from Tong Road to Old Bass Lake Road
- Saratoga Way Extension Class II bike lanes included in extension of Saratoga Way from Finders Way to County Line. (Alternatively construct a Class I bike path prior to construction of extension of Saratoga Way to Iron Point Road) An informal trail exists connecting these roadways,
- Bass Lake Road Class II bike lanes from Green Valley Road to US 50
- Bike path parallel to US 50 on the north side – El Dorado Hills Boulevard to Bass Lake Road Connection, Phase 2: Connect Silva Valley Road to El Dorado Hills Village Center Shopping Center. As outlined below, the project will implement a portion of this bike path.
- El Dorado Hills Boulevard bike lanes, Phase 1: Saratoga Way to Governor Drive/St. Andrews
- El Dorado Hills Boulevard bike path, Phase 2: Utilizing an existing golf cart undercrossing of Serrano Parkway, extend the bike path from the current terminus at Serrano Parkway to Raley's Center. As outlined below, the proposed project will implement this improvement.
- El Dorado Hills Boulevard to Bass Lake Connection, Phase 1; Class III bike route on Tong Road, Class III bike route on Old Bass Lake Road.
- Green Valley Road Class II bike lanes from Francisco Drive to Pleasant Grove Middle School
- Harvard Way bike path from Clermont Road to El Dorado Hills Boulevard
- Silva Valley Parkway bike lanes from the new connection with White Rock Road to Green Valley Road
- SPTC/El Dorado Trail Class I bike path from Latrobe Road to County Line

- Class I bike path and US 50 Undercrossing or overcrossing between the El Dorado Hills Town Center and El Dorado Hills Village Center (not fully funded or listed in MTP/SCS). As outlined below, the proposed project proposes to locate the overcrossing of US 50 adjacent to the Village Park with, connecting the planned bike path north of US 50 to the El Dorado Hills Town Center.
- Class I bike path within the SMUD power line easement between El Dorado Hills Boulevard and Sophia Parkway (not fully funded or listed in the MTP/SCS)

The project proposes the following bicycle and pedestrian facilities, which are shown below that will integrate with existing and planned facilities in the study area:

- Relocate the existing Class I (off street) bike path east separated from El Dorado Hills Boulevard to the existing drainage channel, extending from just south of the fire station to US 50 at the Village Park
- Connect the bike path to the exiting undercrossing of Serrano Parkway
- Relocate the planned bicycle/pedestrian crossing of US 50 to connect the off-street bike path at the planned Village Park to El Dorado Hills Town Center (overcrossing to be constructed by the County)
- Connection between the project site and the Raley's and La Borgata shopping centers
- Connect to a potential Class I bike path between project boundary and Silva Valley Parkway that would complete a connection to the planned Country Club Drive extension



Trails and Bikeways, Torrence Planning

6.4 TRANSIT

The Specific Plan provides for a Park and Ride location in the Serrano Westside portion of the Plan Area, as a joint-use facility between El Dorado Transit and the El Dorado Hills CSD. As many as 50 parking stalls within the Village Park land use designation may be reserved for Park-n-Ride use during weekday business hours when park activities are minimal. The details of the Park-n-Ride facility will be determined at the time the Village Park is developed.. In addition, opportunities exist to accommodate bust stop (turnout and shelter) on the east side of El Dorado Hills Boulevard next to the Serrano Westside Planning Area, provided the existing Class I bike path is relocated to the east side of the drainage channel. An addition bus stop (turnout and shelter) may be accommodated on the future extension of Park Drive near the Village Park. Based on ridership data presented in the El Dorado Hills Community Transit Needs Assessment and US 50 Corridor Transit Operations Plan, Final Report, 41,760 annual commute trips are made by El Dorado Hills residents using El Dorado Transit Commuter Service. Residents of El Dorado Hills account for about 72 percent of boardings at the El Dorado Hills Park-n-Ride lot, which includes riders that park in the lot and riders that use other means to access the service (i.e., walk, bike, and drop-off).

Based on this information, about one annual commute trip is generated per El Dorado Hills resident, assuming a population of 42,100 (2010 Census) in El Dorado Hills. Therefore, the project's 1,000 dwelling units could result in demand of about 2,600 annual commute trips (assuming a household population of 2.6 persons), or about 10 commute trips per weekday.

7.0 IMPACT STATEMENTS AND MITIGATION MEASURES

Project impacts were determined by comparing conditions with the project to conditions without the project in accordance with the established significance criteria presented in Section 4.2.

7.1 EXISTING PLUS PROJECT

Analysis results, which are presented in Table 18, indicate that the addition of the project would exacerbate unacceptable operations at one intersection and result in unacceptable operation at another study intersection. The following discusses these impacts and associated mitigation:

7.1.1 INTERSECTIONS

Impacts

Impact 1 - Francisco Drive/El Dorado Hills Boulevard (intersection 4) – This location operates at LOS F without the project. The project adds more than 20 seconds of delay to overall intersection operations. According to established significance criteria, the project is projected to "significantly worsen" conditions, since it would add more than 10 trips to the intersection during the AM and PM peak hours. **This is a significant impact**.

Impact 2 - Latrobe Road/Town Center Boulevard (intersection 17) – This location operates acceptably LOS E (close to the LOS F threshold) without the project. The project results in unacceptable LOS F conditions during the PM peak hour. **This is a significant impact**.

Mitigation

Mitigation 1 - Francisco Drive/El Dorado Hills Boulevard (Intersection 4) – Implementation of the following improvements to the Francisco Drive/El Dorado Hills Boulevard intersection would result in acceptable LOS C operation during the AM and PM peak hours:

- Add a dedicated eastbound right-turn lane to provide a shared through/left-turn lane and a separate right-turn lanes
- Add a second southbound through lane on El Dorado Hills Boulevard between Francisco Drive and Brittany Place
- Lengthen the northbound left-turn pocket

El Dorado County is in the process of designing this improvement with construction in 2015. Implementation of this improvement would result in acceptable LOS C operation during the AM and PM peak hours. With this improvement, this impact would be **less than significant**.

If this improvement is not constructed prior to development in the project site, then the applicant would be responsible for implementing the improvement and would be subject to fee credit or reimbursement through the County's traffic impact mitigation fee program. If constructed prior to development in the project site, payment of traffic impact mitigation fees would satisfy the project's fair share obligation towards this improvement.

Mitigation 2 - Latrobe Road/Town Center Boulevard (Intersection 17) – Implementation of the US 50/El Dorado Hills Boulevard interchange improvements and construction of the new US 50/Silva Valley Parkway interchange, which are currently under construction and will be completed prior to development in the project area, will result in acceptable LOS E or better operations at the Latrobe Road/Town Center Boulevard intersection during the AM and PM peak hours. Unacceptable operations at this intersection are due primarily to poor lane utilization on northbound Latrobe Road during construction. With this improvement, this impact would be **less than significant**.

This improvement will be completed prior to development in the project site. Therefore, payment of traffic impact mitigation fees will satisfy the project's fair share obligation towards this improvement.

TABLE 18: INTERSECTION LOS AND DELAY – EXISTING PLUS PROJECT MITIGATIONS

Intersection	Control	Existing Conditions		Existing + Project Conditions		Existing + Project Mitigations	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
4. Francisco Dr / El Dorado Hills Blvd	AWSC	**F / 88**	**F / 69**	***F / 108***	***F / 98***	C / 21	C / 25
17. Latrobe Rd/Town Center Blvd	Signal	C / 29	E / 75	C / 30	***F / 128***	C / 26	D / 49
24. Wilson Blvd / Pedregal Dwy	SSSC	-	-	A / 10	A / 10	A / 10	A / 10

Note: AWSC = all-way stop control

Bold text indicates LOS worse than established threshold. *Italic and underlined* text identifies a potential impact.

The average delay is measured in seconds per vehicle. For signalized and AWSC intersections, the delay shown is the average control delay for the overall intersection.

Intersection 17 is analyzed in SimTraffic.

Source: Fehr & Peers, 2014

7.1.2 FREEWAY FACILITIES

The addition of project traffic will result in one impact to US 50 operations under existing conditions. The analysis results are presented in Table 19.

Impacts

Impact 3 - US 50/Westbound El Dorado Hills Boulevard On-Ramp – The addition of project traffic will result in LOS F conditions at the US 50 westbound on-ramp from El Dorado Hills Boulevard. **This is a significant impact.**

Mitigation

Mitigation 3 - US 50/Westbound El Dorado Hills Boulevard On-Ramp – Implementation of the US 50/El Dorado Hills Boulevard interchange improvements and the new US 50/Silva Valley Parkway interchange, which are currently under construction and will be

completed prior to development in the project area, will result in acceptable LOS E or better operations at westbound on-ramp merge area. The US 50/El Dorado Hills Boulevard interchange improvements will add ramp metering to the westbound on-ramp, which will control flow onto US 50, and the new US 50/Silva Valley Parkway interchange will reduce traffic volumes at the interchange, including the westbound on-ramp. With these improvements, this impact would be **less than significant**.

This improvement will be completed prior to development in the project site.

Therefore, payment of traffic impact mitigation fees will satisfy the project's fair share obligation towards this improvement.

TABLE 19: FREEWAY FACILITY PEAK HOUR LEVEL OF SERVICE – EXISTING PLUS PROJECT CONDITIONS MITIGATION

Freeway	Segment	Facility Type	Existing Density[1] / LOS		Existing + Project Density[1] / LOS		Existing + Project Mitigation Density[1] / LOS	
			AM	PM	AM	PM	AM	PM
US 50 WB	El Dorado Hills Blvd on-ramp	Merge	34 / D	24 / C	- / F	25 / C	35 / D	25 / C

Notes: [1] Density reported as passenger cars per mile per lane. Density is not reported for LOS F operations.

Bold text indicates LOS worse than established threshold. *Italic and underlined* text identifies a potential impact.

Source: Fehr & Peers, 2014

7.2 CUMULATIVE PLUS PROJECT

Analysis results, which are presented in Table 20, indicate that the addition of the project would exacerbate unacceptable operations at four study intersections. The following discusses these impacts and associated mitigation:

7.2.1 INTERSECTIONS

Impacts

Impact 4 - Silva Valley Parkway/Appian Way (Intersection 5) – This intersection will operate unacceptably at LOS F without the project during both the AM and PM peak hours. According to established significance criteria, the project is projected to "significantly worsen" conditions, since it would add more than 10 trips to the intersection during the AM and PM peak hours. **This is a significant impact.**

Impact 5 - Silva Valley Parkway/Harvard Way (Intersection 7) – This intersection will operate unacceptably at LOS F without the project during the AM peak hour. According to established significance criteria, the project is projected to "significantly worsen" conditions, since it would add more than 10 trips to the intersection during the AM peak hour. **This is a significant impact.**

Impact 6 - El Dorado Hills Boulevard/Park Drive/Saratoga Way (Intersection 13) – This intersection will operate unacceptably at LOS F without the project during the PM peak hour. According to established significance criteria, the project is projected to "significantly worsen" conditions, since it would add more than 10 trips to the intersection during the PM peak hours. **This is a significant impact.**

Impact 7 - Latrobe Road/Town Center Boulevard (Intersection 17) – This intersection will operate unacceptably at LOS F without the project during the AM and PM peak hours. According to established significance criteria, the project is projected to "significantly worsen" conditions, since it would add more than 10 trips to the intersection during the AM and PM peak hours. **This is a significant impact.**

Mitigation

Mitigation 4 - Silva Valley Parkway/Appian Way (Intersection 5) – Implementation of the following improvements to the Silva Valley Parkway/Appian Way intersection would result in acceptable LOS D and C operations during the AM and PM peak hours, respectively:

- Install traffic signal control with protected left-turn phasing north and southbound and split phasing east and westbound
- Provide one left-turn lane and a shared through/right-turn lane on the northbound and southbound approaches
- Provide a shared through/left-turn lane and a separate right-turn lane on the westbound approach

With this improvement, this impact would be **less than significant**.

Unacceptable operations at this intersection are due to a combination of increased traffic from planned development and due to changes in travel patterns associated

with the planned US 50/Silva Valley Parkway interchange. This improvement is not in the County's 2013 CIP. Since the intersection would operate unacceptably at LOS F under cumulative conditions without the project, the project is responsible for a portion of the improvement to restore operations to an acceptable level of service, relative to the traffic that the project will contribute to the intersection under cumulative conditions. The County's traffic impact mitigation fee program provides a mechanism for collecting fair share contributions for improvements in the 2013 CIP. The 2013 CIP is evaluated annually in response to planned growth. However, this improvement is not in the 2013 CIP.

The Cumulative analysis includes planned and funded roadway improvements, growth consistent with the 2004 General Plan, and with approved and reasonably foreseeable projects within the study area. This is found to be an impact in the cumulative scenario without the project, but with other unapproved projects. The project proponent shall work with the County, during the development agreement phase, or development of the public financing plan or like process, to evaluate and determine the appropriate mitigation measures. Appropriate mitigation measures can include construction of project, fair share payments, etc.

Mitigation 5 - Silva Valley Parkway/Harvard Way (Intersection 7) – Implementation of the following improvements to the Silva Valley Parkway/Harvard Way intersection would result in acceptable LOS D and C operations during the AM and PM peak hours, respectively:

- Restripe the southbound approach to the intersection to provide one left-turn lane, two through lanes, and a separate right-turn lane
- Optimize traffic signal timings to accommodate the revised intersection lane configurations

With this improvement, this impact would be **less than significant**.

Mitigation 6 - However, this improvement is not in the 2013 CIP. The Cumulative analysis includes planned and funded roadway improvements, growth consistent with the 2004 General Plan, and with approved and reasonably foreseeable projects within the study area. This is found to be an impact in the cumulative scenario without the project, but with other unapproved projects. The project proponent shall work with the County, during the development agreement phase, or development of the public financing plan or like process, to evaluate and determine the appropriate mitigation measures. Appropriate mitigation measures can include construction of project, fair share payments, etc.El Dorado Hills Boulevard/Park Drive/Saratoga Way (Intersection 13) – Implementation of the following improvements to the El Dorado Hills Boulevard/Park Drive/Saratoga Way intersection would result in acceptable LOS D operations during the PM peak hour:

- Modify the northbound approach to provide one left-turn lane, three through lanes, and a separate right-turn lane
- Modify the eastbound approach to provide two left-turn lanes, one through lane, and a separate right-turn lane
- Modify the westbound approach to provide one left-turn lane, one through lane, and a separate right-turn lane
- Provide protected left-turn phasing east and westbound
- Optimize traffic signal timings to accommodate the revised intersection lane configurations
- Restrict access at the Saratoga Way/Mammouth Way intersection to right-in/right-out
- Install a traffic signal at the Saratoga Way/Arrowhead Drive intersection

With this improvement, this impact would be **less than significant**.

The County's 2013 CIP includes widening of El Dorado Hills Boulevard as part of the ultimate improvements to the US 50 interchange, which are under construction and as a separate project between Saratoga Way/Park Drive and Serrano Parkway/Lassen Lane that will add a third southbound through lane, which is in the 2013 10-year CIP. In addition, the Saratoga Way extension (as a four-lane roadway) to Iron Point Road in the City of Folsom will improve the eastbound approach to this intersection.

Improvements to the west leg of the intersection (i.e., Saratoga Way) are needed to accommodate traffic volume increases associated primarily with the extension of Saratoga Way to Iron Point Road and not directly a result of the proposed project. The Saratoga Way Extension project will increase southbound-to-westbound traffic demand in the AM peak hour and traffic demand for the reverse movement (eastbound-to-northbound) in the PM peak hour. Consequently, most of improvements to Saratoga Way (i.e., the west leg) will not be necessary until the Saratoga Way Extension is constructed, except restriping to accommodate protected east/west left-turn phasing. However, improvements to Park Drive (i.e., east leg of the intersection) are needed to accommodate traffic from the proposed project.

Payment of traffic impact mitigation fees will satisfy the project's fair share obligation towards this improvement to the west side of the intersection related to the Saratoga Way Extension.

Mitigation 7 - Latrobe Road/Town Center Boulevard (Intersection 17) – Implementation of the following improvements to the Latrobe Road/Town Center Boulevard intersection

would result in acceptable LOS D and E operations during the AM and PM peak hours, respectively:

- Modify the northbound approach to provide two left-turn lanes, three through lanes, and a shared through/ right-turn lane
- Modify the westbound approach to provide a shared through/left-turn lane, and two right-turn lanes
- Provide right-turn overlap phasing for the westbound approach
- Provide split phasing east and westbound
- Optimize traffic signal timings to accommodate the revised intersection lane configurations

With this improvement, this impact would be **less than significant**.

The County's 2013 CIP includes widening of El Dorado Hills Boulevard as part of the ultimate improvements to the US 50 interchange. These planned improvements will accommodate the intersection lane configurations outlined above. Payment of traffic impact mitigation fees will satisfy the project's fair share obligation towards improvements at this intersection.

TABLE 20: INTERSECTION LOS AND DELAY – CUMULATIVE PLUS PROJECT CONDITIONS MITIGATIONS

Intersection	Control	Cumulative Conditions		Cumulative + Project Conditions		Cumulative + Project Mitigations	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
5. Silva Valley Pkwy / Appian Wy	AWSC	**F / >180**	**F / 105**	***F / >180***	***F / 113***	D / 40	C / 26
7. Silva Valley Pwky / Harvard Wy	Signal	**F / 93**	C / 33	***F / 97***	C / 35	D / 55	C / 31
13. El Dorado Hills Blvd/Park Dr/Saratoga Wy	Signal	C / 24	**F / 112**	D / 45	***F / 115***	D / 35	D / 42
17. Latrobe Rd/Town Center Blvd	Signal	**E / 76**	**F / 173**	***F / 86***	***F / 166***	D / 47	E / 75
24. Wilson Blvd / Pedregal Dwy	SSSC	-	-	B / 11	B / 11	B / 11	B / 11

Note: AWSC = all-way stop control, SSSC = side-street stop control

Bold text indicates LOS worse than established threshold. *Italic and underlined* text identifies a potential impact.

The average delay is measured in seconds per vehicle. For signalized and AWSC intersections, the delay shown is the average control delay for the overall intersection. For SSSC intersections, the LOS and control delay for the worst movement is shown. Intersections 5, 7, and 24 are analyzed in Synchro. Intersection 13 and 17 are analyzed in SimTraffic.

Source: Fehr & Peers, 2014

7.2.2 ROADWAYS

Analysis results, which are presented in Table 21, indicate that the addition of the project would exacerbate unacceptable operations on one study roadway segment. The following discusses this impact and associated mitigation:

Impact 8 - El Dorado Hills Boulevard (Francisco Drive to Governor Drive) – This roadway segment would operate unacceptably at LOS F without the project during the AM peak hour. According to established significance criteria, the project is projected to "significantly worsen" conditions, since it would add more than 10 trips to the roadway segment during the PM peak hours. **This is a significant impact.**

Mitigation 8 - El Dorado Hills Boulevard (Francisco Drive to Governor Drive) – Implementation of the following improvements to this segment of El Dorado Hills Boulevard would result in acceptable LOS C operations during the AM and PM peak hours:

- Widen the segment of El Dorado Hills Boulevard from a two-lane arterial to a four-lane (undivided or divided) arterial.

With this improvement, this impact would be **less than significant**.

Unacceptable operations on this roadway segment are due to increased traffic from planned development. This improvement is not in the County's 2013 CIP. Since the roadway segment would operate unacceptably at LOS F under cumulative conditions without the project, the project is responsible for a portion of the improvement to restore operations to an acceptable level of service, relative to the traffic that the project will contribute to the roadway under cumulative conditions.

The County's traffic impact mitigation fee program provides a mechanism for collecting fair share contributions for improvements in the 2013 CIP. The CIP is evaluated annually in response to planned growth. However, this improvement is not in the 2013 CIP. The Cumulative analysis includes planned and funded roadway improvements, growth consistent with the 2004 General Plan, and with approved and reasonably foreseeable projects within the study area. This is found to be an impact in the cumulative scenario without the project, but with other unapproved projects. The project proponent shall work with the County, during the development agreement phase, or development of the public financing plan or like process, to evaluate and determine the appropriate mitigation measures. Appropriate mitigation measures can include construction of project, fair share payments, etc.

TABLE 21: ROADWAY SEGMENT PEAK HOUR LEVEL OF SERVICE – CUMULATIVE PLUS PROJECT CONDITIONS MITIGATIONS

Roadway	Segment	Facility Type	Cumulative Volume / Volume – Capacity (V/C) Ratio / LOS		Cumulative + Project Volume / Volume – Capacity (V/C) Ratio / LOS		Cumulative + Project Mitigation Volume / Volume – Capacity (V/C) Ratio / LOS	
			AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
El Dorado Hills Blvd	Francisco Dr to Governor Dr	2 lane arterial	1,450 / 0.88 / D	**1,680 / 1.02 / F**	1,450 / 0.88 / D	***1,670 / 1.01 / F***		
		4 lane arterial (Undivided)					1,450 / 0.46 / C	1,670 / 0.53 / C
		2 lane arterial (Divided)					1,450 / 0.44 / C	1,670 / 0.51 / C

Notes: Volume-to-Capacity ratio and LOS is based on the HCM 2010 peak hour level of service thresholds
[1] LOS at this location is C or better
Bold text indicates LOS worse than established threshold. *Italic and underlined* text identifies a potential impact.
Source: Fehr & Peers, 2014

7.2.3 FREEWAY FACILITIES

Analysis results, which are presented in Table 22, indicate that the addition of the project would result in unacceptable operations on one study freeway facility. The following discusses this impact and associated mitigation:

Impact 9 - US 50 Westbound Weave Section (El Dorado Hills Boulevard to Empire Ranch Road) – The addition of project traffic will result in LOS F conditions at the US 50 westbound weave section between El Dorado Hills Boulevard and Empire Ranch Road. **This is a significant impact.**

Mitigation 9 - US 50 Westbound Weave Section (El Dorado Hills Boulevard to Empire Ranch Road) – Implement the Latrobe Road Connection (CIP Project Number 66166) as a four-lane roadway. With this improvement, this impact would be **less than significant**.

The Latrobe Road connection is in the County's 2013 CIP; however, specific design characteristics are not known at this time, so for the purposes of the transportation analysis, the Latrobe Road Connection was conservatively assumed as a two-lane

connection.. The connection will improve accessibility for planned development south of US 50 and provide an alternative to the US 50/El Dorado Hills Boulevard Interchange and US 50 between El Dorado Hills Boulevard and Empire Ranch Road. For

Since the Latrobe Road Connection is in the County's 2013 CIP, payment of traffic impact mitigation fees will satisfy the project's fair share obligation towards improvements at this intersection.

TABLE 22: FREEWAY FACILITY PEAK HOUR LEVEL OF SERVICE – CUMULATIVE PLUS PROJECT CONDITIONS MITIGATION

Freeway	Segment	Facility Type	Cumulative Density[1] / LOS		Cumulative + Project Density[1] / LOS		Cumulative + Project Mitigation Density[1] / LOS	
			AM	PM	AM	PM	AM	PM
US 50 WB	El Dorado Hills Blvd to Empire Ranch Rd	Weave	44 / E	34 / D	***- / F***	34 / D	43 / E	33 / D

Notes: 1 Density reported as passenger cars per mile per lane. Density is not reported for LOS F operations.
Bold text indicates LOS worse than established threshold. *Italic and underlined* text identifies a potential impact.

Source: Fehr & Peers, 2014

7.2.4 PEDESTRIAN AND BICYCLE FACILITIES

Impact 10 - Implementation of the proposed project will increase demand for pedestrian and bicycle facilities. As outlined in Section 6.3, the project proposes pedestrian and bicycle facilities that will connect and integrate with existing and planned facilities adjacent to the project. In addition, elements of the proposed project will complete planned pedestrian and bicycle facilities. Therefore, the proposed project will not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. **This is a less than significant impact.**

Mitigation 10 - No mitigation required

7.2.5 TRANSIT

Impact 11 - Implementation of the proposed project will increase demand transit. As outlined in Section 6.4, the project could result in demand of about 2,600 transit commute trips annually, which would be an average of about 10 commute trips per weekday. This increase represents about a two percent increase in El Dorado Transit Commuter Service, which is generally in line with historic population growth rates in El Dorado County. Consequently, the growth in these trips would not likely exceed the ability to serve this ridership growth through existing funding sources for transit that are tied to population growth. However, most of the boardings for the El Dorado Transit Commuter Service at the El Dorado Hills park-n-ride lot are from El Dorado Hills residents. Consequently this increase in commuter trips will increase demand for the El Dorado Hills park-n-ride lot, which operates at capacity. **This is a significant impact.**

Mitigation 11 - Implement one of the following measures:

Provide morning and evening peak period shuttle service (or comparable service) between the proposed project and the El Dorado Hills park-n-ride. This service could be implemented through a transportation demand management association (or similar organization) or be implemented directly with El Dorado Transit.

OR

Dedicate parking at the Village Park during business hours (i.e., when demand for park activities is low) to serve as an overflow park-n-ride facility.

Implementation of either of these measures would reduce this impact to a **less than significant level**.

7.2.6 EMERGENCY ACCESS

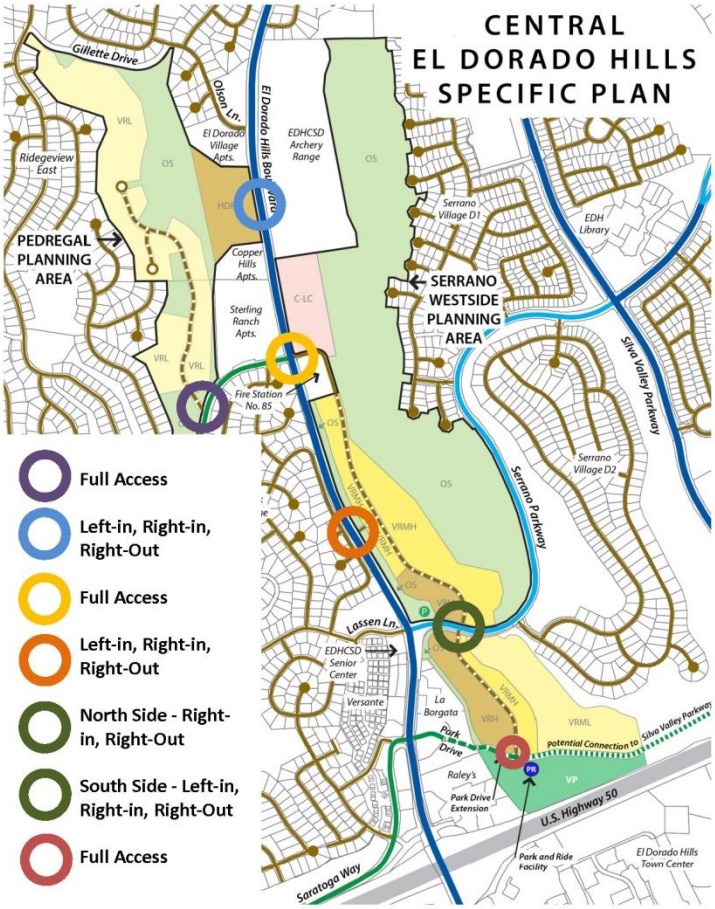
Mitigation 12 - The portion of the Serrano Westside Planning Area north of Serrano Parkway and east of El Dorado Hills Boulevard will connect to the east leg of Wilson Boulevard for access at the El Dorado Hills Boulevard/Wilson Boulevard intersection, which is also used by the El Dorado Hills Fire Department. The project will add traffic to and increase delay at this intersection. However, the intersection will operate acceptably. The intersection is equipped with emergency vehicle signal preemption, which is designed to give priority to emergency vehicles during emergencies. This is a **less than significant impact**.

Mitigation 12 - No mitigation required

8.0 OTHER CONSIDERATIONS

8.1 SITE ACCESS

Proposed access for the Central El Dorado Hills Specific Plan is shown. The single family portion of the Pedregal Planning Area will access Wilson Boulevard (no access to Gillette Drive is proposed), with access for the multi-family portion on El Dorado Hills Boulevard. The Serrano Westside Planning Area will access El Dorado Hills Boulevard, Serrano Parkway, and Park Drive.



The Pedregal Planning Area access driveway on Wilson Boulevard will operate acceptably at LOS B (cumulative conditions) with side-street stop control. However, Wilson Boulevard is a four-lane undivided roadway with a downhill grade in the eastbound direction. Due to high eastbound vehicle speeds, eastbound left-turn ingress and southbound left-turn egress movements will be difficult.

It is recommended that Wilson Boulevard be restriped as a two-lane roadway with a center median with Class I on-street bicycle lanes. Vehicle demand under existing or cumulative conditions does not warrant four travel lanes. In addition, sidewalks should be added on the north side with Wilson Boulevard between the project access and the existing sidewalk.

Park Drive and Wilson Boulevard Connections

The topography of El Dorado County limits east/west roadway connections. In El Dorado Hills, there are only three local-serving east/west connections between El Dorado Hills Boulevard and Silva Valley

Parkway north of US 50 (i.e., Green Valley Road, Harvard Way, and Serrano Parkway), a distance of about four miles. In addition, only Green Valley Road, US 50, White Rock Road, and Serrano Parkway provide significant east/west regional-level connections. Consequently, more demand is placed on north/south roadways like El Dorado Hills Boulevard and Silva Valley Parkway. There are several east/west regional-level connections in the County's 2013 CIP, including the extension of Saratoga Way between El Dorado Hills Boulevard and Iron Point Road and Country Club Drive between Bass Lake Road and Silva Valley Parkway. These connections will provide an alternative to existing east/west connections and reduce travel demand on El Dorado Hills Boulevard and Silva Valley Parkway near US 50. However, there is a gap in the parallel arterials (north of US 50) that could be closed through the Serrano Westside Planning Area by extending Park Drive from the eastern boundary of the planning area to Silva Valley Parkway. This extension is not needed to provide acceptable LOS E or better operations, but would provide additional redundancy in the circulation network. Similarly, the extension of Wilson Boulevard between its current terminus and the planned Saratoga Way extension would provide similar circulation benefits.

Table 23 compares peak hour roadway segment operation with the two connections. In Table 23, roadway segments that show a decrease in peak hour traffic volume are shaded green and cells that show an increase are shaded blue.

As shown, the Park Drive extension would serve about 500 and 400 vehicles in the AM and PM peaks, respectively. The connection would reduce volumes on segments of El Dorado Hills Boulevard, Silva Valley Parkway (PM peak hour), and Serrano Parkway. AM peak hour traffic volumes would increase on Saratoga Way and Silva Valley Parkway (between US 50 and the Park Drive extension.

As shown, the Wilson Boulevard extension would serve about 700 and 900 vehicles in the AM and PM peaks, respectively. The connection would reduce volumes on segments of El Dorado Hills Boulevard, Silva Valley Parkway (PM peak hour), Serrano Parkway, and Saratoga Way. This connection will have the highest reductions on El Dorado Hills Boulevard near US 50 with a decrease of about 600 vehicles in the AM and PM peak hour north of Saratoga Way. Volume will increase by about 200 and 300 vehicles in the AM and PM peak hours, respectively, on El Dorado Hills Boulevard north of Wilson Boulevard.

These connections will also benefit bicycle and pedestrian circulation by providing shorter, lower volume, east/west connections.

TABLE 23: ROADWAY SEGMENT PEAK HOUR LEVEL OF SERVICE – CUMULATIVE PLUS PROJECT CONDITIONS WITH PARK DRIVE AND WILSON BOULEVARD EXTENSIONS

Roadway	Segment	Facility Type	Volume / Volume-to-Capacity Ratio / LOS					
			Plus Project		With Park Drive Extension		With Park Drive and Wilson Boulevard Extensions	
			AM	PM	AM	PM	AM	PM
El Dorado Hills Blvd	Harvard Wy to Wilson Blvd	4 lane divided arterial	2,400/0.64/D	2,400/0.64/D	2,400/0.64/D	2,400/0.64/D	2,600/0.70/D	2,700/0.72/D
	Wilson Blvd to Serrano Pkwy	4 lane divided arterial	2,800/0.75/D	3,000/0.80/D	2,800/0.75/D	3,000/0.80/D	2,400/0.64/D	2,500/0.67/D
	Serrano Pkwy to Saratoga Way/Park Drive	5 lane arterial	2,900/0.62/D	3,300/0.71/D	2,800/0.60/D	3,200/0.69/D	2,300/0.49/C	2,700/0.58/D
	Saratoga Way/Park Drive to US 50	6 lane arterial	2,900/0.52/D	3,300/0.59/D	2,800/0.50/D	3,200/0.57/D	2,700/0.48/C	3,000/0.54/D
Silva Valley	Harvard Wy to Serrano Pkwy	4 lane divided arterial	2,200/0.59/D	1,900/0.51/C	2,200/0.59/D	1,900/0.51/C	2,100/0.56/D	1,800/0.48/C

TABLE 23: ROADWAY SEGMENT PEAK HOUR LEVEL OF SERVICE – CUMULATIVE PLUS PROJECT CONDITIONS WITH PARK DRIVE AND WILSON BOULEVARD EXTENSIONS

Roadway	Segment	Facility Type	Volume / Volume-to-Capacity Ratio / LOS					
			Plus Project		With Park Drive Extension		With Park Drive and Wilson Boulevard Extensions	
			AM	PM	AM	PM	AM	PM
Pkwy	Serrano Pkwy to US 50	4 lane divided arterial	2,600/0.70/D	2,700/0.72/D	2,700/0.72/D	2,500/0.67/D	2,700/0.72/D	2,500/0.67/D
Serrano Pkwy	El Dorado Hills Blvd to Silva Valley Pkwy	2 lane arterial	1,000/0.53/D	900/0.48/C	900/0.48/C	900/0.48/C	900/0.48/C	800/0.43/C
Saratoga Wy	El Dorado Hills Blvd to Arrowhead Dr	2 lane arterial	1,200/0.64/D	1,600/0.86/D	1,400/0.75/D	1,600/0.86/D	1,000/0.53/D	1,200/0.64/D
Wilson Boulevard	El Dorado Hills Blvd to Ridgeview Dr	4 lane undivided arterial	500/0.17/C	500/0.17/C	500/0.17/C	500/0.17/C	1,000/0.35/C	1,100/0.35/C
	Extension – Montridge Wy to Saratoga Wy	2 lane arterial			-	-	700/0.37/C	900/0.48/C

TABLE 23: ROADWAY SEGMENT PEAK HOUR LEVEL OF SERVICE – CUMULATIVE PLUS PROJECT CONDITIONS WITH PARK DRIVE AND WILSON BOULEVARD EXTENSIONS

Roadway	Segment	Facility Type	Volume / Volume-to-Capacity Ratio / LOS					
			Plus Project		With Park Drive Extension		With Park Drive and Wilson Boulevard Extensions	
			AM	PM	AM	PM	AM	PM
Park Drive	East of EDH Blvd	2 lane arterial	600/0.32/C	900/0.48/C	900/0.48/C	1,000/0.53/D	900/0.48/C	1,000/0.53/D
	Extension – West of Silva Valley Pkwy	2 lane arterial			500/0.27/C	400/0.21/C	500/0.27/C	400/0.21/C

Notes: Volume-to-Capacity ratio and LOS is based on the peak hour level of service thresholds contained in Table 5.4-1 of the *El Dorado County General Plan DEIR* (EDAW, 2003)

Source: Fehr & Peers, 2014

8.2 PEAK HOUR TRAFFIC SIGNAL WARRANT EVALUATION

An evaluation of the need for traffic signal installation was conducted using the peak hour traffic signal warrant methodologies from the California Manual on Uniform Traffic Control Devices, January 2012. The peak hour traffic signal warrant was evaluated for the following existing and proposed stop-controlled intersections:

- El Dorado Hills/Francisco Drive
- Silva Valley Parkway/Appian Way
- Wilson Boulevard/Pedregal Driveway (Full Movement Project Access)

Tables 24 and 25 display the results of the peak hour volume warrant for existing and cumulative conditions, respectively. Under existing conditions, the Francisco Drive/El Dorado Hills Boulevard intersection would satisfy the peak hour warrant based on AM and PM peak hour traffic volumes without or with the project. Under cumulative conditions, peak hour traffic volumes at the Silva Valley/Appian Way intersection would satisfy the peak hour traffic signal warrant.

TABLE 24: PEAK HOUR SIGNAL WARRANT EVALUATION – EXISTING PLUS PROJECT CONDITIONS

Unsignalized Intersections	Peak Hour Signal Warrant Met [1]			
	Existing Conditions		Existing + Project Conditions	
	AM	PM	AM	PM
4. Francisco Dr / El Dorado Hills Blvd	Yes	Yes	Yes	Yes
5. Silva Valley Pkwy / Appian Wy	No	No	No	No
24. Wilson Blvd / Pedregal Drwy	Does Not Exist		No	No

Note: [1] Based on the Peak Hour Volume warrant (for urban areas) contained in the *California Manual on Uniform Traffic Control Devices* (CA MUTCD), Caltrans, 2012.

Source: Fehr & Peers, 2014

TABLE 25: PEAK HOUR SIGNAL WARRANT EVALUATION – CUMULATIVE CONDITIONS

Unsignalized Intersections	Peak Hour Signal Warrant Met [1]			
	Cumulative Conditions		Cumulative + Project Conditions	
	AM	PM	AM	PM
4. Francisco Dr / El Dorado Hills Blvd	Signalized Intersection under Cumulative Conditions			
5. Silva Valley Pkwy / Appian Wy	Yes	Yes	Yes	Yes
24. Wilson Blvd / Pedregal Drwy	Does Not Exist		No	No

Note: [1] Based on the Peak Hour Volume warrant (for urban areas) contained in the *California Manual on Uniform Traffic Control Devices* (CA MUTCD), Caltrans, 2012.

Source: Fehr & Peers, 2014

This analysis is intended to examine the general correlation between the planned level of future development and the need to install new traffic signals. It estimates future development-generated traffic compared against a sub-set of the standard traffic signal warrants recommended in the Federal Highway Administration Manual on Uniform Traffic Control Devices (California MUTCD 2012 Edition. This analysis should not serve as the only basis for deciding whether and when to install a signal. To reach such a decision, the full set of warrants should be investigated based on field-measured, rather than forecast, traffic data and a thorough study of traffic and roadway conditions by an experienced engineer. Furthermore, the decision to install a signal should not be based solely upon the warrants, since the installation of signals can lead to certain types of collisions. El Dorado County should undertake regular monitoring of actual traffic conditions and accident data, and timely re-evaluation of the full set of warrants in order to prioritize and program intersections for signalization.

8.3 INTERSECTION VEHICLE QUEUING EVALUATION

Tables 26 and 27 summarize estimated vehicle queues for the off ramps at the US 50/El Dorado Hills Boulevard interchange and at the two stop-controlled project access intersections on El Dorado Hills Boulevard under cumulative conditions, respectively. As shown, available and proposed storage will accommodate estimated vehicle queues. For the US 50/El Dorado Hills Boulevard interchange, these results indicate that traffic operations on El Dorado Hills Boulevard will not cause vehicles to back onto US 50 and impact freeway operations.

TABLE 26: 95th PERCENTILE FREEWAY OFF-RAMP VEHICLE QUEUES – CUMULATIVE CONDITIONS

Freeway	Available Storage	95th Percentile Queue			
		Cumulative Conditions		Cumulative + Project Conditions	
		AM	PM	AM	PM
US 50 EB off-ramp at Latrobe Road	1,680 ft	750	850	475	1,100
US 50 EB off-ramp at El Dorado Hills Boulevard	1,230 ft	–	–	–	–
US 50 WB off-ramp at El Dorado Hills Boulevard	1,300 ft	1,000	875	1,050	1,125
US 50 EB off-ramp at Silva Valley Parkway	1,470 ft	125	225	125	200
US 50 WB off-ramp at Silva Valley Parkway	1,350 ft	875	400	975	400

Note: [1] 95th percentile vehicle queue based on output from SimTraffic model. Values rounded to the nearest 25 feet. Greater queue (for either left or right movement) is reported.

Bold and underlined text indicates queue that exceeds available.

" – " No queuing reported for free movements.

Source: Fehr & Peers, 2014

TABLE 27: EL DORADO HILLS BLVD PROJECT DRIVEWAY'S 95th PERCENTILE QUEUE

Intersection	Movement	Available Storage	95th Percentile Queue (feet)			
			Existing Plus Project		Cumulative Plus Project	
			AM	PM	AM	PM
21. El Dorado Hills Blvd / Project Dwy North	NBL	100 ft	25	50	50	50
22. El Dorado Hills Blvd / Project Dwy South	SBL	100 ft	25	75	25	50

Note: [1] 95th percentile vehicle queue based on output from SimTraffic model. Values rounded to the nearest 25 feet.

Source: Fehr & Peers, 2014