APPENDIX D

Cultural Resources Information

CONTENTS

APPENDIX D.1

CRHR Evaluation of Residence on Malcolm Dixon Road

CALIFORNIA REGISTER OF HISTORICAL RESOURCES
EVALUATION OF RESIDENCE ON MALCOLM DIXON ROAD, EL DORADO COUNTY

Prepared by

Past Forward, Inc.
PO Box 969
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and

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for

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MAY 2009

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EXECUTIVE SUMMARY

Diamante Estates, LLC of Saratoga retained ECORP Consulting, Inc. (ECORP) in 2008 to conduct a cultural resources inventory under the California Environmental Quality Act (CEQA). The Project Area incorporated the proposed Diamante Estates residential development of approximately 113 acres of property, situated north of El Dorado Hills, in El Dorado County.

The cultural resources inventory (ECORP Consulting, Inc. 2008) included a records search, literature review, and field survey. Records search results indicated that nine previous cultural resource studies had occurred either within the Project Area itself or within 0.5 mile of the Project Area. These previous studies identified archaeological and architectural resources within the Project Area, and additional archaeological resources nearby, within 0.5 miles. The field survey identified two new resources (EC-09-18 residence, EC-08-20 pump house) and one isolate (IO-09-07 truck trailer) within the Project Area. In addition, the three previously recorded sites were revisited and their records updated: CA-ELD-1242 (12 rock features, including dams, bridges, and walls); CA-ELD-1246 (Live Oak Schoolhouse); and P-9-1659 (Robert and Elizabeth Dixon Homestead). It was recommended that these resources be evaluated using the California Register of Historical Resources (CRHR) eligibility criteria.

This report details the evaluation of the 1950s-era residence (EC-09-18) located at 1401 Malcolm Dixon Road, El Dorado Hills, California. In April 2009, Past Forward, Inc. architectural historians Rebecca Allen and R. Scott Baxter visited and recorded the residence. Both exceed the Secretary of the Interior's qualifications for architectural historians. This evaluation is based on the results of that field visit, previous archival research and background studies, and comparison with other architectural features within the Project Area and nearby vicinity.

Based on the above, the residence at 1401 Malcolm Dixon Road does not appear to be eligible for the California Register of Historical Resources. No further management or study of this resource is recommended.

INTRODUCTION

Diamante Estates, LLC of Saratoga retained ECORP Consulting, Inc. (ECORP) in 2008 to conduct a cultural resources inventory under the California Environmental Quality Act (CEQA). The Project Area incorporated the proposed Diamante Estates residential development of approximately 113 acres of property, situated north of El Dorado Hills, in El Dorado County. This report focuses on one potentially historic structure, a 1950s-era residence (EC-08-19) located at 1401 Malcolm Dixon Road, El Dorado Hills, California (Figure 1).

The cultural resources inventory (ECORP Consulting, Inc. 2008) included a records search, literature review, and field survey. Records search results indicated that nine previous cultural resource studies had occurred either within the Project Area itself or within 0.5 mile of the Project Area. These previous studies identified archaeological and architectural resources within the Project Area, and additional archaeological resources nearby, within 0.5 mile. The field survey identified two new resources (EC-08-19 residence, EC-08-20 pump house) and one isolate (IO-09-07 truck trailer) within the Project Area. In addition, the three previously recorded sites were revisited and their records updated: CA-ELD-1242 (12 rock features, including dams, bridges, and walls); CA-ELD-1246 (Live Oak Schoolhouse); and P-9-1659 (Robert and Elizabeth Dixon Homestead). It was recommended that these resources be evaluated using the California Register of Historical Resources (CRHR) eligibility criteria.

Project Location and Description

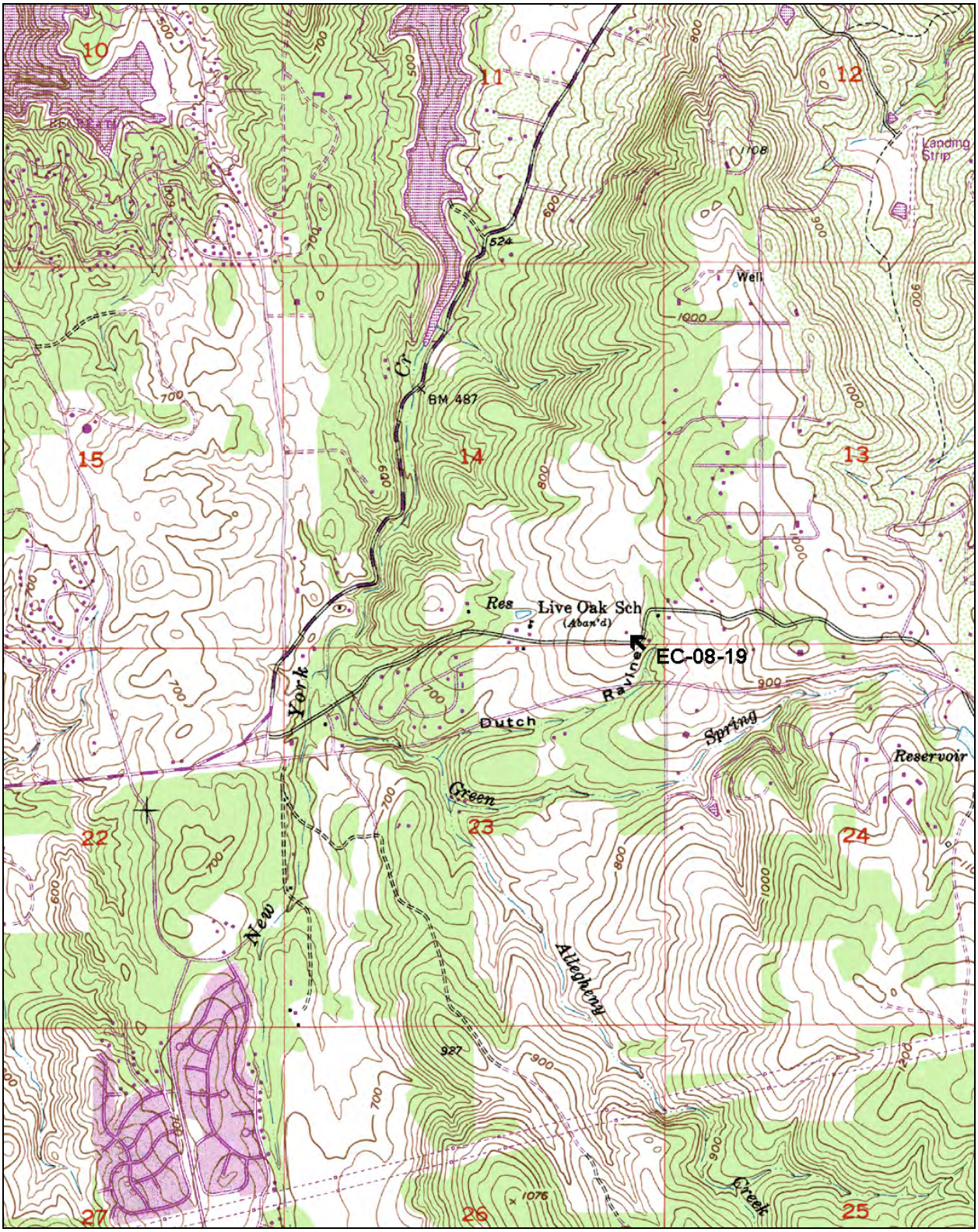
The Project Area consists of approximately 113 acres of property located in the southeastern quarter of Section 14 of Township 10 North, Range 8 East, Mount Diablo Base and Meridian, as depicted on the 1980 Clarksville USGS 7.5' topographic quadrangle map. The property is 1/8 mile east of Salmon Falls road and directly north of Malcolm Dixon Road, in the outskirts north of El Dorado Hills.

As currently proposed, the Project consists of the development of single-family residential lots and associated utilities and infrastructure. As of the date of this report, Project details have not been finalized.

Regulatory Setting

To meet the regulatory requirements of this project, the overall cultural resources investigation was conducted pursuant to the provisions for the treatment of cultural resources contained within the California Environmental Quality Act (CEQA; Pub. Res. Code § 21000 et seq.). The goal of CEQA is to develop and maintain a high-quality environment that serves to identify the significant environmental effects of the actions of a proposed project and to either avoid or mitigate those significant effects where feasible. CEQA pertains to all proposed projects that require State or local government agency approval, including the enactment of zoning ordinances, the issuance of conditional use permits, and the approval of development project maps.

Figure 1. Project Location Map.



CEQA (Title 14, CCR, Article 5, Section 15064.5) applies to cultural resources from the historic and prehistoric periods. Any project with an effect that may cause a substantial adverse change in the significance of a cultural resource, either directly or indirectly, is a project that may have a significant effect on the environment. As a result, such a project would require avoidance or mitigation of those affected resources. Significant cultural resources must meet at least one of four criteria that define eligibility for listing on the California Register of Historical Resources (Pub. Res. Code § 5024.1, Title 14 CCR, Section 4852).

The Cultural Resources Inventory (ECORP 2008) recommended that resources dating to more than 50 years old, or that will soon be 50 years old, be evaluated using CRHR eligibility criteria. The house at 1401 Malcolm Dixon Road, El Dorado Hills, was built in 1957; as such, it is more than 50 years old, and subject to evaluation for CRHR eligibility.

Personnel and Methods

Past Forward, Inc. personnel visited and recorded and evaluated the residence. Dr. Rebecca Allen, who exceeds the Secretary of the Interior's Standards for professional qualifications in architectural history, acted as Principal Investigator. Rebecca Allen and R. Scott Baxter (M.A.) photo-documented and recorded the residence on 30 March 2009. Chris La Barbera of Diamante Estates, LLC met project architectural historians on site, and provide access to the structure. Lisa Westwood (M.A.) and Dr. Roger D. Mason (ECORP Consulting, Inc.) assisted in the preparation of background material, project management, and provided quality assurance and review.

This evaluation is based on the results of that field visit, previous archival research and background studies, and comparison with other architectural features within the Project Area and nearby vicinity. ECORP Consulting, Inc. (2008) recorded the residence using California Department of Parks and Recreation (DPR 523) forms; Appendix A contains these records. Appendix B contains all photographs taken of the residence.

BACKGROUND

ECORP Consulting, Inc. (2008) conducted a records search at the North Central Information Center . The following historic references were reviewed: Historical Property Data File for El Dorado County (Office of Historic Preservation 2007 and updates); the *National register of Historic Places* – listed properties (Office of Historic Preservation 2007 and updates); *California Historical Landmarks* (Office of Historic Preservation 1996 and updates); *California Points of Historical Interest* (Office of Historic Preservation 1992 and updates); *Gold Districts of California* (Clark 2005); *California Gold Camps* (Gudde 1975); *1500 California Place Names* (Gudde 1969); *1500 California Place Names* (Bright 1998); *A Field Guide to American Houses* (McAlester and McAlester 2000); *Directory of Properties in the Historical Resources Inventory* (1999); *Caltrans Local Bridge Survey* (California Department of Transportation 2008a); *Caltrans State Bridge Survey* (California Department of Transportation 2008b); and *Historic Spots in California* (Kyle 2002). Additional relevant historical background information is summarized and excerpted from previous cultural resources studies (Starns 1992; ECORP Consulting, Inc. 2008); additional references are noted as appropriate. As the residence is known

to have been constructed in the 1950s, the area's early history is only briefly summarized. The background also includes a discussion of the later residential development of El Dorado Hills.

Location and Setting

The Project Area is situated in the western slope of the central Sierra Nevada Mountains. It is gently rolling terrain at an elevation range of approximately 600 feet to 880 feet above mean sea level. The majority of the Project Area is comprised of an open blue oak savannah, with a live oak woodland in the northwestern corner of the property. Numerous rock outcrops, as well as rock walls and dams, are present throughout the Project Area. The primary features of the surrounding landscapes are rural residences on larger parcels of land. The residences are of 1950s era vintage, interspersed by more modern 1990s and 2000-era residences. A larger, newer development of closely spaced suburban housing tracts is to the west.

Early American Period History and Salmon Falls Township

The Early American Period history of the area begins in 1848, when California became a territory of the United States. The following year, a discovery of gold in the Sierra Nevada foothills prompted a large migration of thousands to the new state, especially in the northern region. California had sufficient population to become a state in 1850. New towns to support miners looking for gold in the foothills area soon dotted the landscape. Clarksville is four miles south of the Project Area. The town began as a way station for miners, and later grew as a mining camp. Later settlers in Clarksville used the area for stock grazing and dairying, creating a system of fencing and roadways to connect themselves with larger markets (Sioli 1883). Construction of a railroad line from Folsom to Placerville in 1866 bypassed the town, but the area continued to be agricultural in nature.

Salmon Falls was also a small townsite northeast of the Project Area. It too began its life during the gold rush of 1849, and was a town by 1850. The town of Salmon Falls soon boasted saloons, stores, shops, and hotels, as well as a small Chinatown. Smaller mining camps cropped up in the vicinity of the town. Salmon Falls also became somewhat of a transportation hub: it was on the stage line from Georgetown (further up in the foothills) to Sacramento and a stage line also ran from Salmon Falls to Auburn. After the initial mining boom waned by 1860, the area grew in agricultural and ranching importance. Areas tended to specialize; those near Salmon Falls tended to have dairies, while in nearby Green Valley vineyards were popular. The 1866 General Land Office Map shows an historic road alignment roughly in the vicinity of the current Malcolm Dixon Road.

Marshall B. Layne patented land within the Project Area in 1871 (BLM 2008). In 1876, Payne sold the land to Thomas Orr, the proprietor of a hotel, feed stables, and bakery in nearby Salmon Falls, as well as other enterprises in the area. Orr likely bought the land as an investment; the next year he sold the property to Lemuel Clayborne and his wife Anna Dixon Clayborne. Sioli (1883) reported that Salmon Falls reached its peak soon after the gold rush, and the hub of the town itself was abandoned, but that some farming families remained, enough to require a small school house. Anna Clayborne deeded a small portion of her land and was one of the sponsors of the small one-room Live Oak Schoolhouse, built in 1885 and open for the next sixty-plus years.

(The schoolhouse still stands, and is designated as site CA-ELD-1246H; the school itself is outside of the project area, although some related archaeological features are within the project area, and are discussed in a separate report).

Anna Dixon Clayborne died in 1905. In 1910, Lemuel and the other Dixon and Clayborne children deeded the property to Robert Dixon – one of Anna's children from her first marriage. Robert and his wife built a house on the western portion of their property. As ECORP (2008:18) notes, the 1907 Government Land Office Map shows the location of the Live Oak school and the nearby residence that is likely the Dixon house. Robert and Elizabeth Dixon had three children: Myrtle, Malcolm, and Elizabeth Belle. The Dixons grew crops such as fruits, grapes, barley, wheat, and oats. Almond trees note the location of the Robert and Elizabeth's house, which today is an archaeological site (P-09-1659), marked by a depression and fence posts.

20th Century Residential Development of Area

In 1939, U.S. Highway 50 from Sacramento via Clarksville to Placerville was completed. Also in 1939, Myrtle and Elizabeth deeded their portion of the land to Malcolm. When Highway 50 was later re-routed north of Clarksville, the town further declined. The importance of ranching and agriculture waned, and residential development of the area took precedence. The 1941 and 1944 United States Government Survey (USGS) maps show the current alignment of what is now called Malcolm Dixon Road, as well as the location of the Live Oak School. The growing population needed a better alternative than the one-room school, and the 1953 USGS Clarksville map indicates that the Live Oak School was abandoned (ECORP 2008:19).

With the construction of the Folsom Dam in 1955, Folsom Lake was also created, with more than 75 miles of shoreline (LSA Associates 2003:I-3). Folsom Lake was developed as part of the Central Valley Project. Small subdivisions began to appear in the general area, taking advantage of the nearby Folsom recreational area.

By the late 1950s, the area remained semi-rural, but became increasingly more residential. In 1957, Malcolm Dixon and his wife Maude had a small residence built in the southeast corner of the Project Area (the house under current study). Malcolm and Maude raised three children, and Maude lived in the house for the next 40+ years.

The nearby town of El Dorado Hills began in the early 1960s as a residential development (Wikipedia 2009). From the outset, this suburban town was envisioned as a master-planned community, with housing developments north and south of Highway 50. The growing town of El Dorado Hills soon grew around the rural settings of the former Salmon Falls and Clarksville areas, including the Project Area.

Business parks, golf courses, parks, schools, shopping centers, and small commercial centers were also included as part of the planned suburban area of El Dorado Hills, which quickly became a "bedroom community" of Sacramento. By 1990, the community had a population of more than 6000 residents. Smaller rural residential houses became dwarfed by larger and new construction of housing tracts, as well as larger single family homes on larger plots of land. In

1992, Starns (1992) noted that Maude Dixon was still in residence at 1401 Malcolm Dixon Road, and was 93 years old at the time.

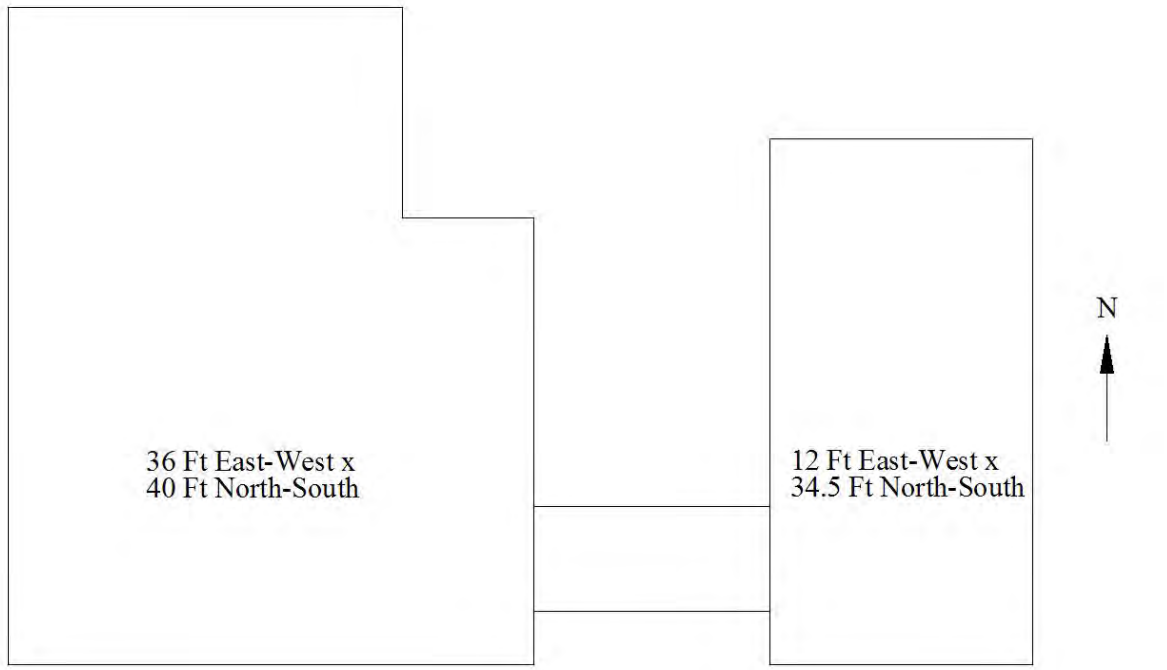
The town of El Dorado Hills continued to expand. By 2006, the population of the town had grown to more than 35,000, and the residential development of the area persists at a steady pace (Wikipedia 2009). Today, the small house at 1401 Malcolm Dixon Road is used as a rental. The residence is located in a residential semi-rural setting, with large house lots. A few of the residences on Malcolm Dixon Street are smaller, and contemporaneous with this house. Interspersed amongst the older houses are very large modern (post 1990s) houses. A large field extends to the north of the house. In the distance to the west is a newer subdivision, with many modern residences.

DESCRIPTION OF RESIDENCE

Malcolm and Maude Dixon built the small house at 1401 Malcolm Dixon Road in 1957 (Figures 2 and 3). The house can be described as a vernacular expression of the minimal traditional style, as described by McAlester and McAlester (2000). Appendix A contains the DPR site record for the house; Appendix B contains additional photographs.

Figure 2. Residence at 1401 Malcolm Dixon Road, front (south) elevation, view towards north. Photograph by R. Allen, 30 March 2009.

Figure 3. Schematic of house plan (not to scale).



This house is a small, three bedroom, one-and-a-half bath structure, attached to a small garage by a short section of covered roof. It is a cinder block house, with composite shingling covering a composite shingle hipped roof. The house sits on approximately a half-acre of land, mostly fenced in with a simple railing fence. Vegetation on the property, and near the residence, includes gray pine, apple tree, cedar trees, and flowering shrubs. Overall, the house is 32 feet east-west by 40 feet north-south, and is 1,356 sq. feet in area. The small garage is 12 feet east-west by 34 1/2 feet north-west.

The south (front) elevation of the house has a central single hollow core wooden door, slightly offset to the west. Two windows flank the door; both are single light windows with swing-out panes on either side of a fixed center pane. There is a square concrete landing, with one step, in front of the door. An aluminum awning covers the entryway.

On the west elevation, there is a large picture window at the south end (fixed central pane flanked by swing-out windows), covered by a small awning on the exterior. An exterior air conditioning unit juts out from the elevation, just north of this large window. There is a smaller window on the north end, also covered by a small awning. The chimney extends from the roof on this elevation.

Three small windows appear along the north (rear) elevation of the house. The window on the east side is a vertically oriented fixed single pane with a swing-out on the west side. The central window is a horizontally oriented double swing-out window. The west side window mirrors that on the east.

The east elevation is larger on the south end, with a 4 ft. step in on the back (north) half of the house. It has a single door with a single hung aluminum window on the south end of the house. To the north of the door, there is a large fixed pane window, and smaller single pane window. On the stepped-in north end of the east elevation there are two vertically oriented windows; one is a double swing-out window, and the window closest to the north elevation is a fixed single pane with a swing-out.

On the interior, the building retains many of its original elements. The living room, with its 8 foot high open-beam wood ceiling, is in the southwest corner of the building. The kitchen, with 1950s era cupboards, is in the southeast corner of the house. Two of the bedrooms are found in the north corners of the house, flanking a central bathroom. The third smaller bedroom (den) and smaller half-bath are in the central east side of the house.

The small garage is east of the residence, and attached at the front with a short approximately 6 foot wide covering that connects the doorway on the east elevation of the house with a door on the west elevation of the garage. Originally the garage was a small wood-framed 12 foot east-west by 8 1/2 foot north-south outbuilding, with three eight-paned window panels on the north elevation. The garage was later added on; the remainder of the structure is made of cinder block, matching the house. A large garage door dominates the south elevation of the small building. Dog pens flank the plain east elevation. Appendix B contains additional photographs of the garage.

CALIFORNIA REGISTER EVALUATION

The California Register of Historical Resources is intended to encourage and promote recognition and protection of cultural resources, including building and structures. The Register identifies resources considered to be important for state and local planning purposes, and affords certain protections under CEQA.

Eligible rsources must possess physical integrity as well as integrity of setting, and meet at least one of the following criteria (California Code of Regulations 15064.6). Eligible resources are:

> 1) associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States;
>
> 2) associated with the lives of persons important to local, California or national history;
>
> 3) embodies the distinctive characteristics of a type, period, region or method of construction or represents the work of a master or possesses high artistic values; or
>
> 4) has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California or the nation.

RECOMMENDATIONS

The residence at 1401 Malcolm Dixon Road does not appear to be eligible for the California Register of Historical Resources. Overall the house is in relatively good condition, and has had few changes (such as a new roof and garage expansion) to its exterior. It is a typical vernacular residence of the 1950s, and although is indicative of the general residential development of the area, it is neither unique nor important enough by itself to convey regional or local history (Criterion 1). While the Dixons were consequential to local regional history, particularly of the Salmon Falls, area, the house cannot be said to be significant under Criterion 2. The residence is not architecturally distinctive enough to convey the requirements of Criterion 3. The house was built after 1957 and the advent of a sewer system. As such, there is very little potential for a domestic archaeological component, making it ineligible under Criterion 4.

Based on the above, the residence at 1401 Malcolm Dixon Road does not appear to be eligible for the California Register of Historical Resources. No further management or study of this resource is recommended.

REFERENCES

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APPENDIX A

DPR RECORD 523

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial #
NRHP Status Code
Other Listings
Review Code Reviewer Date

 ***Resource Name or #:** EC-08-19

P1. Other Identifier:
***P2. Location:** ☒ **Not for Publication** ☐ **Unrestricted**
***a. County:** El Dorado
***b. USGS 7.5' Quad:** Clarksville **Date:** 1980 **T10**N; **R8**E; SE ¼ **of** SE ¼ **of Sec** 14**;** Mount Diablo B.M.
c. Address: 1401 Malcolm Dixon Road City: El Dorado Hills Zip: 95762
d. UTM: Zone: 10; 668674 mE/ 4286750 mN
e. Other Locational Data: Elevation: 846 feet amsl
From the intersection of Salmon Falls Road and Malcolm Dixon Road, turn east on Malcolm Dixon Road. Follow the road for 1.03 miles. The residence is located on the northern side of the road.

***P3a. Description:** The site consists of a five-room single-storied residence. According to a DataQuick Online Property search (www.dataquick.com 2008), the house was built in 1957, has a total of five rooms (2 bedrooms, 2 bathrooms), measures 1,356 square feet in area, and is a construction quality 6. The house appears to have been altered (windows and roof).

***P3b. Resource Attributes:** HP2. Single Family Property
***P4. Resources Present:** ☒Building ☐Structure ☐Object ☐Site ☐District ☐Element of District ☐Other (Isolates, etc.)

P5b. Description of Photo: Overview of residence looking NE, 2/29/08, Picture 001.
***P6. Date Constructed/Age and Sources:** ☒Historic ☐Prehistoric ☐Both

***P7. Owner and Address:**
Diamante Development LLC
PO Box 26190
San Jose, CA 95762

***P8. Recorded by:**
Stephen Pappas
ECORP Consulting, Inc.
2525 Warren Drive
Rocklin, California 95677
***P9. Date Recorded:** 9/2/08
***P10. Survey Type:** 15 meter intensive pedestrian survey

***P11. Report Citation:** 2008: Cultural Resources Survey, Diamante Estates, El Dorado County, California. (ECORP Project No. 2008-030)

***Attachments:** ☐NONE ☒Location Map ☐Sketch Map ☐Continuation Sheet ☐Building, Structure, and Object Record ☐Archaeological Record ☐District Record ☐Linear Feature Record ☐Milling Station Record ☐Rock Art Record ☐Artifact Record ☐Photograph Record ☐ Other (List):

BUILDING, STRUCTURE, AND OBJECT RECORD

***NRHP Status Code**

***Resource Name or #** (Assigned by recorder) EC-08-19

B1. Historic Name: 1401 Malcolm Dixon Road
B2. Common Name:
B3. Original Use: Residence B4. Present Use: Residence
***B5. Architectural Style:** Vernacular Minimal Traditional
***B6. Construction History:** (Construction date, alterations, and date of alterations)
Malcolm and Maude Dixon constructed the house in 1957.

***B7. Moved? X No ☐Yes ☐Unknown Date: Original Location:**
***B8. Related Features:** The house sits on approximately half-acre of land, mostly fenced in with a simple railing fence. Vegetation on the property, and near the residence, includes gray pine, apple tree, cedar trees, and flowering shrubs.

B9a. Architect: b. Builder:
***B10. Significance: Theme: Area:**
Period of Significance: Property Type: Applicable Criteria:
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

The residence at 1401 Malcolm Dixon Road does not appear to be eligible for the California Register of Historical Resources. Overall the house is in relatively good condition, and has had few changes (such as a new roof and garage expansion) to its exterior. It is a typical vernacular residence of the 1950s, and although is indicative of the general residential development of the area, it is neither unique nor important enough by itself to convey regional or local history (Criterion 1). While the Dixons were consequential to local regional history, particularly of the Salmon Falls, area, the house cannot be said to be significant under Criterion 2. The residence is not architecturally distinctive enough to convey the requirements of Criterion 3. The house was built after 1957 and the advent of a sewer system. As such, there is very little potential for a domestic archaeological component, making it ineligible under Criterion 4.

B11. Additional Resource Attributes: (List attributes and codes)

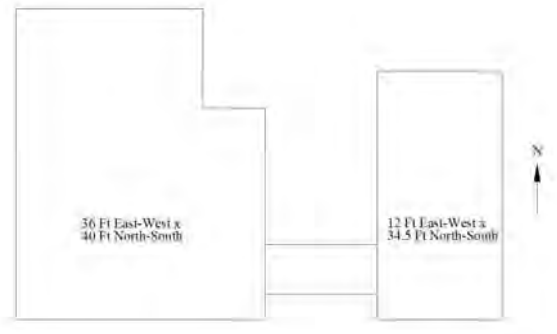
***B12. References:** Starns, Jean E.
1992 Salmon Falls Tank and Transmission Line Cultural Resource Survey, El Dorado Irrigation District, Project Names 91051, Work Order Number 2580. On file at North Central Information Center, California State University, Sacramento. [discussion of Dixon family history]

B13. Remarks:

***B14. Evaluator:** Rebecca Allen, Ph.D., Past Forward, Inc., PO Box 969, Garden Valley, CA 95633

***Date of Evaluation:** 17 April 2009

(Sketch Map with north arrow required.)



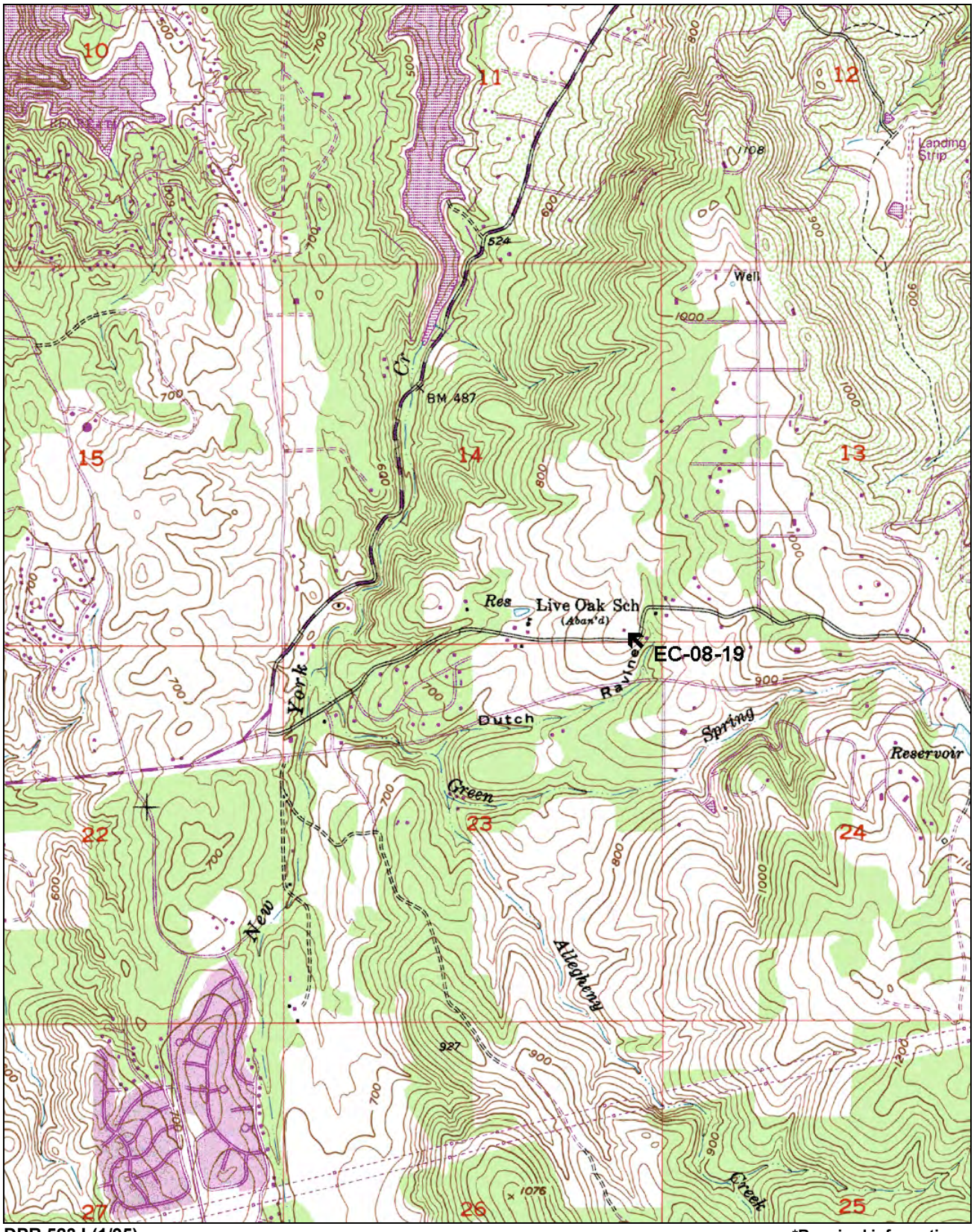
DRAWING NOT TO SCALE

(This space reserved for official comments.)

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary #
HRI#
Trinomial

Page 3 **of** 3
***Map Name:** Clarksville, CA
***Resource Name or #:** EC-08-19, 1401 Malcolm Dixon Road, El Dorado Hills, CA
***Scale:** 1:24,000
***Date of Map:** 1980



DPR 523J (1/95)
***Required information**

APPENDIX B

PHOTOGRAPHS

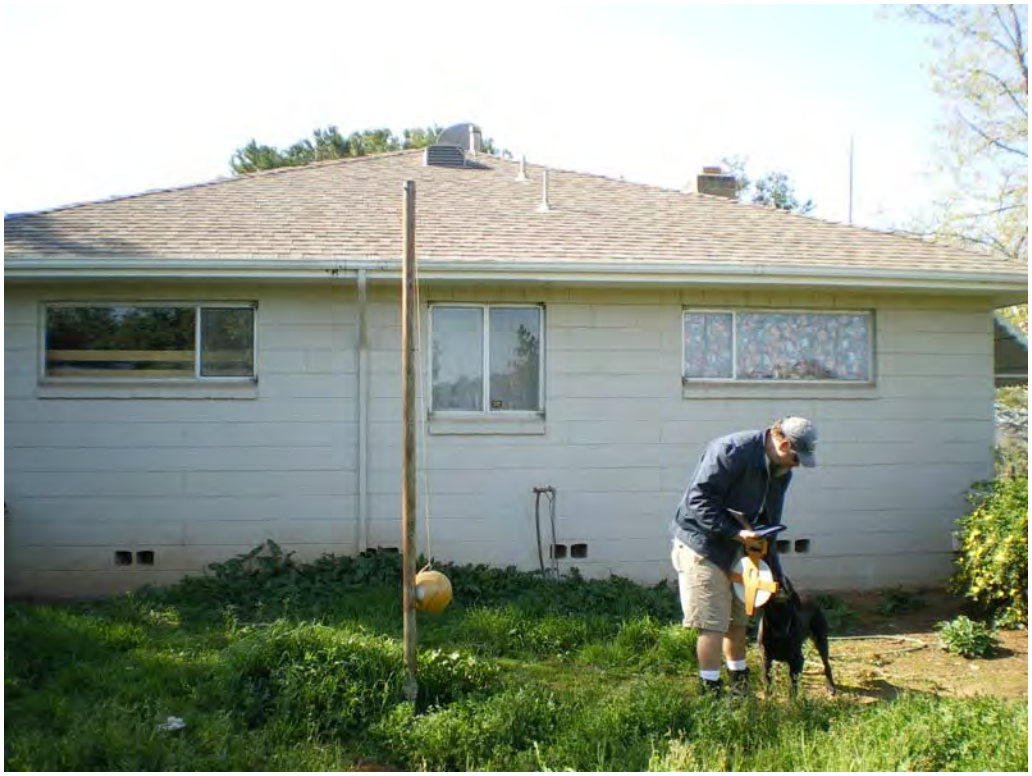
Photos by R. Allen, 30 March 2009

South (front) elevation of residence, view towards north

South (front) elevation of garage and portion of house, view towards north

West and south elevations of residence, view towards northeast

North elevation of house, view towards south



North elevation of garage and east elevation of house, view towards south

East elevation of garage, view towards southwest

Interior view, living room in southwest corner of house, view towards southwest

Interior view, kitchen in southeast corner of house, view towards south

APPENDIX D.2

Review and Recommendations of the Cultural Resources Studies

HISTORIC RESOURCE ASSOCIATES
HISTORIC ARCHITECTURE • ARCHAEOLOGY • HISTORICAL & GENEALOGICAL RESEARCH
NATIONAL REGISTER NOMINATIONS • PRESERVATION PLANNING • HISTORIC INTERIORS

May 10, 2016

Martin Boone
Omni/Orbis Financial
1260 41st Avenue, Suite O
Capitola, CA 95010

Re: Review and Recommendations of the Cultural Resource Studies for the Vineyards at El Dorado Hills Project, El Dorado Hills, El Dorado County, CA

Dear Mr. Boone:

At the request of Olga V. Sciorelli, P.E., of CTA Engineering and Surveying, Historic Resource Associates has conducted a review of the cultural resources studies prepared for the Vineyards of El Dorado proposed subdivision, in regards to the El Dorado County Community Development Agency's request to determine if the documentation to date is compliant with the California Environmental Quality Act (CEQA) and other recent legislation regarding cultural resources (refer to El Dorado County Development Agency, Development Services Division letter dated April 7, 2016; item #3).

The project involves the creation of a residential subdivision north of Malcolm-Dixon Road. The proposed subdivision, which encompasses approximately 113 acres of oak woodland and rolling grassland, will be divided into 40 lots with open space interspersed throughout the project (Figure 1).

2001 Sheffield Drive
El Dorado Hills, CA 95762--5905
Office: 916-941-1864
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Email: historic.resource@comcast.net

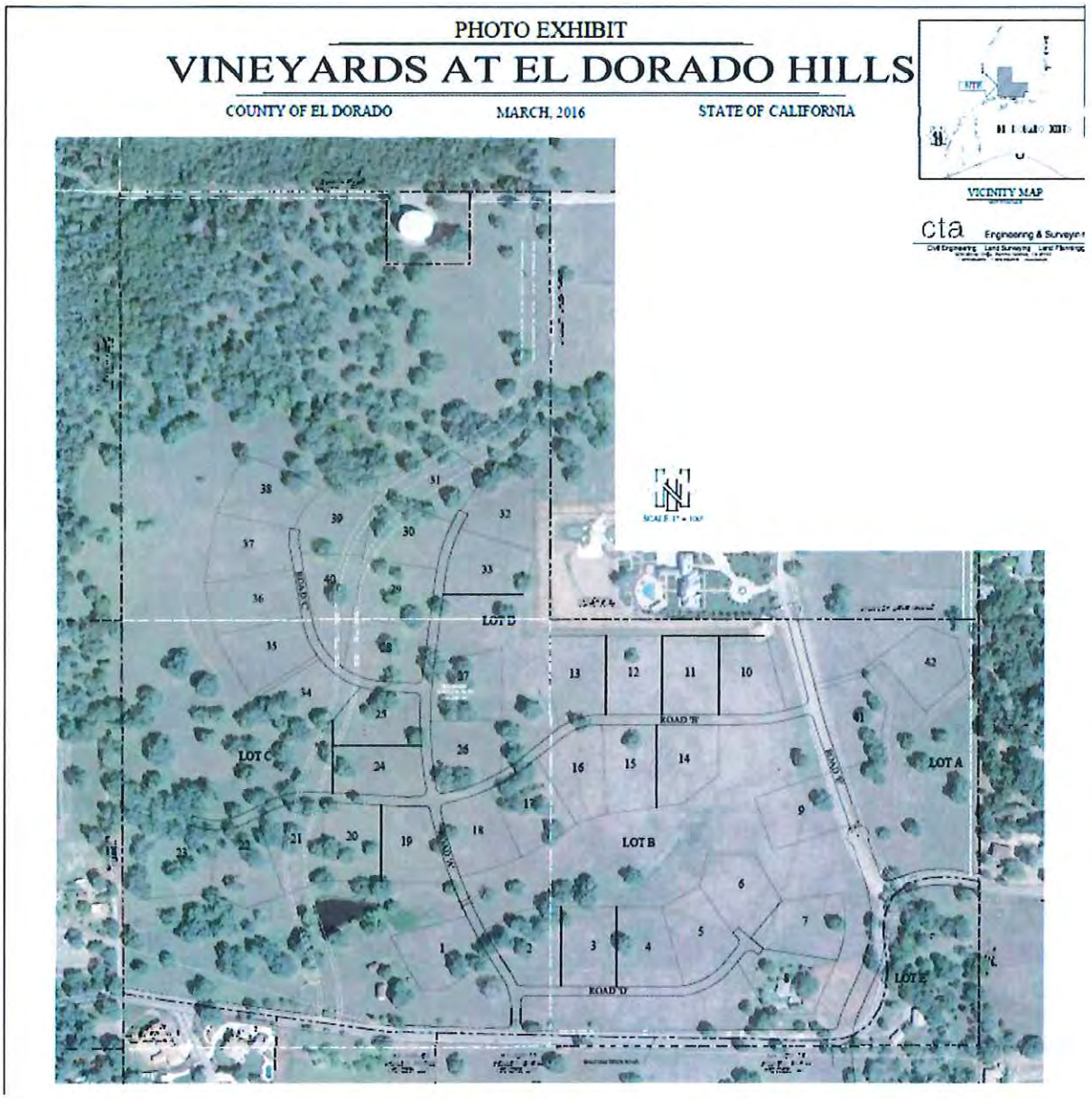

FIGURE 1: Project Development Map

PREVIOUS STUDIES AND SITES

Four cultural resource studies have been performed within the project area of potential effect-direct effects (APE-DE). Those studies were conducted by Starns (1992), ECORP Consulting, Inc. (2008), ECORP Consulting, Inc. (2009), and Past Forward, Inc., (2009). In 2009, Past Forward, Inc. acted as a sub consultant to ECORP Consulting, Inc. and conducted an evaluation of a residential house along Malcolm Dixon Road, whereas ECORP Consulting, Inc. surveyed the entire project APE.

A total of six cultural resources were documented by ECORP Consulting, Inc. (May 2009) and Past Forward, Inc. (May 2009). Those cultural resources include:

TABLE 1: Cultural Resource Properties, Sites, and Features

Site Number	Name	Description	Significant
CA-ELD-1242	Rock Feature Site	Dry-laid rock walls	No
CA-ELD-1246	Live Oak Schoolhouse	Circa 1885-1940s School House (architectural)	Undetermined
P-9-1659	Dixon Farmstead	Circa 1870s-1920s archaeological farm/ranch complex	No
EC-08-19	1401 Malcolm Dixon Road Residence	1950s single-family residence	No
EC-08-20	Pump House	Well/pump house	No
EC-08-07	Truck Trailer Undercarriage	Abandoned truck frame	No

TABLE 2: Cultural Resource Studies

NADB Number	Survey Title	Distance from APE-DE	Description
	Jean E. Starns. Salmon Falls Tank and Transmission Line Cultural Resource Survey, El Dorado County, California, Project No. 91051, Work Order No. 2580, 1992.	In a portion of APE-DE	Linear Survey
	ECORP Consulting, Inc. Cultural Resources Survey Diamante Estates, El Dorado County, California, 2008.	In APE-DE	Intensive field survey of the entire project
	ECORP Consulting, Inc. Test Program Results and Evaluation for Cultural Resources at Diamante Estates, El Dorado County, California, May 2009.	In APE-DE	Archaeological testing and site evaluation
	Past Forward, Inc. California Register of Historical Resources Evaluation of Residence on Malcolm Dixon Road, El Dorado County, May 2009.	In APE-DE	Architectural Evaluation

FIELD AND DOCUMENT REVIEW

On May 8, 2016, a field review was carried out within the proposed boundaries of the Vineyards of El Dorado Hills residential subdivision. An attempt was made to relocate all the cultural resources identified in the previous surveys. Extremely dense and tall grass, a result of winter rains, made surface inspection difficult. However, with the exception of several of the rock alignments, all the other cultural resources outlined in Table 1 were relocated and appear to be properly identified.

A review was carried out of the cultural studies cited in Table 2. In addition, the archaeological site records were also reviewed in regards to content and accuracy. The aforementioned cultural resource study documents appear to be compliant with CEQA, as do the site evaluations under the California Register of Historic Resources (CRHR). As noted by the authors, none of the cultural resources that were formally evaluated were found to be significant for listing on the CRHR.

RECOMMENDATIONS

As previously described, according to ECORP Consulting, Inc. all the formally evaluated sites were found to ineligible for listing on the CRHR. This recommendation seems appropriate given the level of documentation and or archaeological testing that was performed to date. There is one multi-component built environment or architectural resource that was not formally evaluated: CA-ELD-1246/Live Oak School House.

Records indicate that the Oak Hill School dates to the mid-1880s and that between 1895 and 1908, the Dixon family donated a portion of land north of the subject property in order to erect a new school house greatly needed in the local area, perhaps the present school. The school was named Live Oak after several large live oaks surrounding the site. Many members of the Dixon family attended the Live Oak School, as well as other young children from the local area. According to Lilian Dixon, the land occupied by the school reverted back to the Dixon family at the time the school house was abandoned. The property on which the school house sits today was later owned by Maude Dixon.

Under CEQA all cultural resources 50 years or older should be taken into consideration if they are located within the footprint of a project that is undergoing environmental review. Simple recordation may not be adequate if the property is in jeopardy of being lost or damaged through neglect.

Although the Live Oak School, which reportedly dates to circa 1885-1895 and is one of the oldest one-room school house in El Dorado, has been placed in a conservation easement (ECORP Consulting, Inc. 2009:13), the environmental assessment needs to consider what measures, if any, need to be taken in order to preserve the assumed eligible historic school house, or perhaps demolish the school and associated outbuildings.

An inspection of the school house reveals its tenable condition in a state of disrepair and neglect, which began long before the current owners acquired the property. The rear of the school roof has partially collapsed, the foundation or footings are failing, a large bee hive is damaging the exterior siding and interior framing, and the porch is in serious disrepair (refer to Photograph Record).

If, as stated in the ECORP Consulting, Inc. May 2009 report, the Live Oak School House is "assumed to be eligible" for the CRHR, a plan for its future disposition needs to be addressed that may include stabilization, rehabilitation, full restoration and preservation, or demolition. In either case some form of remedial stabilization is needed, including elimination of the bee hive. If demolition is a chosen alternative, documentation of the property will be necessary applying Historic American Building (HABS) standards that generally include archival quality photographs, a scaled drawing of the building, and a written report that documents its history.

If you have any questions regarding the review or recommendations, please feel free to contact me.

Regards,

Dana E. Supernowicz, MA, R.P.A.
Principal

cc: Olga V. Sciorelli, P.E., CTA Engineering and Surveying

PHOTOGRAPH RECORD

	**1.** View looking northeast towards the Live Oak School and barn.
	**2.** View looking northwest at the Live Oak School.

	**3.** View looking south at the rear of the Live Oak School.
	**4.** View looking west at the east elevation upper wall of the school, with a bee hive that has penetrated the inner wall above the boarded-up window.

[7]

APPENDIX D.3

Cultural Resources Assessment (2017)

CULTURAL RESOURCE ASSESSMENT FOR

VINEYARDS AT EL DORADO HILLS PROJECT

EL DORADO COUNTY, CALIFORNIA

Prepared by

Melinda A. Peak
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(916) 939-2405

Prepared for

De Novo Planning Group
1020 Suncast Lane, Suite 106
El Dorado Hills, CA 95762

October 2017
(revised February 2018)
(Job #17-077)

INTRODUCTION

Peak & Associates has been asked to complete a peer review of the previous reports completed for the Vineyards at El Dorado Hills project area. The project area is a proposed development of about 114 acres of land on the north side of Malcolm Dixon Road in western El Dorado County. The project area lies within the southeast quarter of section 14, Township 10 North Range 8 East, mapped on the Clarksville 7.5-minute USGS topographic quadrangle (Figure 1).

In addition, a new record search has been conducted to obtain permanent numbers for the recorded resources, information on any other resources recorded in the vicinity, and other survey work in the vicinity. Native American consultation was also conducted.

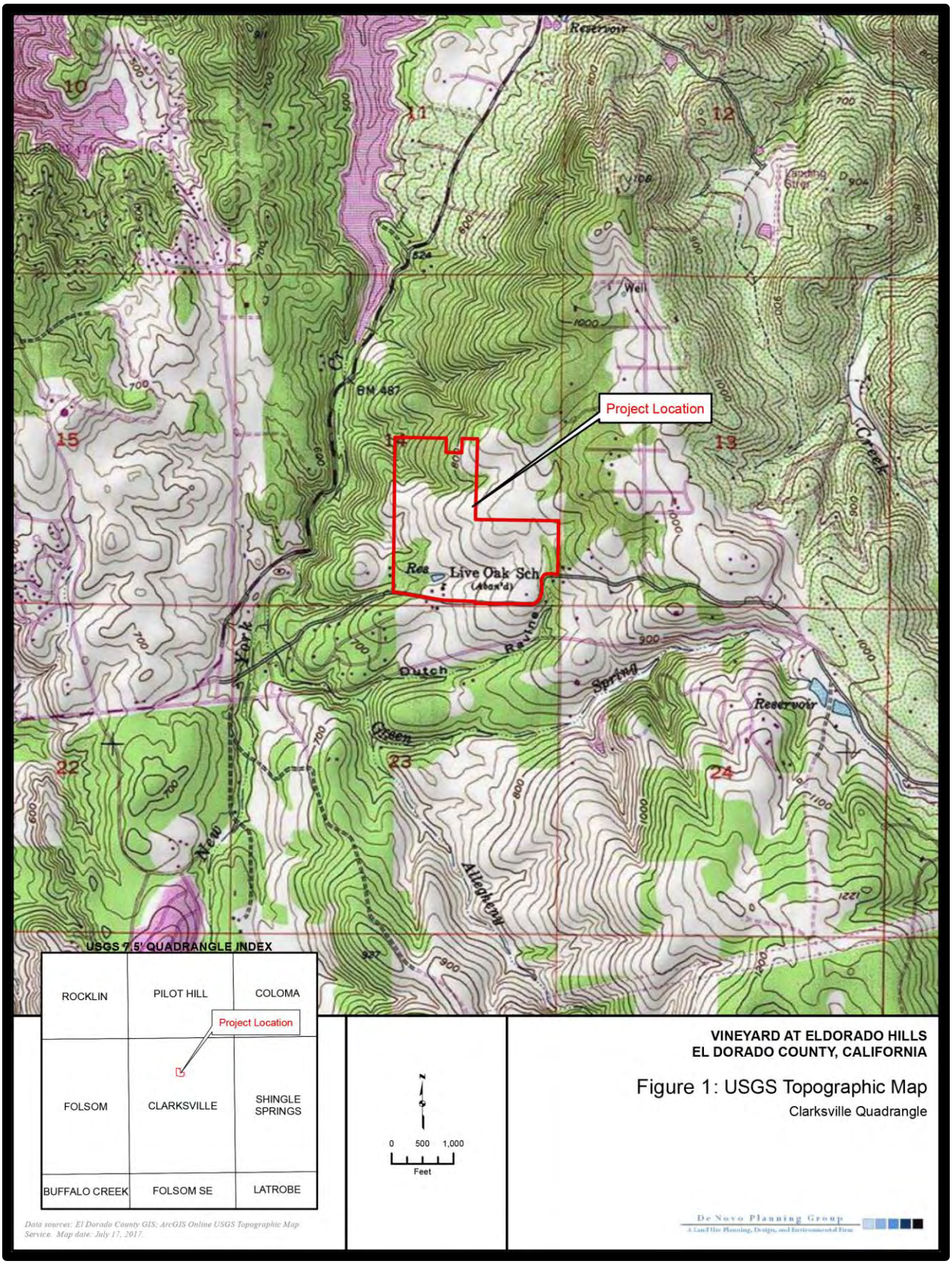
In-depth archival research has not been conducted on the project area; research has only been conducted using readily available resources on-line and in our office library. A brief field visit has been made to the site to check the Live Oak School site and the old road within the project area.

NATIVE AMERICAN CONSULTATION

The Native American Heritage Commission (NAHC) responded on September 14, 2017 to a request from Peak & Associates, Inc. for a Sacred Lands file search for the project area. No Sacred Lands or cultural resources were identified by the NAHC within the project area. The NAHC provided a list with nine individuals/organizations who they felt may have knowledge about the project area specific and suggested that they be contacted for information (Appendix 1).

Two of the individuals/organizations on the list, Randy Yonemura, Cultural Committee Chair, Ione Band of Miwok Indians and Gene Whitehouse, Chairman, United Auburn Indian Community of the Auburn Rancheria, had been previously contacted by El Dorado County under AB52 by El Dorado County. The remaining seven individuals/organizations on the September 14, 2017 NAHC list were sent letters by Peak & Associates, Inc. on September 20, 2017 requesting information about the project area. These individuals/organizations were: Pamela Cubbler, Treasurer, Colfax-Todds Valley Consolidated Tribe; Crystal Martinez-Alire, Chairperson, Ione Band of Miwok Indians; Cosme Valdez, Chairperson, Nashville-El Dorado Miwok; Nicholas Fonseca, Chairperson, Shingle Springs Band of Miwok Indians; Don Ryberg, Chairperson, Tsi Akim Maidu; Grayson Coney, Cultural Director, Tsi Akim Maidu; and Darrel Cruz, Cultural Resources Department, Washoe Tribe of Nevada and California (Appendix 1).

One response was received from the Shingle Springs Band of Miwok Indians. They requested to initiate consultation under AB 52, and to be added as a consulting party in identifying any Tribal Cultural Properties within the project's APE. Their letter is included in Appendix 1, and has been forwarded to the County (Appendix 1).


Project Location
Live Oak Sch
(Abnd)
Reservoir
Well
BM 487
Dutch
Ravine
Spring
Reservoir
Green
Allegheny
New
Fork
Creek
10
11
12
13
14
15
22
23
24
USGS 7.5' QUADRANGLE INDEX
ROCKLIN
PILOT HILL
COLOMA
Project Location
FOLSOM
CLARKSVILLE
SHINGLE SPRINGS
BUFFALO CREEK
FOLSOM SE
LATROBE
Data sources: El Dorado County GIS; ArcGIS Online USGS Topographic Map Service. Map date: July 17, 2017.
0 500 1,000
Feet
VINEYARD AT ELDORADO HILLS
EL DORADO COUNTY, CALIFORNIA
Figure 1: USGS Topographic Map
Clarksville Quadrangle
De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

PREVIOUS STUDIES WITHIN THE VINEYARDS AT EL DORADO

A record search has been completed for the project area through the North Central Information Center of the California Historical Resources Information System (NCIC File No.: SAC-17-141) for additional information on cultural resources and studies. The records search including survey coverage map and lists of resources and reports is attached in Appendix 2.

A previous survey had been undertaken of the northern portion of the project area in 1992 by Jean Starns for EID, as well as for a transmission route along Salmon Falls Road. Within the northern portion of the project, Starns recorded one site—a series of rock walls and dams and the Dixon "homestead." She also recorded the Live Oak School in the southern part of the property.

Three additional studies have been completed for the project area:

ECORP Consulting Inc.

2008a Cultural Resources Survey Diamante Estates.

2009 Test Program Results and Evaluation for Cultural Resources at Diamante Estates.

Past Forward and ECORP Consulting Inc.

2009 California Register of Historical Resources Evaluation of Residence on Malcolm Dixon Road, El Dorado County.

This study was reportedly a complete survey of the southern portion of the project area and a re-survey of the northern portion, previously covered by Starns in 1992.

This resulted in a total of six sites recorded within the project area:

- P-09-1653 (CA-ELD-1242): Rock walls and dams, recorded by Starns in 1992.
- P-09-1657 (CA-ELD-1246H): Live Oak School, recorded by Starns in 1992, and other buildings added to the site by ECORP in 2008.
- P-09-1659: Residential remnant, originally recorded by Starns in 1992.
- P-09-4920: Truck trailer undercarriage.
- P-09-4921: Residence at 1401 Malcolm Dixon Road.
- P-09-4922: Pump house.

A review of the ECORP Consulting and Past Forward/ECORP Consulting reports was conducted by Historic Resource Associates: *Review and Recommendations of the Cultural Resource Studies for the Vineyard at El Dorado Hills Project, El Dorado Hills, El Dorado County, CA* (May 2016).

Another survey was completed in 2006 for 82-acres northeast of the project area, with no resources located (Wills 2006).

No prehistoric period resources have been recorded in the project area or within a 0.125-mile radius.

SITE EVALUATIONS/RECOMMENDATIONS

The following discusses the assessments made in the previous research and our conclusions based on supplemental historical research and a field visit to the property.

P-09-1653: Rock Walls and Dams

Neither Starns (1992) nor ECORP (2009) were unable to identify the function or use of the site, and ECORP determined that it was not eligible for the California Register of Historical Resources (CRHR) since the features are considered to be common. The features appear to relate to water management of spring water on the project site. The rock walls would have been necessary to keep livestock out of the drainage, keeping them from fouling the water supply. We concur that the site is not an eligible resource and no further study is necessary.

P-09-1657: Residential Site Remnant

The original house on the property was located by Green Valley Road on the south end of the project area, near the Live Oak School, not in the northern portion of the original land holding. As proven by the lack of domestic artifacts found at the site in their test effort, this site appears to be the former site of a barn or outbuilding on the property. In any event, ECORP concluded the site of the former building is not eligible for the CRHR due to a lack of deposits. We concur that the site is not an eligible resource and no further research is required.

P-09-1659: Live Oak School/Other Buildings

The complex containing the Live Oak School is not completely documented, either physically or through archival research. The study in 2008 did not include a sketch map with the site record, only photographs, making it difficult to understand what was being observed. There is a large pile of materials from buildings and features; this does not appear on the site record and some of the materials appear to be more than 50 years in age.

There was a house present on the property by 1867, a building later occupied by the Clayborne and Dixon families (Figure 2). The previous ECORP researchers apparently were unaware of this feature and made no specific effort to locate the former residence. Based on incomplete information and no new archival research, the study by Historic Research Associates similarly did not note the location of the residence.

The 2016 Historic Resources Associates report identifies that the school house is in a state of disrepair and neglect, with the rear school roof partially collapsed, failing foundations or footings, and a large beehive that has damaged the exterior siding and interior framing. The 2016 Historic Resources Associates report recommends that a plan for the disposition of the school, which may include stabilization and preservation needs to be addressed. HRA also offers a choice of

demolition after documentation of the property consistent with Historic American Building Standards is necessary.

No physical testing has been completed to delineate the site boundaries or to review the mapped location of the 1867 residence. The documentation of the site is not complete and the evaluation of its significance is not complete.

A sign has been placed by an unknown party in front of the school building to identify the building, suggesting strong local concern.

The Clarksville Region Historical Society (CRHS) commented on the project on December 7, 2017 (Appendix 3), providing background information regarding the site and the Live Oak School building, and recommended that the Live Oak School building be considered a valuable historical relic, a historic structure report be prepared, steps be taken immediately to stabilize and preserve the building, funding be provided to preserve and maintain the building, steps be taken to preserve the building, a body be established to oversee initial and continuing maintenance, and a conservation easement be held by a nonprofit organization which could manage the funds. The CRHS letter identified that the schoolhouse is in relatively poor shape due to termite and other insect damage, wood rot, and general weathering and that a comprehensive building study should identify needed repairs and remediation.

Due to the site's significance in California history and the history of the region, this site is considered a historical resource under CEQA Guidelines Section 15064.5(a)(3)(A,B). The project does not propose to demolish or alter the Live Oak School and the associated documented resources. While the project plans to preserve the Live Oak School and associated documented resources within Lot D, the level of disrepair of the school may preclude stabilization or restoration and rehabilitation. Further, there is the potential for features associated with the resource to be inadvertently discovered during construction and operation of the project.

Therefore, it is recommended that the Live Oak School resource be further examined and fully documented with a historic building report prior to development of the project, including any data retrieval from areas in the vicinity of the school that will not be within Lot D (Open Space). The report should identify the steps necessary to stabilize and preserve the school building by an engineer who specializes in the evaluation and preservation techniques for historic buildings.

If it is determined that the school building can be feasibly stabilized and preserved, a management plan should be developed for the resource to address both short-term and long-term effects of the project, including providing for initial funding to stabilize or restore the building and ongoing funding to maintain the building, identifying methods to secure the building to address potential impacts created by development of the project and from persons in the vicinity of this resource, and establishing a mechanism to manage and oversee the continued maintenance and preservation of the school building.

Preservation of the Live Oak School building and associated documented resources, further data retrieval, and implementation of the management plan would ensure that impacts to the resource are less than significant.

If it is determined that the school building cannot be feasibly stabilized and preserved, the resource should be fully documented with the preparation of a Historic American Building Survey report, including large scale photography. The removal of the resource would result in a significant and unavoidable impact.

P-09-4920: Truck Trailer Undercarriage

The resource has been removed from the project site: this is definitely not a resource eligible for the CRHR. No further study is necessary.

P-09-4921: Residence at 1401 Malcolm Dixon Road

The 1957 residence is completely recorded and correctly evaluated as not eligible for the CRHR (Past Forward and ECORP 2009). No further study is necessary.

P-09-4922: Pump House

This pump house is indeed a common type, and is correctly evaluated as not eligible for the CRHR (ECORP 2009). No further study is necessary.

OTHER UNRECORDED CULTURAL RESOURCES

As well as the additional features at the school including an early house (pre-1867, Figure 2), there are other sites not located, recorded and evaluated by ECORP in the project area.

Reservoir and Dam—Southern Drainage

The reservoir and dam on the southern drainage—these features are mapped on the 1953 topographic map of the area, and were not recorded or addressed by ECORP. At the time of the ECORP survey, these features should have been formally recorded. While this feature is likely not eligible for the CRHR, it is recommended that the features be recorded prior to development of the project.

Coloma Road

The Coloma Road, later Green Valley Road, crosses the property and will be affected by the proposed project. The Coloma Road is the route used by early miners travelling from Sacramento, is shown on the early maps of the region. It also became an important freighting route. The Coloma Road became the route of California's first stage line, established by James Birch.

The short-lived Pony Express followed this route and would have crossed the project area on the old route of Green Valley Road.

ECORP did not identify the roadway through archival research nor did they find anything during their 2008 survey, however, there is physical evidence of the old roadway on the property, as well as historical evidence. The first accurate map of the area is the General Land Office plat of the

township, dating to 1867. The Coloma Road cut through the property (Figure 2). There was a paralleling route to the south, possibly the Hopkins toll road, preferred by freight wagons who chose to pay the toll rather than use the public road with the toll road in much better condition (Cross 1955).

The road cut through the southern portion of the property through at least 1908 (Figures 3 and 4). By 1925, the road may have been re-routed to the south and appears to follow the section line (Figure 5).

The 1953 USGS topographic map shows the distinctive bends in the road on the eastern edge of the property along the section lines as reflected on the modern map (Figure 1).

The 1963 USFS map also shows Green Valley Road with the distinctive southward bend at the eastern side of the project area and bending again along the southern boundary (Figure 6).

Figure 1 shows the bypass route established in the early 1960s that is the current route of Green Valley Road as a photo-revision of the topographic map in 1973. The County built a bypass of about 1.8 miles of the old road and re-named the old Green Valley route "Malcolm Dixon Road."

On a 2002 aerial photograph, the old route of the Coloma Road appears to be present on the property. This feature was not recorded or mentioned in the 2008 report by ECORP. Elsewhere, the road is recorded as P-09-1141. This is the route used by the Pony Express in 1860-1861, with a stop at the "Pleasant Grove House—Overland Pony Express Route in California", marked about two miles southwest of the property, and marked at State Historic Landmark 703 (Hoover, Rensch and Rensch 1990; Office of Historic Preservation 1990).

Although this segment is not currently shown on the National Park Service map, the Pony Express is designated a National Historic Trail.

A book on the history of Rescue includes a map of the Pony Express system. The road through the project area is part of the "Northern Route", used from July 1, 1860 to October 24, 1861, connecting with the railroad line in Folsom. This route was five miles shorter and had fewer steep grades. The "Southern Route" left Placerville, then to El Dorado, Mormon Tavern and along White Rock Road. This route was only used from April 1860 to July 1860 (Teie and Carpenter 2011: 133-136).

The National Pony Express Association is a non-profit organization founded in 1978 with a stated goal to "Re-establish, Identify and Re-Ride the Historic Pony Express Trail." Documenting the segment within the project area would seem to be of great interest to this group.

In addition, the Clarksville Region Historical Society has a great interest in the Pony Express and old roadways, and annually invite the national Pony Express group to provide demonstrations at their event in El Dorado Hills. The Rescue Historical Society may also have concerns about the potential impact.

It is recommended that the historic Coloma Road on the project site be documented prior to project development. While minimal physical evidence of this resource may exist, the resource is meaningful due to the association of Coloma Road with early California history and the brief use

of the road as part of the Pony Express. There are surface features associated the historic Coloma Road/Pony Express Route that will be impacted through development of residences and associated features, roads, and infrastructure on the project site. The portion of the property containing the roadway should be re-surveyed by a team of archeologists, and a field map prepared documenting the precise route of the roadway. A metal detector should also be used to check for any related artifacts or features. The features of the roadway should be mapped and photographed. A complete site form should be prepared for the resource.

Implementation of the recommendation and mitigation would ensure that potential impacts to the historic road and route are less than significant.

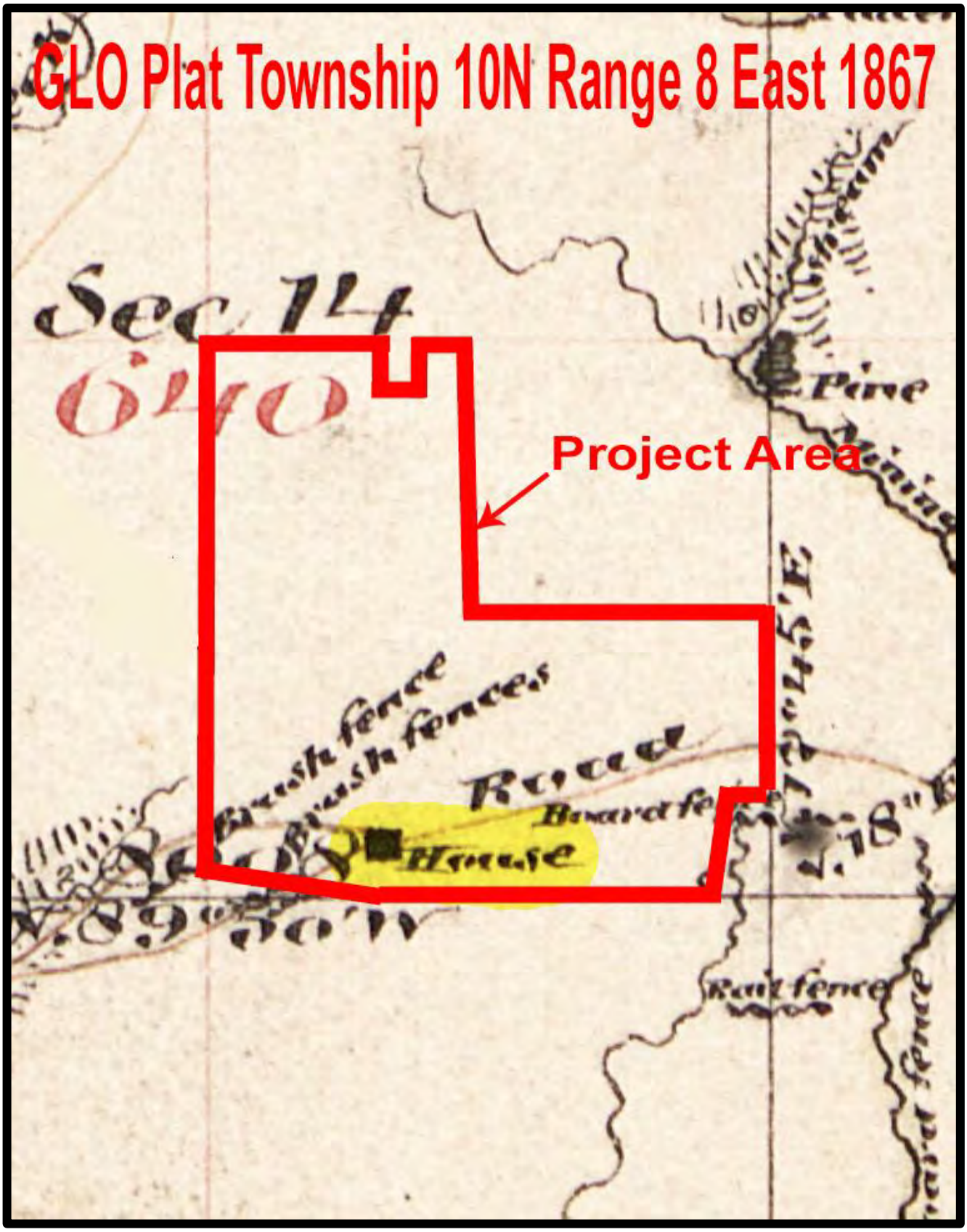

GLO Plat Township 10N Range 8 East 1867
Sec 14
Project Area
Pine
House
Rock fence

Figure 2

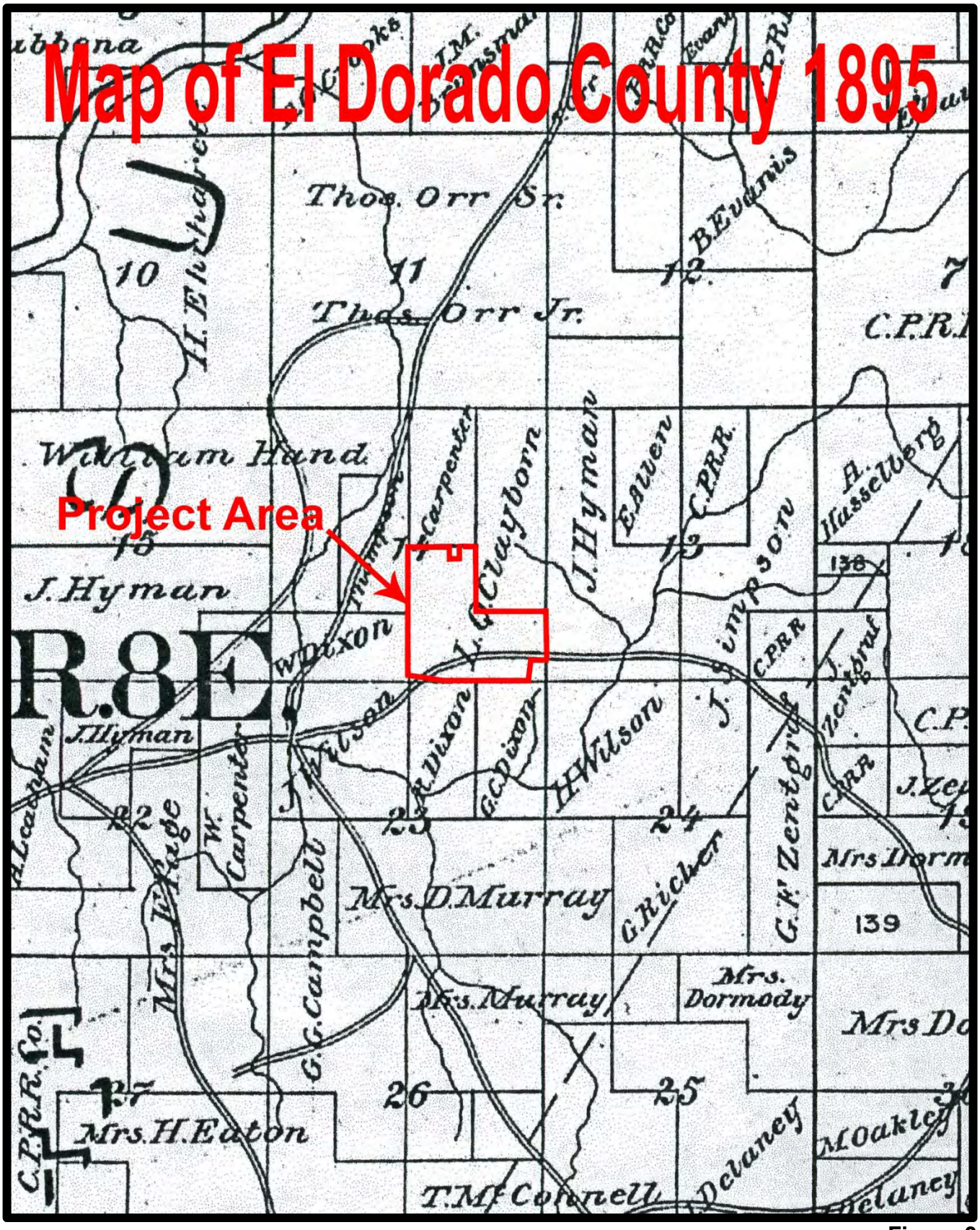

Map of El Dorado County 1895
Project Area
Thos. Orr Sr.
Thos. Orr Jr.
William Hand
J. Hyman
R.8E
J. Hyman
Wilson
G. Claybourn
J. Hyman
E. Bauer
C.P.R.R.
A. Hasselberg
Impson
C.P.R.R.
J. Zentgraf
H. Wilson
G. Dixon
R. Dixon
G. Campbell
Mrs. D. Murray
G. Richter
G. F. Zentgraf
Mrs. Dormody
Mrs. Murray
Mrs. H. Eaton
T. M. Colonell
Delaney
C.P.R.R. Co.
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Figure 3

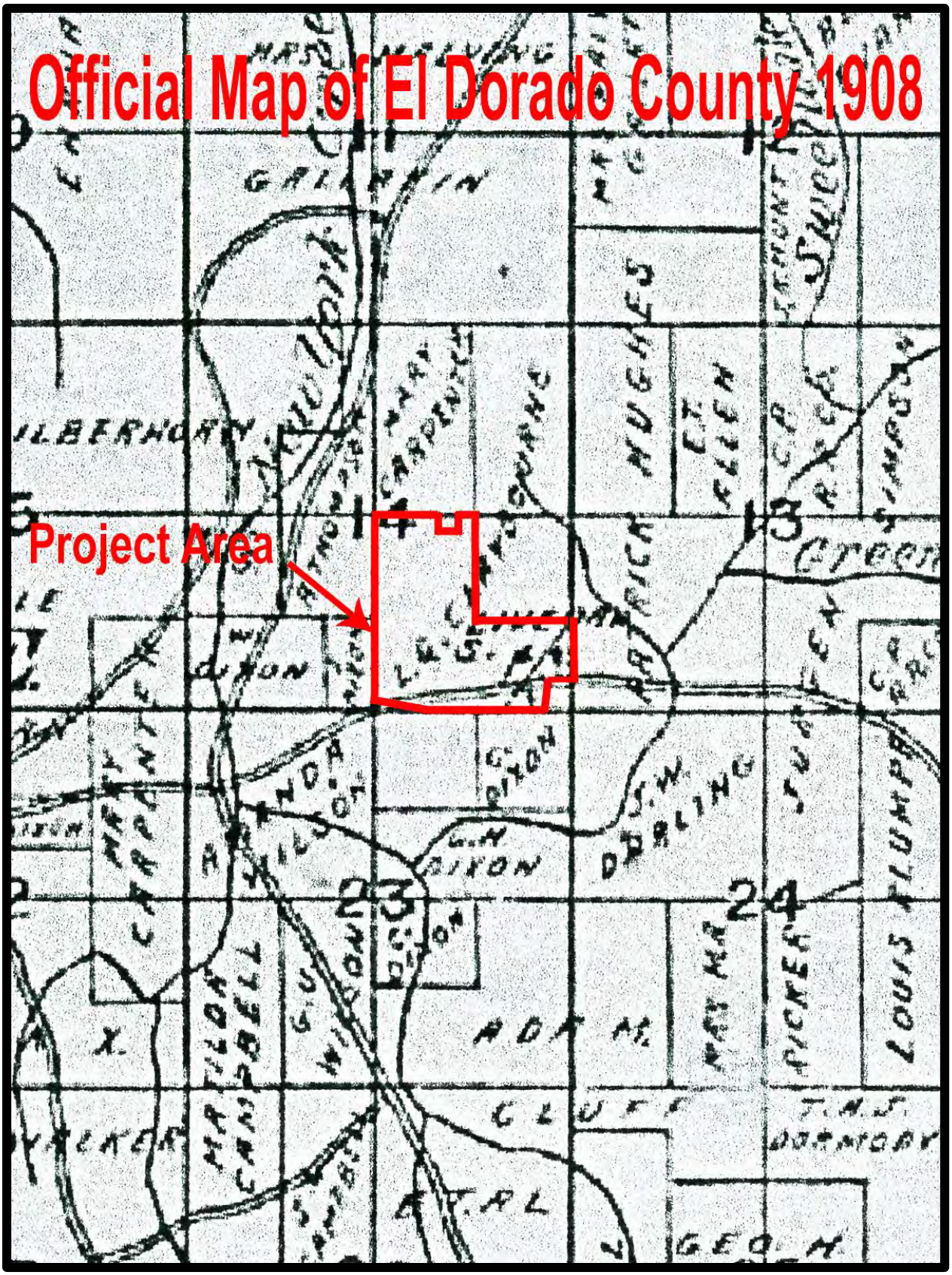

Figure 4

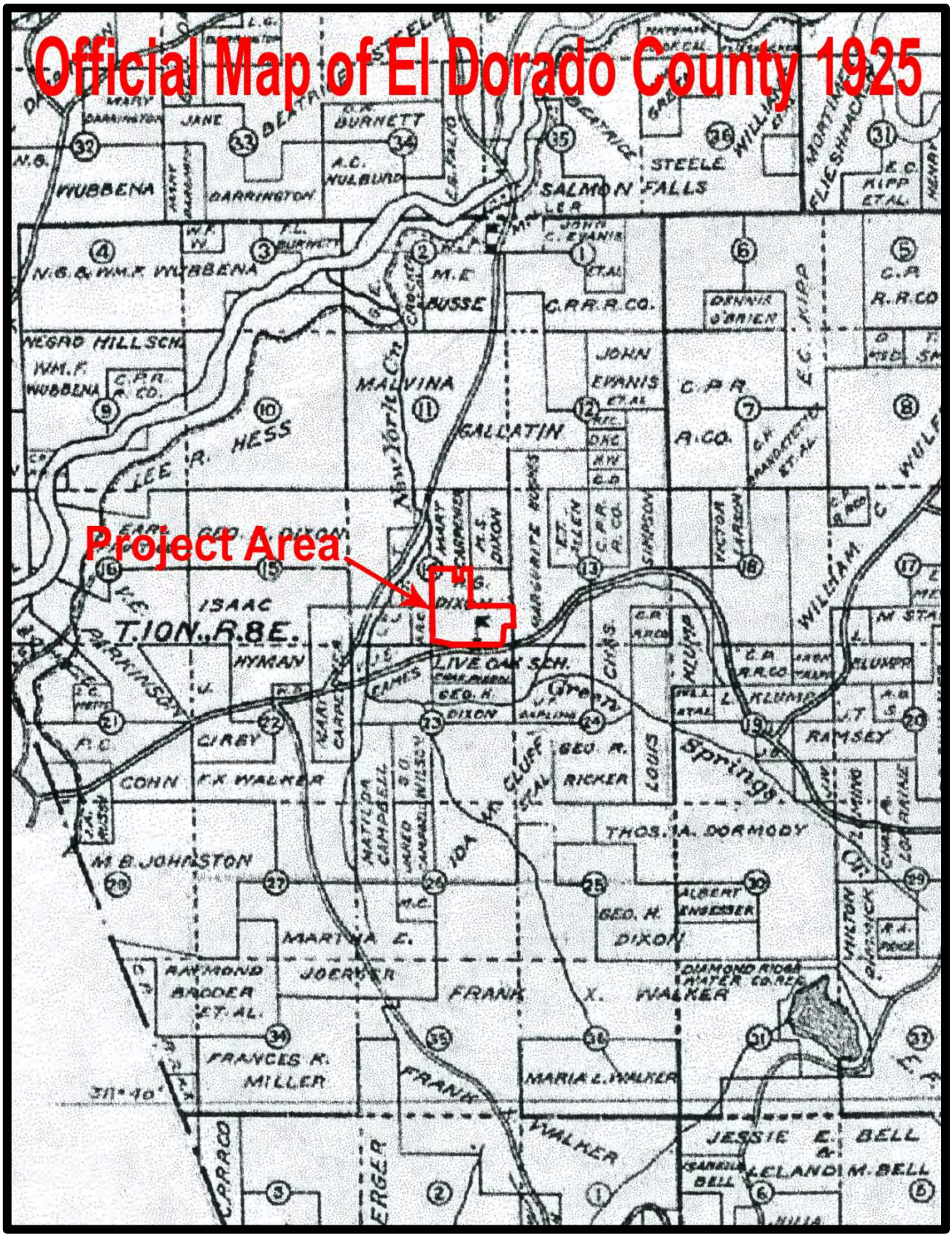
Official Map of El Dorado County 1925
Project Area
T.10N.,R.8E.
SALMON FALLS
STEELE
WUBBENA
DARRINGTON
BURNETT
NEGRO HILL SCH.
MALVINA
GALLATIN
HESS
LEE R.
ISAAC
HYMAN
LIVE OAK SCH.
GEO. H. DIXON
CIRBY
COHN
F.K. WALKER
M.B. JOHNSTON
GEO. R. RICKER
THOS. A. DORMODY
RAMSEY
MARTHA E. JOERGER
RAYMOND BRODER ET AL.
FRANCES K. MILLER
MARIA L. WALKER
JESSIE E. BELL
LELAND M. BELL
DIAMOND RIDGE WATER CO. ET AL.
ALBERT ENGESSER
JOHN C. EVANS ET AL.
C.R.R.R. CO.
C.P.R.R. CO.
A.CO.
WILLIAM
Springs

Figure 5

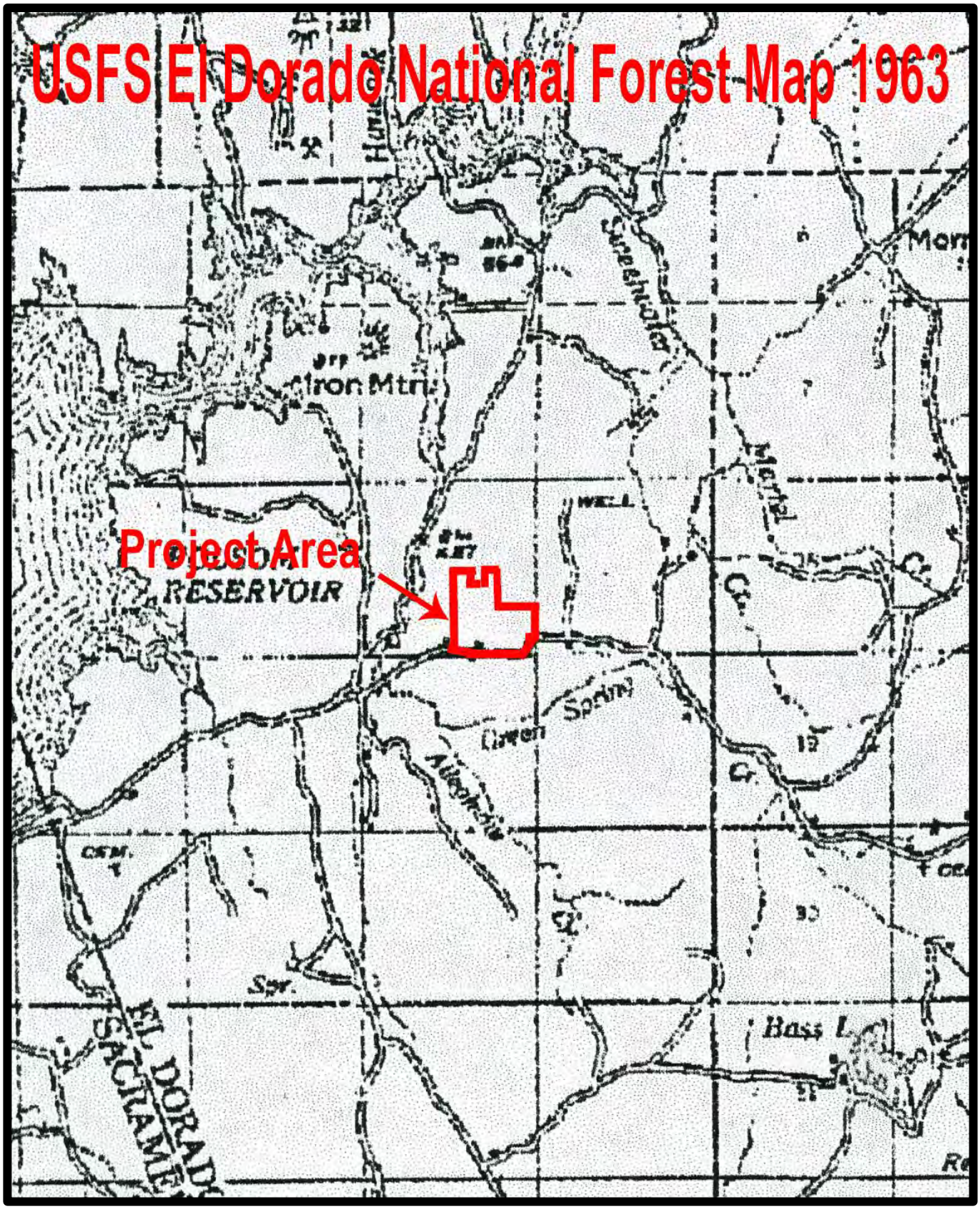
USFS El Dorado National Forest Map 1963
Project Area
RESERVOIR
Iron Mtn
Bass L

Figure 6

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APPENDIX 1

Native American Consultation

NATIVE AMERICAN HERITAGE COMMISSION
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
(916) 373-3710
Fax (916) 373-5471

September 14, 2017

Robert Gerry
Peak & Associates

Sent by Email: peakinc@yahoo.com
Number of Pages: 2

RE: Vineyards at Eldorado Hills, El Dorado County

Dear Mr. Gerry:

A record search of the Native American Heritage Commission (NAHC) *Sacred Lands File* was completed for the area of potential project effect (APE) referenced above with negative results. **Please note that the absence of specific site information in the *Sacred Lands File* does not indicate the absence of Native American cultural resources in any APE**.

I suggest you contact all of those listed, if they cannot supply information, they might recommend others with specific knowledge. The list should provide a starting place to locate areas of potential adverse impact within the APE. **By contacting all those on the list, your organization will be better able to respond to claims of failure to consult**. If a response has not been received within two weeks of notification, the NAHC 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 via email: Sharaya.souza@nahc.ca.gov.

Sincerely,

Sharaya Souza
Staff Services Analyst

Native American Heritage Commission
Native American Contacts
9/13/2017

Colfax-Todds Valley Consolidated Tribe
Pamela Cubbler, Treasurer
P.O. Box 4884 — Miwok
Auburn , CA 95604 — Maidu
PCubbler@colfaxrancheria.com
(530) 320-3943

Tsi Akim Maidu
Grayson Coney, Cultural Director
P.O. Box 510 — Maidu
Browns Valley , CA 95918
tsi-akim-maidu@att.net
530-274-7497

Ione Band of Miwok Indians
Crystal Martinez-Alire, Chairperson
P.O. Box 699 — Miwok
Plymouth , CA 95669
crystal@ionemiwok.net
(209) 245-5800 Office

(209) 245-3112 Fax

Tsi Akim Maidu
Don Ryberg, Chairperson
P.O. Box 510 — Maidu
Browns Valley , CA 95918
tsi-akim-maidu@att.net
(530) 274-7497
(530) 559-8595

Ione Band of Miwok Indians
Randy Yonemura, Cultural Committee Chair
P.O. BOX 699 — Miwok
Plymouth , CA 95669
randy_yonemura@yahoo.com
(209) 245-5800 Office
(916) 601-4069 Cell
(209) 245-6377 Fax

United Auburn Indian Community of the Auburn Rancheria
Gene Whitehouse, Chairperson
10720 Indian Hill Road — Maidu
Auburn , CA 95603 — Miwok
(530) 883-2390 Office

(530) 883-2380 Fax

Nashville-Eldorado Miwok
Cosme Valdez, Chairperson
P.O. Box 580986 — Miwok
Elk Grove , CA 95758
valdezcome@comcast.net
(916) 429-8047 Voice/Fax
(916) 396-1173 Cell

Washoe Tribe of Nevada and California
Darrel Cruz, Cultural Resources Department, THPO
919 Highway 395 South — Washoe
Gardnerville , NV 89410
darrel.cruz@watshoetribe.us
(775) 782-0014
(775) 546-3421 Cell

Shingle Springs Band of Miwok Indians
Nicholas Fonseca, Chairperson
P.O. Box 1340 — Miwok
Shingle Springs , CA 95682 — Maidu
nfonseca@ssband.org
(530) 387-1400
(530) 387-8067 Fax

This list is current only as of the date of this document and is based on the information available to the Commission on the date it was produced.

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 Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessments for the proposed Vineyards at Eldorado Hills, El Dorado County.

PEAK & ASSOCIATES, INC.
CONSULTING ARCHEOLOGY

September 20, 2017

Pamula Cubbler, Treasurer
Colfax-Todds Valley Consolidated Tribe
P.O. Box 4884
Auburn, CA 95604

Subject: Vineyards at El Dorado Hills (TM16-1528/Z-16-0002/PD16-0001)

Dear Ms. Cubbler,

The proposed Vineyards at El Dorado Hills (project) is located east of El Dorado Hills, California, an unincorporated area of El Dorado County that is approximately 23 miles east of Sacramento and 20 miles west of Placerville (please see attached topographic map quadrangle). The project site is located in a rural area with existing rural and single-family residential uses located in the vicinity. The project site is approximately 114.03 acres (4,967,147 square feet) of largely undeveloped nonnative grassland and oak woodland and ranges in elevation from approximately 687 to 879 feet above sea level sloping gently east to west.

Malcolm Dixon Road is located along the southern project boundary. The project site is identified by Assessor's Parcel Number (APN) 126-100-24. Most of the site is characterized by gentle to moderate slopes, with scattered individual oak trees with majority of the oak woodlands concentrated in the northwest corner of the project. Six existing buildings are located in the southern portion of the project site near Malcolm Dixon Road. These structures include a schoolhouse, barn, pumphouse, and associated outbuildings located in the southwest area of the site, and a residence and outbuildings in the southeast area of the site.

We are contacting you regarding any concerns you have about archeological sites, tribal cultural resources or areas of cultural importance within or near the project area.

Field survey work, an excavation of a historic period site, and an architectural evaluation of a 1950s residence were conducted in 2008-2009 by ECORP and Past Forward. No prehistoric period resources have been found on the project site during the survey and excavation efforts.

Please contact me (530-342-2800 or peakinc@yahoo.com) if you have any concerns about prehistoric or other cultural resources on this project site or nearby that could be affected by this project. We would appreciate a response within two weeks.

Sincerely,

Neal Neuenschwander
Neal Neuenschwander
Staff Archeologist

Enc. USGS topographic map

PEAK & ASSOCIATES, INC.
CONSULTING ARCHEOLOGY

September 20, 2017

Crystal Martinez-Alire, Chairperson
Ione Band of Miwok Indians
P.O. Box 699
Plymouth, CA 95669

Subject: Vineyards at El Dorado Hills (TM16-1528/Z-16-0002/PD16-0001)

Dear Honorable Chairperson Martinez-Alire,

The proposed Vineyards at El Dorado Hills (project) is located east of El Dorado Hills, California, an unincorporated area of El Dorado County that is approximately 23 miles east of Sacramento and 20 miles west of Placerville (please see attached topographic map quadrangle). The project site is located in a rural area with existing rural and single-family residential uses located in the vicinity. The project site is approximately 114.03 acres (4,967,147 square feet) of largely undeveloped nonnative grassland and oak woodland and ranges in elevation from approximately 687 to 879 feet above sea level sloping gently east to west.

Malcolm Dixon Road is located along the southern project boundary. The project site is identified by Assessor's Parcel Number (APN) 126-100-24. Most of the site is characterized by gentle to moderate slopes, with scattered individual oak trees with majority of the oak woodlands concentrated in the northwest corner of the project. Six existing buildings are located in the southern portion of the project site near Malcolm Dixon Road. These structures include a schoolhouse, barn, pumphouse, and associated outbuildings located in the southwest area of the site, and a residence and outbuildings in the southeast area of the site.

We are contacting you regarding any concerns you have about archeological sites, tribal cultural resources or areas of cultural importance within or near the project area.

Field survey work, an excavation of a historic period site, and an architectural evaluation of a 1950s residence were conducted in 2008-2009 by ECORP and Past Forward. No prehistoric period resources have been found on the project site during the survey and excavation efforts.

Please contact me (530-342-2800 or peakinc@yahoo.com) if you have any concerns about prehistoric or other cultural resources on this project site or nearby that could be affected by this project. We would appreciate a response within two weeks.

Sincerely,

Neal Neuenschwander
Neal Neuenschwander
Staff Archeologist

Enc. USGS topographic map

PEAK & ASSOCIATES, INC.
CONSULTING ARCHEOLOGY

September 20, 2017

Cosme Valdez, Chairperson
Nashville-El Dorado Miwok
P.O. Box 580986
Elk Grove, CA 95758

Subject: Vineyards at El Dorado Hills (TM16-1528/Z-16-0002/PD16-0001)

Dear Honorable Chairperson Valdez,

The proposed Vineyards at El Dorado Hills (project) is located east of El Dorado Hills, California, an unincorporated area of El Dorado County that is approximately 23 miles east of Sacramento and 20 miles west of Placerville (please see attached topographic map quadrangle). The project site is located in a rural area with existing rural and single-family residential uses located in the vicinity. The project site is approximately 114.03 acres (4,967,147 square feet) of largely undeveloped nonnative grassland and oak woodland and ranges in elevation from approximately 687 to 879 feet above sea level sloping gently east to west.

Malcolm Dixon Road is located along the southern project boundary. The project site is identified by Assessor's Parcel Number (APN) 126-100-24. Most of the site is characterized by gentle to moderate slopes, with scattered individual oak trees with majority of the oak woodlands concentrated in the northwest corner of the project. Six existing buildings are located in the southern portion of the project site near Malcolm Dixon Road. These structures include a schoolhouse, barn, pumphouse, and associated outbuildings located in the southwest area of the site, and a residence and outbuildings in the southeast area of the site.

We are contacting you regarding any concerns you have about archeological sites, tribal cultural resources or areas of cultural importance within or near the project area.

Field survey work, an excavation of a historic period site, and an architectural evaluation of a 1950s residence were conducted in 2008-2009 by ECORP and Past Forward. No prehistoric period resources have been found on the project site during the survey and excavation efforts.

Please contact me (530-342-2800 or peakinc@yahoo.com) if you have any concerns about prehistoric or other cultural resources on this project site or nearby that could be affected by this project. We would appreciate a response within two weeks.

Sincerely,

Neal Neuenschwander
Neal Neuenschwander
Staff Archeologist

Enc. USGS topographic map

PEAK & ASSOCIATES, INC.
CONSULTING ARCHEOLOGY

September 20, 2017

Nicholas Fonseca, Chairperson
Shingle Springs Band of Miwok Indians
P.O. Box 1340
Shingle Springs, CA 95682

Subject: Vineyards at El Dorado Hills (TM16-1528/Z-16-0002/PD16-0001)

Dear Honorable Chairperson Fonseca,

The proposed Vineyards at El Dorado Hills (project) is located east of El Dorado Hills, California, an unincorporated area of El Dorado County that is approximately 23 miles east of Sacramento and 20 miles west of Placerville (please see attached topographic map quadrangle). The project site is located in a rural area with existing rural and single-family residential uses located in the vicinity. The project site is approximately 114.03 acres (4,967,147 square feet) of largely undeveloped nonnative grassland and oak woodland and ranges in elevation from approximately 687 to 879 feet above sea level sloping gently east to west.

Malcolm Dixon Road is located along the southern project boundary. The project site is identified by Assessor's Parcel Number (APN) 126-100-24. Most of the site is characterized by gentle to moderate slopes, with scattered individual oak trees with majority of the oak woodlands concentrated in the northwest corner of the project. Six existing buildings are located in the southern portion of the project site near Malcolm Dixon Road. These structures include a schoolhouse, barn, pumphouse, and associated outbuildings located in the southwest area of the site, and a residence and outbuildings in the southeast area of the site.

We are contacting you regarding any concerns you have about archeological sites, tribal cultural resources or areas of cultural importance within or near the project area.

Field survey work, an excavation of a historic period site, and an architectural evaluation of a 1950s residence were conducted in 2008-2009 by ECORP and Past Forward. No prehistoric period resources have been found on the project site during the survey and excavation efforts.

Please contact me (530-342-2800 or peakinc@yahoo.com) if you have any concerns about prehistoric or other cultural resources on this project site or nearby that could be affected by this project. We would appreciate a response within two weeks.

Sincerely,

Neal Neuenschwander
Neal Neuenschwander
Staff Archeologist

Enc. USGS topographic map

PEAK & ASSOCIATES, INC.
CONSULTING ARCHEOLOGY

September 20, 2017

Don Ryberg, Chairperson
Tsi Akim Maidu
P.O. Box 510
Browns Valley, CA 95918

Subject: Vineyards at El Dorado Hills (TM16-1528/Z-16-0002/PD16-0001)

Dear Honorable Chairperson Ryberg,

The proposed Vineyards at El Dorado Hills (project) is located east of El Dorado Hills, California, an unincorporated area of El Dorado County that is approximately 23 miles east of Sacramento and 20 miles west of Placerville (please see attached topographic map quadrangle). The project site is located in a rural area with existing rural and single-family residential uses located in the vicinity. The project site is approximately 114.03 acres (4,967,147 square feet) of largely undeveloped nonnative grassland and oak woodland and ranges in elevation from approximately 687 to 879 feet above sea level sloping gently east to west.

Malcolm Dixon Road is located along the southern project boundary. The project site is identified by Assessor's Parcel Number (APN) 126-100-24. Most of the site is characterized by gentle to moderate slopes, with scattered individual oak trees with majority of the oak woodlands concentrated in the northwest corner of the project. Six existing buildings are located in the southern portion of the project site near Malcolm Dixon Road. These structures include a schoolhouse, barn, pumphouse, and associated outbuildings located in the southwest area of the site, and a residence and outbuildings in the southeast area of the site.

We are contacting you regarding any concerns you have about archeological sites, tribal cultural resources or areas of cultural importance within or near the project area.

Field survey work, an excavation of a historic period site, and an architectural evaluation of a 1950s residence were conducted in 2008-2009 by ECORP and Past Forward. No prehistoric period resources have been found on the project site during the survey and excavation efforts.

Please contact me (530-342-2800 or peakinc@yahoo.com) if you have any concerns about prehistoric or other cultural resources on this project site or nearby that could be affected by this project. We would appreciate a response within two weeks.

Sincerely,

Neal Neuenschwander
Neal Neuenschwander
Staff Archeologist

Enc. USGS topographic map

PEAK & ASSOCIATES, INC.
CONSULTING ARCHEOLOGY

September 20, 2017

Grayson Coney, Cultural Director
Tsi Akim Maidu
P.O. Box 510
Browns Valley, CA 95918

Subject: Vineyards at El Dorado Hills (TM16-1528/Z-16-0002/PD16-0001)

Hi Grayson,

The proposed Vineyards at El Dorado Hills (project) is located east of El Dorado Hills, California, an unincorporated area of El Dorado County that is approximately 23 miles east of Sacramento and 20 miles west of Placerville (please see attached topographic map quadrangle). The project site is located in a rural area with existing rural and single-family residential uses located in the vicinity. The project site is approximately 114.03 acres (4,967,147 square feet) of largely undeveloped nonnative grassland and oak woodland and ranges in elevation from approximately 687 to 879 feet above sea level sloping gently east to west.

Malcolm Dixon Road is located along the southern project boundary. The project site is identified by Assessor's Parcel Number (APN) 126-100-24. Most of the site is characterized by gentle to moderate slopes, with scattered individual oak trees with majority of the oak woodlands concentrated in the northwest corner of the project. Six existing buildings are located in the southern portion of the project site near Malcolm Dixon Road. These structures include a schoolhouse, barn, pumphouse, and associated outbuildings located in the southwest area of the site, and a residence and outbuildings in the southeast area of the site.

We are contacting you regarding any concerns you have about archeological sites, tribal cultural resources or areas of cultural importance within or near the project area.

Field survey work, an excavation of a historic period site, and an architectural evaluation of a 1950s residence were conducted in 2008-2009 by ECORP and Past Forward. No prehistoric period resources have been found on the project site during the survey and excavation efforts.

Please contact me (530-342-2800 or peakinc@yahoo.com) if you have any concerns about prehistoric or other cultural resources on this project site or nearby that could be affected by this project. We would appreciate a response within two weeks.

Sincerely,

Neal Neuenschwander
Neal Neuenschwander
Staff Archeologist

Enc. USGS topographic map

PEAK & ASSOCIATES, INC.
CONSULTING ARCHEOLOGY

September 20, 2017

Darrel Cruz, Cultural Resources Department
Washoe Tribe of Nevada and California
919 Highway 395 South
Gardnerville, NV 89410

Subject: Vineyards at El Dorado Hills (TM16-1528/Z-16-0002/PD16-0001)

Dear Mr. Cruz,

The proposed Vineyards at El Dorado Hills (project) is located east of El Dorado Hills, California, an unincorporated area of El Dorado County that is approximately 23 miles east of Sacramento and 20 miles west of Placerville (please see attached topographic map quadrangle). The project site is located in a rural area with existing rural and single-family residential uses located in the vicinity. The project site is approximately 114.03 acres (4,967,147 square feet) of largely undeveloped nonnative grassland and oak woodland and ranges in elevation from approximately 687 to 879 feet above sea level sloping gently east to west.

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We are contacting you regarding any concerns you have about archeological sites, tribal cultural resources or areas of cultural importance within or near the project area.

Field survey work, an excavation of a historic period site, and an architectural evaluation of a 1950s residence were conducted in 2008-2009 by ECORP and Past Forward. No prehistoric period resources have been found on the project site during the survey and excavation efforts.

Please contact me (530-342-2800 or peakinc@yahoo.com) if you have any concerns about prehistoric or other cultural resources on this project site or nearby that could be affected by this project. We would appreciate a response within two weeks.

Sincerely,

Neal Neuenschwander

Neal Neuenschwander
Staff Archeologist

Enc. USGS topographic map

SHINGLE SPRINGS BAND
OF MIWOK INDIANS

Shingle Springs Rancheria
(Verona Tract), California
5168 Honpie Road
Placerville, CA 95667
Phone: 530-676-8010
shinglespringsrancheria.com

CULTURAL RESOURCES

October 10, 2017

Neal Neuenschwander
3161 Godman Ave. Ste. A
Chico, Ca 95973

Dear Neal Neuenschwander,

The Most Likely Descendant, Daniel Fonseca would like to initiate consultation process with you in regard to the Vineyards at El Dorado Hills (TM 16-1528/Z-16-0002/PD16-0001) 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 and Assembly Bill 52.

Prior to meeting we would like to request any and all completed record searches and/or surveys that were done in/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 Tribal Cultural Properties (TCPs) that may exist within the project's Area of Potential Effects (APE).

Please contact Kara Perry, Cultural Outreach Coordinator, (530) 488-4049, kperry@ssband.org, to schedule a consultation pursuant to Section 106 of the NHPA and Assembly 52.

Sincerely,

Daniel Fonseca
Tribal historic Preservation Officer (THPO)
Most Likely Descendant (MLD)

APPENDIX 2

NCIC Records Search

California Historical Resources Information System

NORTH CENTRAL INFORMATION CENTER

AMADOR
EL DORADO
NEVADA
PLACER
SACRAMENTO
YUBA

California State University, Sacramento
6000 J Street, Folsom Hall, Suite 2042
Sacramento, California 95819-6100
phone: (916) 278-6217
fax: (916) 278-5162
email: ncic@csus.edu

9/22/2017 NCIC File No.: SAC-17-141

Robert A. Gerry
Peak & Associates, Inc
3941 Park Drive, Suite 20-329
El Dorado Hills, CA 95762

Re: Vineyards at El Dorado Hills

The North Central Information Center received your record search request for the project area referenced above, located on the Clarksville USGS 7.5' quad. The following reflects the results of the records search for the project area and a 1/8-mi radius.

As indicated on the data request form, the locations of resources and reports are provided in the following format: ☒ custom GIS maps ☐ shapefiles

Resources within project area: Resources outside project area, within radius:	P-09-1653 P-09-1657 P-09-1659 P-09-4920 P-09-4921 P-09-4922 None
Reports within project area: Reports outside project area, within radius:	3744 9818 11092 6876

Resource Database Printout (list):	☒ enclosed	☐ not requested	☐ nothing listed/NA
Resource Database Printout (details):	☐ enclosed	☒ not requested	☐ nothing listed/NA
Resource Digital Database Records:	☐ enclosed	☒ not requested	☐ nothing listed/NA
Report Database Printout (list):	☒ enclosed	☐ not requested	☐ nothing listed/NA
Report Database Printout (details):	☐ enclosed	☒ not requested	☐ nothing listed/NA
Report Digital Database Records:	☐ enclosed	☒ not requested	☐ nothing listed/NA
Resource Record Copies:	☒ enclosed	☐ not requested	☐ nothing listed/NA
Report Copies:	☒ enclosed	☐ not requested	☐ nothing listed/NA

OHP Historic Properties Directory:	☒ enclosed	☐ not requested	☐ nothing listed/NA
Archaeological Determinations of Eligibility:	☒ enclosed	☐ not requested	☐ nothing listed/NA
CA Inventory of Historic Resources (1976):	☐ enclosed	☒ not requested	☐ nothing listed/NA
Caltrans Bridge Survey:	☐ enclosed	☒ not requested	☐ nothing listed/NA
Ethnographic Information:	☐ enclosed	☒ not requested	☐ nothing listed/NA
Historical Literature:	☐ enclosed	☒ not requested	☐ nothing listed/NA
Historical Maps:	☐ enclosed	☒ not requested	☐ nothing listed/NA
Local Inventories:	☐ enclosed	☒ not requested	☐ nothing listed/NA
GLO and/or Rancho Plat Maps:	☐ enclosed	☒ not requested	☐ nothing listed/NA
Shipwreck Inventory:	☐ enclosed	☒ not requested	☐ nothing listed/NA
Soil Survey Maps:	☐ enclosed	☒ not requested	☐ nothing listed/NA

Please forward a copy of any resulting reports from this project to the office as soon as possible. Due to the sensitive nature of archaeological site location data, we ask that you do not include resource location maps and resource location descriptions in your report if the report is for public distribution. If you have any questions regarding the results presented herein, please contact the office at the phone number listed above.

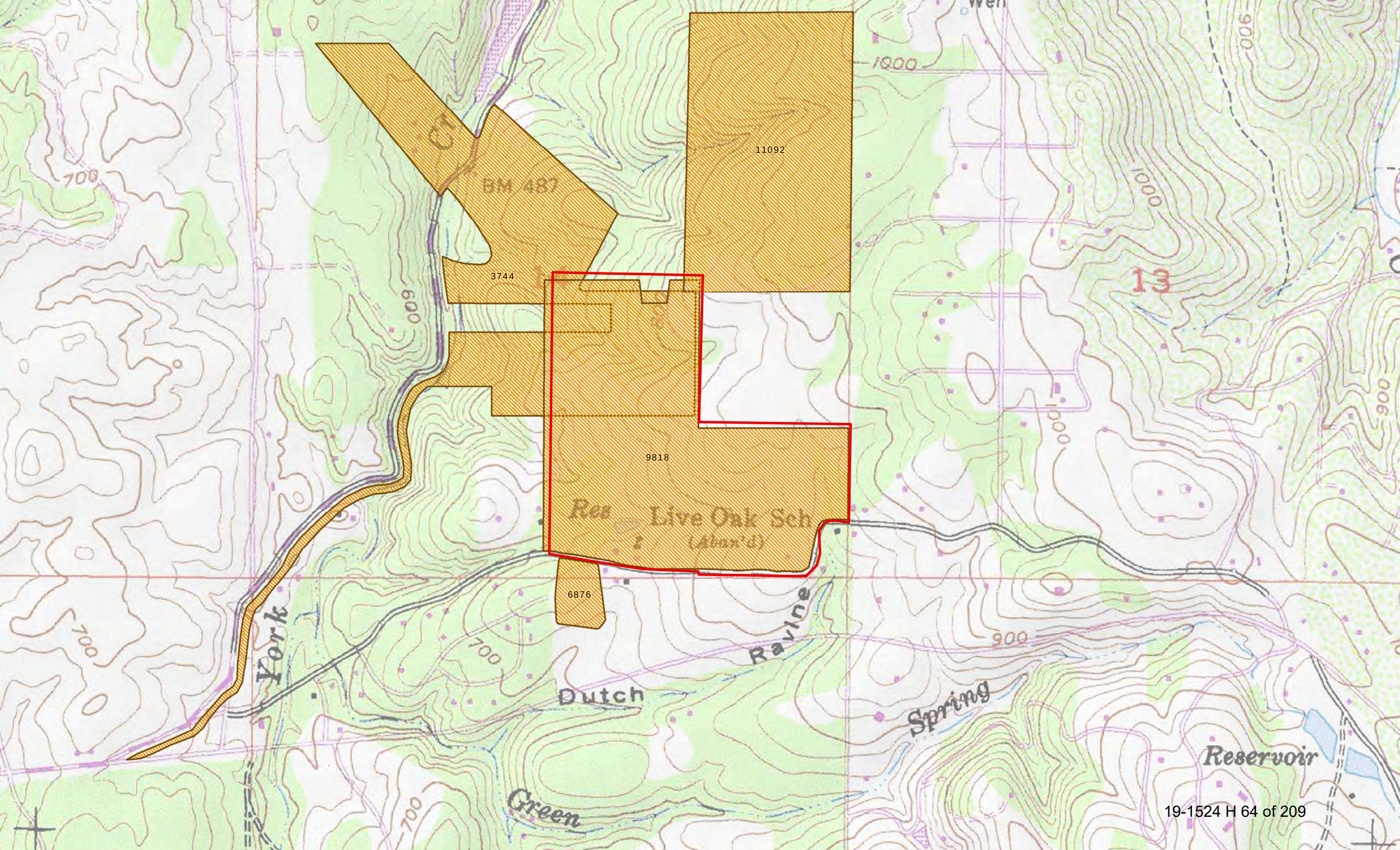
The provision of CHRIS Data via this records search response does not in any way constitute public disclosure of records otherwise exempt from disclosure under the California Public Records Act or any other law, including, but not limited to, records related to archeological site information maintained by or on behalf of, or in the possession of, the State of California, Department of Parks and Recreation, State Historic Preservation Officer, Office of Historic Preservation, or the State Historical Resources Commission.

Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the Office of Historic Preservation are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area. Additionally, Native American tribes have historical resource information not in the California Historical Resources Information System (CHRIS) Inventory, and you should contact the California Native American Heritage Commission for information on local/regional tribal contacts.

Should you require any additional information for the above referenced project, reference the record search number listed above when making inquiries. Requests made after initial invoicing will result in the preparation of a separate invoice.

Sincerely,

Paul Rendes, Assistant Coordinator
North Central Information Center


11092
3744
BM 487
9818
Res
Live Oak Sch
(Abnd)
6876
13
1900
1000
900
700
600
York
Ravine
Dutch
Spring
Green
Reservoir

APPENDIX 3

Clarksville Region Historical Society

Clarksville Region Historical Society
501 Kirkwood Court
El Dorado Hills, CA 95762
www.edhhistory.org

Doug Hus
President

Betty January
Vice President

Fran Thomson
Secretary

John E.
Thomson
Treasurer

Paul Booth
Director

Bart Magoffin
Director

Sharon Lowe
Director

Hal Erpenbeck
Director

December 7, 2017

Melinda A. Peak
Peak & Associates, Inc.
3941 Park Drive Suite 20 #329
El Dorado Hills, CA 95762

Dear Ms. Peak,

This letter constitutes our comments for the Environmental Impact Report and other documentation with respect to the proposed development of The Vineyards at El Dorado Hills/Z16-0002/PD16-0001/TM16-1528.

Clarksville Region Historical Society (CRHS) was established as a non-profit corporation in 2006 to identify and preserve documents, artifacts, records, and other objects of historical interest related to historic Clarksville and the surrounding region for its residents and the public; to educate the public and increase public awareness of the historical significance of historic Clarksville and the surrounding region; and to enlist public support for the historical preservation and display of documents, artifacts, records, sites, and other objects of historical interest related to historic Clarksville and the surrounding region. Therefore the project contemplated at the Vineyards falls within the ambit and sphere of influence of CRHS.

CRHS is a member of the Conference Of California Historical Societies and the Sacramento Region Historical Consortium Network.

CRHS has identified and located the Vineyards project site from the El Dorado County Notice of Preparation of a Draft Environmental Impact Report and Initial Study dated October 11, 2017

CRHS has identified documentary evidence of four possible historical structures on the Vineyard Project site: The Rolling Hills House, a log cabin, Kaufmann's Deadfall House and the Live Oak School building.

The Rolling Hills House, and the log cabin, have in all probability decayed to the extent that they are no longer able to be located or

recognized, and consequently have no current historic value. Kaufman's Deadfall House or saloon, stood on the north side of the Old Coloma Road (which later became Green Valley Road, and later became Malcolm Dixon Road when the road was rerouted to the south). Despite its promising name, all that is known of the place is that it later came into the possession of James K. Page, who has been referred to in connection with the Mormon Tavern on White Rock Road.

The fourth historic site is that of the Live Oak Schoolhouse. According to documentation furnished by the developer to the county, the Live Oak School building will be placed in an open space lot and assumed to be qualified for California Register of Historical Resources, and a conservation easement will be placed around the site of the building. Our findings, our comments, and our recommendations with respect to the Live Oak School building, follow below.

Site Background

The project site was originally purchased by Marshall B. Layne on 25 October 1871 Five years later, the land was purchased from Layne by Thomas Orr, who had arrived in the El Dorado area years earlier, in 1850, with his wife and their five children. Upon arriving in California, Orr began mining at Mormon Island. There, he was able to make enough money to buy land in Salmon Falls, where he later built a hotel and ran feed stables and a bakery. Orr also ran a trading post at New York Ravine and a hotel in Shingle Springs. Orr eventually owned approximately 1,340 acres of land in the area and was responsible for building the road to Green Springs, located south of the Project site.

About a year later, in 1877, Orr sold the property to Lemuel Q. Clayborne. Clayborne, married the widow Anna Dixon in 1873-74, whose late husband Henry Dixon died in 1871. Anna had five children with Henry. Anna died in 1905, and Lemuel in 1910, and with Lemuel's death the land passed to Anna's son Robert G. Dixon. Robert and his wife Lizzie (Elizabeth) together had three children: Myrtle A., Malcolm, and Elizabeth Belle. According to a later account from Malcolm's wife, Maude, Robert and Lizzie built a home in the western portion of the property in 1910. In 1939, Elizabeth Belle and Myrtle deeded the land to Malcolm Dixon, who in 1958 moved into the house located in the southeast corner of the property with Maude and their three children. Malcolm Dixon died in 1965. Maude Dixon died in 1996. Both are buried in the relocated Mormon Island Cemetery.

After passing through the hands of a succession of family trustees, the project site was thereafter owned by a succession of investors. The current owner of the site is Omni Financial of Capitola, California.

Building Background

The Live Oak School, located in the southern portion of the project site, was opened In 1885. Two years later, the land was deeded to the school district by Anna Dixon Clayborne. It was deeded with the agreement that if the school ever shut down, the land would be turned back over to the Dixon family. The school had no more than 15 students attending at a time and needed at least six students for the school to remain open. The school was shut down during a period of two years between 1909 and 1911, but was later re-opened at the

request of Lizzie Dixon. The school finally closed its doors in 1950 when it merged with the Rescue School District.

Recommendations

1. The building should be considered a valuable historical relic. Based on the above background material, CRHS considers the Live Oak School to be a valuable historical relic of the White Oak Township and El Dorado County. While the developer of the property may be willing to leave the structure where it is, in a greenbelt area by itself, the building will eventually deteriorates and collapse if remedial steps are not taken in the near future.

2. A historic structure report be prepared as soon as possible. A historic structure report provides documentary, graphic, and physical information about a property's history and existing condition. Broadly recognized as an effective part of preservation planning, a historic structure report also addresses management or owner goals for the use or re-use of the property. It provides a thoughtfully considered argument for selecting the most appropriate approach to treatment prior to the commencement of work, and outlines a scope of recommended work. The report serves as an important guide for all changes made to a historic property during a project-repair, rehabilitation, or restoration-and can also provide information for maintenance procedures. Finally, it records the findings of research and investigation, as well as the processes of physical work, for future researchers.

The historic structure report is an optimal first phase of historic preservation efforts for a significant building or structure, preceding design and implementation of preservation, rehabilitation, restoration, or reconstruction work. Information contained in the report documents existing conditions and serves as a basis for proposing physical changes.

For small or simple projects like the Live Oak School, the report project team may include only one or two specialists. The evaluation of the schoolhouse may primarily involve a historian, an architectural conservator, and a structural engineer.

3. Steps should be taken immediately to stabilize and preserve the building. Based on a cursory inspection, the schoolhouse is in relatively poor shape due to termite and other insect damage, wood rot, and general weathering. Though the past attempts to keep the building painted have somewhat delayed the deterioration, a comprehensive building study will be more specific as to needed repairs and remediation, and should be performed as early as possible.

4. There is a need for initial and ongoing funding to preserve the building. Historical structures, especially those of wood construction, need initial funding to stabilize and ultimately restore the fabric of the building, based on the historic structure report.

The initial work will need to be funded, perhaps from an initial assessment on the developer or perhaps the establishment of a Mellos-Roos Community Facilities District.

Ongoing maintenance costs will also need to be funded to maintain the building. Funding mechanisms could include the establishment of an assessment district (such as a lighting and landscaping district) or funding could be in the form of homeowner association dues.

5. Steps should be taken to secure the building . Historical wooden buildings are often targets for arsonists and vandals. The lack of anyone living in or near a building invites mischief. A sturdy fence, appropriate lighting, a fire alarm, and other preventative steps should be taken to protect the building.

6. A responsible governing body should be established. The appointment of an authority to oversee initial and continuing maintenance is essential to ensure that the necessary funds are raised and that those funds are appropriately expended in a historically correct manner A conservation easement must be held by a responsible 501(c)(3) or similar nonprofit organization, which could manage the funds after they are collected.

Summary

In summary, while CRHS lauds the past efforts of the local community in their efforts to preserve and protect the Live Oak School building, the development of the project site offers an opportunity to repair and restore the building so it will remain a historical landmark in the community. The steps outlined above will hopefully preserve and protect the Live Oak School as a historical landmark on Malcolm Dixon Road

Historic preservation protects the historic, architectural, and aesthetic character and heritage of a community or area, and helps to provide a sense of place and continuity. The sense of history can contribute to community pride, and to a better understanding of the community's present.

Preserving the Live Oak School will certainly give the people who live along Malcolm Dixon Road a sense of history and pride in their community.

Sincerely,

CLARKSVILLE REGION HISTORICAL SOCIETY

John E. Thomson, Ph.D.
Director and Treasurer

cc: CRHS Board

APPENDIX E

Drainage Report

VINEYARDS AT EL DORADO HILLS

EL DORADO COUNTY

DRAINAGE REPORT

2d Submittal (for TM): April 2017

Prepared for
Omni/Orbis Financial
1260 41st Ave. Suite O
Capitola CA 95010

By
Olga Sciorelli PE

PREAMBLE

This report was prepared for Vineyards at El Dorado Hills, located in El Dorado County, California. The information presented in this report is intended to support the proposed on-site improvements for the Vineyards project and to comply with the 2004 Storm Water Management Plan to the maximum extent practicable; any other use of this report and its associated technical analyses and models, is at the user's sole risk.

TABLE OF CONTENTS

SUMMARY

This drainage report accompanies the Tentative Map submittal for the Vineyards at El Dorado Hills project. It provides hydrologic computations, in adherence with guidelines and procedures of the *County of El Dorado Drainage Manual,* adopted March 14, 1995.

1.0 INTRODUCTION

The Vineyards at El Dorado Hills is located in northern El Dorado Hills, bounded on the south by Malcolm Dixon Road, and located in a low-density rural residential area. Project access will be from Malcolm Dixon Road.

2.0 EXISTING CONDITIONS

The Vineyards project is located within the New York Creek watershed. Runoff from the southeast corner of the project site flows into the uppermost reach of Dutch Ravine, which is confluent with New York Creek approximately 0.85 miles to the west. The majority of the site drains from east to west into lesser, unnamed tributaries that join the main New York Creek channel less than 0.4 miles west of the project. There are few existing drainage structures affected by site runoff.

3.0 PROPOSED CONDITIONS

The Vineyards at El Dorado Hills is a single-family residential development, comprising of 42 large home sites, vineyard and open space areas located on approximately 114 acres. Proposed site grading will maintain existing drainage patterns to the maximum extent practicable. The majority of lots are rear-draining. Parts of the open space areas is proposed to be cultivated as vineyard.

4.0 RUNOFF COMPUTATIONS

The hydrograph method of runoff computation, employing HEC-HMS computer software, was used to estimate runoff resulting from storms with 10- and 100-year recurrence intervals under pre- and post-development conditions. The methodologies applied to the study area utilize the SCS Curve Number for determination of infiltration losses, and are based on the use of the SCS unit hydrograph. Input parameters are summarized in Tables A-1 and A-2 of Appendix A.

4.1.PROCEDURES

4.1.1 SHED AREAS – Shed areas shown on the enclosed Shed Map were measured using AutoCAD.

4.1.2 PRECIPITATION – Mean annual precipitation (MAP) over the project area is approximately of 26 inches. Corresponding 24-hour rainfall totals for 10- and 100-year storms are 3.71" and 5.26", respectively.

4.1.3 RUNOFF CURVE NUMBERS

The SCS runoff curve number, CN, is an index of land use and soil type. Soils underlying the project watershed are in the Auburn series, classified as hydrologic soil group D, and characterized by low infiltration and high runoff potential. Existing land uses were determined on the basis of Google Earth aerial imagery and limited field observations. For computational purposes, characteristics of off-site areas are assumed constant, while the post-development scenario reflects proposed build-out of the Vineyards. CN's were assigned according to apportionment of land uses described in Table 2-2a, 2-2c, and 2-2d of the *Drainage Manual*. CN values used in the computations are tabulated in Appendix A.

4.1.4 RUNOFF TRAVEL TIMES

Runoff travel time represents flow from the most hydrologically distant point in a shed to its discharge point. This value is used in unit hydrograph development. Table A-1, in Appendix A, summarizes estimated travel times, determined in accordance with *Drainage Manual* Section 2.4.2, for pre- and post-development conditions.

5.0 RESULTS

The results of the hydrograph analyses are summarized in Table 1. The Table shows computed runoff at key locations identified on the accompanying Shed Map, under pre- and post- development conditions. As shown in Table 1, the post-construction runoff exceeds the pre-development runoff at key point 2. The increase could be mitigated with inclusion of a detention pond within Shed 2A. The mitigated scenario is presented in Table 3 showing no impacts to preconstruction flows. HEC-HMS output summaries can be found in Appendix A.

TABLE 1
COMPUTED RUNOFF AT KEY LOCATIONS

LOCATION	10-YEAR RUNOFF		100-YEAR RUNOFF	
	PRE-DEV	POST-DEV	PRE-DEV	POST-DEV
KEY POINT 1	56.3 CFS	55.8 CFS	98.2 CFS	97.2 CFS
KEY POINT 2	28.4 CFS	33.5 CFS	49.9 CFS	58.2 CFS
KEY POINT 3	39.9 CFS	39.6 CFS	69.5 CFS	68 CFS
KEY POINT 4	189.8 CFS	189.6 CFS	332.9 CFS	332.7 CFS

As shown in Table 1, the post construction runoff exceeded preconstruction levels by ~15% for both: 10- and 100-year flows. A small detention basin of 1.1 ac-ft in storage will be adequate to mitigate increases in runoff to preconstruction levels for both scenarios. Table 2 provides a summary of characteristics for the modeled detention basin. The basin is shown on the drainage exhibits.

TABLE2
PROPOSED DETENTION BASIN

ELEVATION (FT)	AREA (AC)		10-YEAR	100-YEAR
722	0.1	PEAK STORAGE	0.7	1.1
723	0.2	PEAK ELEVATION	724.4	725.3
724	0.46	PEAK DISCHARGE	11 CFS	18 CFS
725	0.5	OUTLET	24 IN	24 IN
726	0.54	SPILLWAY EL		726.3
727	0.58			

TABLE3
COMPUTED RUNOFF AT KEY LOCATIONS WITH DETENTION POND

LOCATION	10-YEAR RUNOFF		100-YEAR RUNOFF	
	PRE-DEV	POST-DEV	PRE-DEV	POST-DEV
KEY POINT 1	56.3 CFS	55.8 CFS	98.2 CFS	97.2 CFS
KEY POINT 2	28.4 CFS	24.2 CFS	49.9 CFS	43.3 CFS
KEY POINT 3	39.9 CFS	39.6 CFS	69.5 CFS	68 CFS
KEY POINT 4	189.8 CFS	189.6 CFS	332.9 CFS	332.7 CFS

6.0 COMPLIANCE WITH STORM WATER QUALITY

In addition to mitigating post development runoff, the project will be required to capture and treat the 85th percentile 24h storm event per Phase II MS 4 Permit and El Dorado County West Slope Development Standards. The project applicant may utilize various methods of treatment and control measures to achieve these standards. As an alternative to the treating the entire project, the applicant may propose distributed source control measures to be constructed for the roadways only in the open space areas within the project and shall be detailed in improvement plans and final drainage report. An individual lot treatment could be deferred to the building permit stage to achieve the same effect.

SHED MAP

VINEYARDS AT EL DORADO HILLS

PRE DEVELOPMENT SHED EXHIBIT

COUNTY OF EL DORADO, CALIFORNIA MAY 2017

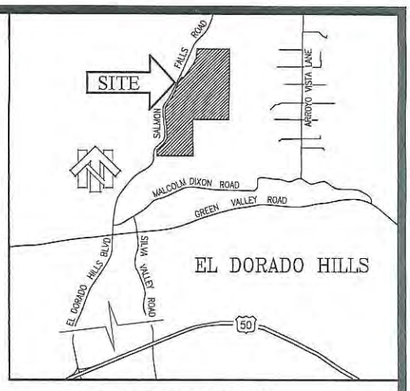
LEGEND:

- BOUNDARY
- SHED BOUNDARY
- FLOW LINE
- WETLANDS SETBACK
- SEASONAL WETLANDS
- POND
- TREES
- 1B / 29 — SHED I.D. & AREA
- 2 — NODE POINT
- BR — BIO RETENTION
- CG — CURB OPENING
- DRAIN INLET
- OCPI
- FES
- ROCK OUTFALL

N

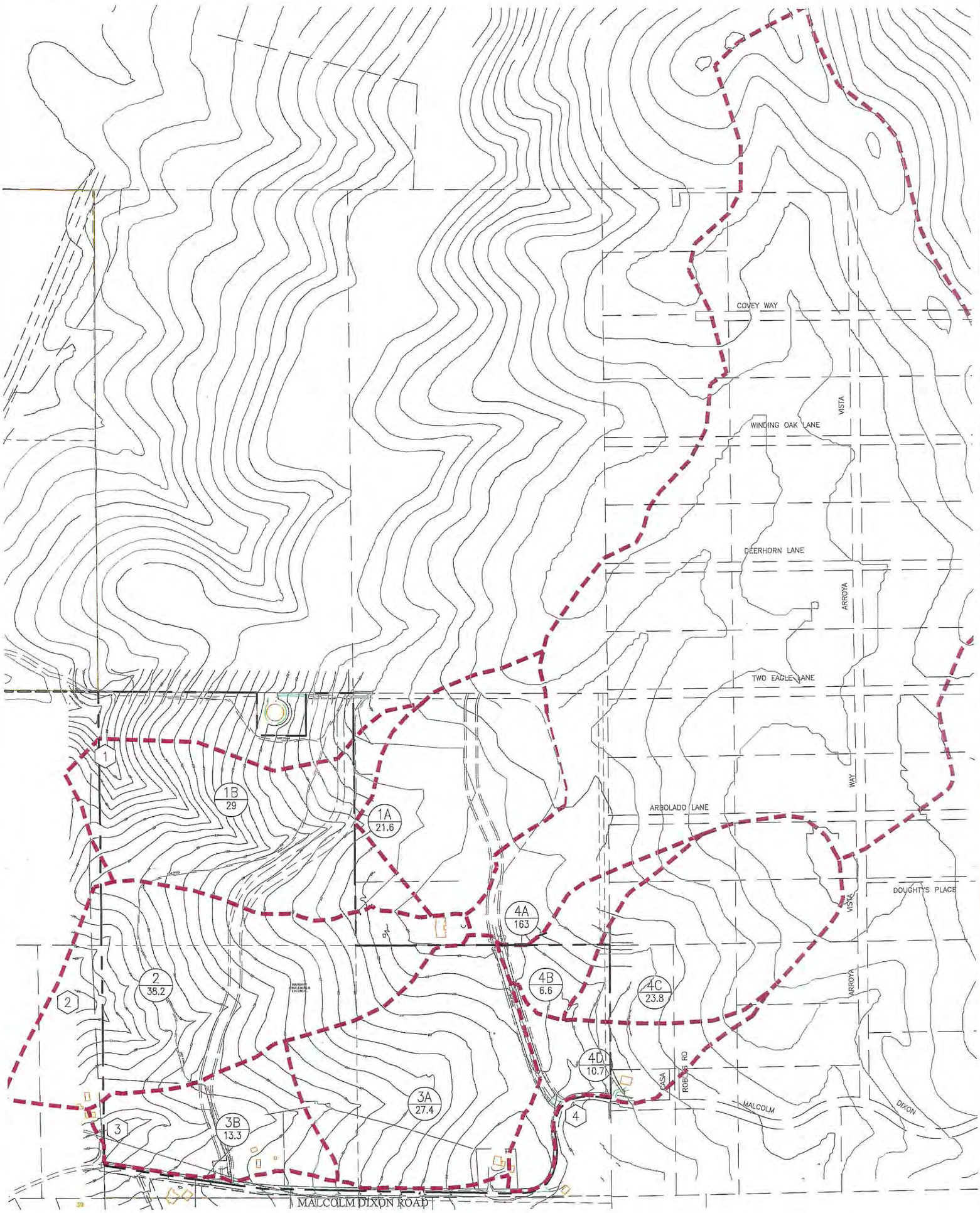
0 250' 500' 1000'

SCALE: 1" = 500'



VICINITY MAP

NOT TO SCALE



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VINEYARDS AT EL DORADO HILLS

POST-DEVELOPMENT SHED EXHIBIT

COUNTY OF EL DORADO, CALIFORNIA MAY 2017

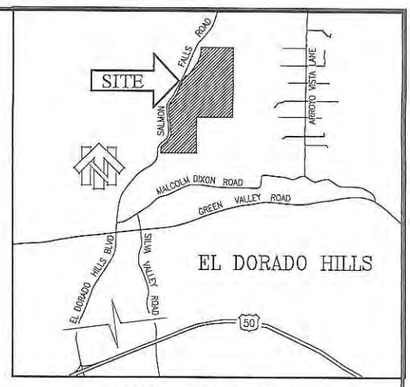
LEGEND:

- BOUNDARY
- SHED BOUNDARY
- FLOW LINE
- WETLANDS SETBACK
- SEASONAL WETLANDS
- POND
- TREES
- 1B / 29 — SHED I.D. & AREA
- 2 — NODE POINT
- BR — BIO RETENTION
- CO — CURB OPENING
- DRAIN INLET
- OCPI
- FES
- ROCK OUTFALL

N

0 250' 500' 1000'

SCALE: 1" = 500'



VICINITY MAP

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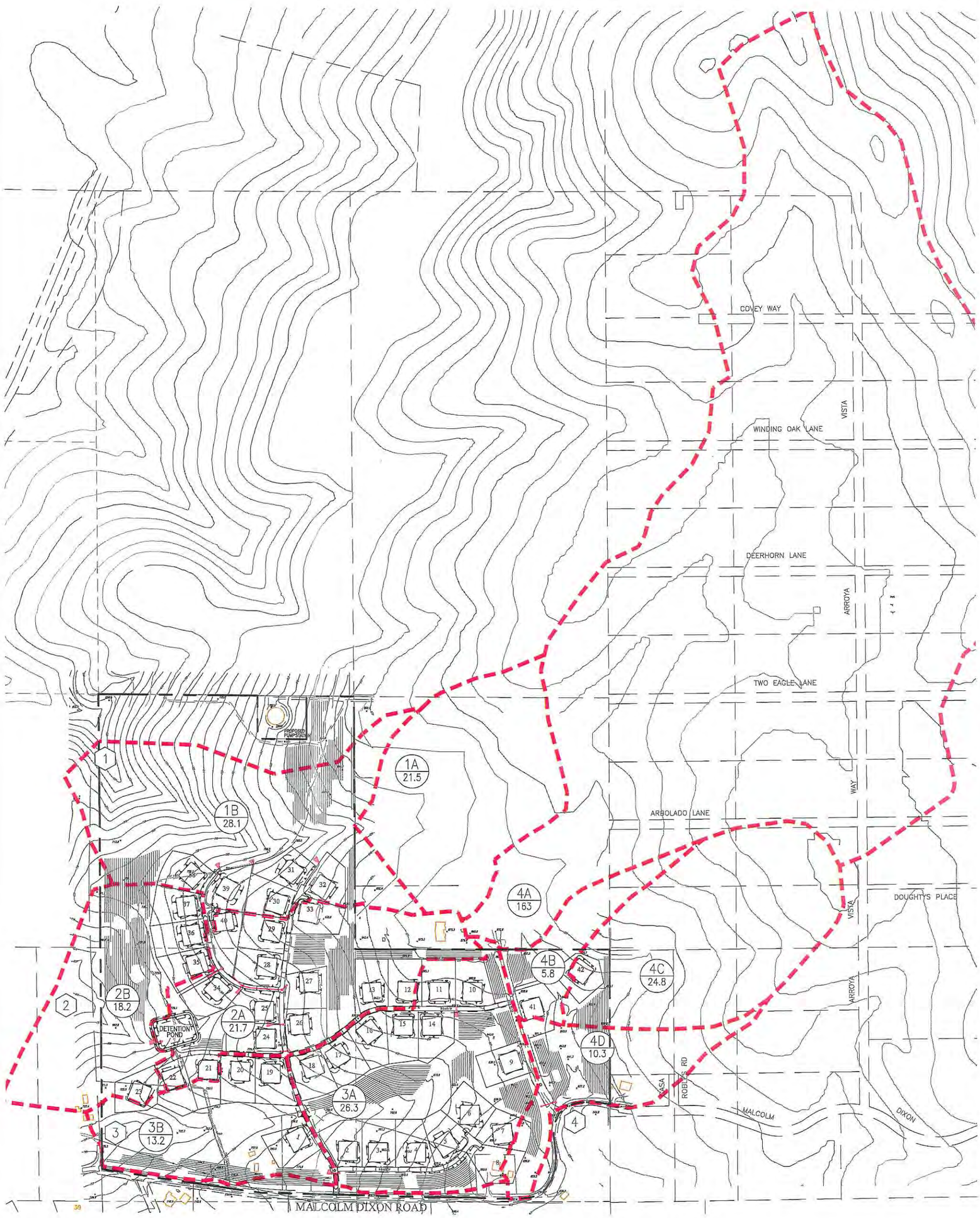

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PRECIPITATION DATA

Mean Annual Precipitation
Precipitation Intensity-Duration-Frequency Data

PROJECT LOCATION
26"

MEAN ANNUAL RAINFALL FOR EL DORADO COUNTY, CALIFORNIA

Units are inches per year
Scale = 1:250,000

Source: Report on El Dorado County, 1924, HR80 of 209
Prepared by Jim Goodridge, July, 1989

19 1524 HR80 of 209

El Dorado Design Rainfall

Rainfall Depth in Inches for Return Period = 2.33 years

Mean Annual Precipitation	5 Min	10 Min	15 Min	30 Min	1 Hr	2 Hrs	3 Hrs	6 Hrs	12 Hrs	24 Hrs
20	0.113	0.162	0.200	0.286	0.410	0.587	0.723	1.035	1.481	2.120
22	0.120	0.172	0.212	0.304	0.435	0.623	0.768	1.099	1.572	2.249
24	0.128	0.183	0.225	0.322	0.461	0.660	0.814	1.165	1.667	2.385
→ 26	0.135	0.193	0.238	0.341	0.488	0.698	0.860	1.231	1.762	2.521
28	0.142	0.203	0.251	0.359	0.514	0.735	0.907	1.298	1.857	2.657
30	0.149	0.214	0.264	0.377	0.540	0.773	0.953	1.364	1.952	2.793
32	0.157	0.224	0.277	0.396	0.566	0.810	1.000	1.430	2.047	2.929
34	0.164	0.235	0.289	0.414	0.593	0.848	1.046	1.497	2.142	3.065
36	0.171	0.245	0.302	0.433	0.619	0.886	1.092	1.563	2.237	3.200
38	0.179	0.256	0.315	0.451	0.645	0.923	1.139	1.629	2.332	3.336
40	0.186	0.266	0.328	0.469	0.671	0.961	1.185	1.696	2.426	3.472
42	0.193	0.276	0.341	0.488	0.698	0.998	1.231	1.762	2.521	3.608
44	0.200	0.287	0.354	0.506	0.724	1.036	1.278	1.828	2.616	3.744
46	0.208	0.297	0.366	0.524	0.750	1.074	1.324	1.895	2.711	3.880
48	0.512	0.308	0.379	0.543	0.777	1.111	1.370	1.961	2.806	4.016
50	0.222	0.318	0.392	0.561	0.803	1.149	1.417	2.027	2.901	4.152
52	0.229	0.328	0.405	0.579	0.829	1.186	1.463	2.094	2.996	4.287
54	0.237	0.339	0.418	0.598	0.855	1.224	1.510	2.160	3.091	4.423
56	0.244	0.349	0.431	0.616	0.882	1.262	1.556	2.226	3.186	4.559
58	0.251	0.360	0.443	0.634	0.908	1.299	1.602	2.293	3.281	4.695
60	0.259	0.370	0.456	0.653	0.934	1.337	1.649	2.359	3.376	4.831
62	0.266	0.380	0.469	0.671	0.960	1.374	1.695	2.425	3.471	4.967
64	0.273	0.391	0.482	0.690	0.987	1.412	1.741	2.492	3.566	5.103
66	0.280	0.401	0.495	0.708	1.013	1.450	1.788	2.558	3.661	5.238
68	0.288	0.412	0.508	0.726	1.039	1.487	1.834	2.625	3.756	5.374
70	0.295	0.422	0.520	0.745	1.066	1.525	1.880	2.691	3.851	5.510
72	0.302	0.432	0.533	0.763	1.092	1.562	1.927	2.757	3.946	5.646
74	0.309	0.443	0.546	0.781	1.118	1.600	1.973	2.824	4.040	5.782
76	0.317	0.453	0.559	0.800	1.144	1.638	2.020	2.890	4.135	5.918
78	0.324	0.464	0.572	0.818	1.171	1.675	2.066	2.956	4.230	6.054
80	0.331	0.474	0.585	0.836	1.197	1.713	2.112	3.023	4.325	6.189
82	0.339	0.484	0.597	0.855	1.223	1.750	2.159	3.089	4.420	6.325
84	0.346	0.495	0.610	0.873	1.250	1.788	2.205	3.155	4.515	6.461
86	0.353	0.505	0.623	0.892	1.276	1.826	2.251	3.222	4.610	6.597
88	0.360	0.516	0.636	0.910	1.302	1.863	2.298	3.288	4.705	6.733
90	0.368	0.526	0.649	0.928	1.328	1.901	2.344	3.354	4.800	6.869

Source: Design Rainfall Tables for El Dorado County, prepared by Jim Goodridge, July 29, 1989

El Dorado Design Rainfall

Rainfall Depth in Inches for Return Period = 2.33 years

Mean Annual Precipitation	5 Min	10 Min	15 Min	30 Min	1 Hr	2 Hrs	3 Hrs	6 Hrs	12 Hrs	24 Hrs
20	0.113	0.162	0.200	0.286	0.410	0.587	0.723	1.035	1.481	2.120
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54	0.237	0.339	0.418	0.598	0.855	1.224	1.510	2.160	3.091	4.423
56	0.244	0.349	0.431	0.616	0.882	1.262	1.556	2.226	3.186	4.559
58	0.251	0.360	0.443	0.634	0.908	1.299	1.602	2.293	3.281	4.695
60	0.259	0.370	0.456	0.653	0.934	1.337	1.649	2.359	3.376	4.831
62	0.266	0.380	0.469	0.671	0.960	1.374	1.695	2.425	3.471	4.967
64	0.273	0.391	0.482	0.690	0.987	1.412	1.741	2.492	3.566	5.103
66	0.280	0.401	0.495	0.708	1.013	1.450	1.788	2.558	3.661	5.238
68	0.288	0.412	0.508	0.726	1.039	1.487	1.834	2.625	3.756	5.374
70	0.295	0.422	0.520	0.745	1.066	1.525	1.880	2.691	3.851	5.510
72	0.302	0.432	0.533	0.763	1.092	1.562	1.927	2.757	3.946	5.646
74	0.309	0.443	0.546	0.781	1.118	1.600	1.973	2.824	4.040	5.782
76	0.317	0.453	0.559	0.800	1.144	1.638	2.020	2.890	4.135	5.918
78	0.324	0.464	0.572	0.818	1.171	1.675	2.066	2.956	4.230	6.054
80	0.331	0.474	0.585	0.836	1.197	1.713	2.112	3.023	4.325	6.189
82	0.339	0.484	0.597	0.855	1.223	1.750	2.159	3.089	4.420	6.325
84	0.346	0.495	0.610	0.873	1.250	1.788	2.205	3.155	4.515	6.461
86	0.353	0.505	0.623	0.892	1.276	1.826	2.251	3.222	4.610	6.597
88	0.360	0.516	0.636	0.910	1.302	1.863	2.298	3.288	4.705	6.733
90	0.368	0.526	0.649	0.928	1.328	1.901	2.344	3.354	4.800	6.869

Source: Design Rainfall Tables for El Dorado County, prepared by Jim Goodridge, July 29, 1989

APPENDIX A

Runoff Computations

Table A-1 Shed Parameters
Table A-2 Post-Development CNs
HEC-HMS Summaries

LAG COMPUTATIONS for PRE- AND POST-DEVELOPMENT SHEDS

Shed	Area	Area	CN	Sheet Flow (sh)[1/]					Shallow Concentrated Flow (sc)[2/]				Channel Flow				
				n	L	P_2	s	Time (T_{SH})	S1	L1	V1	T1	L2	V2	T2	Sum (T_t)	Lag
	(Ac)	(Mi^2)			(ft)	(in)	(ft/ft)	(min)	(ft/ft)	(ft)	(ft/s)	(min)	(ft)	(ft/s)	(min)	(min)	(min)
PRE-DEVELOPMENT SHEDS																	
1A	21.6	0.034		0.20	300	2.5	0.13	15.9	0.100	750	5.1	2.4	400	12.0	0.6	18.9	11.3
1B	29	0.045		0.20	300	2.5	0.13	16.1	0.125	500	5.7	1.5	1500	12.0	2.1	19.7	11.8
2	38.2	0.06		0.20	300	2.5	0.02	36.7	0.100	900	5.1	2.9	1300	6.0	3.6	43.3	26.0
3A	27.4	0.043		0.20	300	2.5	0.05	23.3	0.090	450	4.8	1.5	750	6.0	2.1	26.9	16.2
3B	13.2	0.021		0.20	300	2.5	0.07	20.8	0.085	500	4.7	1.8	560	10.0	0.9	23.5	14.1
4A	163	0.255		0.20	300	2.5	0.12	16.4	0.100	450	5.1	1.5	4500	7.0	10.7	28.6	17.2
4B	6.6	0.01		0.20	300	2.5	0.13	15.9	0.100	750	5.1	2.4	350	7.0	0.8	19.2	11.5
4C	23.8	0.037		0.20	300	2.5	0.08	19.3	0.130	700	5.8	2.0	700	6.0	1.9	23.3	14.0
4D	10.7	0.017		0.20	300	2.5	0.10	17.7	0.100	650	5.1	2.1	100	7.0	0.2	20.0	12.0
POST-DEVELOPMENT SHEDS																	
1A	21.6	0.034		0.20	300	2.5	0.13	15.9	0.100	750	5.1	2.4	400	12.0	0.6	18.9	11.3
1B	28.1	0.044		0.20	300	2.5	0.13	16.1	0.125	500	5.7	1.5	1500	12.0	2.1	19.7	11.8
2A	21.7	0.034		0.20	300	2.5	0.02	36.7	0.100	850	5.1	2.8	0	6.0	0.0	40.7	24.4
									0.100	350	5.1	1.1					
2B	18.2	0.028		0.20	300	2.5	0.11	17.0	0.100	675	5.1	2.2	0	6.0	0.0	19.2	11.5
3A	26.3	0.041		0.20	300	2.5	0.05	23.3	0.050	300	3.6	1.4	750	6.0	2.1	28.2	16.9
									0.085	400	4.7	1.4					
3B	13.2	0.021		0.20	300	2.5	0.07	20.8	0.085	500	4.7	1.8	560	10.0	0.9	23.5	14.1
4B	5.8	0.009		0.20	300	2.5	0.13	15.9	0.100	750	5.1	2.4	350	7.0	0.8	19.2	11.5
4C	24.8	0.039		0.20	300	2.5	0.08	19.3	0.130	700	5.8	2.0	700	6.0	1.9	23.3	14.0
4D	10.3	0.016		0.20	300	2.5	0.10	17.7	0.100	650	5.1	2.1	100	7.0	0.2	20.0	12.0

1/ $T_{sh} = \frac{0.007 \times (nL)^{0.8}}{[(P_2)^{0.5} \times (S)^{0.4}]}$

Where,

n = overland flow roughness

L = length of overland flow surface

P_2 = 2-yr, 24 hr rainfall depth

(For MAP = 26"/yr, $P_{2.33}$ =2.5")

S = land slope (ft/ft)

24 hour ranfall depths

10 year = 3.71 "

100 year = 5.26"

2/ T_{sc} = L/V

Where,

V1 = 16.1345 S^0.5 (unpaved) OR 20.32.83 S^0.5 (paved)

3/ V2 assumed based on uniform flow in trapezoidal section @ approx Q100 approx 2cfs/ac

TABLE A-2

POST -DEVELOPMENT SHED CNs											
SHED	*AREA (ac)*	*AREA (mi^2)*	*PRE-DEV CN*	*# NEW PADS* [1/]	*LF ROAD*	*IMP AC*	*LAND - SCAPED AREA (AC)*	*CULTIVATED AREA* [3/] *(AC)*	*COMMON LANDSCAPING (AC)*	*POST-DEV COMPOSITE CN* [4/]	*Lag*
1A	21.6	0.034	82	na	na	na		na		82	11.3
1B	28.1	0.044	82	5	226	0.7	1.0	2.7		82.2	11.8
2A	21.7	0.034	82	13	2550	3.0	2.5	3.2	0.6	83.7	24.4
2B	18.2	0.028	82	4	0	0.5	0.8	4.5	0	82.1	11.5
3A	26.35	0.041	82	14	2000	2.8	2.7	6.4	1.5	83.1	16.9
3B	13.2	0.021	82.5	3	540	0.7	0.6	2.1	0.5	82.8	14.5
4A	163	0.255	82	0	0	0.0	0.0	0		82.0	17.2
4B	5.8	0.009	82	1	0	0.1	0.2	0.3	0.25	82.1	11.5
4C	24.8	0.039	82	1	0	0.1	0.2	0.5		82.0	14.0
4D	10.3	0.016	82	0	0	0.0	0.0	2.9	0.5	81.6	12.0
				41				22.6			

1/ use 5,000 sf impervious @ CN=98; 8,500 sf landscaped @ CN=80 - per lot

2/ use 25' road/row width

3/ for vineyard, use CN=81

4/ use pre-development CN for 'remainder' area

Trapezoidal Channel (Untitled1.fm8) Report

Label	Solve For	Friction Method	Roughness Coefficient	Channel Slope (ft/ft)	Normal Depth (ft)
Trapezoidal Channel - 1	Normal Depth	Manning Formula	0.040	0.03000	1.08
Trapezoidal Channel - 2	Normal Depth	Manning Formula	0.040	0.03000	1.51
Trapezoidal Channel - 3	Normal Depth	Manning Formula	0.040	0.03000	1.83
Trapezoidal Channel - 4	Normal Depth	Manning Formula	0.040	0.03000	2.09

Left Side Slope (ft/ft (H:V))	Right Side Slope (ft/ft (H:V))	Bottom Width (ft)	Discharge (ft^3/s)	Flow Area (ft^2)	Top Width (ft)	Velocity (ft/s)
2.00	2.00	2.50	25.00	5.00	6.80	5.00
2.00	2.00	2.50	50.00	8.33	8.54	6.00
2.00	2.00	2.50	75.00	11.25	9.81	6.66
2.00	2.00	2.50	100.00	13.94	10.85	7.17

Project: VINEYARDS REVISED 2017 Simulation Run: 10 YEAR PRE-DEV

Start of Run: 01Dec2015, 00:00
End of Run: 02Dec2015, 02:00
Compute Time: 19May2017, 11:00:08

Basin Model: PRE-DEV
Meteorologic Model: 10 YEAR
Control Specifications: PROJECT

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (AC-FT)
SHED 4A	0.255	151.5	01Dec2015, 10:10	26.6
RT 4A	0.255	150.7	01Dec2015, 10:12	26.6
SHED 4C	0.037	24.3	01Dec2015, 10:08	3.9
SHED 4B	0.01	7.2	01Dec2015, 10:04	1.0
SHEDS 4A - 4C	0.302	180.2	01Dec2015, 10:10	31.5
RT 4A - 4C TO KP 4	0.302	179.1	01Dec2015, 10:10	31.5
SHED 4D	0.017	12.0	01Dec2015, 10:06	1.8
SHED 4 @ KP 4	0.319	189.8	01Dec2015, 10:10	33.3
SHED 1B	0.045	31.8	01Dec2015, 10:06	4.7
SHED 1A	0.034	24.6	01Dec2015, 10:04	3.5
RT 1A	0.034	24.4	01Dec2015, 10:06	3.5
SHED 1 @ KP1	0.079	56.3	01Dec2015, 10:06	8.2
SHED 3A	0.043	26.3	01Dec2015, 10:10	4.5
RT 3A	0.043	26.2	01Dec2015, 10:10	4.5
SHED 3B	0.021	14.1	01Dec2015, 10:08	2.2
SHED 3 @ KP3	0.064	39.9	01Dec2015, 10:10	6.7
SHED 2 / KP2	0.06	28.4	01Dec2015, 10:20	6.3

Project: VINEYARDS REVISED 2017 Simulation Run: 10 YEAR POST-DEV

Start of Run: 01Dec2015, 00:00
End of Run: 02Dec2015, 02:00
Compute Time: 19May2017, 11:00:16

Basin Model: POST-DEV
Meteorologic Model: 10 YEAR
Control Specifications: PROJECT

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (AC-FT)
SHED 4A	0.255	151.5	01Dec2015, 10:10	26.6
RT 4A	0.255	150.7	01Dec2015, 10:12	26.6
SHED 4C	0.039	25.6	01Dec2015, 10:08	4.1
SHED 4B	0.009	6.5	01Dec2015, 10:04	0.9
SHEDS 4A - 4C	0.303	180.9	01Dec2015, 10:10	31.6
RT 4A - 4C TO KP 4	0.303	179.8	01Dec2015, 10:12	31.6
SHED 4D	0.016	11.2	01Dec2015, 10:06	1.7
SHED 4 @ KP 4	0.319	189.6	01Dec2015, 10:10	33.3
SHED 1B	0.044	31.4	01Dec2015, 10:06	4.6
SHED 1A	0.034	24.6	01Dec2015, 10:04	3.5
RT 1A	0.034	24.4	01Dec2015, 10:06	3.5
SHED 1 @ KP1	0.078	55.8	01Dec2015, 10:06	8.2
SHED 3A	0.041	25.9	01Dec2015, 10:10	4.5
RT 3A	0.041	25.8	01Dec2015, 10:12	4.5
SHED 3B	0.021	14.3	01Dec2015, 10:08	2.3
SHED 3 @ KP3	0.062	39.6	01Dec2015, 10:10	6.7
SHED 2 A	0.034	18.1	01Dec2015, 10:18	3.8
Reservoir-2	0.034	11.0	01Dec2015, 10:40	3.8
RT2R	0.034	11.0	01Dec2015, 10:42	3.8
SHED 2B	0.028	20.2	01Dec2015, 10:04	2.9
SHED 2 @ KP2	0.062	24.2	01Dec2015, 10:06	6.7

Project: VINEYARDS REVISED 2017 Simulation Run: 100 YEAR PRE-DEV

Start of Run: 01Dec2015, 00:00
End of Run: 02Dec2015, 02:00
Compute Time: 19May2017, 11:00:29

Basin Model: PRE-DEV
Meteorologic Model: 100 YEAR
Control Specifications: PROJECT

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (AC-FT)
SHED 4A	0.255	265.1	01Dec2015, 10:10	45.1
RT 4A	0.255	264.0	01Dec2015, 10:10	45.1
SHED 4C	0.037	42.4	01Dec2015, 10:06	6.5
SHED 4B	0.01	12.5	01Dec2015, 10:04	1.8
SHEDS 4A - 4C	0.302	315.5	01Dec2015, 10:10	53.4
RT 4A - 4C TO KP 4	0.302	314.5	01Dec2015, 10:10	53.4
SHED 4D	0.017	20.8	01Dec2015, 10:04	3.0
SHED 4 @ KP 4	0.319	332.9	01Dec2015, 10:10	56.4
SHED 1B	0.045	55.6	01Dec2015, 10:04	8.0
SHED 1A	0.034	42.9	01Dec2015, 10:04	6.0
RT 1A	0.034	42.8	01Dec2015, 10:06	6.0
SHED 1 @ KP1	0.079	98.2	01Dec2015, 10:06	14.0
SHED 3A	0.043	45.9	01Dec2015, 10:10	7.6
RT 3A	0.043	45.9	01Dec2015, 10:10	7.6
SHED 3B	0.021	24.4	01Dec2015, 10:06	3.8
SHED 3 @ KP3	0.064	69.5	01Dec2015, 10:10	11.4
SHED 2 / KP2	0.06	49.9	01Dec2015, 10:18	10.6

Project: VINEYARDS REVISED 2017 Simulation Run: 100 YEAR POST-DEV

Start of Run: 01Dec2015, 00:00
End of Run: 02Dec2015, 02:00
Compute Time: 19May2017, 11:00:23

Basin Model: POST-DEV
Meteorologic Model: 100 YEAR
Control Specifications: PROJECT

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (AC-FT)
SHED 4A	0.255	265.1	01Dec2015, 10:10	45.1
RT 4A	0.255	264.0	01Dec2015, 10:10	45.1
SHED 4C	0.039	44.7	01Dec2015, 10:06	6.9
SHED 4B	0.009	11.3	01Dec2015, 10:04	1.6
SHEDS 4A - 4C	0.303	316.7	01Dec2015, 10:10	53.5
RT 4A - 4C TO KP 4	0.303	315.4	01Dec2015, 10:10	53.5
SHED 4D	0.016	19.5	01Dec2015, 10:04	2.8
SHED 4 @ KP 4	0.319	332.7	01Dec2015, 10:10	56.4
SHED 1B	0.044	54.8	01Dec2015, 10:04	7.8
SHED 1A	0.034	42.9	01Dec2015, 10:04	6.0
RT 1A	0.034	42.7	01Dec2015, 10:06	6.0
SHED 1 @ KP1	0.078	97.2	01Dec2015, 10:06	13.8
SHED 3A	0.041	44.6	01Dec2015, 10:10	7.5
RT 3A	0.041	44.3	01Dec2015, 10:12	7.5
SHED 3B	0.021	24.6	01Dec2015, 10:06	3.8
SHED 3 @ KP3	0.062	68.0	01Dec2015, 10:10	11.3
SHED 2 A	0.034	31.0	01Dec2015, 10:18	6.3
Reservoir-2	0.034	18.9	01Dec2015, 10:40	6.3
RT2R	0.034	18.9	01Dec2015, 10:40	6.3
SHED 2B	0.028	35.2	01Dec2015, 10:04	5.0
SHED 2 @ KP2	0.062	43.3	01Dec2015, 10:06	11.2

Project: VINEYARDS REVISED 2017 Simulation Run: 10 YEAR POST-DEV

Reservoir: Reservoir-2

Start of Run:	01Dec2015, 00:00	Basin Model:	POST-DEV
End of Run:	02Dec2015, 02:00	Meteorologic Model:	10 YEAR
Compute Time:	20May2017, 15:02:17	Control Specifications:	PROJECT

Volume Units: AC-FT

Computed Results

Peak Inflow:	18.1 (CFS)	Date/Time of Peak Inflow:	01Dec2015, 10:18
Peak Discharge:	11.0 (CFS)	Date/Time of Peak Discharge:	01Dec2015, 10:40
Inflow Volume:	3.8 (AC-FT)	Peak Storage:	0.7 (AC-FT)
Discharge Volume:	3.8 (AC-FT)	Peak Elevation:	724.4 (FT)

Project: VINEYARDS REVISED 2017 Simulation Run: 100 YEAR POST-DEV

Reservoir: Reservoir-2

Start of Run:	01Dec2015, 00:00	Basin Model:	POST-DEV
End of Run:	02Dec2015, 02:00	Meteorologic Model:	100 YEAR
Compute Time:	20May2017, 15:06:56	Control Specifications:	PROJECT

Volume Units: AC-FT

Computed Results

Peak Inflow:	31.0 (CFS)	Date/Time of Peak Inflow:	01Dec2015, 10:18
Peak Discharge:	18.9 (CFS)	Date/Time of Peak Discharge:	01Dec2015, 10:40
Inflow Volume:	6.3 (AC-FT)	Peak Storage:	1.1 (AC-FT)
Discharge Volume:	6.3 (AC-FT)	Peak Elevation:	725.3 (FT)

APPENDIX F

Noise Report

Vineyards at El Dorado Hills

County of El Dorado Hills, California

May 27, 2016

jcb Project # 2016-149

Prepared for:

Omni/Orbis Financial

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INTRODUCTION

This report has been prepared to provide a review of the potential noise impacts associated with traffic noise on, and due to, the proposed project. The proposed project consists of a 42 lot single-family subdivision located in El Dorado County, California. Figure 1 shows the project site plan.

BACKGROUND ON NOISE AND ACOUSTICAL TERMINOLOGY [1]

Acoustics is the science of sound. Sound may be thought of as mechanical energy of a vibrating object transmitted by pressure waves through a medium to human (or animal) ears. If the pressure variations occur frequently enough (at least 20 times per second), then they can be heard and are called sound. The number of pressure variations per second is called the frequency of sound, and is expressed as cycles per second or Hertz (Hz).

Noise is a subjective reaction to different types of sounds. Noise is typically defined as (airborne) sound that is loud, unpleasant, unexpected or undesired, and may therefore be classified as a more specific group of sounds. Perceptions of sound and noise can be highly subjective from person to person.

Measuring sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel scale was devised. The decibel scale uses the hearing threshold (20 micropascals), as a point of reference, defined as 0 dB. Other sound pressures are then compared to this reference pressure, and the logarithm is taken to keep the numbers in a practical range. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB, and changes in levels (dB) correspond closely to human perception of relative loudness.

The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable, and can be approximated by A-weighted sound levels. There is a strong correlation between A-weighted sound levels (expressed as dBA) and the way the human ear perceives sound. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment. All noise levels reported in this section are in terms of A-weighted levels, but are expressed as dB, unless otherwise noted.

The decibel scale is logarithmic, not linear. In other words, two sound levels 10 dB apart differ in acoustic energy by a factor of 10. When the standard logarithmic decibel is A-weighted, an increase of 10 dBA is generally perceived as a doubling in loudness. For example, a 70 dBA sound is half as loud as an 80 dBA sound, and twice as loud as a 60 dBA sound.

Community noise is commonly described in terms of the ambient noise level, which is defined as the all-encompassing noise level associated with a given environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level (L_{eq}), which corresponds to a steady-state A weighted sound level containing the same total energy as a time varying signal over a given time period (usually one hour). The L_{eq} is the foundation of the composite noise descriptor, L_{dn}, and shows very good correlation with community response to noise.

[1] For an explanation of these terms, see Appendix A: "Acoustical Terminology"

PHOTO EXHIBIT

VINEYARDS AT EL DORADO HILLS

COUNTY OF EL DORADO MARCH, 2016 STATE OF CALIFORNIA

VICINITY MAP

cta Engineering & Surveying

Civil Engineering · Land Surveying · Land Planning

Vineyards at El Dorado Hills

Figure 1: Project Site Plan

j.c. brennan & associates
consultants in acoustics

Rev. 5/27/16

The day/night average level (L_{dn}) is based upon the average noise level over a 24-hour day, with a +10 decibel weighing applied to noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours. The nighttime penalty is based upon the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because L_{dn} represents a 24-hour average, it tends to disguise short-term variations in the noise environment.

Table 1 lists several examples of the noise levels associated with common situations. Appendix A provides a summary of acoustical terms used in this report.

TABLE 1: TYPICAL NOISE LEVELS

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	--110--	Rock Band
Jet Fly-over at 300 m (1,000 ft.)	--100--	
Gas Lawn Mower at 1 m (3 ft.)	--90--	
Diesel Truck at 15 m (50 ft.), at 80 km/hr. (50 mph)	--80--	Food Blender at 1 m (3 ft.) Garbage Disposal at 1 m (3 ft.)
Noisy Urban Area, Daytime Gas Lawn Mower, 30 m (100 ft.)	--70--	Vacuum Cleaner at 3 m (10 ft.)
Commercial Area Heavy Traffic at 90 m (300 ft.)	--60--	Normal Speech at 1 m (3 ft.)
Quiet Urban Daytime	--50--	Large Business Office Dishwasher in Next Room
Quiet Urban Nighttime	--40--	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime	--30--	Library
Quiet Rural Nighttime	--20--	Bedroom at Night, Concert Hall (Background)
	--10--	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	--0--	Lowest Threshold of Human Hearing
Source: Caltrans, Technical Noise Supplement, Traffic Noise Analysis Protocol. November, 2009.		

Effects of Noise on People

The effects of noise on people can be placed in three categories:

- Subjective effects of annoyance, nuisance, and dissatisfaction
- Interference with activities such as speech, sleep, and learning
- Physiological effects such as hearing loss or sudden startling

Environmental noise typically produces effects in the first two categories. Workers in industrial plants can experience noise in the last category. There is no completely satisfactory way to measure the subjective effects of noise or the corresponding reactions of annoyance and dissatisfaction. A wide variation in individual thresholds of annoyance exists and different tolerances to noise tend to develop based on an individual's past experiences with noise.

Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted: the so-called ambient noise level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it.
With regard to increases in A-weighted noise level, the following relationships occur:

- Except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived;
- Outside of the laboratory, a 3 dBA change is considered a just-perceivable difference;
- A change in level of at least 5 dBA is required before any noticeable change in human response would be expected; and
- A 10 dBA change is subjectively heard as approximately a doubling in loudness, and can cause an adverse response.

Stationary point sources of noise – including stationary mobile sources such as idling vehicles – attenuate (lessen) at a rate of approximately 6 dB per doubling of distance from the source, depending on environmental conditions (i.e. atmospheric conditions and either vegetative or manufactured noise barriers, etc.). Widely distributed noises, such as a large industrial facility spread over many acres, or a street with moving vehicles, would typically attenuate at a lower rate.

CRITERIA FOR ACCEPTABLE NOISE EXPOSURE

The El Dorado County General Plan Noise Element establishes exterior and interior noise level limits for residential project. Table 6-1 establishes a specific limit of 60 dB L_{dn} for exterior areas of single-family residential uses. An interior noise level standard of 45 dB L_{dn} is also established for all residential uses under Table 6-1.

Policy 6.5.1.12 of the General Plan Noise Element establishes limits for noise level increase due to proposed development projects. The full text of Policy 6.5.1.12 is provided below:

Policy 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.*

A. 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;

B. 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

C. 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.

EXISTING AMBIENT NOISE LEVELS

To quantify existing ambient noise levels in the vicinity of the project site, j.c. brennan & associates, Inc. staff conducted continuous short-term noise level measurements at three locations on the project site. See Figure 2 for noise measurement locations. The noise level measurements were conducted on May 13, 2016. The noise level measurements were conducted to determine the existing traffic noise levels on the project site. Table 2 shows a summary of the noise measurement results.

The sound level meters were programmed to record the maximum, median, and average noise levels at each site during the survey. The maximum value, denoted L_{max}, represents the highest noise level measured. The average value, denoted L_{eq}, represents the energy average of all of the noise received by the sound level meter microphone during the monitoring period. The median value, denoted L_{50}, represents the sound level exceeded 50 percent of the time during the monitoring period.

Larson Davis Laboratories (LDL) Model 820 precision integrating sound level meters were used for the ambient noise level measurement survey. The meters were calibrated before and after use with an LDL Model CAL200 acoustical calibrator to ensure the accuracy of the measurements. The equipment used meets all pertinent specifications of the American National Standards Institute for Type 1 sound level meters (ANSI S1.4).

Legend

[#] : Short-Term Noise Measurement Site

Vineyards at El Dorado Hills

Figure 2: Noise Measurement Locations

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Figure Prepared:
May 2016

TABLE 2: EXISTING AMBIENT NOISE MONITORING RESULTS

Site	Location	Date - Time	Average Measured Hourly Noise Levels, dBA						
				Daytime (7:00 am - 10:00 pm)			Nighttime (10:00 pm – 7:00 am)		
			L_{dn}	L_{eq}	L_{50}	L_{max}	L_{eq}	L_{50}	L_{max}
Noise Measurement Site									
1	30 feet to centerline of Malcolm Dixon Rd.	5/13/16 -- 10:32 a.m.	N/A	56.6	42.1	77.1	N/A	N/A	N/A
2	90 feet to centerline of Malcolm Dixon Rd.	5/13/16 -- 11:30 a.m.	N/A	53.4	52.5	62.7	N/A	N/A	N/A
3	Northeast corner of site. 66 feet to centerline of Byron Rd	5/13/16 – 12:05 p.m.	N/A	45.8	43.6	65.2	N/A	N/A	N/A
Source: j.c. brennan & associates, Inc. – 2016									

PREDICTED NOISE LEVELS

Traffic Noise Levels

To predict existing noise levels due to traffic, the Federal Highway Administration Highway Traffic Noise Prediction Model (FHWA RD-77-108) was used. The model is based upon the Calveno reference noise emission factors for automobiles, medium trucks, and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. The FHWA model was developed to predict hourly L_{eq} values for free-flowing traffic conditions.

Traffic volumes were obtained from the traffic study prepared for the project (Kimley-Horn, December, 2015). Truck percentages and vehicle speeds on the local area roadways were estimated from field observations.

Table 3 shows the predicted traffic noise levels at exterior and interior areas of the project. Lot 8 was selected to represent the noise exposure along the south edge of the project site as this lot is closest to Malcolm Dixon and Green Valley Roads. Lots 1-7 are further from these roadways and will experience slightly quieter traffic noise levels. Appendix B shows the complete inputs and results of the FHWA traffic noise prediction model.

TABLE 3: PREDICTED TRAFFIC NOISE LEVELS

Noise Source	Location	Approximate Distance to Centerline, feet	Exterior Noise Level, L_{dn}	Interior Noise Level (Standard Construction), L_{dn}[1]
2025 Plus Project				
Malcolm Dixon Road	Lot 8 - 1st Floor Interior	100	--	26 dB
Malcolm Dixon Road	Lot 8 - 2nd Floor Interior	100	--	29 dB
Malcolm Dixon Road	Lot 8 - Backyard	75	53 dB	--
Green Valley Road	Lot 8 - 1st Floor Interior	670	--	25 dB
Green Valley Road	Lot 8 - 2nd Floor Interior	670	--	28 dB
Green Valley Road	Lot 8 - Backyard	645	50 dB	--

[1] Standard residential construction typically provides a minimum exterior-to-interior noise level reduction of 25 dB with windows closed. With windows open, a reduction of 10-15 dB is typical.
Bold Underline indicates a predicted noise level in excess of the County standards.
-- Indicates that the exterior or interior noise level standard does not apply to this location.

Based upon the predicted future traffic noise levels shown in Table 3, the residential uses located along the south edge of the project will not be exposed to traffic noise levels exceeding the El Dorado County 60 dB L_{dn} exterior or 45 dB L_{dn} interior noise level standards. Therefore, no additional noise control measures would be required.

Increased Traffic Noise Due to the Project

The project traffic study prepared by Kimley-Horn (December, 2015) indicates that 75% of the project traffic will enter the project site by traveling north on Chartraw Road and turning left onto Malcolm Dixon Road. The remaining 25% of traffic will continue straight on Chartraw Road. Under 2025 conditions these increases in traffic are predicted to increase traffic noise levels between 0.5 dB and 1.8 dB. As indicated in Table 3, traffic noise levels are predicted to be approximately 53 dB at a distance of 75 feet from the roadway centerline. Therefore, the allowable increases on this section of roadway would be 5 dBA because predicted noise levels are less than 60 dB L_{dn} (General Plan Policy 6.5.1.12). Based upon this increase threshold of 5 dB, the predicted increase of 1.8 dB would comply with the County's standards and no additional noise control measures would be required.

CONCLUSIONS

The proposed project is predicted to comply with the El Dorado County General Plan noise level standards. Predicted noise levels at new residential receptors are less than 60 dB L_{dn} (exterior) and 45 dB L_{dn} (interior) as currently proposed. Additionally, project-related traffic noise level increases are predicted to range between 0.5 dB and 1.8 dB. The 1.8 dB increase is less than the County's substantial increased standard of 5 dB where predicted traffic noise levels are less than 60 dB L_{dn}. Therefore, no additional noise control measures would be warranted.

Appendix A
Acoustical Terminology

Acoustics	The science of sound.
Ambient Noise	The distinctive acoustical characteristics of a given space consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.
Attenuation	The reduction of an acoustic signal.
A-Weighting	A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response.
Decibel or dB	Fundamental unit of sound, A Bell is defined as the logarithm of the ratio of the sound pressure squared over the reference pressure squared. A Decibel is one-tenth of a Bell.
CNEL	Community Noise Equivalent Level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by a factor of three and nighttime hours weighted by a factor of 10 prior to averaging.
Frequency	The measure of the rapidity of alterations of a periodic signal, expressed in cycles per second or hertz (Hz).
L_{dn}	Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.
L_{eq}	Equivalent or energy-averaged sound level.
L_{max}	The highest root-mean-square (RMS) sound level measured over a given period of time.
$L_{(n)}$	The sound level exceeded a described percentile over a measurement period. For instance, an hourly L_{50} is the sound level exceeded 50% of the time during the one hour period.
Loudness	A subjective term for the sensation of the magnitude of sound.
Noise	Unwanted sound.
NRC	Noise Reduction Coefficient. NRC is a single-number rating of the sound-absorption of a material equal to the arithmetic mean of the sound-absorption coefficients in the 250, 500, 1000, and 2,000 Hz octave frequency bands rounded to the nearest multiple of 0.05. It is a representation of the amount of sound energy absorbed upon striking a particular surface. An NRC of 0 indicates perfect reflection; an NRC of 1 indicates perfect absorption.
Peak Noise	The level corresponding to the highest (not RMS) sound pressure measured over a given period of time. This term is often confused with the AMaximum@ level, which is the highest RMS level.
RT_{60}	The time it takes reverberant sound to decay by 60 dB once the source has been removed.
Sabin	The unit of sound absorption. One square foot of material absorbing 100% of incident sound has an absorption of 1 Sabin.
SEL	Sound Exposure Level. SEL is s rating, in decibels, of a discrete event, such as an aircraft flyover or train passby, that compresses the total sound energy into a one-second event.
STC	Sound Transmission Class. STC is an integer rating of how well a building partition attenuates airborne sound. It is widely used to rate interior partitions, ceilings/floors, doors, windows and exterior wall configurations.
Threshold of Hearing	The lowest sound that can be perceived by the human auditory system, generally considered to be 0 dB for persons with perfect hearing.
Threshold of Pain	Approximately 120 dB above the threshold of hearing.
Impulsive	Sound of short duration, usually less than one second, with an abrupt onset and rapid decay.
Simple Tone	Any sound which can be judged as audible as a single pitch or set of single pitches.

Appendix B1

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Data Input Sheet

Project #: 2016-149
Description: 2025 Plus Proejct Traffic
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Lot Numbers	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)
1	Malcolm Dixon Road	Lot 8 - 1st Floor Interior	1,350	83		17	0.5	0.5	35	100	-25
2	Malcolm Dixon Road	Lot 8 - 2nd Floor Interior	1,350	83		17	0.5	0.5	35	100	-22
3	Malcolm Dixon Road	Lot 8 - Backyard	1,350	83		17	0.5	0.5	35	75	0
4	Green Valey Road	Lot 8 - 1st Floor Interior	16,880	83		17	2	1	55	670	-30
5	Green Valey Road	Lot 8 - 2nd Floor Interior	16,880	83		17	2	1	55	670	-27
6	Green Valey Road	Lot 8 - Backyard	16,880	83		17	2	1	55	645	-5

Appendix B2

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Predicted Levels

Project #: 2016-149
Description: 2025 Plus Proejct Traffic
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Lot Numbers	Autos	Medium Trucks	Heavy Trucks	Total
1	Malcolm Dixon Road	Lot 8 - 1st Floor Interior	25	12	17	26
2	Malcolm Dixon Road	Lot 8 - 2nd Floor Interior	28	15	20	29
3	Malcolm Dixon Road	Lot 8 - Backyard	52	39	44	53
4	Green Valey Road	Lot 8 - 1st Floor Interior	24	14	15	25
5	Green Valey Road	Lot 8 - 2nd Floor Interior	27	17	18	28
6	Green Valey Road	Lot 8 - Backyard	49	40	41	50

Appendix B3

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Noise Contour Output

Project #: 2016-149
Description: 2025 Plus Proejct Traffic
Ldn/CNEL: Ldn
Hard/Soft: Soft

			-------- Distances to Traffic Noise Contours --------				
Segment	Roadway Name	Lot Numbers	75	70	65	60	55
1	Malcolm Dixon Road	Lot 8 - 1st Floor Interior	0	0	0	1	1
2	Malcolm Dixon Road	Lot 8 - 2nd Floor Interior	0	0	0	1	2
3	Malcolm Dixon Road	Lot 8 - Backyard	2	5	11	25	53
4	Green Valey Road	Lot 8 - 1st Floor Interior	0	1	1	3	7
5	Green Valey Road	Lot 8 - 2nd Floor Interior	1	1	2	5	11
6	Green Valey Road	Lot 8 - Backyard	15	32	68	147	317

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APPENDIX G

Public Services and Utilities Information

CONTENTS

APPENDIX G.1

Wildland Fire Safe Plan

The Vineyards

At

El Dorado Hills

Wildland Fire Safe Plan

Prepared for:

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November 20, 2015

The Vineyards

Approved by:

1/13/16

Marshall Cox
Fire Marshal
El Dorado Hills Fire Department

Date

1-13-16

Darin McFarlin, FC
Fire Prevention
California Department of
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Date

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STATE OF CALIFORNIA

2

The Vineyards

CONTENTS

I. PURPOSE AND SCOPE

Communities are increasingly concerned about wildfire safety. Drought years coupled with flammable vegetation and annual periods of severe fire weather insure the potential for periodic wildfires.

The purpose of this plan is to assess the wildfire hazards and risks of The Vineyards At El Dorado Hills, to identify measures to reduce these hazards and risks and protect the native vegetation. There are light to heavy fuel hazards and moderate topography associated with this proposed project both on and adjacent to the project.

The possibility of large fires occurring when the project is complete will be greatly reduced. However, small wildfires in the open space areas and on the larger lots may occur due to the increase in public uses.

Incorporation of the fire hazard reduction measures into the design and maintenance of the future lots will reduce the size and intensity of wildfires and help prevent catastrophic fire losses. State and County regulations provide the basic guidelines and requirements for fire safe mitigation measures and defensible space around dwellings. This plan builds on these basic rules and provides additional fire hazard reduction measures customized to the topography and vegetation of the development with special emphases on the interface of homes and wildland fuels.

The scope of The Vineyards Wildland Fire Safe Plan (Plan) recognizes the extraordinary natural features of the area and designs wildfire safety measures which are meant to compliment and become part of the community design. The Plan contains measures for providing and maintaining defensible space around future homes and open space. Plan implementation measures must be maintained in order to assure adequate wildfire protection.

Homeowners who live in and adjacent to the wildfire environment must take primary responsibility along with the fire services for ensuring their homes have sufficient low ignitability and surrounding fuel reduction treatment. The fire services should become a community partner providing homeowners with technical assistance as well as fire response. For this to succeed it must be shared and implemented equally by homeowners and the fire services.

II. FIRE PLAN LIMITATIONS

The Wildland Fire Safe Plan for The Vineyards At El Dorado Hills does not guarantee that wildfire will not threaten, damage or destroy natural resources, homes or endanger residents. However, the full implementation of the mitigation measures will greatly reduce the exposure of homes to potential loss from wildfire and provide defensible space for firefighters and residents as well as protect the native vegetation. Specific items are listed for homeowner's attention to aid in home wildfire safety.

III. THE VINEYARDS AT El DORADO HILLS WILDLAND FIRE SAFE PLAN

1. PROJECT DESCRIPTION

The Vineyards is located on the north side of Malcolm Dixon Road approximately 1 mile west of Salmon Falls Road to the proposed entrance. The development will connect to Malcolm Dixon Road at two different locations.

The project is proposing to subdivide a 114 acre site into 42 single family residential lots and open space with irrigated vineyards. The existing zoning is RE-5 and proposed to be RE-5PD. The project will include a density bonus provision in the County General Plan in Policy 2.2.4.1. The residential lots are to utilize 42 acres. Fifty-six percent of the project site (64+ac) will remain in open space. The open space will meander throughout the subdivision and include a vineyard on approximately 30 acres. The vineyard will be irrigated by either private well or public water. Refer to the site plan for the vineyard locations.

As proposed, the development is intended to be a gated community with two points of access to Malcolm Dixon Road. The gates will have an automatic opener, alarm and optional security camera to control its usage. The gates shall have a fire department approved "opticom" opener and knox lock. The Vineyards project will include the formation of a Homeowner's Association (HOA) that would be responsible for the maintenance of the gates as specified in the community's Covenants, Conditions and Restrictions (CCR's). All the roads will be constructed to El Dorado County Transportation Division (DT), Fire Safe and the El Dorado County Design and Improvement Standards Manual (DISM) standards except when design waivers are granted.

The project will be developed in 4 phases. During Phase I, the road will connect to Malcolm Dixon Road at the east side of the development. The first phase will create 10 lots. Phase II will consist of 8 lots taking access from Malcolm Dixon Road at the southern end of the project. Phase III will add 17 more lots and provide the road tie between Phase I and II to create the 2 points of vehicle access for the subdivision. Phase IV will add 7 more lots for a total of 42 one acre lots.

Malcolm Dixon Road and the primary access roadway to the project is a part of the County approved Malcolm Dixon Road Area of Benefit (AOB) that is based on Exhibit X (attached) that will provide connection between Green Valley Road and Salmon Falls Road per approved Exhibit X.

Access during Phase I is proposed to be provided by a 24' wide road consisting of two travel lanes with shoulders and asphalt dikes on each side. The roads for Phase I are identified as Road "B" and Road "E". There will be a turnaround at the end of Road "B". Road "E" is the gated connector road from Salmon Falls Road.

Phase II will take access from Malcolm Dixon Road and eventually become a secondary access (during Phase III) for the subdivision. See the attached Phasing Plan for phasing delineation.

During Phase III, Road “A” will be extended north and south from the intersection with Road “B”. Like others, Road “A” will be 24’ with asphalt dikes. During this phase Road “A” will make connection to Malcolm Dixon Road to the south and terminate with a turnaround at the northern end. The last roadway extension, Road “C” will provide access to lots 34-40 and will be developed during Phase IV.

The project is proposed to be served with public water by El Dorado Irrigation District (EID). All fire hydrant locations and spacing shall be determined by El Dorado Hills Fire Department and the Residential Fire Code. A fuel hazard reduction zone along the entire length of the roads within the project and adjacent to the project for the entire length along Malcolm Dixon Road and around the perimeter of the open space adjacent to the lot property lines and vineyards will be needed. The project is proposing to subdivide parcels APN: 126-100-24. The project area is to be zoned RE5-PD. All lots 1 acre and larger are subject to clearance requirements (See Appendix A). The PD zones will have differing building setback. The building setbacks for some 1 acre lots may vary from the normal 30’ to 20’ in the front, 15’ on the sides and 30’ in the rear. The use of the **7A** building standards shall mitigate the reduced setbacks. Maintained vineyards may be used for mitigation for the reduced setbacks. Residential fire sprinklers shall be required by the Residential Building Code as it currently exists.

Large open space lots totaling 64 acres will be incorporated throughout the project area. There are 2 variations of vegetation types in this area. There are open grazing and dense oak woodland areas. The area of oak woodlands in the northwest corner are in need of rejuvenation and constitutes a serious fire hazard. An intermittent drainage separates this area from the residential lots. All fencing adjacent to any non-irrigated/landscaped open space shall be constructed from nonflammable material. This project is in a “High” Fire Hazard Severity Zone. **7A** building construction standards will be required on those homes not meeting the 30’ setback requirement.

The HOA shall oversee the maintenance of the fuel hazard reduction zones along the roads and open space areas. Pedestrian and multi-use trails may be incorporated into some of the open space and be required to have adjacent fuels treated annually. Service roads will also receive similar treatment as the trails.

The El Dorado Hills Fire Department provides all fire and emergency medical services to this project. The California Department of Forestry and Fire Protection (CAL FIRE) has wildland fire responsibility in this state responsibility area (SRA).

2. PROJECT VEGETATION (FUELS)

For wildfire planning purposes the vegetation is classified as follows:

(a) ground fuels- annual grasses, coffeeberry, buckeye, chamise, toyon, poison oak, and downed limbs (Brush)

(b) overstory- scattered live oaks, blue oaks, valley oaks, and gray pine.

The property has varied terrain ranging from flat to mostly moderate slopes. Some areas of steep slopes up to and exceeding 30% in the drainages have heavy fuel loading. Fire hazard reduction of the fuels will be extremely important to the house sites and surrounding areas. Much of the tree canopy is oak woodland with dense grown liveoaks and oak and pine overstory. The trees typically

have limbs and canopy reaching the ground as well as the dense stands of brush creating ladder fuels. Ladder fuels will need to be eliminated in the open spaces. Limbing of trees is important to reduce their susceptibility from a ground fire. Tree spacing on the slopes is a critical component to attaining the required fire safe clearances. A separation of the brush fuels and trees are essential for creating the defensible space around the residence and along the perimeter. A one-time treatment of the project area to eliminate all the dead fuel and to clean out the slopes of the drainages of ladder fuels is essential. CAL FIRE guidelines for the 100 foot clearance requirements are attached.

3. PROBLEM STATEMENTS

A. The brush fuels on the slopes will ignite and have a rapid rate of spread.

Fire in the grass and brush fuels on the slopes is the most serious wildfire problem for this project.

B. Risk of fire starts will increase with development.

The greatest risk from fire ignition will be along roads and on large lots as human activity increases in these areas.

C. Provisions must be made to maintain all fuel treatments.

The wildfire protection values of fuel reduction are rapidly lost if not maintained. Continued review of potential ladder fuels to maintain a fire safe environment is very important. Annual maintenance of the open spaces and fuel hazard reduction zones by June 1 of each year is necessary.

D. Typical home design and siting often does not recognize adequate wildfire mitigation measures.

A review of many wildfires has conclusively shown that most home losses occur when: (1) there is inadequate clearing of flammable vegetation around a house, (2) roofs are not fire resistant, (3) homes are sited in hazardous locations, (4) firebrand ignition points and heat traps are not adequately protected and (5) there is a lack of water for suppression.

4. GOALS

A. Modify the continuity of high hazard vegetation fuels.
B. Reduce the size and intensity of wildfires.
C. Ensure defensible space is provided around all structures.
D. Design fuel treatments to minimize tree removal.
E. Ensure fuel treatment measures are maintained.
F. Identify fire safe structural features.
G. Help homeowners protect their homes from wildfire.

5. WILDFIRE MITIGATION MEASURES

Wildfire mitigation measures are designed to accomplish the Goals by providing and maintaining defensible space and treating high hazard fuel areas. Fire hazard severity is reduced through these mitigation measures. The Wildland Fire Safe Plan places emphasis on defensible space around structures, project perimeter and open spaces.

The residential construction materials, fire hydrant location and fuel treatment will be extremely important in the development of these new lots. Lot setback will vary depending on lot size and location.

Fuel hazard reduction zones (FHRZ) of at least 50 feet in width shall be installed around the internal perimeter of the project adjacent to all the lots against the open space or vineyards and a 10 foot fuel hazard reduction zone along both sides of all internal roads, service roads, and trails. A FHRZ along Malcolm Dixon Road and project borders shall extend for 30' or to any internal property line up from the edge of Malcolm Dixon Road or project border. Any tree canopy over the roads and driveways will have 15' of vertical clearance over the roadways. Nonflammable fencing shall be used adjacent to all non-irrigated/landscaped open space or vineyard areas and adjacent to all backyards.

All residences shall be required to have NFPA 13D fire sprinkler systems. The project is located in a High Fire Hazard Severity Zone. Implementation of Wildland-Urban Interface Fire Area Building Standards will be required for the construction of new residences that do not meet Fire Safe setbacks. These standards address roofing, venting, eave enclosure, windows, exterior doors, exterior walls, exterior porch ceilings, floor projections, under floor projections, underside of appendages, and decking.

Clearance along the road and around structures is very important and necessary. Fire Safe specifications state that all trees in the fuel hazard reduction zones shall be thinned so the crowns are not touching. Branches on remaining trees shall be pruned up 8 feet as measured on the uphill side of the tree. Brush shall be removed. Grasses shall be kept mowed to a 2 inch stubble annually by June 1. Any tree crown canopy over the driveways shall be pruned at least 15 feet up from the driveway surface.

Agricultural operations such as vineyards usually require special setback restrictions from residences. The normal agricultural setback is 200'. This is for the protection of both the residents and the farm operation since herbicides and pesticides may be needed during the growing of grapes. Even organic chemicals may be offensive to people adjacent to the agricultural operation. The 200' setback should be considered when adjacent to a residence. Any vegetation within the agricultural setback will need to be treated following the FHRZ criteria.

This zone is in addition to the clearances required by state law. The State required Fire Safe clearances (PRC 4291) shall be implemented around all structures (See CAL FIRE Guideline). Clearances may be required at the time of construction by the County.

More restrictive standards may be applied by approving El Dorado County Authorities. Approval of this plan does not by itself guarantee approval of this project.

Mitigation Measures:

- **All lots one acre and larger shall be landscaped to Firescaping Standards Zones I and II (Appendix A).**

    a. **Responsibility- homeowner within one year of occupancy**

- **Driveways shall be a minimum 12 feet wide. Driveways shall comply with standard building practices.**

    a. **Responsibility- builder/homeowner**

- **All private driveway gates shall be inset on the driveway at least 30 feet from the road. Gate openings shall be 2 feet wider than the driveway. Knox lock access shall be provided to the fire department.**

    a. **Responsibility- homeowner**

- **Any driveway shall not exceed a maximum 20% grade.**

    a. **Responsibility- builder**

- **Any driveway over 150' in length shall have a turn-around near the residence. The location shall be approved by the Fire Department prior to issuance of the grading permit. (See Appendix D)**

    a. **Responsibility- builder**

- **Any driveway over 400' in length shall have a turnout at the midpoint of the driveway. Location and design must be approved by the Fire Department prior to the issuance of a grading permit. (See Appendix D)**

    a. **Responsibility-builder**

- **All homes shall have Class A listed roof covering.**

    a. **Responsibility- builder/homeowner**

- **Decks that are cantilevered over the natural slope shall be enclosed.**

    a. **Responsibility- builder/homeowner (See Appendix C for guidelines)**

- **The houses shall be constructed with exterior wall sheathing that shall be of noncombustible material.**

    a. **Responsibility-builder**

- **Windows on all sides of the structure shall be constructed of multi-pane glazing with a minimum of one tempered pane on the exterior side.**

    a. **Responsibility-builder**

- **Doors shall be constructed of noncombustible or ignition-resistant material or shall be constructed of solid core wood compliant with CRC R327.8.3.**

    a. **Responsibility-builder**

- **Rafter tails shall be enclosed with noncombustible material on all sides of the structure.**

    a. **Responsibility-builder**

- **Gutters and downspouts shall be noncombustible.**

    a. **Responsibility-builder**

- **Attic and floor vents shall be approved by enforcing agency.**

    a. **Responsibility-builder**

- **The fire department shall review the Wildland Fire Safe Plan within 5 years to determine its adequacy. It may require modification as necessary.**

    a. **Responsibility- fire department**

6. **BUILDING SETBACKS ON ONE ACRE OR LARGER LOTS**

State SRA Regulations (1276.01) requires a minimum of a 30 foot setback from all property lines or to the center of the road for lots 1 acre or larger. Exceptions to this are being used and would be allowed by the proposed PD zoning approved by El Dorado County. Exceptions to the 30' setback may also be granted when the property is adjacent to a managed vineyard.

7. **OTHER FIRE SAFE REQUIREMENTS**

A. New roadways, turnouts and driveway shall be constructed only after consulting with El Dorado Fire Hills Fire Department and DT. A design waiver may be requested.

B. Each new property owner or builder prior to construction shall be required to contact El Dorado County Community Services Agency/Building Division to have the residential fire sprinklers plans approved. All fire sprinkler systems shall be designed and installed by a licensed contractor.

C. Any new road and turnout shall be built to DT standards and Title 14 consistent with any approved design waivers.

D. The developer shall provide a 30' fuel hazard reduction zone along the perimeter of the project adjacent to the rear property lines, vineyards and the open space, and 10' on both sides of roads and they shall be annually maintained by June 1 to the Fire Safe specifications. Sidewalks and landscaping are acceptable in the zone along the roadways. Tree canopy over the road and driveways shall be cleared up ` 15'.

E. The developer shall file with DT to get the roads named and have the names posted at the intersections.

F. The HOA, or other entity to the satisfaction of the County of El Dorado, shall be responsible for maintaining the fuel hazard reduction zones along the road, in the open spaces annually by June 1.

G. If any roads are 30' wide or less, they shall be posted "No Parking" on one side of the road unless a design waiver is approved. Posting on one side shall be

determined by fire hydrant placement and consulting with the El Dorado Hills Fire Department. Parking bays are allowed in these areas.

H. If a parking design waiver is granted, turnouts at each fire hydrant location shall be installed and meet Fire Department specifications.

I. A Notice of Restriction shall be filed with the final parcel map which stipulates that a Wildland Fire Safe Plan has been prepared and wildfire mitigation measures must be implemented.

J. The project shall meet all the Public Resource Codes 4290 as amended (the 1991 SRA Fire Safe Regulations- Article 2 Access, Article 3 Signing, Article 4 Water, Article 5 Fuels), County ordinances unless amended, revised or waived.

K. The home/property owners are responsible for any future fire safe or building code changes adopted by the State or local authority.

L. Only ignition-resistant material, exterior fire retardant treated wood, or non-combustible material shall be allowed for decks.

M. All fencing adjacent to non-irrigated/landscaped open space shall be noncombustible.

N. All trails shall have a 10' FHRZ along each side of the trail and be maintained annually by June 1.

O. At the entrance to any trail, "No Smoking" signs shall be posted.

P. At all trail intersections with the roads that have vehicle access there shall be a knock down bollard to allow for the passage of emergency equipment onto the trail.

Q. There shall not be any entrance gate allowed for this development until the gate on APN: 126-049-01 is removed as per the El Dorado Hills Fire Department Standard #B-002 A.13 Automatic Gates on Fire Access Roadways.

8. OPEN SPACE GUIDELINES

A. Remove all gray pines within 100' of all property lines.

B. Remove all dead trees within 100' of all property lines.

C. Remove all dead limbs from live trees that are within 10' of the ground.

D. Limb all trees within 30' of the inner property lines at least 8' above the ground as measured on the uphill side of the tree.

E. Remove all dead limbs and trees laying on the ground within 100' of all property lines.

F. A one-time cleanup of all the drainages to remove the ladder fuels for 25' on both sides of the drainage.

G. Annually by June 1 cut or remove all grass and brush to a 2" stubble within 50' along the inner property lines adjacent to the residential lots and 10' along streets/trails and 100' along Salmon Falls Road adjacent to the project perimeter.

H. Open space areas may be landscaped and irrigated. Natural areas will follow the open space guidelines for fuel treatment.

I. Mature or multi stemmed oaks can present a serious wildfire problem if untreated. Treat the oaks in the open spaces as to the following specifications: (a) remove all dead limbs and stems and (b) cut off green stems at 8' above the ground that arch over and are growing down towards the ground. Measure from the uphill side of the tree to determine the appropriate height.

J. Permanent wet areas within the open space lots may be allowed to have a variety of vegetation provided the wet areas are isolated with a fuel hazard reduction zone if outside of an existing FHRZ.

V. Appendix

APPENDIX A

THE VINEYARDS AT EL DORADO HILLS

FIRESCAPING STANDARDS

Firescaping is an approach to landscaping to help protect homes from wildland fires. The goal is to create a landscape that will slow the advance of a wildfire and create a Defensible Space that provides the key point for firefighting agencies to defend the home. This approach has a landscape zone surrounding the home containing a balance of native and exotic plants that are fire and drought resistant, help control erosion, and are visually pleasing. Firescaping is designed not only to protect the home but to reduce damage to oaks and other plants.

Zone I

The zone extends to not less than 30 feet from the house **or to the property line whichever is less** in all directions and has a traditional look of irrigated shrubs, flowers gardens, trees and lawns. All dead trees, brush, concentrations of dead ground fuels (tree limbs, logs etc. exceeding 1inch in diameter) shall be removed. All native oak trees, conifers and brush species are pruned up to 8 feet above the ground as measured on the uphill side but no more than 1/3 of the live crown. The plants in this zone are generally less than 18 inches in height, must be slow to ignite from windblown sparks and flames. Such plants should produce only small amounts of litter and retain high levels of moisture in their foliage year around. Native and exotic trees are permitted inside the Zone, but foliage may not be within 10 feet of the roof or chimney. Grass and other herbaceous growth within this zone must be irrigated or if left to cure must be mowed to a 2 inch stubble, chemically treated or removed. Such treatment must be accomplished by June 1, annually. This zone has built in firebreaks created by driveways, sidewalks etc.

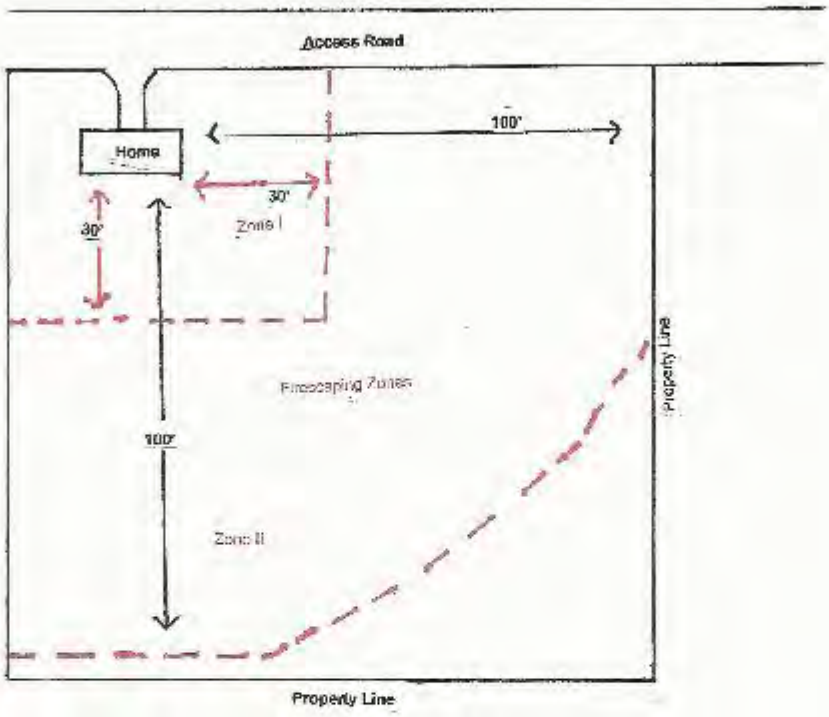
Zone II

This Zone adds 70 feet to Zone I and extends a minimum of 100 feet from the house in all directions, **or to the property line whichever is less,** and is a transition area to the outlying vegetation. The zone is a band of low growing succulent ground covers designed to reduce the intensity, flame length and rate of spread of an approaching wildfire. Irrigation may be necessary to maintain a quality appearance and retain the retardant ability of the plants. All dead trees, brush, concentration of dead ground fuels (tree limbs, logs etc.) exceeding 2 inches in diameter shall be removed. Annual grasses shall be mowed after they have cured to a 2 inch stubble by June 1, annually. Native trees and brush species may be preserved and pruned of limbs up to 8 feet above the ground as measured on the uphill side.

For Zones I and II With Oaks

Mature, multi stemmed Oaks can present a serious wildfire problem if untreated. Treat the Oaks as to the following specifications: (a) remove all dead limbs and stems and (b) cut off green stems at 8 feet above the ground as measured on the uphill side that arch over and are growing down towards the ground.

APPENDIX A-1
FIRESCAPING ZONES
EXHIBIT



Typical Lot in Oak Woodland
(Schematic, not to scale)

APPENDIX B

THE VINEYARDS AT EL DORADO HILLS

FUEL TREATMENT SPECIFICATIONS

For

OAK WOODLAND

Within The Designated Fuel Treatment Areas

1. Leave all live trees where possible.

2. Remove all dead trees.

3. Remove all brush.

4. Prune all live trees of dead branches and green branches 8 feet from the ground as measured on the uphill side of the tree, except no more than 1/3 of the live crown is removed. All slash created by pruning must be disposed of by chipping or hauling off site.

5. Annually by June 1, reduce the grass or weeds to a 2 inch stubble by mowing, chemical treatment, disking or a combination of treatments.

6. Conifers within 30 feet of a house shall be removed. Those pines in the open space shall be isolated with no brush understory within the dripline of the tree.

APPENDIX C

THE VINEYARDS AT EL DORADO HILLS

ENCLOSED DECK GUIDELINES

The purpose of enclosing the underside of decks that are cantilevered out over the natural slope is to help prevent heat traps and fire brands from a wildfire igniting the deck or fuels under the deck.

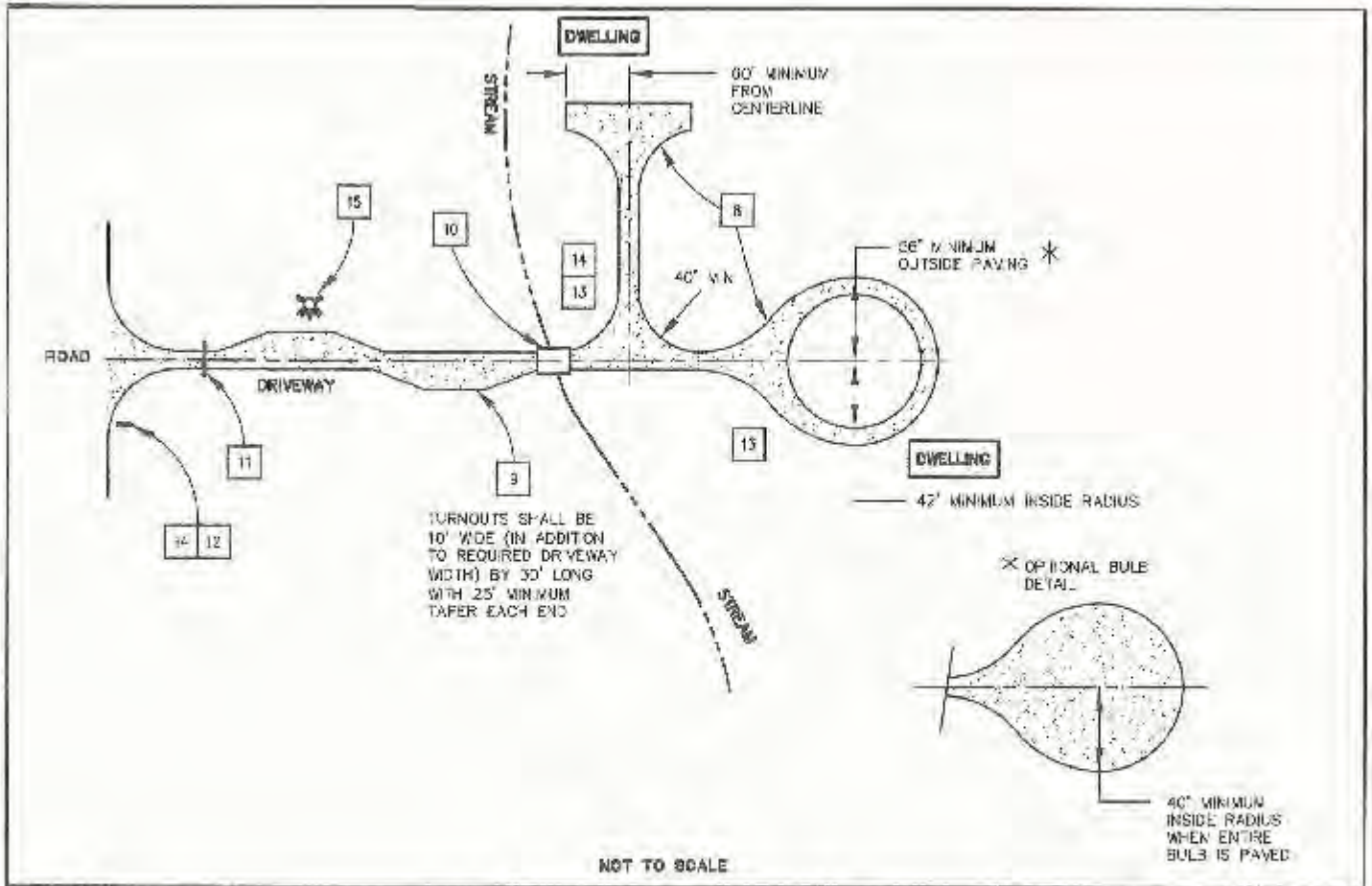
1. Does not apply to decks that are constructed using fire resistant materials such as concrete, steel, stucco etc.

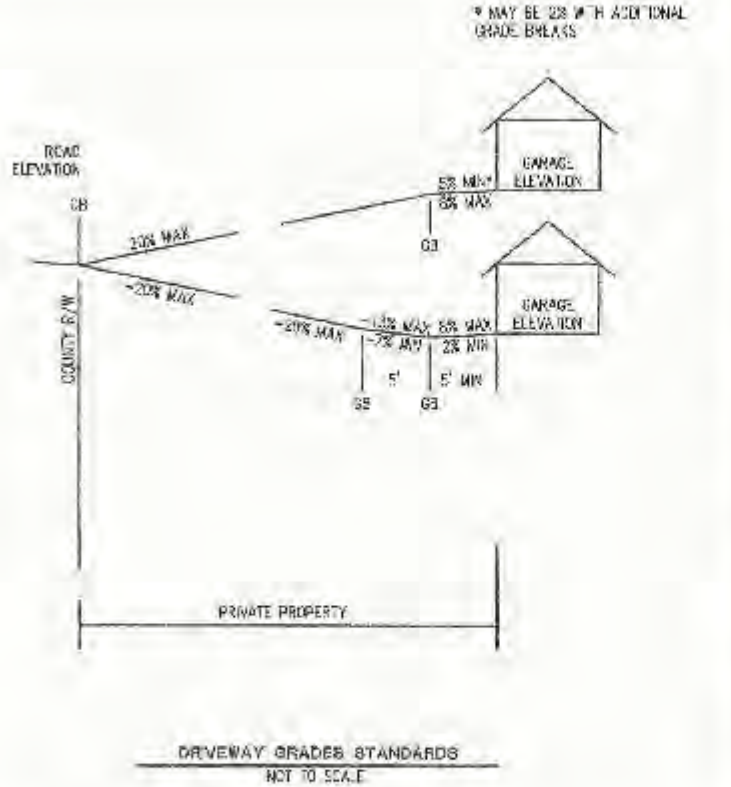
2. Any deck shall not include non fire rated composite deck material.

3. This applies to decks one story or less above natural slopes.

4. Combustible material must not be stored under the deck.

APPENDIX D


DWELLING
60' MINIMUM FROM CENTERLINE
STREAM
15
10
14
13
8
56' MINIMUM OUTSIDE PAVING
40' MIN.
ROAD
DRIVEWAY
11
9
12
TURNOUTS SHALL BE 10' WIDE (IN ADDITON TO REQUIRED DRIVEWAY WIDTH) BY 30' LONG WITH 25' MINIMUM TAPER EACH END
STREAM
DWELLING
42' MINIMUM INSIDE RADIUS
OPTIONAL BULB DETAIL
40' MINIMUM INSIDE RADIUS WHEN ENTIRE BULB IS PAVED
NOT TO SCALE
APPROVED BY:
JAMES W. MARE, P.E. NO. C61036 DATE
INTERIM DIRECTOR, EL DORADO COUNTY DEPARTMENT OF TRANSPORTATION
BOARD OF SUPERVISOR'S RESOLUTION NO.
EL DORADO COUNTY
DEPARTMENT OF TRANSPORTATION
DESIGN STANDARDS
DOT
RURAL RESIDENTIAL DRIVEWAY
STD. PLAN
RS-68
SHT 1 OF 2



DRIVEWAY GRADES STANDARDS

NOT TO SCALE

NOTES:

1. MAXIMUM 12% GRADE BREAK BETWEEN DRIVEWAY SECTIONS (I.E. AREAS IN DRIVEWAY WHERE GRADE CHANGES). ADDITIONAL GRADE BREAKS ARE ALLOWED.
2. DRIVEWAY CONNECTING TO A COUNTY MAINTAINED ROAD REQUIRES A COUNTY ISSUED ENCROACHMENT PERMIT. SEE APPLICABLE ENCROACHMENT STANDARD PLAN.
3. EACH DRIVEWAY SHALL SERVE NO MORE THAN TWO BUILDINGS WITH NO MORE THAN THREE DWELLING UNITS ON A SINGLE PARCEL AND ANY NUMBER OF ACCESSORY BUILDINGS.
4. GRADE NOT TO EXCEED 16% (DRIVEWAY GRADE MAY BE UP TO 20% WHEN PAVED). 12' WIDE MINIMUM, CENTERLINE RADIUS ON CURVES IS 50' MINIMUM. VERTICAL CLEARANCE OF 15' MINIMUM.
5. DRIVEWAY SURFACE MUST BE ALL-WEATHER AND SUPPORT 75,000 POUNDS. MINIMUM SURFACING ON 95% COMPACTED SOIL IS 6" AGGREGATE BASE. ALTERNATE SURFACING DESIGNS MAY BE PERMITTED FROM A CIVIL ENGINEER CERTIFYING THE DRIVEWAY WILL SUPPORT A 75,000 POUND LOAD AND BE ALL-WEATHER.
6. DRIVEWAYS, AT OR ABOVE ACCEPTABLE GRADES, SHALL INCLUDE PARKING AREAS AS SET FORTH IN THE COUNTY'S ZONING CODE.
7. IF IN THE TAHOE BASIN, DRIVEWAY MUST MEET TRPA REQUIREMENTS, AND THE REQUIREMENTS OF THIS STANDARD PLAN WHERE THEY DO NOT CONFLICT.
8. TURN AROUNDS SHALL BE HAMMERHEAD, "T" OR PEAR SHAPED ELLS. TURNAROUND WILL BE NO MORE THAN 50' FROM BUILDINGS WHEN DRIVEWAY EXCEEDS 300' IN LENGTH.
9. DRIVEWAYS EXCEEDING 150' IN LENGTH, BUT LESS THAN 800' IN LENGTH, SHALL PROVIDE A TURNOUT NEAR THE MIDPOINT OF THE DRIVEWAY. WHERE THE DRIVEWAY EXCEEDS 800', TURNOUTS SHALL BE PROVIDED NO MORE THAN 400' APART. TURNOUTS SHALL BE SURFACED SAME AS THE DRIVEWAY.
10. BRIDGES AND CULVERTS SHALL BE DESIGNED BY A CIVIL ENGINEER AND SHALL SUPPORT A MINIMUM LOAD OF 75,000 POUNDS. SIGNS SHALL BE POSTED ON BRIDGE WHICH INDICATE THE WEIGHT LIMIT, WIDTH AND HEIGHT RESTRICTIONS. SINGLE LANE BRIDGES REQUIRE TURNOUTS ON EACH SIDE OF THE BRIDGE.
11. GATES SHALL OPEN TO PROVIDE A CLEAR OPENING AT LEAST 2 FEET WIDER THAN THE DRIVEWAY AND NOT LESS THAN 14 FEET WIDE. GATE TO BE LOCATED 30' MINIMUM FROM THE ROAD, AND OPEN AWAY FROM THE ROAD.
12. ADDRESSES TO BE 4" HIGH WITH 3/8" STROKE WIDTH LETTERS OR NUMBERS REFLECTORIZED WITH CONTRASTING BACKGROUND AND VISIBLE FROM BOTH DIRECTIONS. MULTIPLE ADDRESSES SHALL BE ON A SINGLE POST.
13. ALL INTERSECTIONS SERVING DWELLING UNITS SHALL HAVE ADDRESS SIGNS THAT CLEARLY IDENTIFY THE LOCATION OF EACH DWELLING UNIT.
14. ADDRESS SIGNS MUST BE CLEARLY VISIBLE ABOVE SNOW HEIGHT. CONTACT THE APPLICABLE FIRE PROTECTION DISTRICT FOR SPECIFIC HEIGHT REQUIREMENTS.
15. FIRE APPARATUS SPACE SHALL BE LOCATED NEXT TO FIRE HYDRANTS, STANDPIPES OR WATER SUPPLY APPLIANCES.
16. VARIATIONS TO THIS STANDARD MAY ONLY BE APPROVED BY THE FIRE PROTECTION DISTRICT HAVING JURISDICTION.

APPROVED BY:

JAMES W. WARE, P.E. NO. C61033 DATE
INTERIM DIRECTOR, EL DORADO COUNTY DEPARTMENT OF TRANSPORTATION

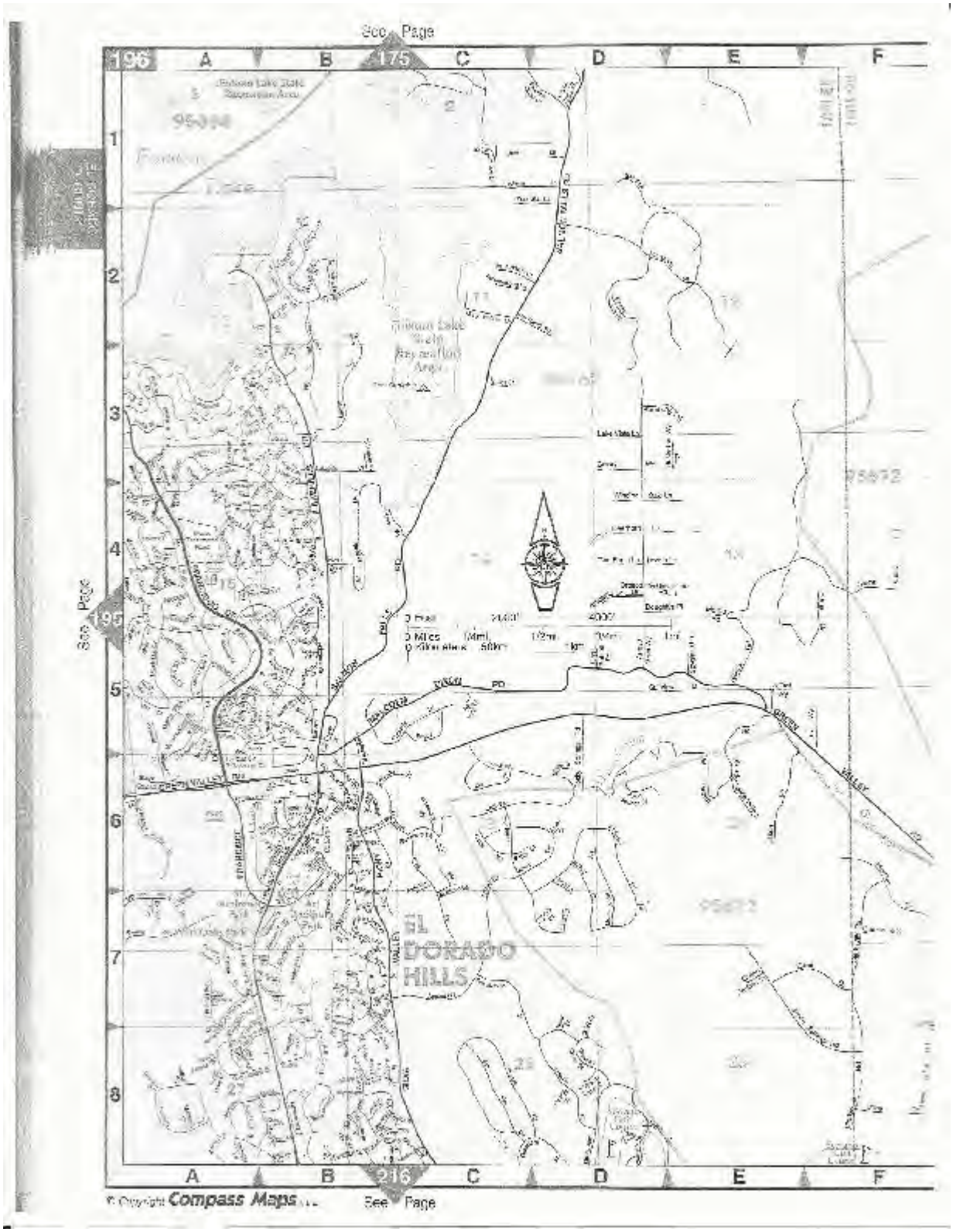
BOARD OF SUPERVISORS RESOLUTION NO. _____

EL DORADO COUNTY
DEPARTMENT OF TRANSPORTATION
DESIGN STANDARDS

RURAL RESIDENTIAL DRIVEWAY

STD. PLAN
RS-68
SHT 2 OF 2

18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EL DORADO HILLS
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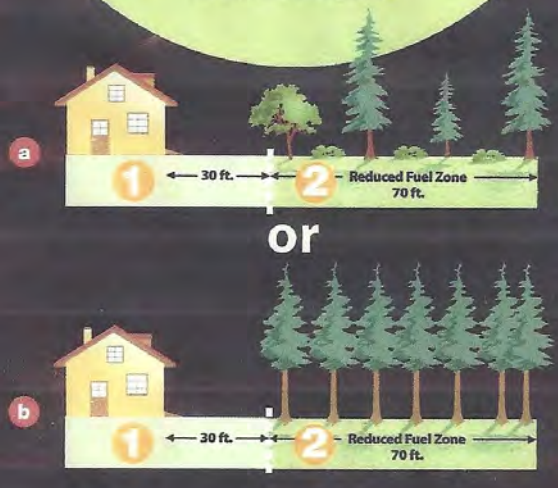
THE VINEYARDS AT EL DORADO HILLS

The Vineyards Phases

CAL FIRE GUIDELINE

100' DEFENSIBLE SPACE

Make Your Home FIRE SAFE



Contact your local CDF office, fire department, or Fire Safe Council for tips and assistance.

www.fire.ca.gov

Why 100 Feet?

Following these simple steps can dramatically increase the chance of your home surviving a wildfire!

A **Defensible Space** of 100 feet around your home is required by law.[1] The goal is to protect your home while providing a safe area for firefighters.

1 "Lean, Clean and Green Zone"

– Clearing an area of 30 feet immediately surrounding your home is critical. This area requires the greatest reduction in flammable vegetation.

2 "Reduced Fuel Zone."

– The fuel reduction zone in the remaining 70 feet (or to property line) will depend on the steepness of your property and the vegetation.

Spacing between plants improves the chance of stopping a wildfire before it destroys your home. You have two options in this area:

a. Create horizontal and vertical spacing between plants. The amount of space will depend on how steep the slope is and the size of the plants.

b. Large trees do not have to be cut and removed as long as all of the plants beneath them are removed. This eliminates a vertical "fire ladder."

When clearing vegetation, use care when operating equipment such as lawnmowers. One small spark may start a fire; a string trimmer is much safer.

Remove all build – up of needles and leaves from your roof and gutters. Keep tree limbs trimmed at least 10 feet from any chimneys and remove dead limbs that hang over your home or garage. The law also requires a screen over your chimney outlet of not more than ½ inch mesh.

1. These regulations affect most of the grass, brush, and timber-covered private lands in the State. Some fire departments jurisdictions may have additional requirements. Some activities may require permits for tree removal. Also, some activities may require special procedures for, 1) threatened and endangered species, 2) avoiding erosion, and 3) protection of water quality. Check with local officials if in doubt. Current regulations allow an insurance company to require additional clearance. The area to be treated does not extend beyond your property. The State Board of Forestry and Fire Protection has approved Guidelines to assist you in complying with the new law. Contact your local CDF office for more details.

April 2006

State of California
Department of Forestry and Fire Protection

NOTICE OF
FIRE HAZARD INSPECTION

A fire department representative has inspected your property for fire hazards. You are hereby notified to correct the violation(s) indicated below.

Failure to correct these violations may result in a citation and fine.

Occupant:	Physical Address:	Phone #:

Occupant Not Home: 1st Attempt: ___/___/___	Occupant Not Home: 2nd Attempt: ___/___/___	Refused Inspection: ___/___/___	For Questions, Contact Inspector at: (_____) -

Roof Construction Combustible/Non-Combustible	Exterior Siding Combustible/Non-Combustible	Window Panes Single Pane/Multi-Pane	Eaves Enclosed/Unenclosed	Decks or Porches Masonry/Composite/Wood	Location of Structure Flat Ground/Slope/Ridge Top

Checked boxes indicate violations.

Corrected		
	2 3	**Defensible Space Zone (within 30 feet of all structures or to property line):**
	2 3	A. Remove all branches within 10 feet of any stovepipe or chimney outlet. PRC §4291(a)(4)
	2 3	B. Remove leaves, needles or other vegetation on roofs, gutters, decks, porches and stairways etc. PRC §4291(a)(6)
	2 3	C. Remove all dead or dying trees, branches, shrubs or other plants adjacent to or overhanging buildings. PRC §4291(a)(5)
	2 3	D. Prune lower branches of trees to a height of 6 to 15 feet (or 1/3 tree height for trees under 18 feet). PRC §4291(a)(1)
	2 3	E. Remove all dead or dying grass, leaves, needles or other vegetation. PRC §4291(a)(1)
	2 3	F. Remove or separate live flammable ground cover and shrubs. PRC §4291(a)(1)
		Reduced Fuel Zone (within 30 - 100 feet of all structures or to property line):
	2 3	G. Mow dead or dying grass to a maximum of 4 inches in height. Trimmings may remain on the ground. PRC §4291(a)(1)
	2 3	H. Live flammable ground cover less than 18 inches in height may remain, but overhanging and adjacent trees must be pruned to a height of 6 to 15 feet. PRC §4291(a)(1)
	2 3	I. Reduce fuels in accordance with the Continuous Tree Canopy Standard (see back). PRC §4291(a)(1)
	2 3	J. Reduce fuels in accordance with the Horizontal Spacing Standard (see back). PRC §4291(a)(1)
		Defensible and Reduced Fuel Zone (within 100 feet of all structures or to property line):
	2 3	K. Logs or stumps embedded in the soil must be removed or isolated from structures and other vegetation. PRC §4291(a)(1)
	2 3	L. Remove all dead or dying brush and trees, and all dead or dying tree branches within 15 feet of the ground. PRC §4291(a)(1)
		Other Requirements:
	2 3	M. Clear all flammable vegetation, trash and other combustible materials 10 feet around and above propane tanks. CFC §3807.3
	2 3	N. Address numbers shall be displayed in contrasting colors (4" Min. Size) and readable from the street or access road. CFC §505.1
	2 3	O. Equip chimney or stovepipe openings with a metal screen having openings between 3/8 inch and 1/2 inch. CBC §2113.9.1

Recommendations:

- ☐ Clear 10 feet around and 15 feet above fuels (e.g. Woodpiles, lumber, scrap etc.). Move woodpiles as far as possible from structures.
- ☐ Remove flammable materials stored under decks and similar overhangs of structures.
- ☐ Clear vegetation 10 feet from sides and 15 feet above all driveways and turnaround areas.

☐ **No violations observed.**

Comments: _____

Additional Information on Back

1. Inspector: _____ Date: ___/___/___ A re-inspection will occur on/after: ___/___/___
2. Inspector: _____ Date: ___/___/___ A re-inspection will occur on/after: ___/___/___
3. Inspector: _____ Date: ___/___/___

Form LE-100 (2/11)

(White-Inspector, Canary-1st to Occupant, Pink-2nd to Occupant, Gold-3rd to Occupant)

APPENDIX G.2

Vineyards at El Dorado Hills Fire Department Consultation Letter

EL DORADO HILLS
FIRE DEPARTMENT

"Serving the Communities of El Dorado Hills, Rescue and Latrobe"

October 22, 2015

Olga Sciorelli
CTA Engineering and Surveying
3233 Monier Circle
Rancho Cordova, CA 95742

Re: **VINEYARDS AT EL DORADO HILLS - APN 126-100-24**

Dear Mrs. Sciorelli:

The potable water system with the purpose of fire protection for this residential development shall provide a minimum fire flow of 1,000 gallons per minute with a minimum residual pressure of 20 psi for a two-hour duration. This requirement is based on a structure 6,200 square feet or less in size, Type V-B construction. All structures shall be fire sprinklered in accordance with NFPA 13D and Fire Department requirements. This fire flow rate shall be in excess of the maximum daily consumption rate for this development. A set of engineering calculations reflecting the fire flow capabilities of this system shall be supplied to the Fire Department for review and approval.

This development shall install Mueller Dry Barrel fire hydrants or any other hydrant as approved by the El Dorado Irrigation District. This conforms to El Dorado Irrigation District specifications for the purpose of providing water for fire protection. The spacing between hydrants for this development shall not exceed 500 feet. The exact location of each hydrant shall be determined by the Fire Department.

If you have any additional questions regarding these comments please do not hesitate to contact me at 916-933-6623.

Sincerely,

EL DORADO HILLS FIRE DEPARTMENT

Michael Lilienthal
Division Chief/Fire Marshal

1050 Wilson Boulevard El Dorado Hills, California 95762 ▪ Telephone (916) 933-6623 Fax (916) 933-5983 www.edhfire.com

APPENDIX G.3

Septic Feasibility Study

SEPTIC FEASIBILITY STUDY
For
THE VINEYARDS AT EL DORADO HILLS
EL DORADO HILLS, EL DORADO COUNTY, CALIFORNIA

Prepared by:

Youngdahl Consulting Group, Inc.
1234 Glenhaven Court
El Dorado Hills, California 95762

Prepared For:

Omni Financial
1260 41st Ave., Suite O
Capitola, California 95010

Project No. E15193.000
4 November 2015
Revised 7 June 2017

YOUNGDAHL
CONSULTING GROUP, INC.
Building Innovative Solutions

YOUNGDAHL CONSULTING GROUP, INC.
Building Innovative Solutions
1234 Glenhaven Court, El Dorado Hills, CA 95762
4300 Anthony Court, Unit D, Rocklin, CA 95677
ph 916.933.0633 fx 916.933.6482
www.youngdahl.net
30 YEARS

Omni Financial
1260 41st Avenue, Suite O
Capitola, California 95010

Project No. E15193.000
4 November 2015
Revised 7 June 2017

Attention: Mr. Martin Boone

Subject: **THE VINEYARDS AT EL DORDO HILLS**
El Dorado Hills, El Dorado County, California
Septic Feasibility Study

Reference:
1) El Dorado County Ordinance Private Sewage Disposal Systems (Ordinance 4542), El Dorado County Department of Health Environmental Health Branch, 1999.
2) El Dorado County Resolution No. 259-99, Design Standards for the Site Evaluation and Design of Sewage Disposal Systems, El Dorado County Department of Health Environmental Health Branch, 27 May 1987.
3) Soil Survey of El Dorado Area, California, United States Department of Agriculture Soil Conservation Service and Forest Service, April, 1974.
4) Loyd, R.C., (1984), Mineral Land Classification of the Folsom 15 Minute Quadrangle, Sacramento, El Dorado, Placer, and Amador Counties, California@, DMG Open File Report 84-50, California Department of Conservation, Division of Mines and Geology.

Dear Mr. Boone,

With your authorization, Youngdahl Consulting Group, Inc. (Youngdahl) has completed a septic feasibility study for The Vineyards at El Dorado Hills, a proposed residential development project located north of Malcolm Dixon Road in El Dorado Hills, El Dorado County, California. The subject property is assigned the El Dorado County Assessors Parcel Number (APN): 126-100-24-10. This report presents the results of a septic feasibility investigation performed by Youngdahl, which includes percolation test data and our recommendations as to the feasibility of onsite wastewater disposal.

Very truly yours,
Youngdahl Consulting Group, Inc.

David C. Sederquist, C.E.G., C.HG.
Senior Engineering Geologist/Hydrogeologist

TABLE OF CONTENTS

THE VINEYARDS AT EL DORADO HILLS
SEPTIC FEASIBILITY STUDY
MALCOLM DIXON ROAD, EL DORADO HILLS, CALIFORNIA

1.0 PURPOSE AND SCOPE

With authorization of Mr. Martin Boone of Omni Financial, Youngdahl Consulting Group, Inc. (Youngdahl) has completed a septic feasibility study for The Vineyards at El Dorado Hills, El Dorado County and designated Assessors Parcel Number (APN) 126-100-24-10. The subject property is located on the north side of Malcolm Dixon Road approximately 3/4-mile east of the intersection of Salmon Falls Road and Malcolm Dixon Road in El Dorado Hills, El Dorado County, California (Figure 1). The property is proposed for subdivision into 42 single-family residential lots situated on approximately 113.11-acres. The purpose of this study was to evaluate onsite soils, the near surface geology, and the feasibility of an onsite wastewater disposal. The scope of this study included performing the excavation of ten (10) test pits and six (6) percolation tests. This study was conducted with adherence to the El Dorado County Ordinance – *Private Sewage Disposal Systems (Ordinance 4542)* and El Dorado County Resolution No. 259-99, *Design Standards for the Site Evaluation and Design of Sewage Disposal Systems*.

2.0 SITE DESCRIPTION

The site is currently undeveloped land and encompasses approximately 113.11-acres within an "L" shaped property (Figure 2). This site is accessed off of Malcolm Dixon Road approximately 1-mile east of the intersection of Salmon Falls Road and Malcolm Dixon Road. Vegetation on the property is predominantly open oak woodland with grassland on gently rolling terrain. The project is dominated by three westerly flowing seasonal drainages. Ground elevations range from approximately 705 feet above mean sea level (MSL) on the southwest corner to 862 feet above MSL on the northeast corner of the property.

3.0 SOILS AND GEOLOGY

3.1 SOILS

The soils on the project site are derived from the underlying weathered rock formations. The soils research consisted of accessing the online soils data available from the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) for the El Dorado Area (1974) (Reference 3). The soil and completely weathered rock interface was encountered at depths ranging from 1.5 to 2.5-feet below ground surface (bgs) in the test pits. According to the Soil Survey of the El Dorado Area, the site is underlain mostly by one soil series, the Auburn very rocky silt loam. This soil type is mapped on the site as three variants: mostly Auburn very rocky silt loam, 2 to 30 percent slopes (AxD) and minor amounts of Auburn very rocky silt loam, 30 to 50 percent slopes (AxE) along with minor amounts of Auburn silt loam, 2 to 30 percent slopes (AwD).

3.1.1 Auburn Very Rocky Loam, AxD Soils

The Auburn very rocky loam, 2 to 30 percent slopes (AxD) is mapped over the majority of the site, and is characterized as moderately permeable, occurring on gently sloping to moderately steep areas with 5 to 25 percent bedrock cover.

3.1.2 Auburn Very Rocky Silt Loam, AxE Soils

The Auburn very rocky silt loam, 30 to 50 percent slopes (AxE) occurs on the site in a drainage on the northwest corner of the property and is typically found on slopes that drop into creek channels and drainage ways.

3.1.3 Auburn Silt Loam, AwD

The Auburn silt loam, 2 to 30 percent slopes (AwD) is mapped over a small area of the site and is characterized as well-drained, occurring on gently sloping areas with 3 percent bedrock cover.

3.2 GEOLOGY

The site is located on the western margin of the Sierra Nevada geomorphic province of California. The western margin of the Sierra Nevada is characterized by northwest trending, fault bounded metamorphic belts. The site is underlain by pre-Jurassic age, metavolcanic rocks of Foothill Mélange-Ophiolite Terrane, which is described as a chaotic assemblage of rocks of various lithologies and ages within the Sierra Nevada foothills (Reference 4).

3.2.1 Subsurface Exploration

Ten (10) exploratory test pits, designated TP-1 through TP-10, were excavated on 17 September 2015 using a John Deere 410 G backhoe with a 24-inch bucket, under the supervision of a Youngdahl Professional Geologist. As the excavation proceeded, the sidewalls were logged using the Standard Practice for Subsurface Characterization of Test Pits for On-site Septic Systems (ASTM D 5921-96), which primarily follows the USDA, Soil Conservation Service (SCS) soil classification system. The test pits were backfilled with the native material, following the completion of the percolation tests, on 21 September 2015.

The test pits completed for this investigation encountered relatively similar soil conditions. Soils encountered during the exploration included sandy LOAM (sl) to depths of between 1.0 and 1.5 feet below ground surface (bgs). Highly weathered metavolcanic BEDROCK was encountered from the near surface soil layer to the total depth explored for each test pit. Roots were observed from depths of approximately 2 to 4 feet bgs. Groundwater was not encountered during our explorations. A more detailed description of the subsurface conditions encountered is presented graphically on the “Exploratory Test Pit Logs”, Figures 4 through 14.

4.0 PERCOLATION TESTING

Percolation tests for nine (9) of the ten (10) test pits were performed on 18 and 21 of September 2015, and on 15 and 16 of October 2015. Testing was performed with adherence to the El Dorado County Ordinance - *Private Sewage Disposal Systems* (Ordinance 4542) and El Dorado County Resolution No. 259-99, *Design Standards for the Site Evaluation and Design of Sewage Disposal Systems.* Procedures and results for the percolation tests are presented below.

4. 1 Testing Procedures

Four (4) percolation test holes per test pit were dug using a 9-inch diameter auger attachment on a John Deere 410 G backhoe, following the excavation of the test pits, to depths of approximately 12- inches below the test pit bottom. A 6-inch diameter perforated Schedule 40 PVC percolation stand was placed in each test hole. The stand was seated in a bed of pea gravel that was also placed in the annulus between the soil and PVC to stabilize the percolation stand. A float integrated with a graduated scale (in inches) was used to measure water-level drops during the percolation test. Each test hole was filled with water to begin percolation testing. The depth of the test holes ranged from 24 to 49-inches bgs.

4.2 Testing Results

Percolation tests were conducted on 18 and 21 September 2015. Four (4) test holes were dug at each percolation test pit location at depths below ground surface ranging from 24- to 39-inches. Percolation hole diameters ranged between 9 and 10-inches wide. The percolation rates (averaged for each test pit) ranged from 12 minutes per inch (mpi) in TP-9 to 77 mpi in TP-3. Percolation testing data, including individual test hole rates, individual test hole depths, and averaged test pit rates are presented in Table 1 (below). Percolation test data and graphs for each percolation test have been included in Appendix A.

Table 1 - Percolation Test Data
The Vineyards at El Dorado Hills Septic Feasibility
Malcolm Dixon Road
El Dorado Hills, California

Test Pit No.	Testing Date	Test Pit Elevation[1] (feet MSL)	Test Hole #1 Rate[2] (Depth in Inches)	Test Hole #2 Rate[2] (Depth in Inches)	Test Hole #3 Rate[2] (Depth in Inches)	Test Hole #4 Rate[2] (Depth in Inches)	Average Test Pit Rate (mpi)	New Lot Minimum Disposal Area[3] (sq. ft.)
TP-1	9/21/2015	834	31 (24)	51 (24)	50 (29)	105 (33)	59	12,000
TP-2	10/15/2015	803	98 (29)	22 (27)	16 (27)	38 (28)	43	12,000
TP-3	9/21/2015	848	33 (27)	48 (36)	55 (36)	174 (39)	77	14,000
TP-4	9/18/2015	813	30 (24)	36 (27)	39 (28)	45 (28)	37	10,000
TP-5	9/21/2015	745	17 (24)	25 (24)	24 (25)	35 (25)	25	10,000
TP-6	9/21/2015	785	18 (26)	25 (24)	19 (26)	29 (28)	23	10,000
TP-8	9/21/2015	740	13 (26)	25 (24)	25 (26)	43 (28)	26	10,000
TP-9	10/16/2015	723	13 (25)	5 (30)	17 (24)	11 (36)	12	8,000
TP-10	10/16/2015	820	24 (25)	3 (30)	27 (24)	7 (36)	15	8,000

Notes:
1. Elevations are approximate
2. In minutes per inch
3. Disposal area data taken from El Dorado County Land Capability Manual
mpi - Minutes Per Inch
MSL - Mean Sea Level

5.0 CONCLUSIONS AND RECOMMENDATIONS

Each of the nine (9) percolation tests was successful. Overall, no significant variations in soil subsurface conditions were found across the site. The weathered bedrock conditions were also similar in terms of rock type, but varied somewhat in degree of induration. One test pit (TP-9) had slightly more indurated bedrock conditions and resulted in equipment refusal prior to reaching the required depth to meet El Dorado County minimum requirements. Hence, this test pit is not suitable for fully characterizing onsite wastewater disposal areas. However, we

anticipate that with additional effort, the minimum 8-foot confirmation depth could be reached and the near surface soils/weathered bedrock appeared to be similar to the other nine test pits, so would more than likely be suitable for onsite wastewater disposal.

We anticipate that subsurface conditions and percolation characteristics across the site will be consistent with those observed in the current study. While each of the test pits for this study were sited to avoid slope and drainage swale constraints, other constraints and setbacks for onsite disposal sites were not a part of this scope of work, and should be considered for future lot layouts.

Parcel map boundaries for the site are being developed based on numerous constraints, including but not limited to onsite wastewater disposal feasibility. At some point in the feasibility process a definitive map showing potential parcels will be developed. Additional mantle tests and percolation testing will be required by the El Dorado County Department of Environmental Management to validate the parcel layout for a new tentative map.

Based on our study, the additional exploration should be completed prior to filing of the Final Map to locate suitable disposal areas in order to demonstrate the feasibility of on-site wastewater disposal for lots not covered during the original exploration. Existing wells may need to be destroyed to eliminate adverse setbacks. However, it is our opinion that it is most likely that a significant number of lots using onsite wastewater disposal are feasible for this project.

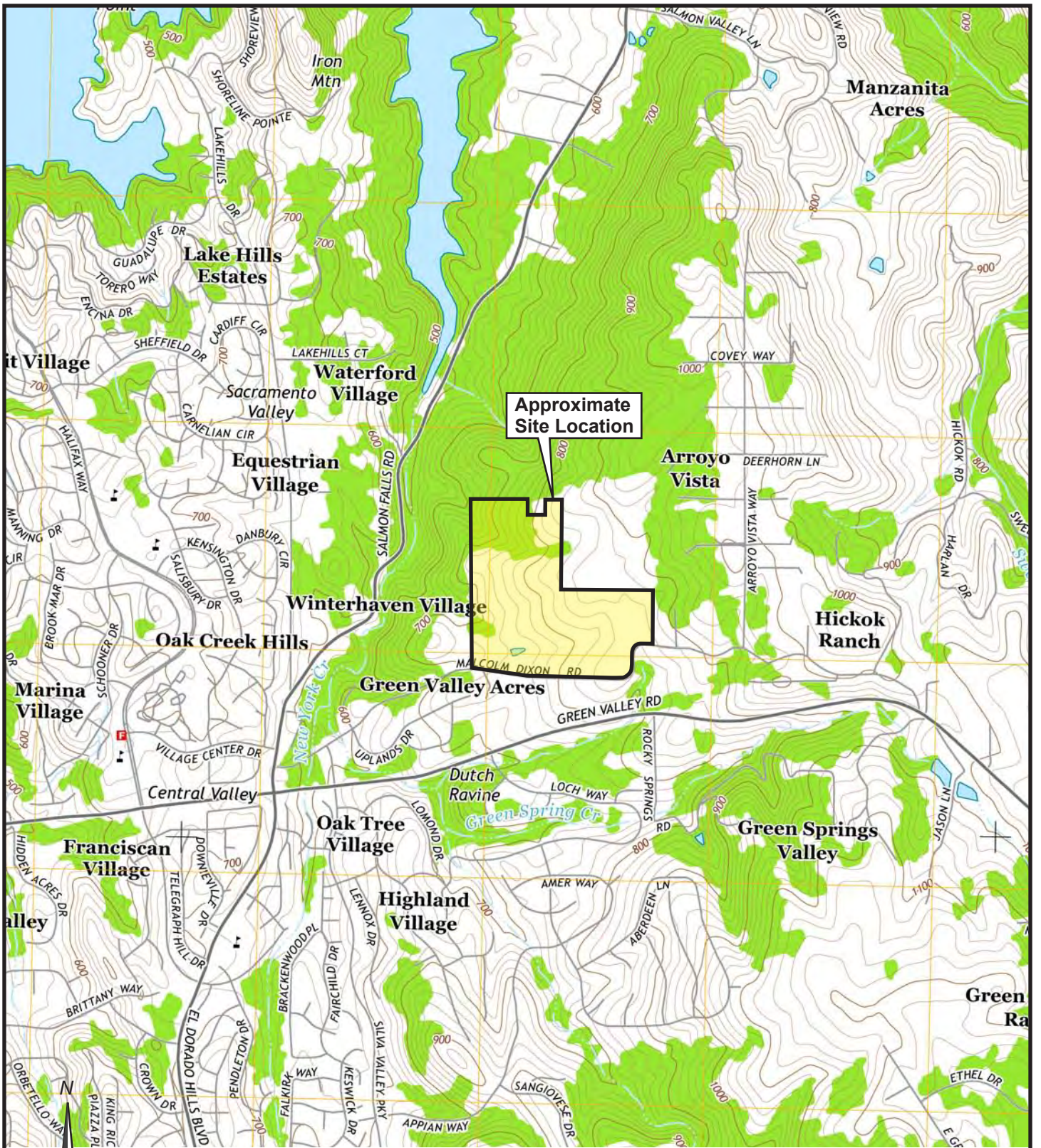
6.0 LIMITATIONS AND UNIFORMITY OF CONDITIONS

This report has been prepared for the exclusive use of Omni Financial for specific application to The Vineyards at El Dorado Hills project. Youngdahl Consulting Group, Inc. has endeavored to comply with generally accepted environmental geologic practice common to the local area. Youngdahl Consulting Group, Inc. makes no other warranty, express or implied.

As of the present date, the findings of this report are valid for the property studied. With the passage of time, changes in the conditions of a property can occur whether they are due to natural processes or to the works of man on this or adjacent properties. Legislation or the broadening of knowledge may result in changes in applicable standards. Changes outside of our control may cause this report to be invalid, wholly or partially. Therefore, this report should not be relied upon after a period of three years without our review nor should it be used or is it applicable for any properties other than those studied. Note that Youngdahl Consulting Group, Inc. is not responsible for any claims, damages, or liability associated with any other party's interpretation of this report's subsurface data or reuse of this report's subsurface data or environmental geologic analyses without the express written authorization of Youngdahl Consulting Group, Inc.

The analyses and recommendations contained in this report are based on limited windows into the subsurface conditions and data obtained from subsurface exploration. The methods used only directly indicate subsurface conditions at the specific locations where testing was performed, only directly at the time they were tested, and only directly to the depths penetrated.

FIGURES



Scale: 1:24,000

BASE MAP REFERENCE: *U.S.G.S. 7.5 Minute Topographic Series, Clarksville Quadrangle, Dated 2015*

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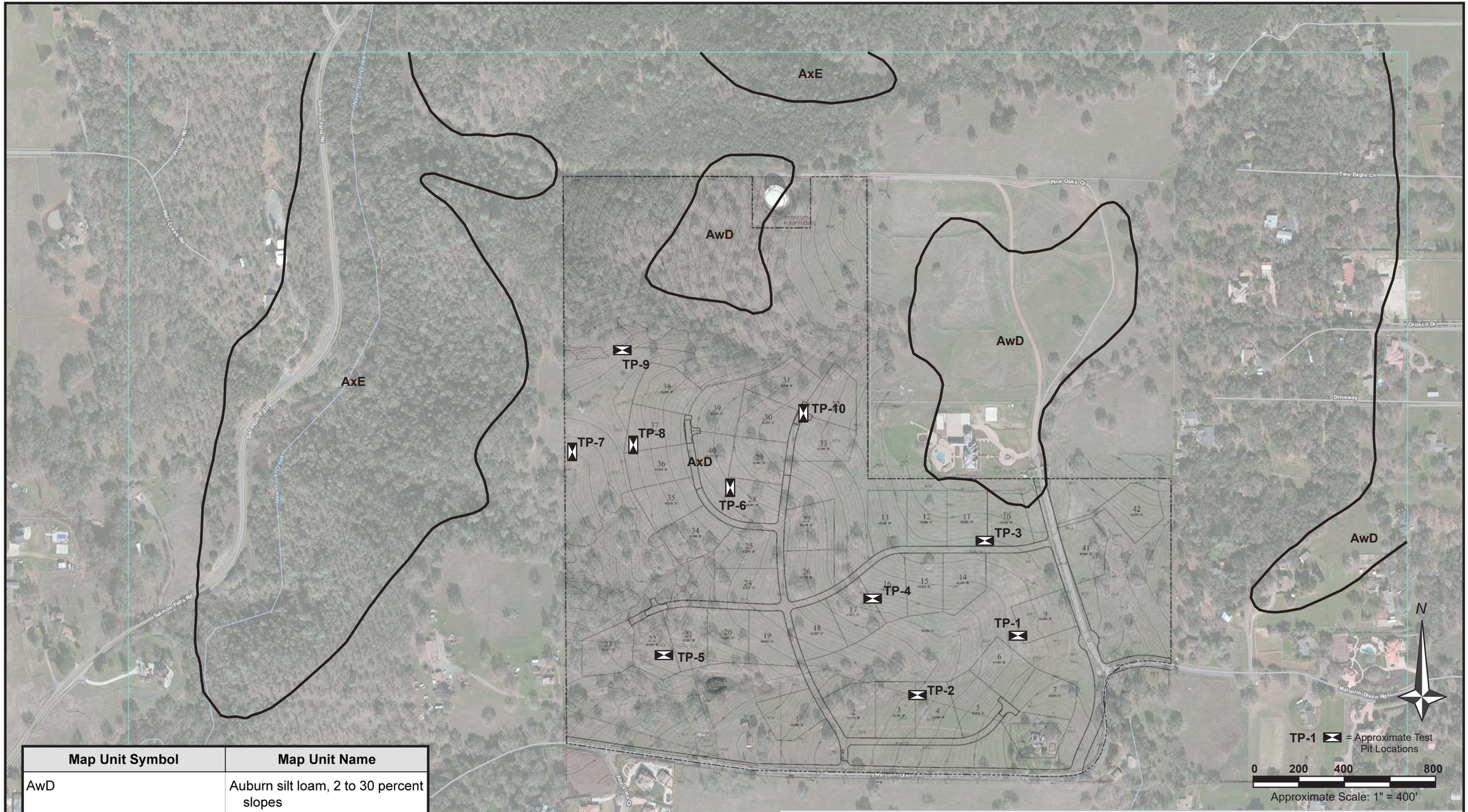
VICINITY MAP

The Vineyards At El Dorado Hills
El Dorado Hills, California

FIGURE 1



Map Unit Symbol	Map Unit Name
AwD	Auburn silt loam, 2 to 30 percent slopes
AxD	Auburn very rocky silt loam, 2 to 30 percent slopes
AxE	Auburn very rocky silt loam, 30 to 50 percent slopes

BASE MAP REFERENCE: *United States Department of Agriculture, Natural Resources Conservation Service, A Custom Soil Resource Report for El Dorado Area, California, Overlay Map Provided By Client*

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SITE PLAN WITH SOILS MAP

The Vineyards At El Dorado Hills
El Dorado Hills, California

FIGURE 2

N

TP-1 = Approximate Test Pit Locations

0 100 200 400

Approximate Scale: 1" = 200'

BASE MAP REFERENCE: *Map Provided By Client*

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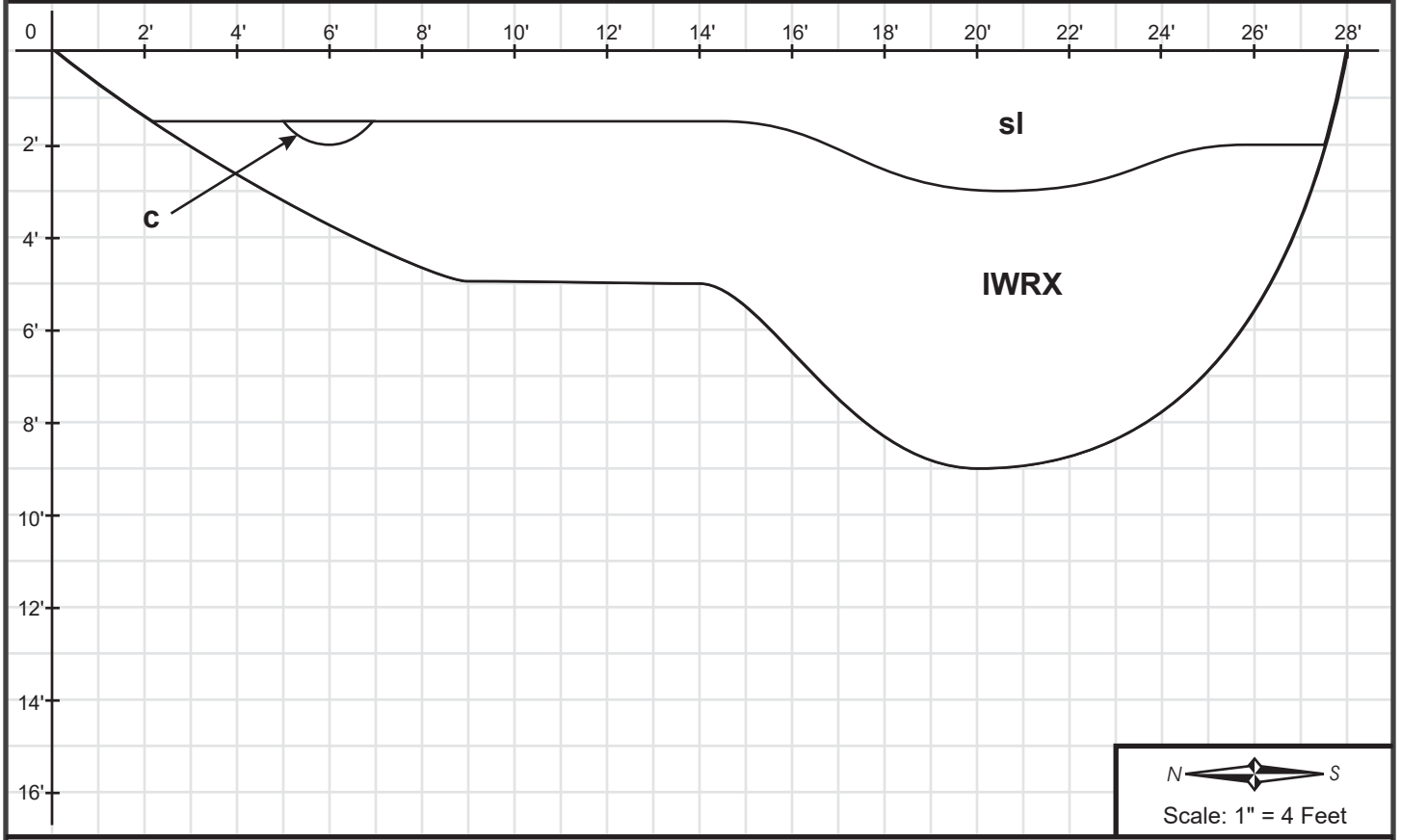
PROPOSED DISPOSAL AREAS
The Vineyards At El Dorado Hills
El Dorado Hills, California

FIGURE 3

Logged By: **DCS**	Date: **17 September 2015**	Lat / Lon: **N38.71622 / W121.06156**	Pit No. **TP-1**
Equipment: **John Deere 410 G With 24" Bucket**		Pit Orientation: **0°** / Elevation: **~ 834'**	

Depth (Feet)	USDA Classification	Sample	Tests & Comments
@ 0 - 1.5'	Reddish brown (5YR 4/4) **SANDY LOAM, (sl)**, no redoximorphic features, medium granular structure, many coarse interstitial pores, friable, non-plastic, non-sticky, few medium roots, diffuse wavy boundary, dry		
@ 1.5' - 9'	Light gray green, **INTENSELY WEATHERED ROCK (IWRX)**, highly to completely weathered, few red brown and black redoximophic concentrations on fractures, blocky no pores, friable to firm, non-plastic, non-sticky, no roots, dry. Occasional pockets of olive green **CLAY (c)**, stiff, plastic, dry		
	Test pit terminated at 9' No free groundwater encountered No caving noted		



Note: The test pit log indicates subsurface conditions only at the specific location and time noted. Subsurface conditions, including groundwater levels, at other locations of the subject site may differ significantly from conditions which, in the opinion of Youngdahl Consulting Group, Inc., exist at the sampling locations, Note, too, that the passage of time may affect conditions at the sampling locations.

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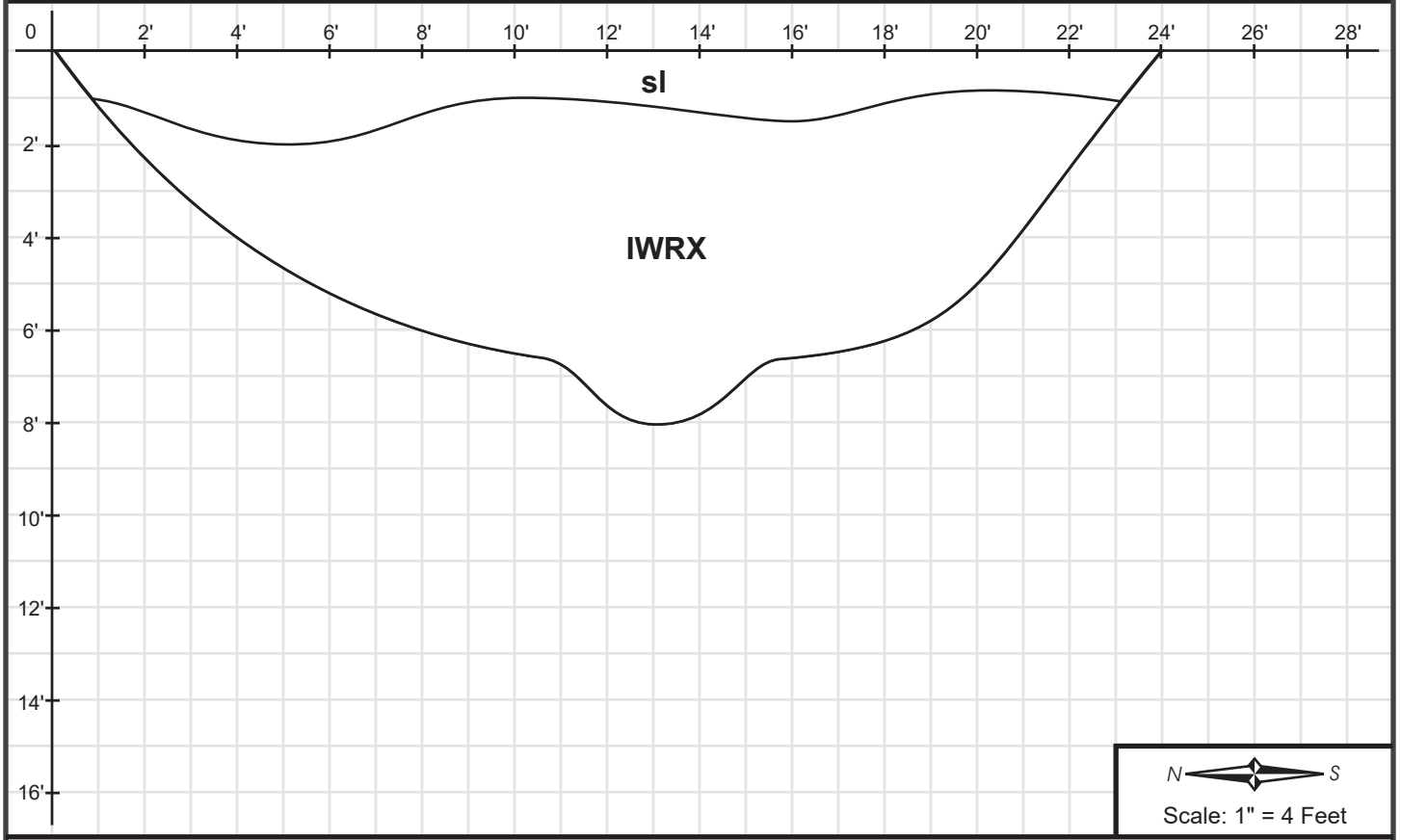
EXPLORATORY TEST PIT LOG

The Vineyards At El Dorado Hills
El Dorado Hills, California

FIGURE 4

Logged By: **DCS**	Date: **17 September 2015**	Lat / Lon: **N38.17558 / W121.06322**		Pit No. **TP-2**
Equipment: **John Deere 410 G With 24" Bucket**		Pit Orientation: **35°**	Elevation: **~ 803'**	

Depth (Feet)	USDA Classification	Sample	Tests & Comments
@ *0 - 1'*	Reddish brown (5YR 5/4) **SANDY LOAM, (sl)**, no redoximorphic features, medium granular structure, many medium interstitial pores, friable, non-plastic, non-sticky, common fine roots, gradual wavy boundary, dry		
@ *1' - 8'*	Gray brown, **INTENSELY WEATHERED ROCK (IWRX)**, highly to completely weathered, few red brown and black redoximorphic concentrations on fractures, blocky, no pores, friable to firm, non-plastic, non-sticky, no roots, dry		
	Test pit terminated at 8' No free groundwater encountered No caving noted		



Note: The test pit log indicates subsurface conditions only at the specific location and time noted. Subsurface conditions, including groundwater levels, at other locations of the subject site may differ significantly from conditions which, in the opinion of Youngdahl Consulting Group, Inc., exist at the sampling locations, Note, too, that the passage of time may affect conditions at the sampling locations.

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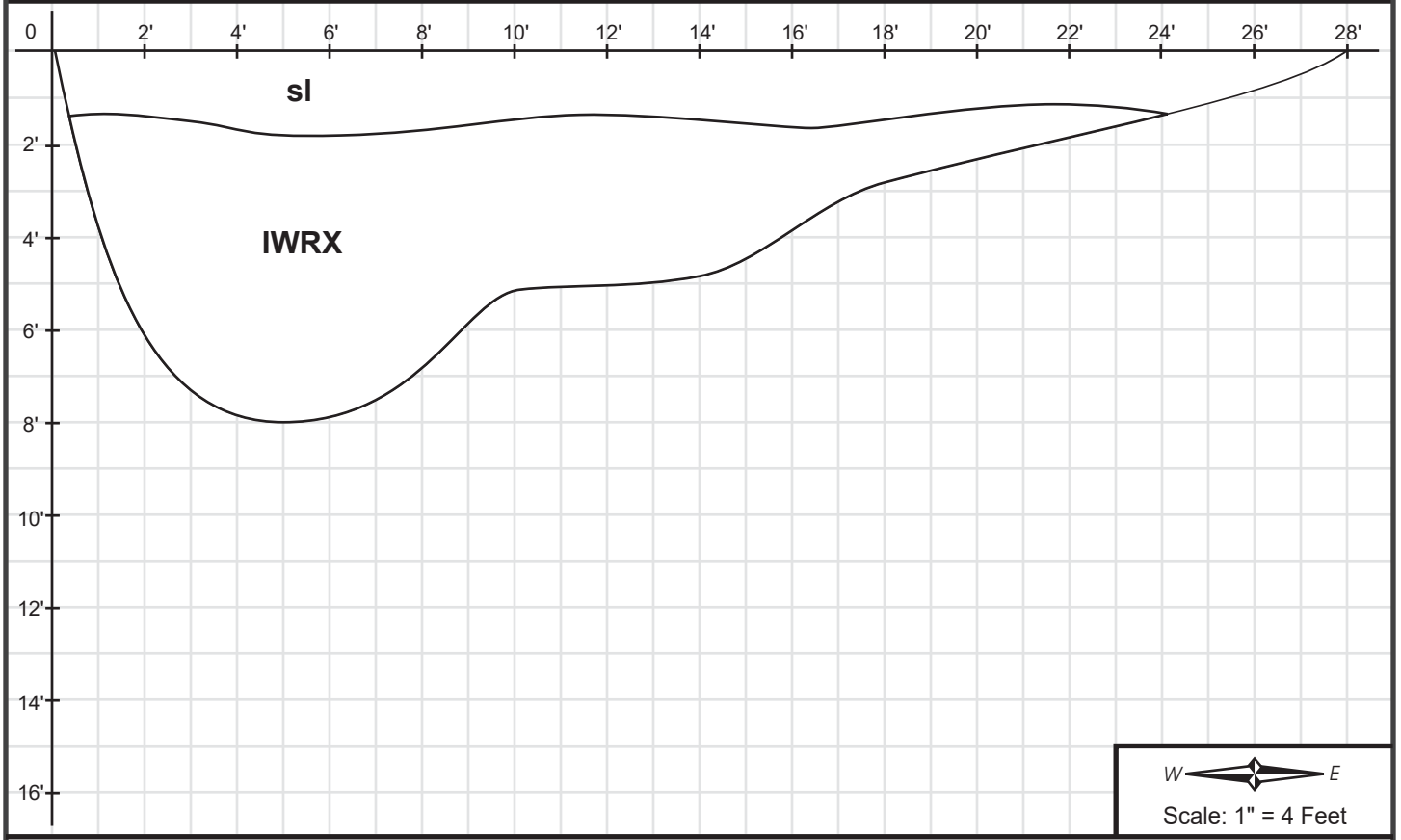
EXPLORATORY TEST PIT LOG

The Vineyards At El Dorado Hills
El Dorado Hills, California

FIGURE 5

Logged By: **DCS**	Date: **17 September 2015**	Lat / Lon: **N38.71751 / W121.06211**		Pit No. **TP-3**
Equipment: **John Deere 410 G With 24" Bucket**		Pit Orientation: **67°**	Elevation: **~ 848'**	

Depth (Feet)	USDA Classification	Sample	Tests & Comments
@ 0 - 1.5'	Reddish brown (5YR 4/3) **SANDY LOAM, (sl)**, 10% gravel, no redoximorphic features, fine granular structure, few fine interstitial pores, friable, non-plastic, non-sticky, few fine roots, diffuse irregular boundary, dry to moist		
@ 1.5' - 8'	Gray green, **INTENSELY WEATHERED ROCK (IWRX)**, highly to completely weathered, few red brown and black redoximorphic concentrations on fractures, blocky, no pores, friable to firm, non-plastic, non-sticky, no roots, dry to moist		
	Test pit terminated at 8' No free groundwater encountered No caving noted		



Note: The test pit log indicates subsurface conditions only at the specific location and time noted. Subsurface conditions, including groundwater levels, at other locations of the subject site may differ significantly from conditions which, in the opinion of Youngdahl Consulting Group, Inc., exist at the sampling locations, Note, too, that the passage of time may affect conditions at the sampling locations.

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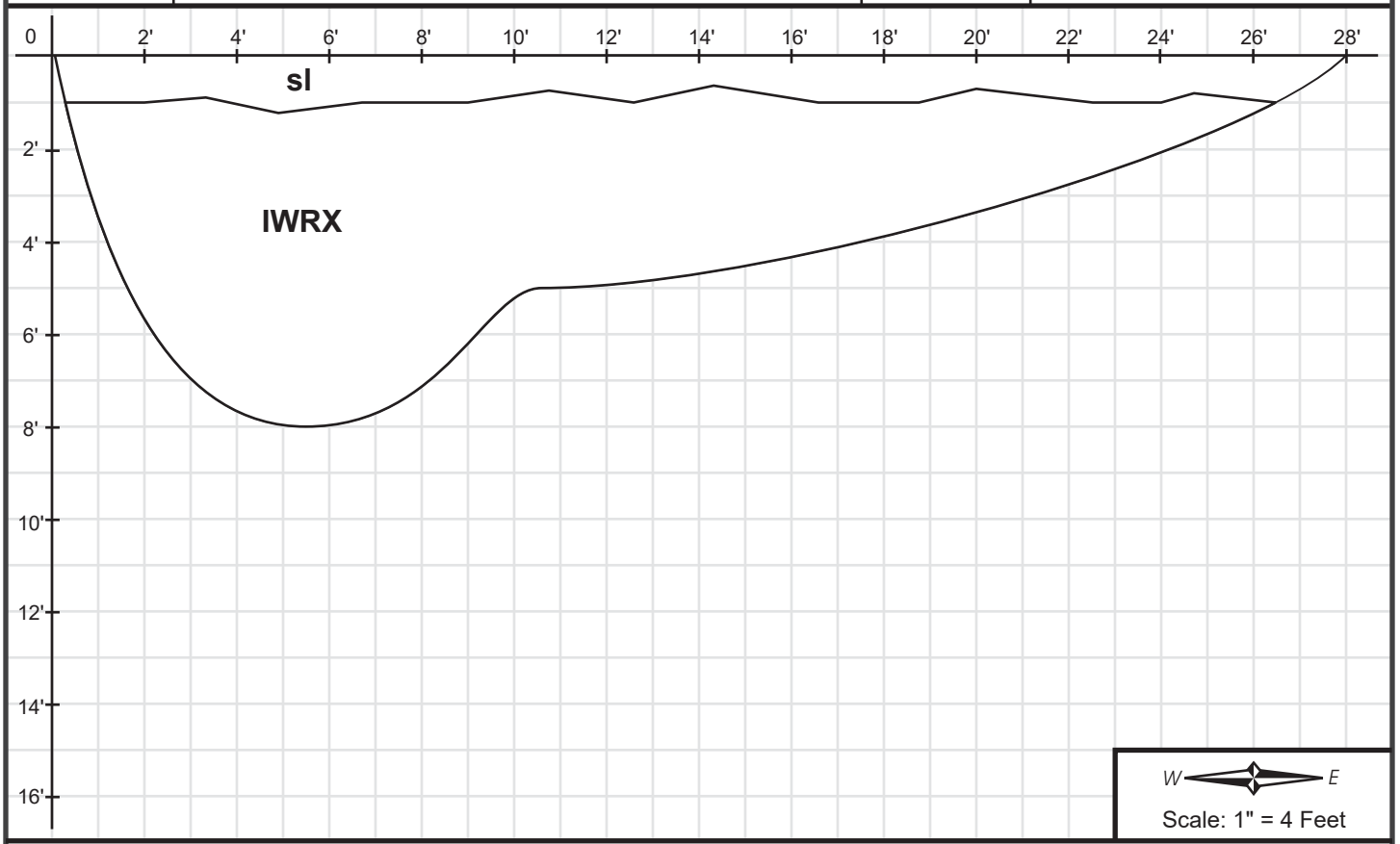
EXPLORATORY TEST PIT LOG

The Vineyards At El Dorado Hills
El Dorado Hills, California

FIGURE 6

Logged By: **DCS**	Date: **17 September 2015**	Lat / Lon: **N38.71677 / W121.06374**		Pit No. **TP-4**
Equipment: **John Deere 410 G With 24" Bucket**		Pit Orientation: **90°**	Elevation: **~ 813'**	

Depth (Feet)	USDA Classification	Sample	Tests & Comments
@ *0 - 1'*	Reddish brown (5YR 4/3) **SANDY LOAM, (sl)**, 20% gravel, no redoximorphic features, fine granular structure, many fine interstitial pores, friable, non-plastic, non-sticky, common fine roots, diffuse irregular boundary, dry		
@ *1' - 8'*	Gray green, **INTENSELY WEATHERED ROCK (IWRX)**, highly to completely weathered, few red brown and black redoximorphic concentrations on fractures, blocky, few medium interstitial pores, friable to firm, non-plastic, non-sticky, few medium roots, dry to moist		
	Test pit terminated at 8' No free groundwater encountered No caving noted		



Note: The test pit log indicates subsurface conditions only at the specific location and time noted. Subsurface conditions, including groundwater levels, at other locations of the subject site may differ significantly from conditions which, in the opinion of Youngdahl Consulting Group, Inc., exist at the sampling locations, Note, too, that the passage of time may affect conditions at the sampling locations.

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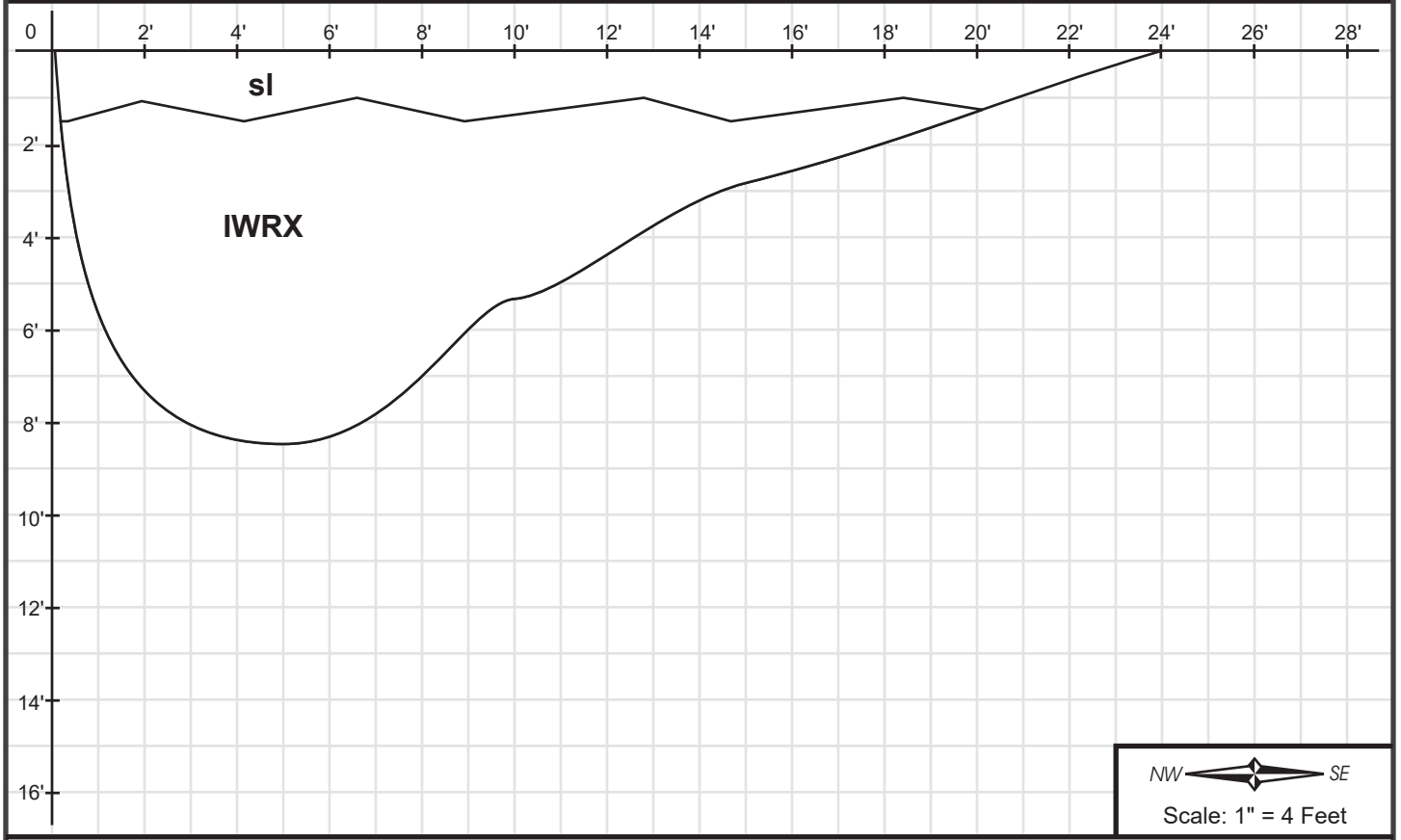
EXPLORATORY TEST PIT LOG

The Vineyards At El Dorado Hills
El Dorado Hills, California

FIGURE 7

Logged By: **DCS**	Date: **17 September 2015**	Lat / Lon: **N38.7160 / W121.06697**		Pit No. **TP-5**
Equipment: **John Deere 410 G With 24" Bucket**		Pit Orientation: **302°**	Elevation: **~ 745'**	

Depth (Feet)	USDA Classification	Sample	Tests & Comments
@ 0 - 1.5'	Reddish brown (5YR 4/4) **SANDY LOAM, (sl)**, 10% gravel, no redoximorphic features, medium blocky structure, common medium to coarse tubular pores, friable, non-plastic, non-sticky, few medium roots, diffuse irregular boundary, dry		
@ 1.5' - 8.5'	Gray green, **INTENSELY WEATHERED ROCK (IWRX)**, highly to completely weathered, few red brown and black redoximorphic concentrations on fractures, blocky, few medium interstitial pores, very firm, non-plastic, non-sticky, few medium roots, dry		
	Test pit terminated at 8.5' No free groundwater encountered No caving noted		



Note: The test pit log indicates subsurface conditions only at the specific location and time noted. Subsurface conditions, including groundwater levels, at other locations of the subject site may differ significantly from conditions which, in the opinion of Youngdahl Consulting Group, Inc., exist at the sampling locations, Note, too, that the passage of time may affect conditions at the sampling locations.

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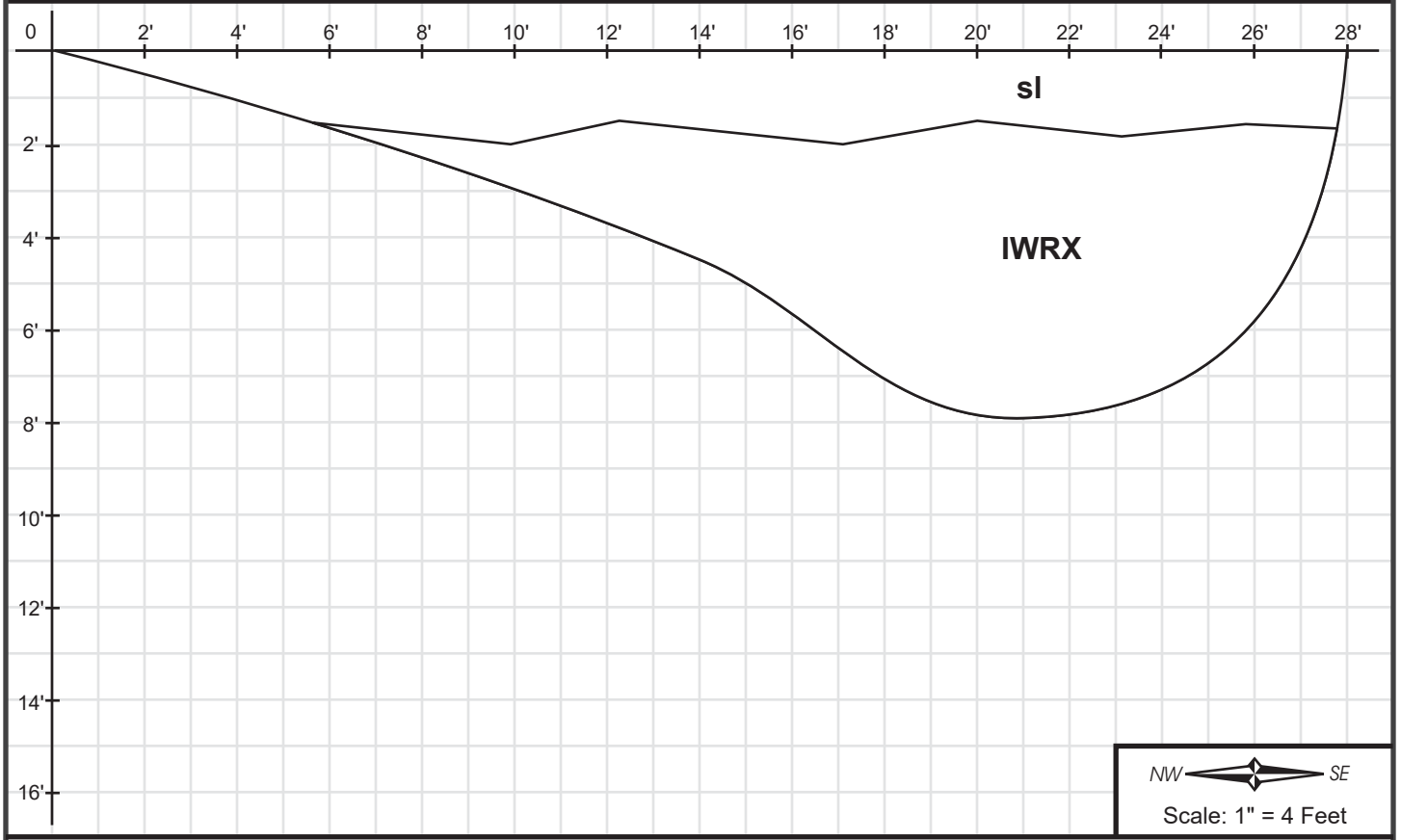
EXPLORATORY TEST PIT LOG

The Vineyards At El Dorado Hills
El Dorado Hills, California

FIGURE 8

Logged By: **DCS**	Date: **17 September 2015**	Lat / Lon: **N38.71815 / W121.06597**	Pit No. **TP-6**
Equipment: **John Deere 410 G With 24" Bucket**		Pit Orientation: **135°**	Elevation: **~ 785'**

Depth (Feet)	USDA Classification	Sample	Tests & Comments
@ 0 - 1.5'	Reddish brown (5YR 4/4) **SANDY LOAM, (sl)**, 5% gravel, no redoximorphic features, medium blocky structure, common medium to coarse tubular pores, friable, non-plastic, non-sticky, few medium roots, diffuse irregular boundary, dry		
@ 1.5' - 8'	Gray green, **INTENSELY WEATHERED ROCK (IWRX)**, highly to completely weathered, few red brown and black redoximorphic concentrations on fractures, blocky, few fine interstitial pores, very firm, non-plastic, non-sticky, few medium roots, dry		
	Test pit terminated at 8' No free groundwater encountered No caving noted		



Note: The test pit log indicates subsurface conditions only at the specific location and time noted. Subsurface conditions, including groundwater levels, at other locations of the subject site may differ significantly from conditions which, in the opinion of Youngdahl Consulting Group, Inc., exist at the sampling locations, Note, too, that the passage of time may affect conditions at the sampling locations.

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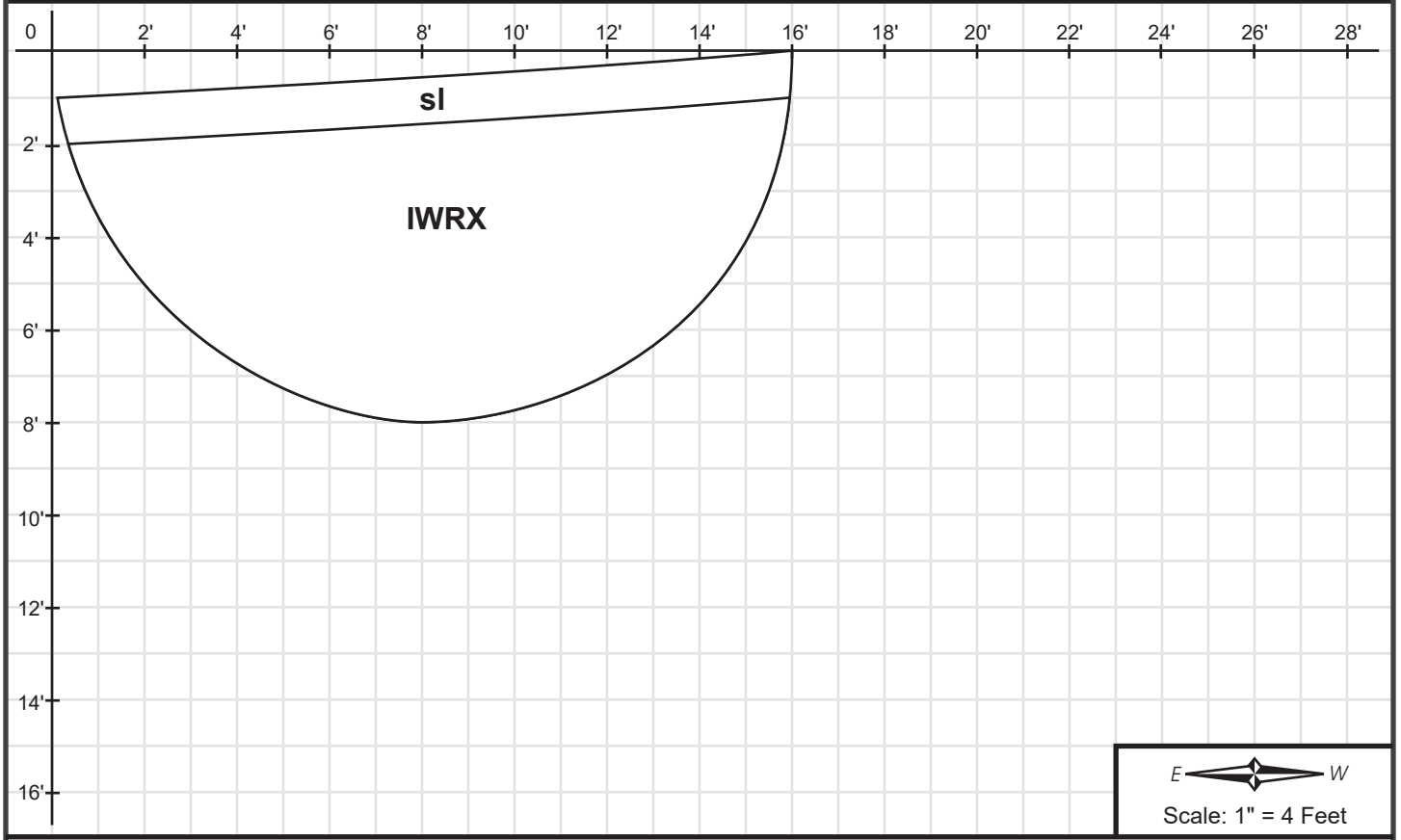
EXPLORATORY TEST PIT LOG

The Vineyards At El Dorado Hills
El Dorado Hills, California

FIGURE 9

Logged By: **DCS**	Date: **17 September 2015**	Lat / Lon: **N38.71849 / W121.06837**		Pit No. **TP-7**
Equipment: **John Deere 410 G With 24" Bucket**		Pit Orientation: **275°**	Elevation: **~ 710'**	

Depth (Feet)	USDA Classification	Sample	Tests & Comments
@ *0 - 1'*	Reddish brown (5YR 4/4) **SANDY LOAM, (sl)**, 5% gravel, no redoximorphic features, medium blocky structure, few fine tubular pores, friable, non-plastic, non-sticky, few fine roots, diffuse irregular boundary, dry		
@ *1' - 8'*	Gray green, **INTENSELY WEATHERED ROCK (IWRX)**, highly to completely weathered, few red brown and black redoximorphic concentrations on fractures, blocky, few fine interstitial pores, very firm, non-plastic, non-sticky, few medium roots, dry		
	Test pit terminated at 8' No free groundwater encountered No caving noted		



Note: The test pit log indicates subsurface conditions only at the specific location and time noted. Subsurface conditions, including groundwater levels, at other locations of the subject site may differ significantly from conditions which, in the opinion of Youngdahl Consulting Group, Inc., exist at the sampling locations, Note, too, that the passage of time may affect conditions at the sampling locations.

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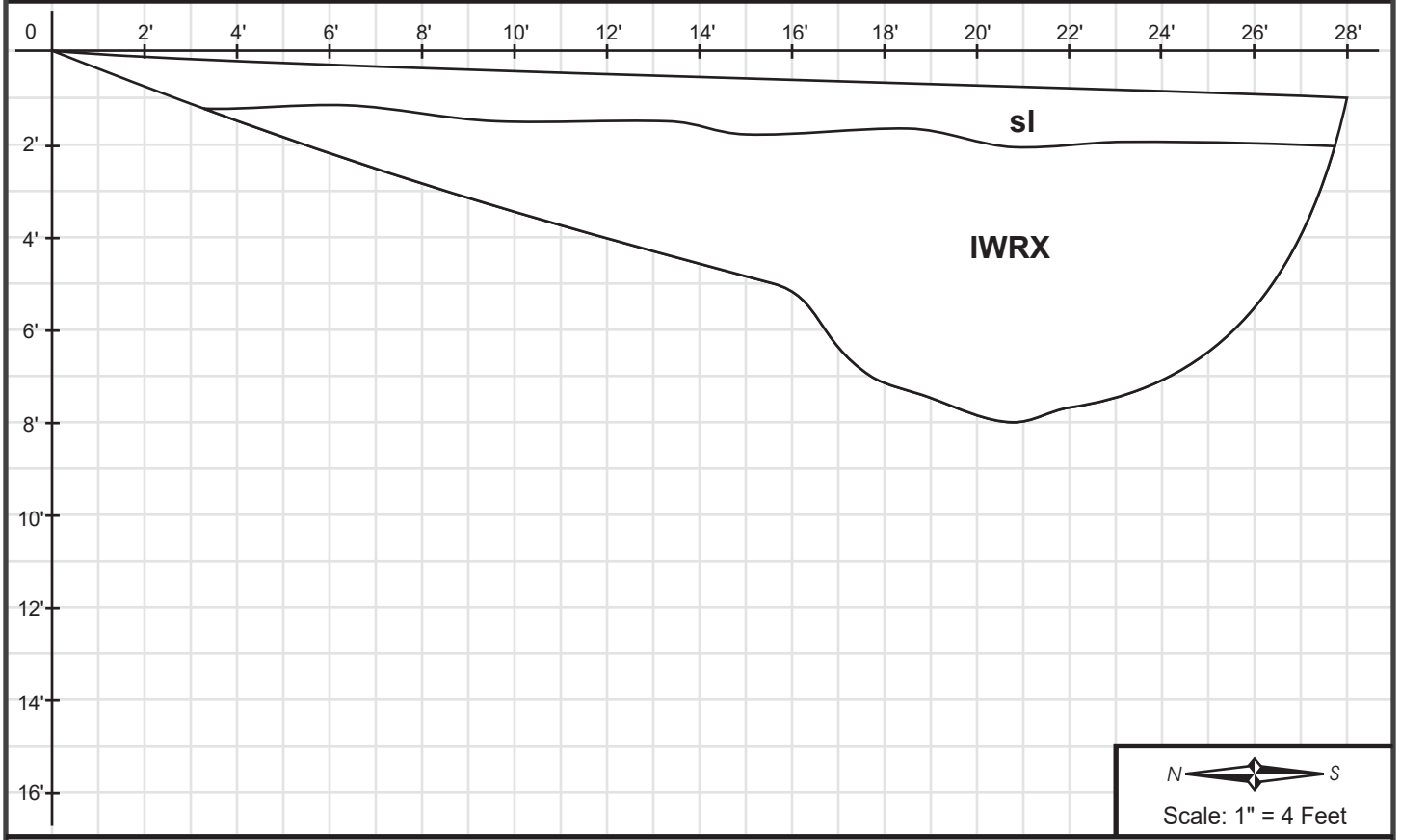
EXPLORATORY TEST PIT LOG

The Vineyards At El Dorado Hills
El Dorado Hills, California

FIGURE 10

Logged By: **DCS**	Date: **17 September 2015**	Lat / Lon: **N38.71860 / W121.06758**		Pit No. **TP-8**
Equipment: **John Deere 410 G With 24" Bucket**		Pit Orientation: **355°**	Elevation: **~ 740'**	

Depth (Feet)	USDA Classification	Sample	Tests & Comments
@ *0 - 1'*	Reddish brown (5YR 4/4) **SANDY LOAM, (sl)**, 5% gravel, no redoximorphic features, medium blocky structure, few fine tubular pores, friable, non-plastic, non-sticky, few fine roots, diffuse irregular boundary, dry		
@ *1' - 8'*	Gray green, **INTENSELY WEATHERED ROCK (IWRX)**, highly to completely weathered, few red brown and black redoximorphic concentrations on fractures, blocky, few fine interstitial pores, very firm, non-plastic, non-sticky, few medium roots, dry		
	Test pit terminated at 8' No free groundwater encountered No caving noted		



Note: The test pit log indicates subsurface conditions only at the specific location and time noted. Subsurface conditions, including groundwater levels, at other locations of the subject site may differ significantly from conditions which, in the opinion of Youngdahl Consulting Group, Inc., exist at the sampling locations, Note, too, that the passage of time may affect conditions at the sampling locations.

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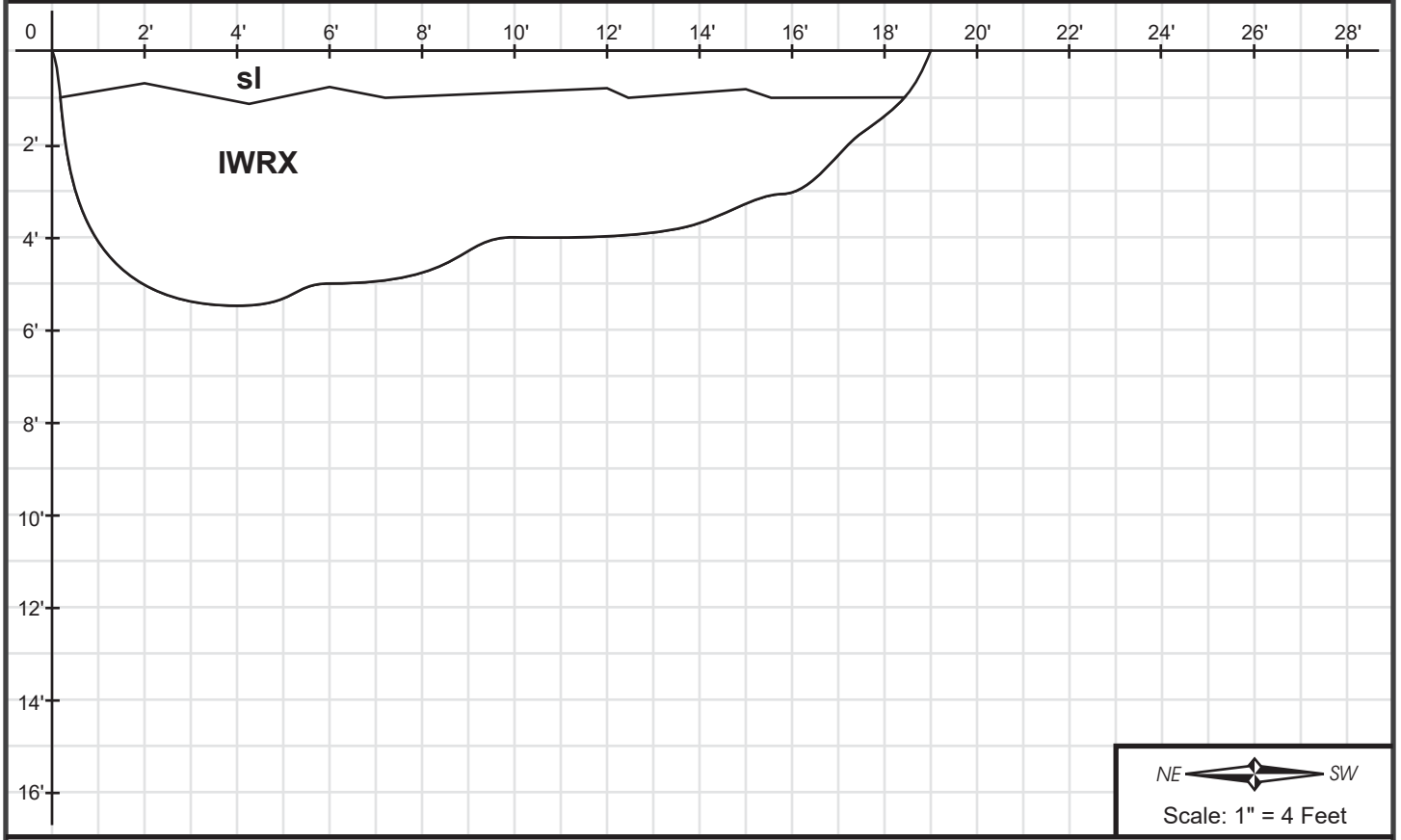
EXPLORATORY TEST PIT LOG

The Vineyards At El Dorado Hills
El Dorado Hills, California

FIGURE 11

Logged By: **DCS**	Date: **17 September 2015**	Lat / Lon: **N38.71974 / W121.06766**		Pit No. **TP-9**
Equipment: **John Deere 410 G With 24" Bucket**		Pit Orientation: **60°**	Elevation: **~ 723'**	

Depth (Feet)	USDA Classification	Sample	Tests & Comments
@ *0 - 1'*	Reddish brown (5YR 4/4) **SANDY LOAM, (sl)**, 20% gravel, 10% cobble, no redoximorphic features, medium blocky structure, common medium tubular pores, very friable, non-plastic, non-sticky, few medium roots, abrupt irregular boundary, dry		
@ *1' - 5.5'*	Gray green, **INTENSELY WEATHERED ROCK (IWRX)**, highly to completely weathered, few red brown and black redoximorphic concentrations on fractures, blocky, few fine interstitial pores, very firm, non-plastic, non-sticky, few medium roots, dry		
	Test pit terminated at 5.5' (practical refusal) No free groundwater encountered No caving noted		



Note: The test pit log indicates subsurface conditions only at the specific location and time noted. Subsurface conditions, including groundwater levels, at other locations of the subject site may differ significantly from conditions which, in the opinion of Youngdahl Consulting Group, Inc., exist at the sampling locations, Note, too, that the passage of time may affect conditions at the sampling locations.

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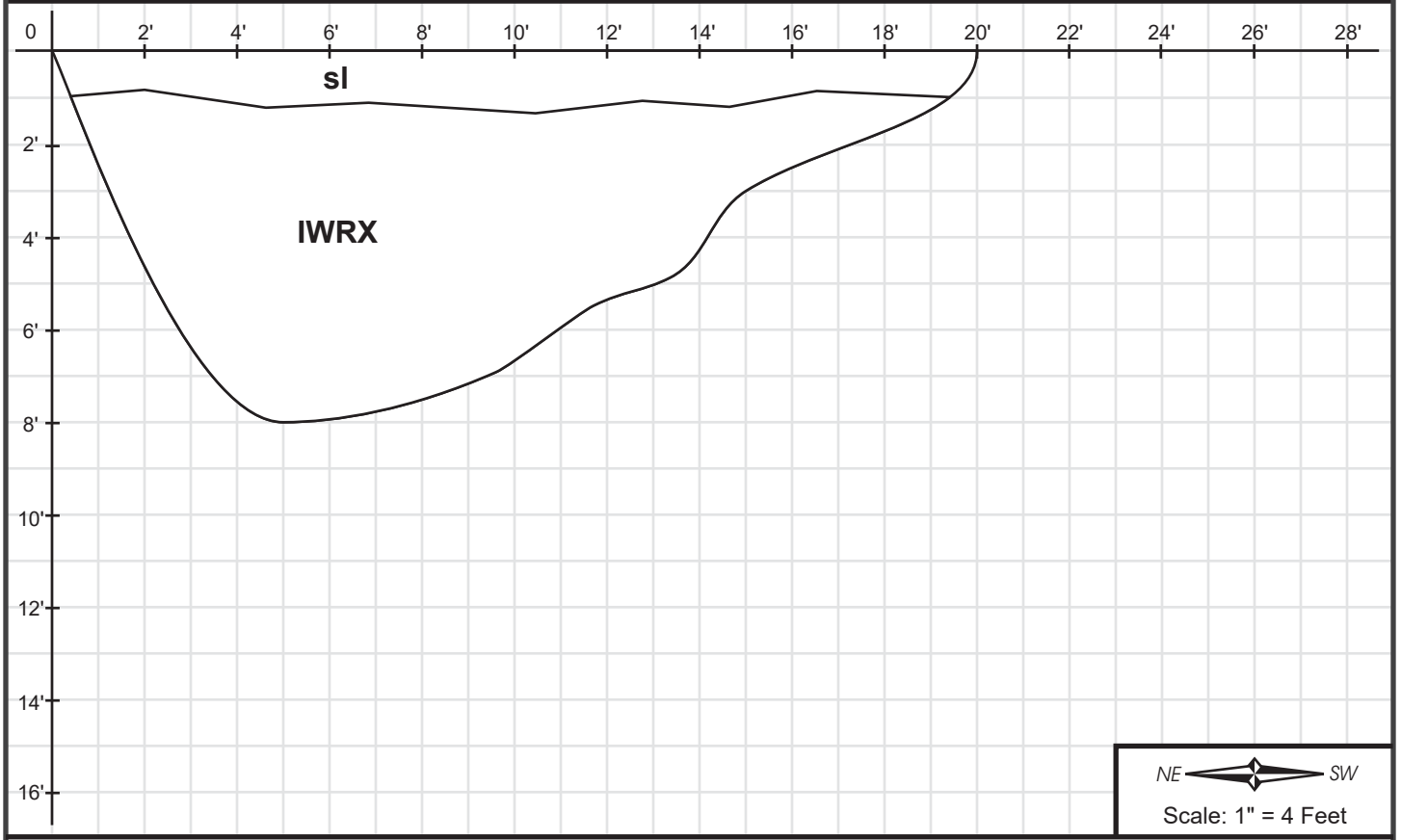
EXPLORATORY TEST PIT LOG

The Vineyards At El Dorado Hills
El Dorado Hills, California

FIGURE 12

Logged By: **DCS**	Date: **17 September 2015**	Lat / Lon: **N38.71904 / W121.06487**	Pit No. **TP-10**
Equipment: **John Deere 410 G With 24" Bucket**		Pit Orientation: **72°**	Elevation: **~ 820'**

Depth (Feet)	USDA Classification	Sample	Tests & Comments
@ *0 - 1'*	Reddish brown (5YR 4/4) **SANDY LOAM, (sl)**, 10% gravel, no redoximorphic features, medium blocky structure, common medium tubular pores, very friable, non-plastic, non-sticky, common medium roots, abrupt irregular boundary, dry		
@ *1' - 8'*	Gray green, **INTENSELY WEATHERED ROCK (IWRX)**, highly to completely weathered, few red brown and black redoximorphic concentrations on fractures, blocky, few fine interstitial pores, very firm, non-plastic, non-sticky, few medium roots, dry		
	Test pit terminated at 8' No free groundwater encountered No caving noted		



Note: The test pit log indicates subsurface conditions only at the specific location and time noted. Subsurface conditions, including groundwater levels, at other locations of the subject site may differ significantly from conditions which, in the opinion of Youngdahl Consulting Group, Inc., exist at the sampling locations, Note, too, that the passage of time may affect conditions at the sampling locations.

YOUNGDAHL CONSULTING GROUP, INC.
GEOTECHNICAL ▪ ENVIRONMENTAL ▪ MATERIALS TESTING

Project No.: E15193.000

October 2015

EXPLORATORY TEST PIT LOG

The Vineyards At El Dorado Hills
El Dorado Hills, California

FIGURE 13

USDA CLASSIFICATION SYSTEM

TEXTURE

s	= sand
sc	= sandy clay
c	= clay
sicl	= silty clay loam
ls	= loamy sand
scl	= sandy clay loam
cl	= clay loam
sil	= silty loam
sl	= sandy loam
l	= loam
sic	= silty clay
si	= silt
DRX	= bedrock
IWRX	= intensely weathered rock
MWRX	= moderately weathered rock
DG	= decomposed granite

ROCK FRAGMENTS

gravel (avg. diameter: 0.078 inches[2mm] to 3 inches)
cobbels (avg. diameter: 3 inches to 10 inches)
stones and boulders (avg. diameter: > 10 inches)

COLOR

Color of a moist soil matrix, broken ped face, using Munsell Soil Color Chart or other standard soil color books.

REDOXYMORPHIC FEATURES

few < 2% common 2-20% many >20%

RC	= Redox concentrations; noted using Munsell chart or other standard soil color books.
RD	= Redox depletions; noded using Munsell chart or other standard soil color books.
RM	= Redox matrices; noted using Munsell chart or other standard soil color books.

STRUCTURE

	granular/platy	blocky/prismatic
fine	<1/8 inch (<2mm)	<3/8 inch (10mm)
medium	1/8-3/16 in (2-5mm)	3/8-3/4 inch (10-20mm)
coarse	>3/16 inch (>5mm)	>3/4 inch (>20mm)

SOIL PORES

fine	<1/8 inch (2mm)
medium	1/8-3/16 inch (2-5mm)
coarse	>3/16 inch (>5mm)
inters	interstitial
tubular	tubular

PLASTICITY

np	non-plastic
sp	slightly plastic
mp	moderately plastic
vp	very plastic

STICKINESS

ns	non-sticky
ss	slightly sticky
ms	moderately sticky
vs	very sticky

CONSISTENCE

l	= loose
vfr	= very friable
fr	= friable
f	= firm
vf	= very firm
ef	= extremely firm

ROOTS

vf	<1/16 inch (1mm)
f	1/16-1/8 inch (1-2mm)
m	1/8-3/16 inch (2-5mm)
c	>3/16 inch (>5mm)

BOUNDARY DISTINCTNESS

a	= abrupt <1 inch
c	= clear 1-2 inches
g	= gradual 2-6 inches
d	= diffuse >6 inches

BOUNDARY TOPOGRAPHY

s	= smooth
w	= wavy
l	= irregular
b	= broken

SOIL GRAIN SIZE

U.S. STANDARD SIEVE	6"	3"	¾"	4	10	40	200		
	BOULDER	COBBLE	GRAVEL		SAND			SILT	CLAY
			COARSE	FINE	COARSE	MEDIUM	FINE		
SOIL GRAIN SIZE IN MILLIMETERS	150	75	19	4.75	2.0	.425	0.075	0.002	

KEY TO TEST DATA

	Standard Penetration test
	2.5" O.D. Modified California Sampler
	3" O.D. Modified California Sampler
	Shelby Tube Sampler
	2.5" Hand Driven Liner
	Bulk Sample
	Water Level At Time Of Drilling
	Water Level After Time Of Drilling
P	Perched Water

	Water Seepage
MD	Moisture Density Test
NFWE	No Free Water Encountered
FWE	Free Water Encountered
REF	Sampling Refusal
DD	Dry Density (pcf)
MC	Moisture Content (%)
LL	Liquid Limit
PI	Plasticity Index
PP	Pocket Penetrometer
UCC	Unconfined Compression (ASTM D2166)
TVS	Pocket Torvane Shear
EI	Expansion Index (ASTM D4829)

YOUNGDAHL CONSULTING GROUP, INC.
GEOTECHNICAL ▪ ENVIRONMENTAL ▪ MATERIALS TESTING

Project No.: E15193.000

October 2015

SOIL CLASSIFICATION CHART & LOG EXPLANATIONG
The Vineyards At El Dorado Hills
El Dorado Hills, California

FIGURE 14

APPENDIX A

Report of Percolation Tests

REPORT OF PERCOLATION TEST

PROPERTY INFORMATION

Project Name:	Vineyards at El Dorado Hills
Project Location:	El Dorado Hills
Project No.:	E15193.000
Lot No.:	
Date of Test:	9/21/2015
A.P.N.:	
Phase No.:	

SOIL PROFILE

Depth (ft)			SOIL TYPE AND NOTES
Surface		0.0'	
0.00	to		See log for TP-1
	to		
0.0'			
0.0'			

PERCOLATION DATA

Test No.1 — Depth (inch): 24

Time			Readings (in)		Rate
Start	End	Elap.	Start	End	(min/in)
1:10 p	1:40 p	0	9.20	6.70	12
1:43 p	2:13 p	0	9.40	7.40	15
2:14 p	2:44 p	0	7.40	6.20	25
2:45 p	3:15 p	0	6.20	5.30	33
3:17 p	3:47 p	0	9.70	7.60	14
3:48 p	4:18 p	0	7.60	6.40	25
4:18 p	4:48 p	0	6.40	5.60	38
4:48 p	5:18 p	0	5.60	4.90	43
12:00 a		0		0.00	
			Last Five Averaged:		31

Test No.2 — Depth (inch): 24

Time			Readings		Rate
Start	End	Elap.	Start	End	(min/in)
1:10 p	1:40 p	0	10.00	8.60	21
1:43 p	2:13 p	0	9.50	8.60	33
2:14 p	2:44 p	0	8.60	7.80	38
2:45 p	3:15 p	0	7.80	7.20	50
3:17 p	3:47 p	0	7.20	6.50	43
3:48 p	4:18 p	0	6.50	6.00	60
4:18 p	4:48 p	0	6.00	5.40	50
4:48 p	5:18 p	0	5.40	4.80	50
12:00 a		0			
			Last Five Averaged:		51

Test No.3 — Depth (inch): 29

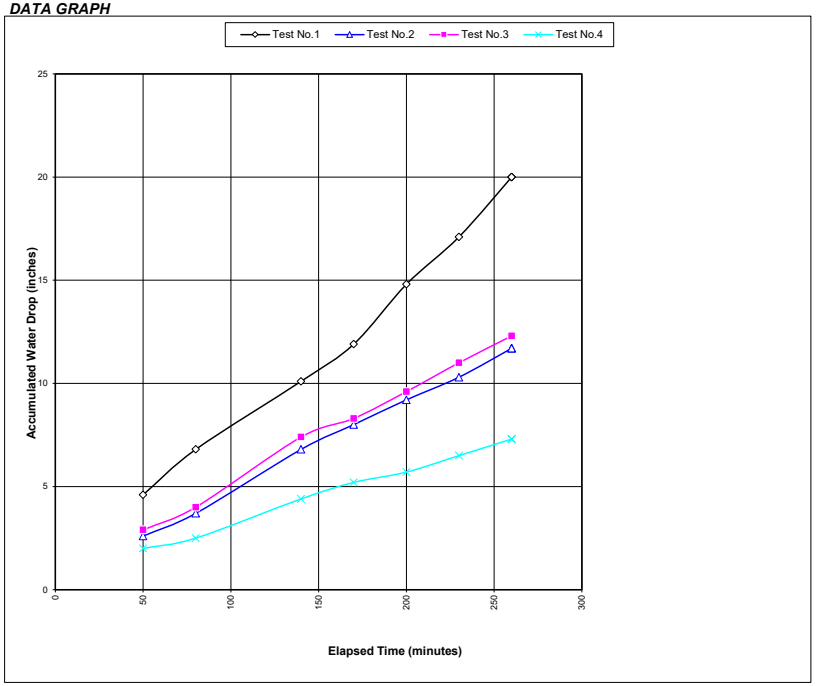
Time			Readings		Rate
Start	End	Elap.	Start	End	(min/in)
1:10 p	1:40 p	0	9.30	8.20	27
1:43 p	2:13 p	0	9.30	8.70	50
2:14 p	2:44 p	0	8.70	8.10	50
2:45 p	3:15 p	0	8.10	7.50	50
3:17 p	3:47 p	0	7.50	6.70	38
3:48 p	4:18 p	0	6.70	6.00	43
4:18 p	4:48 p	0	6.00	5.50	60
4:48 p	5:18 p	0	5.50	5.00	60
12:00 a		0			
			Last Five Averaged:		50

Test No.4 — Depth (inch): 33

Time			Readings (in)		Rate
Start	End	Elap.	Start	End	(min/in)
1:10 p	1:40 p	0	8.80	8.00	38
1:43 p	2:13 p	0	9.00	8.90	300
2:14 p	2:44 p	0	8.90	8.50	75
2:45 p	3:15 p	0	8.50	8.20	100
3:17 p	3:47 p	0	8.20	7.80	75
3:48 p	4:18 p	0	7.80	7.50	100
4:18 p	4:48 p	0	7.50	7.20	100
4:48 p	5:18 p	0	7.20	7.00	150
12:00 a		0			
			Last Five Averaged:		105

Average Percolation Rate = 59 minutes per inch

DATA GRAPH



REPORT OF PERCOLATION TEST

PROPERTY INFORMATION

Project Name:	The Vineyards
Project Location:	El Dorado Hills
Project No.:	E15193.000
Lot No.:	TP-2
Date of Test:	10/15/2015
A.P.N.:	
Phase No.:	

SOIL PROFILE

Depth (ft)	*SOIL TYPE AND NOTES*
Surface	See test pit log for TP-2
to	
to	

PERCOLATION DATA

Test No.1			***Depth (inch):***		**29**
Time			Readings (in)		Rate
Start	End	Elap.	Start	End	(min/in)
12:21 p	12:51 p	30	11.20	8.90	13
12:51 p	1:21 p	60	8.90	7.50	21
1:21 p	1:51 p	90	7.50	6.40	27
1:51 p	2:21 p	120	6.40	5.00	21
2:21 p	2:51 p	150	5.00	4.90	300
2:51 p	3:21 p	180	4.90	4.20	43
3:23 p	3:53 p	210	10.10	8.60	20
3:53 p	4:23 p	240	8.60	7.50	27
				Last Five Averaged:	**98**

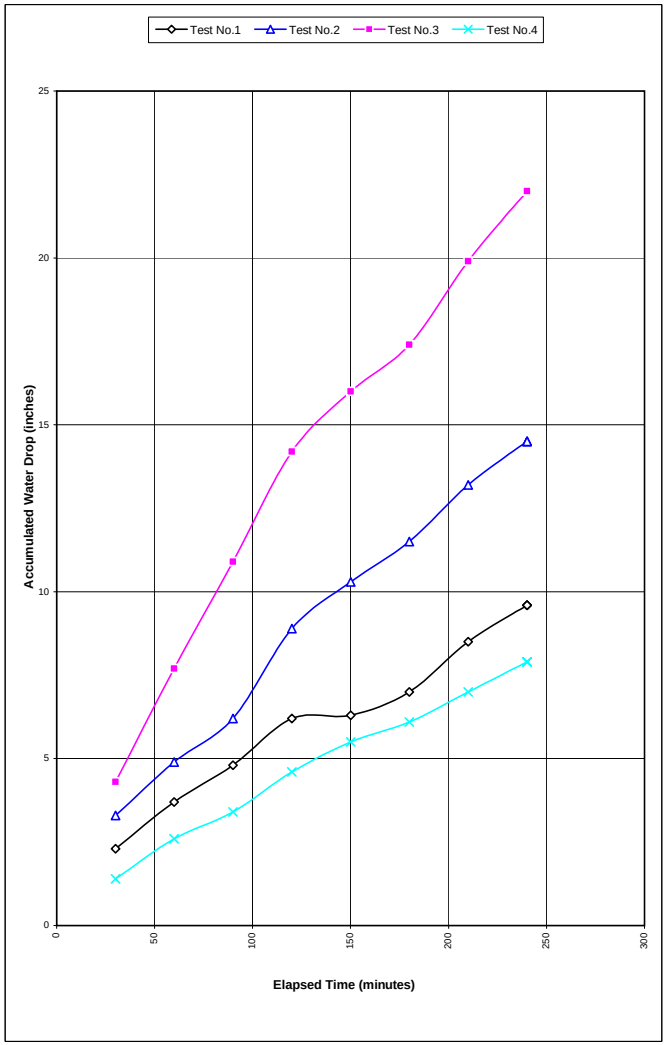
Test No.2			***Depth (inch):***		**27**
Time			Readings		Rate
Start	End	Elap.	Start	End	(min/in)
12:21 p	12:51 p	30	10.80	7.50	9
12:51 p	1:21 p	60	7.50	5.90	19
1:21 p	1:51 p	90	5.90	4.60	23
1:51 p	2:21 p	120	10.00	7.30	11
2:21 p	2:51 p	150	7.30	5.90	21
2:51 p	3:21 p	180	5.90	4.70	25
3:23 p	3:53 p	210	8.20	6.50	18
3:53 p	4:23 p	240	6.50	5.20	23
				Last Five Averaged:	**22**

Test No.3			***Depth (inch):***		**27**
Time			Readings		Rate
Start	End	Elap.	Start	End	(min/in)
12:21 p	12:51 p	30	10.00	5.70	7
12:51 p	1:21 p	60	10.00	6.60	9
1:21 p	1:51 p	90	10.00	6.80	9
1:51 p	2:21 p	120	10.00	6.70	9
2:21 p	2:51 p	150	6.70	4.90	17
2:51 p	3:21 p	180	4.90	3.50	21
3:23 p	3:53 p	210	9.20	6.70	12
3:53 p	4:23 p	240	6.70	4.60	14
				Last Five Averaged:	**16**

Test No.4			***Depth (inch):***		**28**
Time			Readings (in)		Rate
Start	End	Elap.	Start	End	(min/in)
12:21 p	12:51 p	30	9.10	7.70	21
12:51 p	1:21 p	60	7.70	6.50	25
1:21 p	1:51 p	90	9.00	8.20	38
1:51 p	2:21 p	120	8.20	7.00	25
2:21 p	2:51 p	150	7.00	6.10	33
2:51 p	3:21 p	180	6.10	5.50	50
3:23 p	3:53 p	210	8.40	7.50	33
3:53 p	4:23 p	240	7.50	6.60	33
				Last Five Averaged:	**38**

Average Percolation Rate = **43** ***minutes per inch***

DATA GRAPH



REPORT OF PERCOLATION TEST

PROPERTY INFORMATION

Project Name:	Vineyards at El Dorado Hills
Project Location:	El Dorado Hills
Project No.:	E15195.000
Lot No.:	
Date of Test:	9/21/2015
A.P.N.:	
Phase No.:	

SOIL PROFILE

Depth (ft)	***SOIL TYPE AND NOTES***
Surface	
to	See log for TP-3
to	

PERCOLATION DATA

Test No.1			***Depth (inch):***		**27**
Time			Readings (in)		Rate
Start	End	Elap.	Start	End	(min/in)
11:51 a	12:21 p	30	9.00	7.50	20
12:22 p	12:52 p	60	7.50	6.00	20
12:54 p	1:24 p	90	6.00	4.80	25
1:27 p	1:57 p	120	8.00	7.10	33
1:58 p	2:28 p	150	7.10	5.80	23
2:29 p	2:59 p	180	5.80	4.80	30
2:59 p	3:29 p	210	4.80	3.90	33
3:31 p	4:01 p	240	7.70	7.00	43
			Last Five Averaged:		**33**

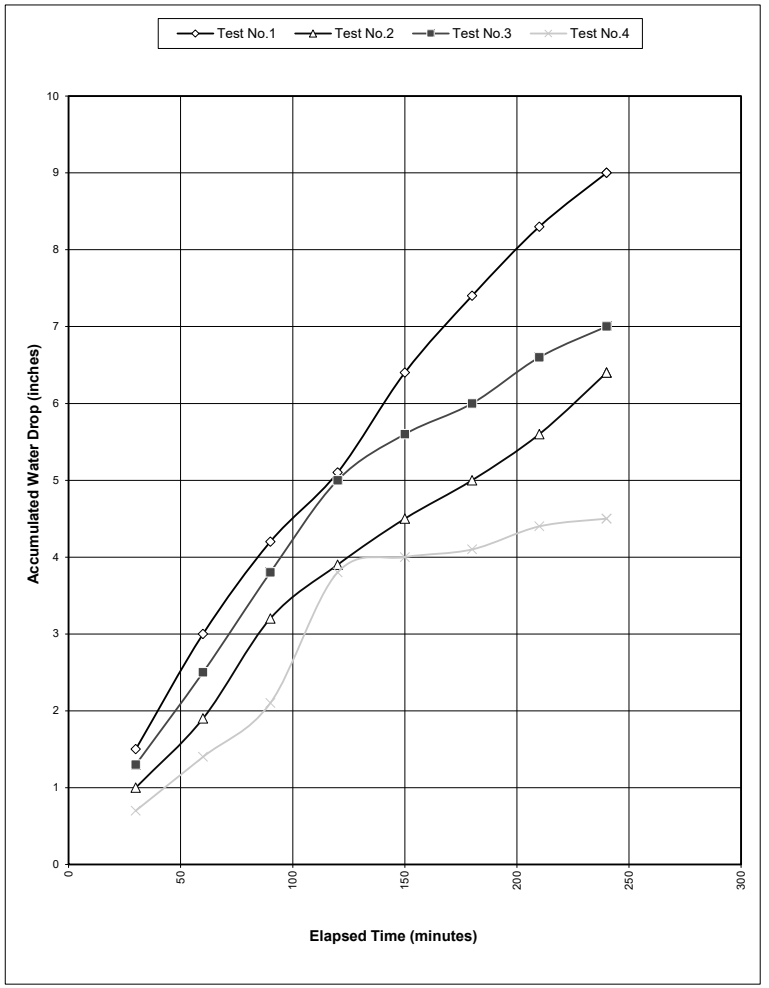
Test No.2			***Depth (inch):***		**36**
Time			Readings		Rate
Start	End	Elap.	Start	End	(min/in)
11:51 a	12:21 p	30	9.20	8.20	30
12:22 p	12:52 p	60	8.20	7.30	33
12:54 p	1:24 p	90	7.30	6.00	23
1:27 p	1:57 p	120	6.00	5.30	43
1:58 p	2:28 p	150	5.30	4.70	50
2:29 p	2:59 p	180	4.70	4.20	60
2:59 p	3:29 p	210	4.20	3.60	50
3:31 p	4:01 p	240	7.00	6.20	38
			Last Five Averaged:		**48**

Test No.3			***Depth (inch):***		**36**
Time			Readings		Rate
Start	End	Elap.	Start	End	(min/in)
11:51 a	12:21 p	30	9.60	8.30	23
12:22 p	12:52 p	60	8.30	7.10	25
12:54 p	1:24 p	90	7.10	5.80	23
1:27 p	1:57 p	120	5.80	4.60	25
1:58 p	2:28 p	150	4.60	4.00	50
2:29 p	2:59 p	180	4.00	3.60	75
2:59 p	3:29 p	210	3.60	3.00	50
3:31 p	4:01 p	240	5.60	5.20	75
			Last Five Averaged:		**55**

Test No.4			***Depth (inch):***		**39**
Time			Readings (in)		Rate
Start	End	Elap.	Start	End	(min/in)
11:51 a	12:21 p	30	9.00	8.30	43
12:22 p	12:52 p	60	8.30	7.60	43
12:54 p	1:24 p	90	7.60	6.90	43
1:27 p	1:57 p	120	6.90	5.20	18
1:58 p	2:28 p	150	5.20	5.00	150
2:29 p	2:59 p	180	5.00	4.90	300
2:59 p	3:29 p	210	4.90	4.60	100
3:31 p	4:01 p	240	5.00	4.90	300
			Last Five Averaged:		**174**

Average Percolation Rate = ***77*** ***minutes per inch***

DATA GRAPH



REPORT OF PERCOLATION TEST

PROPERTY INFORMATION

Project Name:	Vineyards at El Dorado Hills
Project Location:	El Dorado Hills
Project No.:	E15195.000
Lot No.:	
Date of Test:	9/18/2015
A.P.N.:	
Phase No.:	

SOIL PROFILE

Depth (ft)	*SOIL TYPE AND NOTES*
Surface	
to	See log for TP-4
to	

PERCOLATION DATA

Test No.1			***Depth (inch):***		**24**
Time			Readings (in)		Rate
Start	End	Elap.	Start	End	(min/in)
1:27 p	1:57 p	30	10.10	7.60	12
2:00 p	2:30 p	60	10.00	8.40	19
2:31 p	3:01 p	90	8.40	7.10	23
3:02 p	3:32 p	120	7.10	6.10	30
3:33 p	4:03 p	150	6.10	5.30	38
4:06 p	4:36 p	180	10.00	8.90	27
4:37 p	5:07 p	210	8.90	7.80	27
5:08 p	5:38 p	240	7.80	6.70	27
			Last Five Averaged:		**30**

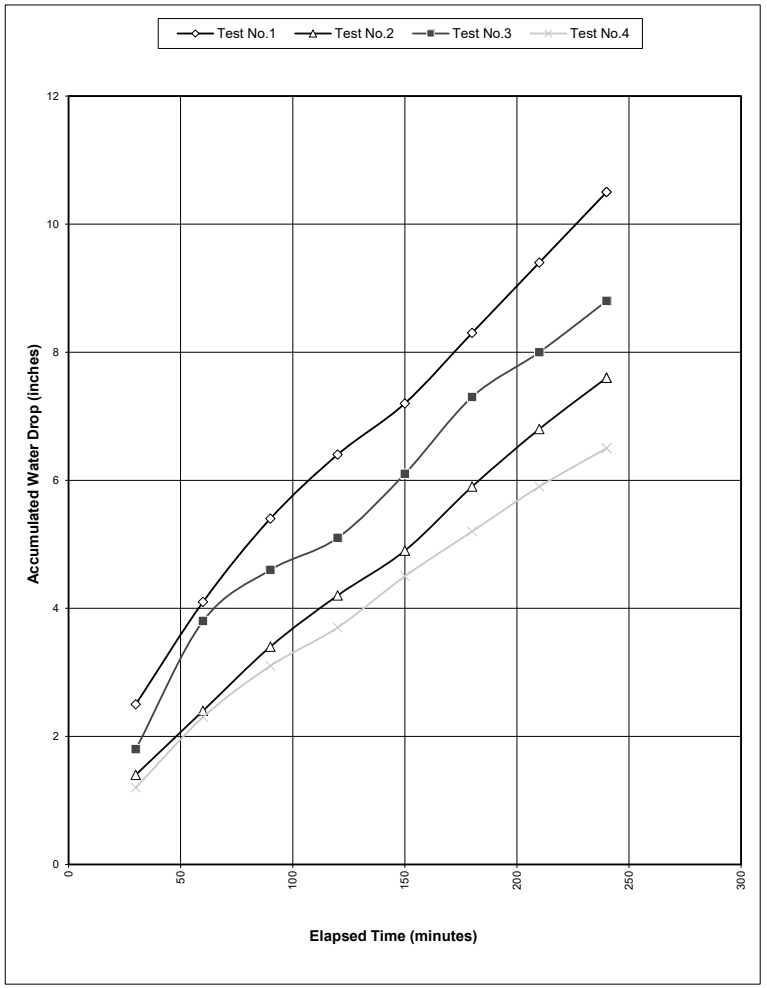
Test No.2			***Depth (inch):***		**27**
Time			Readings		Rate
Start	End	Elap.	Start	End	(min/in)
1:27 p	1:57 p	30	10.40	9.00	21
2:00 p	2:30 p	60	10.00	9.00	30
2:31 p	3:01 p	90	9.00	8.00	30
3:02 p	3:32 p	120	8.00	7.20	38
3:33 p	4:03 p	150	7.20	6.50	43
4:06 p	4:36 p	180	10.00	9.00	30
4:37 p	5:07 p	210	9.00	8.10	33
5:08 p	5:38 p	240	8.10	7.30	38
			Last Five Averaged:		**36**

Test No.3			***Depth (inch):***		**28**
Time			Readings		Rate
Start	End	Elap.	Start	End	(min/in)
1:27 p	1:57 p	30	9.80	8.00	17
2:00 p	2:30 p	60	10.00	8.00	15
2:31 p	3:01 p	90	8.00	7.20	38
3:02 p	3:32 p	120	7.20	6.70	60
3:33 p	4:03 p	150	6.70	5.70	30
4:06 p	4:36 p	180	10.00	8.80	25
4:37 p	5:07 p	210	8.80	8.10	43
5:08 p	5:38 p	240	8.10	7.30	38
			Last Five Averaged:		**39**

Test No.4			***Depth (inch):***		**28**
Time			Readings (in)		Rate
Start	End	Elap.	Start	End	(min/in)
1:27 p	1:57 p	30	9.60	8.40	25
2:00 p	2:30 p	60	10.00	8.90	27
2:31 p	3:01 p	90	8.90	8.10	38
3:02 p	3:32 p	120	8.10	7.50	50
3:33 p	4:03 p	150	7.50	6.70	38
4:06 p	4:36 p	180	10.00	9.30	43
4:37 p	5:07 p	210	9.30	8.60	43
5:08 p	5:38 p	240	8.60	8.00	50
			Last Five Averaged:		**45**

Average Percolation Rate = ***37*** ***minutes per inch***

DATA GRAPH



REPORT OF PERCOLATION TEST

PROPERTY INFORMATION

Project Name:	Vineyards at El Dorado Hills
Project Location:	El Dorado Hills
Project No.:	E15195.000
Lot No.:	
Date of Test:	9/21/2015
A.P.N.:	
Phase No.:	

SOIL PROFILE

Depth (ft)	*SOIL TYPE AND NOTES*
Surface	
to	See log for TP-5
to	

PERCOLATION DATA

Test No.1			***Depth (inch):***		**24**
Time			Readings (in)		Rate
Start	End	Elap.	Start	End	(min/in)
11:39 a	12:09 p	30	10.00	6.80	9
12:10 p	12:40 p	60	6.80	4.30	12
12:43 p	1:13 p	90	8.70	6.70	15
1:14 p	1:44 p	120	6.70	4.50	14
1:49 p	2:19 p	150	8.20	6.60	19
2:20 p	2:50 p	180	6.60	4.30	13
2:50 p	3:20 p	210	4.30	2.90	21
3:22 p	3:52 p	240	8.30	6.80	20
			Last Five Averaged:		**17**

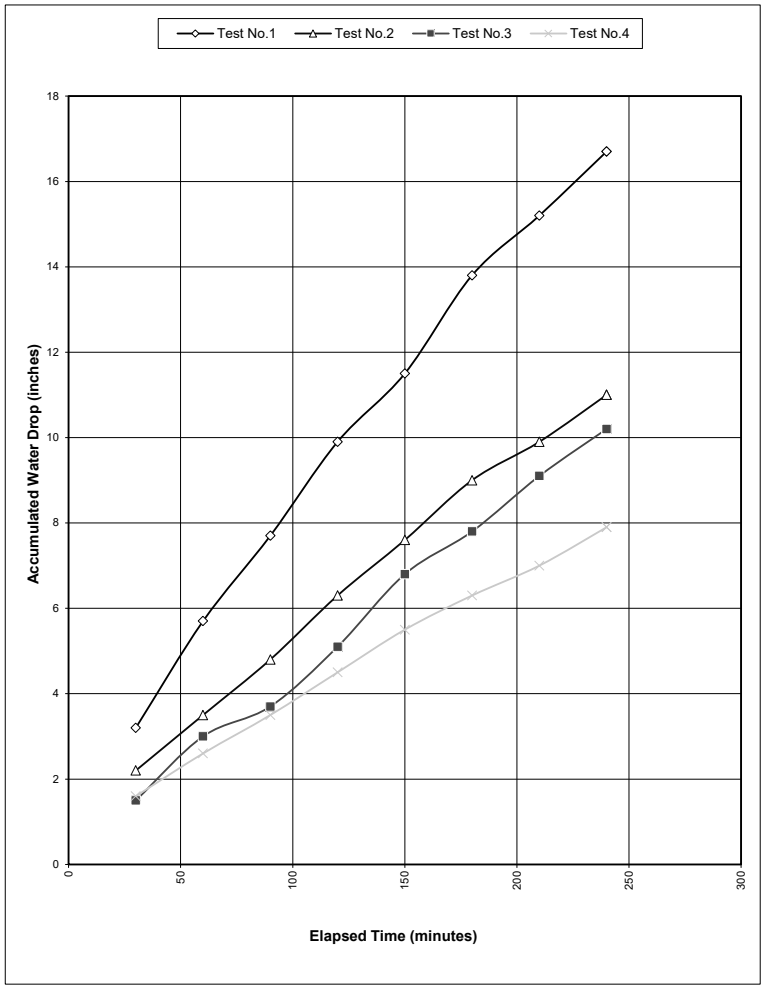
Test No.2			***Depth (inch):***		**24**
Time			Readings		Rate
Start	End	Elap.	Start	End	(min/in)
11:39 a	12:09 p	30	6.50	4.30	14
12:10 p	12:40 p	60	4.30	3.00	23
12:43 p	1:13 p	90	6.00	4.70	23
1:14 p	1:44 p	120	4.70	3.20	20
1:49 p	2:19 p	150	5.80	4.50	23
2:20 p	2:50 p	180	4.50	3.10	21
2:50 p	3:20 p	210	3.10	2.20	33
3:22 p	3:52 p	240	5.70	4.60	27
			Last Five Averaged:		**25**

Test No.3			***Depth (inch):***		**25**
Time			Readings		Rate
Start	End	Elap.	Start	End	(min/in)
11:39 a	12:09 p	30	7.70	6.20	20
12:10 p	12:40 p	60	6.20	4.70	20
12:43 p	1:13 p	90	6.20	5.50	43
1:14 p	1:44 p	120	5.50	4.10	21
1:49 p	2:19 p	150	7.60	5.90	18
2:20 p	2:50 p	180	5.90	4.90	30
2:50 p	3:20 p	210	4.90	3.60	23
3:22 p	3:52 p	240	6.30	5.20	27
			Last Five Averaged:		**24**

Test No.4			***Depth (inch):***		**25**
Time			Readings (in)		Rate
Start	End	Elap.	Start	End	(min/in)
11:39 a	12:09 p	30	7.60	6.00	19
12:10 p	12:40 p	60	6.00	5.00	30
12:43 p	1:13 p	90	6.00	5.10	33
1:14 p	1:44 p	120	5.10	4.10	30
1:49 p	2:19 p	150	7.40	6.40	30
2:20 p	2:50 p	180	6.40	5.60	38
2:50 p	3:20 p	210	5.60	4.90	43
3:22 p	3:52 p	240	6.60	5.70	33
			Last Five Averaged:		**35**

Average Percolation Rate = 25 minutes per inch

DATA GRAPH



REPORT OF PERCOLATION TEST

PROPERTY INFORMATION

Project Name:	Vineyards at El Dorado Hills
Project Location:	El Dorado Hills
Project No.:	E15193.000
Lot No.:	
Date of Test:	9/21/2015
A.P.N.:	
Phase No.:	

SOIL PROFILE

Depth (ft)			*SOIL TYPE AND NOTES*
Surface		0.0'	
0.00	to		See log for TP-6
	to		
0.0'			
0.0'			

PERCOLATION DATA

Test No.1			***Depth (inch):***		**26**
Time			Readings (in)		Rate
Start	End	Elap.	Start	End	(min/in)
11:36 a	12:06 p	0	8.30	5.50	11
12:17 p	1:07 p	0	8.00	4.90	16
1:10 p	1:40 p	0	8.10	6.10	15
1:40 p	2:40 p	0	6.10	3.00	19
2:40 p	3:10 p	0	8.80	6.80	15
3:12 p	3:42 p	0	6.80	4.50	13
3:42 p	4:12 p	0	4.50	3.30	25
		0			
12:00 a		0		0.00	
			Last Five Averaged:		**18**

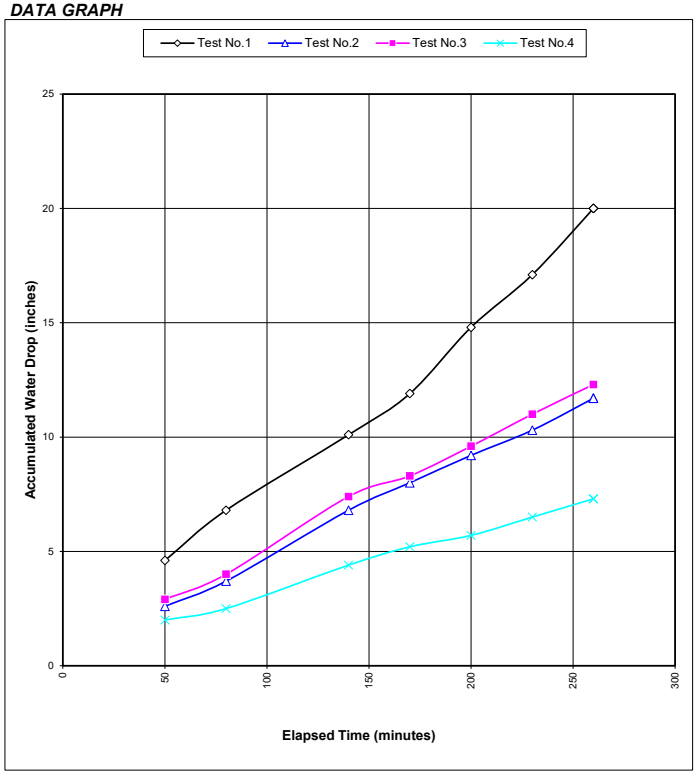
Test No.2			***Depth (inch):***		**24**
Time			Readings		Rate
Start	End	Elap.	Start	End	(min/in)
11:36 a	12:06 p	0	8.70	6.40	13
12:17 p	1:07 p	0	8.20	5.80	21
1:10 p	1:40 p	0	7.50	6.30	25
1:40 p	2:40 p	0	6.30	4.00	26
2:40 p	3:10 p	0	9.20	7.60	19
3:12 p	3:42 p	0	7.60	6.30	23
3:42 p	4:12 p	0	6.30	5.40	33
		0			
12:00 a		0			
			Last Five Averaged:		**25**

Test No.3			***Depth (inch):***		**26**
Time			Readings		Rate
Start	End	Elap.	Start	End	(min/in)
11:36 a	12:06 p	0	8.40	5.50	10
12:17 p	1:07 p	0	7.10	4.50	19
1:10 p	1:40 p	0	7.60	6.00	19
1:40 p	2:40 p	0	6.00	2.40	17
2:40 p	3:10 p	0	8.30	6.80	20
3:12 p	3:42 p	0	6.80	5.50	23
3:42 p	4:12 p	0	5.50	3.80	18
		0			
12:00 a		0			
			Last Five Averaged:		**19**

Test No.4			***Depth (inch):***		**28**
Time			Readings (in)		Rate
Start	End	Elap.	Start	End	(min/in)
11:36 a	12:06 p	0	7.50	5.50	15
12:17 p	1:07 p	0	5.80	4.30	33
1:10 p	1:40 p	0	5.80	5.10	43
1:40 p	2:40 p	0	5.10	2.80	26
2:40 p	3:10 p	0	7.50	6.50	30
3:12 p	3:42 p	0	6.50	5.40	27
3:42 p	4:12 p	0	5.40	4.50	33
		0			
12:00 a		0			
			Last Five Averaged:		**29**

Average Percolation Rate = **23** ***minutes per inch***

DATA GRAPH



REPORT OF PERCOLATION TEST

PROPERTY INFORMATION

Project Name:	Vineyards at El Dorado Hills
Project Location:	El Dorado Hills
Project No.:	E15193.000
Lot No.:	
Date of Test:	9/21/2015
A.P.N.:	
Phase No.:	

SOIL PROFILE

Depth (ft)	*SOIL TYPE AND NOTES*
Surface	
to	See log for TP-8
to	

PERCOLATION DATA

Test No.1			***Depth (inch):***		**26**
Time			Readings (in)		Rate
Start	End	Elap.	Start	End	(min/in)
12:10 p	1:00 p	50	8.30	3.70	11
1:00 p	1:30 p	80	7.30	5.10	14
1:30 p	2:30 p	140	5.10	1.80	18
2:39 p	3:09 p	170	8.50	6.70	17
3:09 p	3:39 p	200	6.70	3.80	10
3:39 p	4:09 p	230	10.00	7.70	13
4:10 p	4:40 p	260	7.70	4.80	10
			Last Five Averaged:		**13**

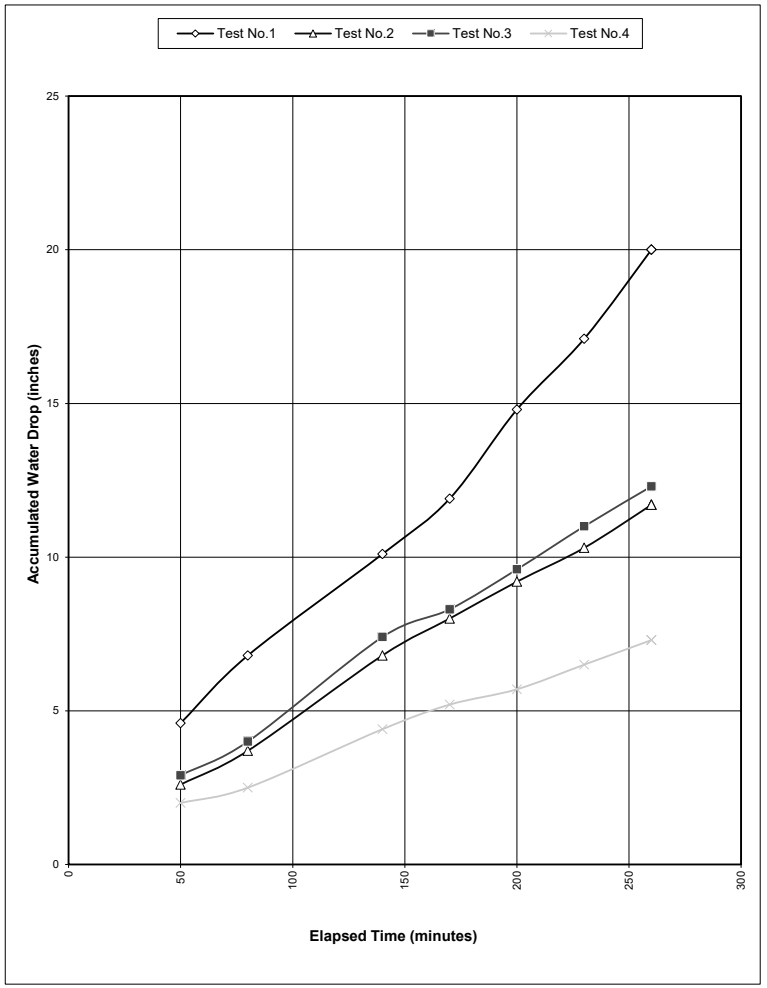
Test No.2			***Depth (inch):***		**24**
Time			Readings		Rate
Start	End	Elap.	Start	End	(min/in)
12:10 p	1:00 p	50	9.40	6.80	19
1:00 p	1:30 p	80	7.50	6.40	27
1:30 p	2:30 p	140	6.40	3.30	19
2:39 p	3:09 p	170	9.40	8.20	25
3:09 p	3:39 p	200	8.20	7.00	25
3:39 p	4:09 p	230	7.00	5.90	27
4:10 p	4:40 p	260	5.90	4.50	21
			Last Five Averaged:		**25**

Test No.3			***Depth (inch):***		**26**
Time			Readings		Rate
Start	End	Elap.	Start	End	(min/in)
12:10 p	1:00 p	50	8.00	5.10	17
1:00 p	1:30 p	80	7.00	5.90	27
1:30 p	2:30 p	140	5.90	2.50	18
2:39 p	3:09 p	170	6.70	5.80	33
3:09 p	3:39 p	200	5.80	4.50	23
3:39 p	4:09 p	230	7.90	6.50	21
4:10 p	4:40 p	260	6.50	5.20	23
			Last Five Averaged:		**25**

Test No.4			***Depth (inch):***		**28**
Time			Readings (in)		Rate
Start	End	Elap.	Start	End	(min/in)
12:10 p	1:00 p	50	10.10	8.10	25
1:00 p	1:30 p	80	8.50	8.00	60
1:30 p	2:30 p	140	8.00	6.10	32
2:39 p	3:09 p	170	9.20	8.40	38
3:09 p	3:39 p	200	8.40	7.90	60
3:39 p	4:09 p	230	7.90	7.10	38
4:10 p	4:40 p	260	7.10	6.30	38
			Last Five Averaged:		**43**

Average Percolation Rate = 26 minutes per inch

DATA GRAPH



REPORT OF PERCOLATION TEST

PROPERTY INFORMATION

Project Name:	The Vineyards
Project Location:	El Dorado Hills
Project No.:	E15193.000
Lot No.:	
Date of Test:	10/16/2015
A.P.N.:	
Phase No.:	

SOIL PROFILE

Depth (ft)	***SOIL TYPE AND NOTES***
Surface	See test pit log log for TP-9
to	
to	

PERCOLATION DATA

Test No.1			***Depth (inch):***		**25**
Time			Readings (in)		Rate
Start	End	Elap.	Start	End	(min/in)
10:18 a	10:48 a	30	7.80	5.20	12
10:49 a	11:19 a	60	8.70	5.40	9
11:20 a	11:50 a	90	9.20	6.00	9
1:09 p	1:39 p	120	8.60	5.30	9
1:40 p	2:10 p	150	5.30	3.50	17
2:12 p	2:42 p	180	8.00	5.30	11
2:42 p	3:12 p	210	5.30	3.70	19
3:12 p	3:42 p	240	8.00	5.40	12
			Last Five Averaged:		**13**

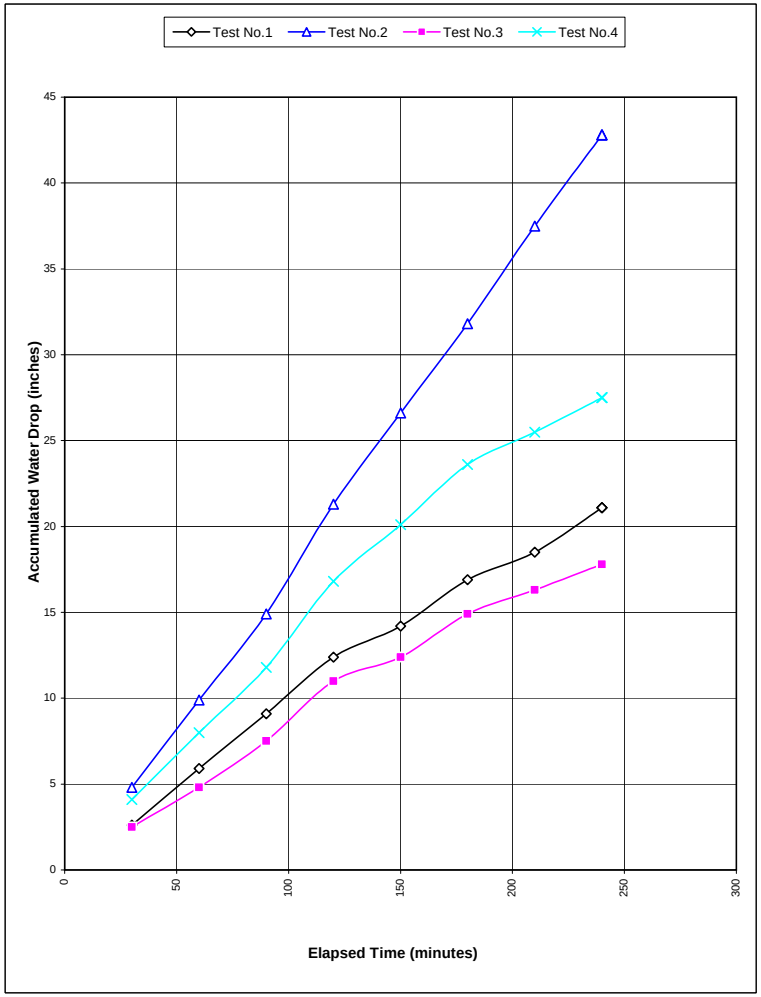
Test No.2			***Depth (inch):***		**30**
Time			Readings		Rate
Start	End	Elap.	Start	End	(min/in)
10:18 a	10:48 a	30	7.30	2.50	6
10:49 a	11:19 a	60	7.80	2.70	6
11:20 a	11:50 a	90	7.70	2.70	6
1:09 p	1:39 p	120	9.10	2.70	5
1:40 p	2:10 p	150	8.00	2.70	6
2:12 p	2:42 p	180	8.00	2.80	6
2:42 p	3:12 p	210	8.70	3.00	5
3:12 p	3:42 p	240	8.00	2.70	6
			Last Five Averaged:		**5**

Test No.3			***Depth (inch):***		**24**
Time			Readings		Rate
Start	End	Elap.	Start	End	(min/in)
10:18 a	10:48 a	30	8.10	5.60	12
10:49 a	11:19 a	60	8.40	6.10	13
11:20 a	11:50 a	90	8.90	6.20	11
1:09 p	1:39 p	120	9.60	6.10	9
1:40 p	2:10 p	150	6.10	4.70	21
2:12 p	2:42 p	180	9.00	6.50	12
2:42 p	3:12 p	210	6.50	5.10	21
3:12 p	3:42 p	240	5.10	3.60	20
			Last Five Averaged:		**17**

Test No.4			***Depth (inch):***		**36**
Time			Readings (in)		Rate
Start	End	Elap.	Start	End	(min/in)
10:18 a	10:48 a	30	8.60	4.50	7
10:49 a	11:19 a	60	9.10	5.20	8
11:20 a	11:50 a	90	9.50	5.70	8
1:09 p	1:39 p	120	10.80	5.80	6
1:40 p	2:10 p	150	9.00	5.70	9
2:12 p	2:42 p	180	10.00	6.50	9
2:42 p	3:12 p	210	6.50	4.60	16
3:12 p	3:42 p	240	4.60	2.60	15
			Last Five Averaged:		**11**

Average Percolation Rate = 12 minutes per inch

DATA GRAPH



REPORT OF PERCOLATION TEST

PROPERTY INFORMATION

Project Name:	The Vineyards
Project Location:	El Dorado Hills
Project No.:	E15193.000
Lot No.:	
Date of Test:	10/16/2015
A.P.N.:	
Phase No.:	

SOIL PROFILE

Depth (ft)	***SOIL TYPE AND NOTES***
Surface	See test pit log for TP-10
to	
to	

PERCOLATION DATA

Test No.1			***Depth (inch):***		**25**
Time			Readings (in)		Rate
Start	End	Elap.	Start	End	(min/in)
10:08 a	10:38 a	30	5.30	3.90	21
10:38 a	11:08 a	60	5.50	4.40	27
11:10 a	11:40 a	90	6.40	4.90	20
11:41 a	12:11 p	120	4.90	3.70	25
12:57 p	1:27 p	150	7.00	5.50	20
1:28 p	1:58 p	180	5.50	4.20	23
1:59 p	2:29 p	210	4.20	2.90	23
2:31 p	3:01 p	240	5.60	4.60	30
			Last Five Averaged:		**24**

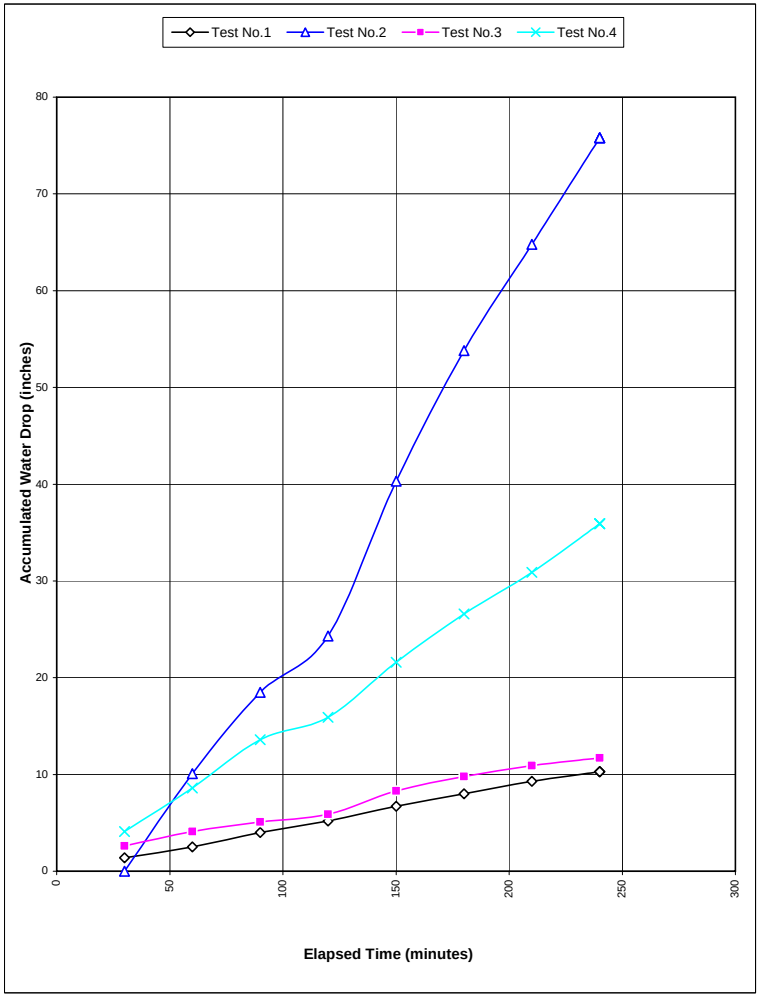
Test No.2			***Depth (inch):***		**30**
Time			Readings		Rate
Start	End	Elap.	Start	End	(min/in)
10:08 a	10:38 a	30			#DIV/0!
10:38 a	11:08 a	60	10.10		3
11:10 a	11:40 a	90	8.40		4
11:41 a	12:11 p	120	5.80		5
12:57 p	1:27 p	150	16.00		2
1:28 p	1:58 p	180	13.50		2
1:59 p	2:29 p	210	11.00		3
2:31 p	3:01 p	240	11.00		3
			Last Five Averaged:		**3**

Test No.3			***Depth (inch):***		**24**
Time			Readings		Rate
Start	End	Elap.	Start	End	(min/in)
10:08 a	10:38 a	30	8.60	6.00	12
10:38 a	11:08 a	60	7.00	5.50	20
11:10 a	11:40 a	90	5.50	4.50	30
11:41 a	12:11 p	120	4.50	3.70	38
12:57 p	1:27 p	150	8.80	6.40	13
1:28 p	1:58 p	180	6.40	4.90	20
1:59 p	2:29 p	210	4.90	3.80	27
2:31 p	3:01 p	240	3.80	3.00	38
			Last Five Averaged:		**27**

Test No.4			***Depth (inch):***		**36**
Time			Readings (in)		Rate
Start	End	Elap.	Start	End	(min/in)
10:08 a	10:38 a	30	8.00	3.90	7
10:38 a	11:08 a	60	8.90	4.40	7
11:10 a	11:40 a	90	9.50	4.50	6
11:41 a	12:11 p	120	5.50	3.20	13
12:57 p	1:27 p	150	10.50	4.80	5
1:28 p	1:58 p	180	9.50	4.50	6
1:59 p	2:29 p	210	8.90	4.60	7
2:31 p	3:01 p	240	9.80	4.80	6
			Last Five Averaged:		**7**

Average Percolation Rate = ***15*** ***minutes per inch***

DATA GRAPH



APPENDIX H

Transportation and Circulation Information

CONTENTS

APPENDIX H.1

Transportation Impact Study

Transportation Impact Study

Vineyards at El Dorado Hills (WO#30)
El Dorado Hills, California

November 11, 2016

Prepared for:

OMNI Financial, LLC

Prepared by:

Kimley»Horn
555 Capitol Mall, Suite 300
Sacramento, California 95814

Phone: (916) 858-5800

EXECUTIVE SUMMARY

This report documents the results of a traffic impact analysis completed for the Vineyards at El Dorado Hills project proposed to be located north of Malcolm Dixon Road, west of the proposed Chartraw Road in the vicinity of the proposed Wilson Estates project in El Dorado Hills, California (the "proposed project" or "project"). 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 performed in accordance with the El Dorado County Community Development Agency's *Transportation Impact Study Guidelines*, and the scope of work provided by a representative of the County.

The project site is proposed to be developed with 42 single-family detached dwelling units. Access to the site will be provided from both Malcolm Dixon Road and Chartraw Road. Turn restrictions are proposed at the Malcolm Dixon Road driveway by which access to and from the west is prohibited (emergency vehicle access is maintained). This driveway is opposite the planned Wilson Estates driveway with similar restrictions. The following transportation facilities are included in this evaluation:

Intersections:

1. Green Valley Road @ Francisco Drive
2. Green Valley Road @ El Dorado Hills Boulevard/Salmon Falls Road
3. Green Valley Road @ Silva Valley Parkway/Allegheny Road
4. Green Valley Road @ Loch Way
5. Green Valley Road @ Wilson Connector (Chartraw Road)
6. Green Valley Road @ Malcolm Dixon Road
7. Malcolm Dixon Road (North) @ Chartraw Road
8. Malcolm Dixon Road (South) @ Chartraw Road
9. Malcolm Dixon Road @ Allegheny Road
10. Malcolm Dixon Road @ Salmon Falls Road
11. Silva Valley Parkway @ Appian Way
12. Silva Valley Parkway @ Harvard Way
13. Silva Valley Parkway @ Golden Eagle Lane/Walker Park Drive
14. Malcolm Dixon Road @ Wilson Estates/Project Driveway

Roadway Segments:

1. Green Valley Road, between Francisco Drive and El Dorado Hills Boulevard/Salmon Falls Road
2. Green Valley Road, between El Dorado Hills Boulevard/Salmon Falls Road and Silva Valley Parkway
3. Green Valley Road, between Silva Valley Parkway and Wilson Connector (Chartraw Road)
4. El Dorado Hills Boulevard, between Francisco Drive and Governor Drive
5. Silva Valley Parkway, between Green Valley Road and Appian Way
6. Silva Valley Parkway, between Appian Way and Harvard Way

Based on the County's requirements, this LOS analysis was conducted for the above facilities for the following scenarios:

A. Existing (2015) Conditions
B. Existing (2015) plus Proposed Project Conditions
C. Near-Term (2025) Conditions
D. Near-Term (2025) plus Proposed Project Conditions

Significant findings of this study include:

- The proposed project is estimated to generate 474 total new daily trips, with 39 new trips occurring during the AM peak-hour, and 48 new trips occurring during the PM peak-hour.
- The proposed project is located within Traffic Analysis Zone (TAZ) 211 and complies with the *General Plan* land use designation. Therefore, new Cumulative (2035) analyses are not required to be completed as part of this study.
- As defined by the County, the addition of the proposed project to the Near-Term (2025) Conditions significantly worsens conditions at three study intersections. All three impacts can be mitigated to a ***less than significant*** level.
- Measure E was passed by El Dorado County voters on June 7, 2016, and became effective on July 29, 2016. Measure E amended General Plan Policies TX-Xa, TC-Xf, and TC-Xg and included several "implementation" statements. At the time of this report, the Board of Supervisors (Board) had continued the matter (Resolution 149-2016) off-calendar, and had moved forward with the implementation of the voter approved Measure E Initiative "as written and as it was before the voters." Measure E specifically states (amended General Plan Policy TX-Xa 1) that "Traffic from residential development projects of five or more units or parcels of land shall not result in, or worsen, Level of Service F…" and that "All necessary road capacity improvements shall be fully completed to prevent cumulative traffic impacts from new development from reaching Level of Service F during peak hours…" (General Plan Policy TC-Xa 3). As such, the Vineyards at El Dorado Hills project is directly affected by Measure E. Accordingly, although the Board continues to work through the implementation of the measure, this project will be required to, at a minimum, demonstrate consistency with the measure's requirements. Moreover, consistent with Measure E, the Proposed Project will likely be conditioned to construct all mitigations identified under both Existing (2015) and Near-Term (2025) plus Proposed Project Conditions.

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LIST OF TABLES

LIST OF FIGURES

INTRODUCTION

This report documents the results of a traffic impact analysis completed for the Vineyards at El Dorado Hills project proposed to be located north of Malcolm Dixon Road, west of the proposed Chartraw Road in the vicinity of the proposed Wilson Estates project in El Dorado Hills, California (the "proposed project" or "project"). 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 performed in accordance with the El Dorado County Community Development Agency's *Transportation Impact Study Guidelines*, and the scope of work provided by a representative of the County[1].

The remaining sections of this report document the proposed project, analysis methodologies, impacts and mitigation, and general study conclusions.

PROJECT DESCRIPTION

The project site is proposed to be developed with 42 single-family detached dwelling units. Access to the site will be provided from both Malcolm Dixon Road and Chartraw Road. Turn restrictions are proposed at the Malcolm Dixon Road driveway by which access to and from the west is prohibited (emergency vehicle access is maintained). This driveway is opposite the planned Wilson Estates driveway with similar restrictions. The project location is shown in **Figure 1**, and the proposed project site plan is shown in **Figure 2**. Additional project area circulation context provided in **Figure 3** and **Figure 4**. The following transportation facilities are included in this evaluation:

Intersections:

1. Green Valley Road @ Francisco Drive
2. Green Valley Road @ El Dorado Hills Boulevard/Salmon Falls Road
3. Green Valley Road @ Silva Valley Parkway/Allegheny Road
4. Green Valley Road @ Loch Way
5. Green Valley Road @ Wilson Connector (Chartraw Road)
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Roadway Segments:

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3. Green Valley Road, between Silva Valley Parkway and Wilson Connector (Chartraw Road)
4. El Dorado Hills Boulevard, between Francisco Drive and Governor Drive
5. Silva Valley Parkway, between Green Valley Road and Appian Way
6. Silva Valley Parkway, between Appian Way and Harvard Way

Figure 5 illustrates the study facilities, existing traffic control, and existing lane configurations.

[1] Memorandum from Chirag Safi, Kittelson & Associates, Inc., to Martin Boon, Omni/Orbis Financial, September 29, 2015.

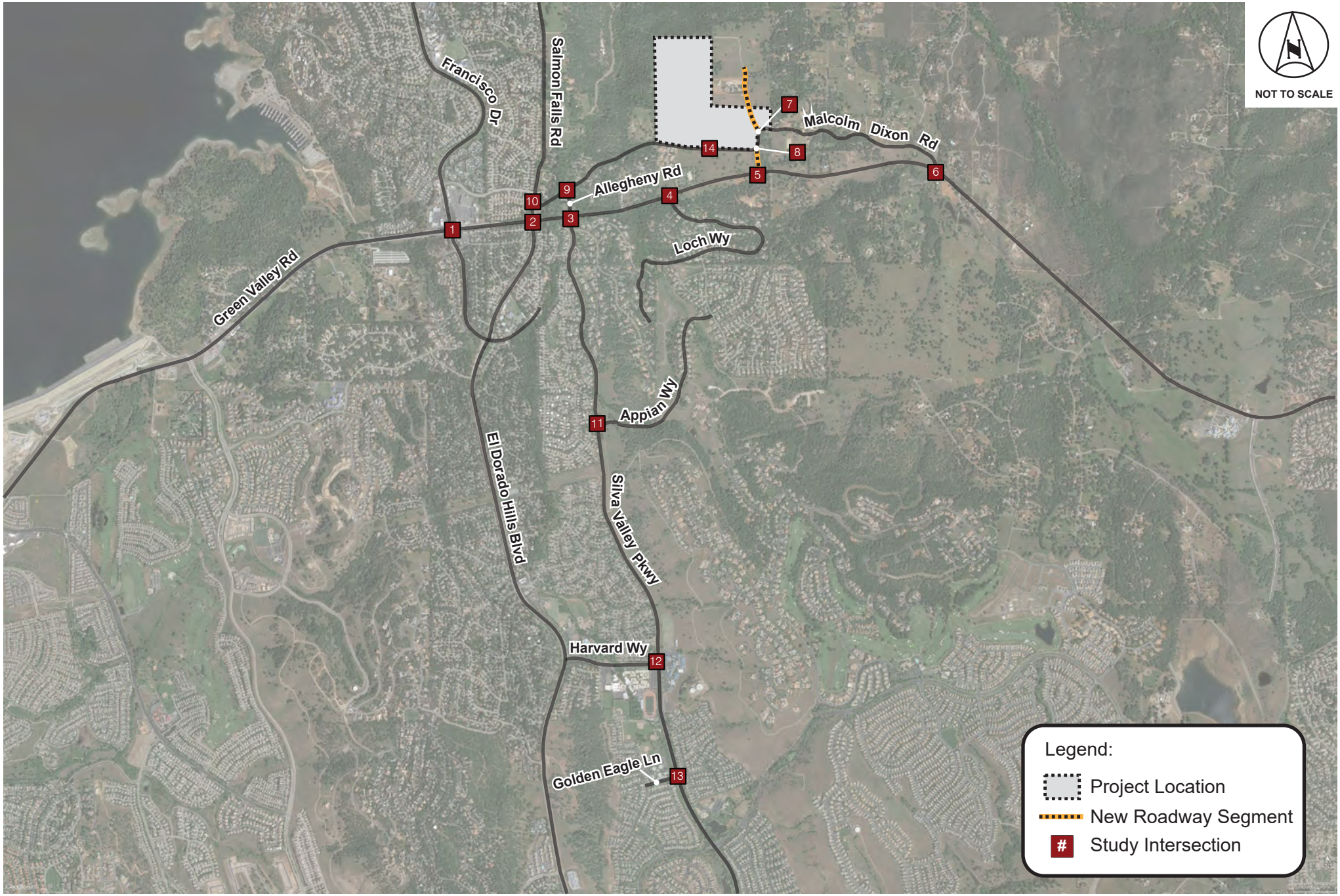
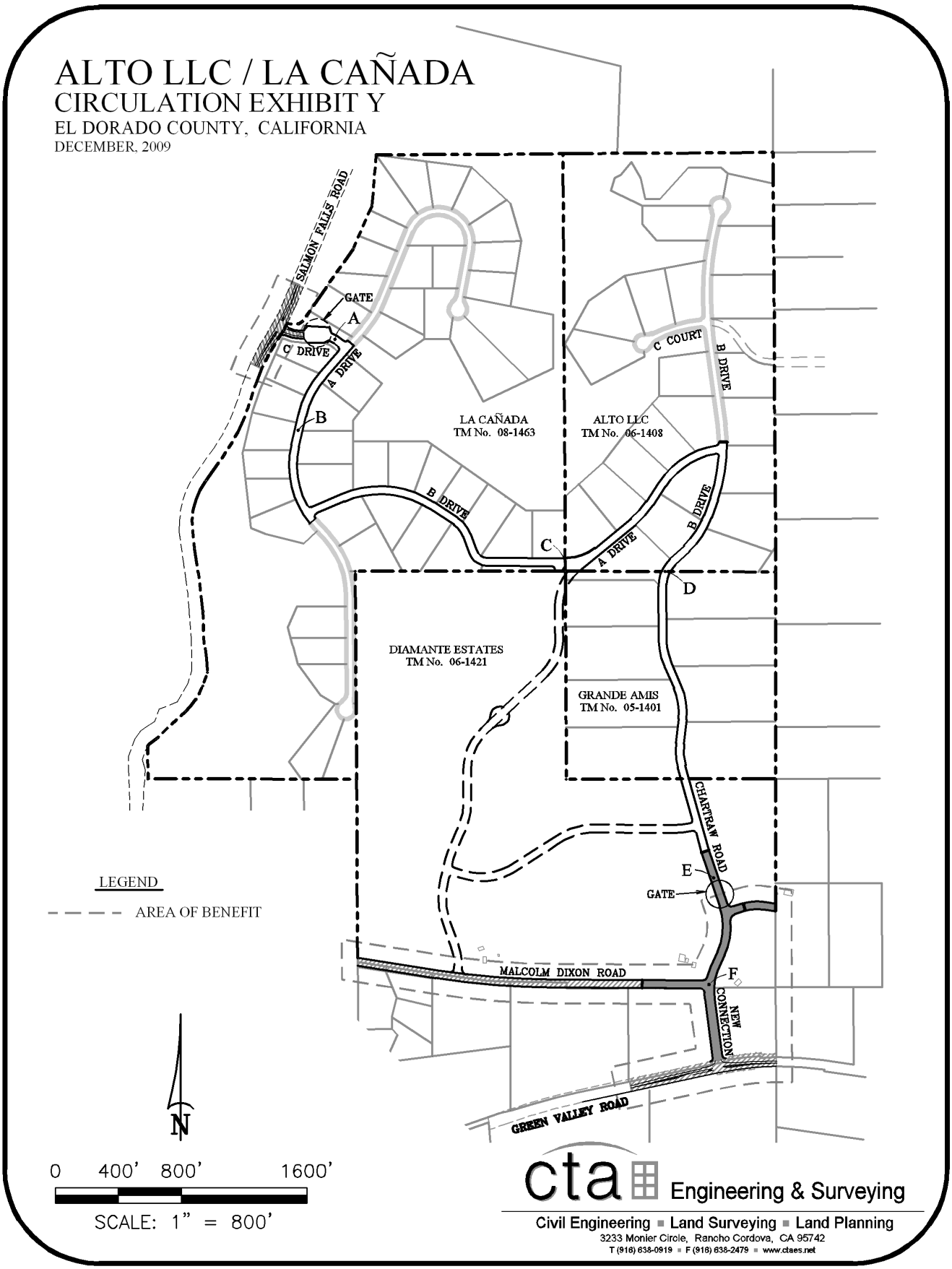
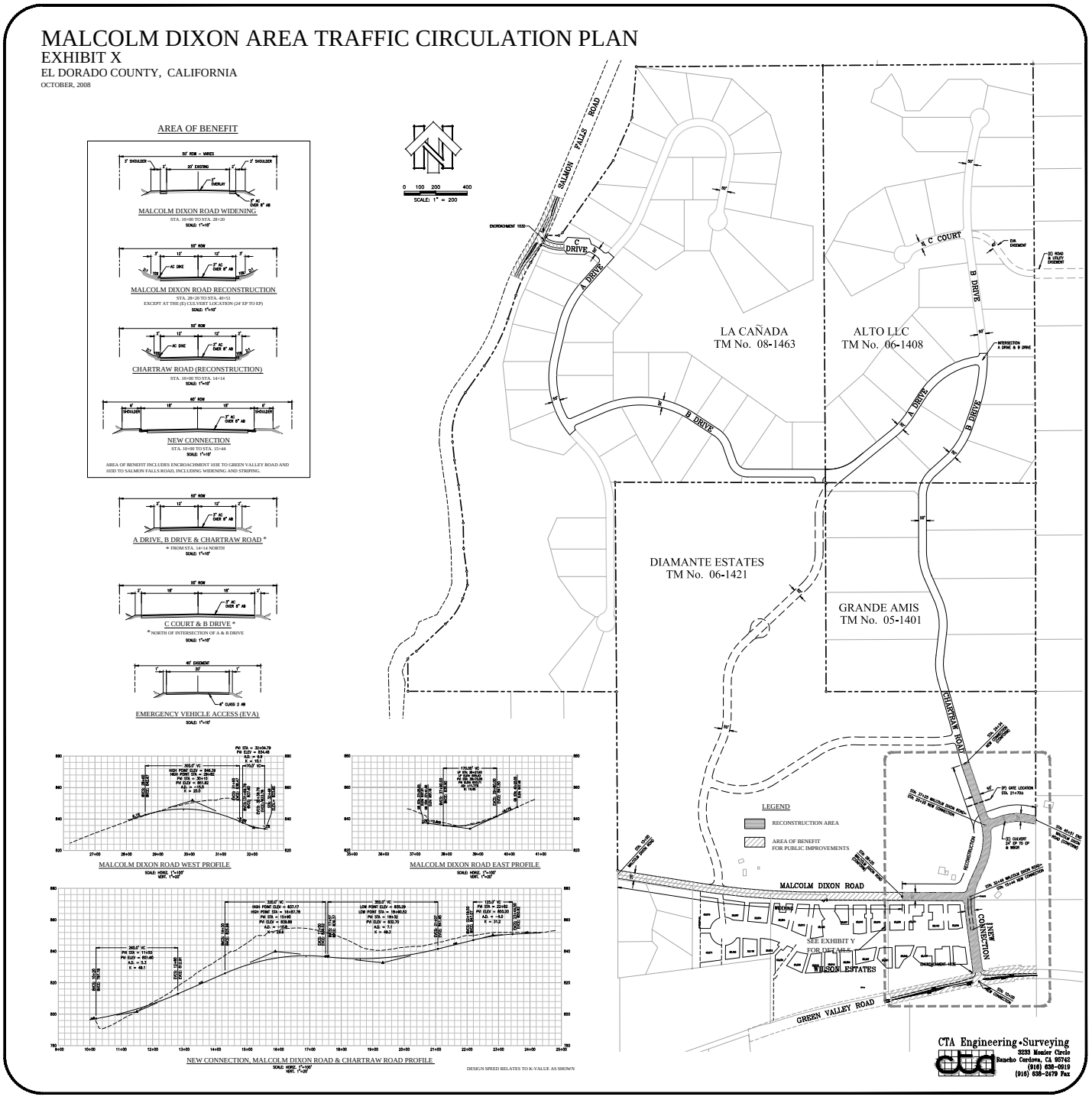
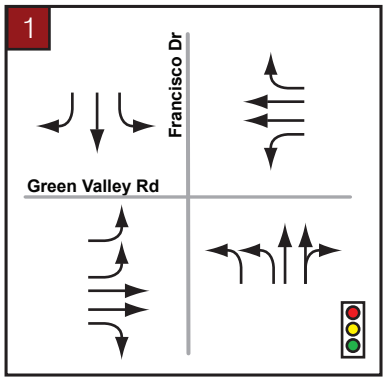


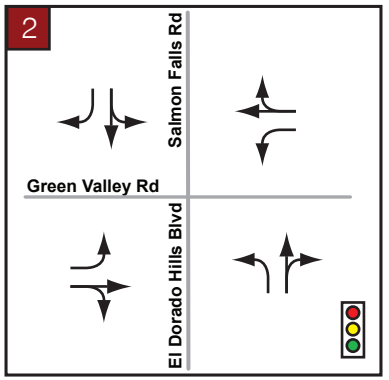
Figure 1
Project Vicinity Map

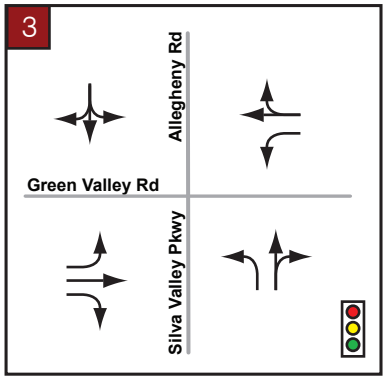
cta Engineering & Surveying
Civil Engineering ■ Land Surveying ■ Land Planning
3233 Monier Circle, Rancho Cordova, CA 95742
T (916) 638-0919 ■ F (916) 638-2479 ■ www.ctaes.net

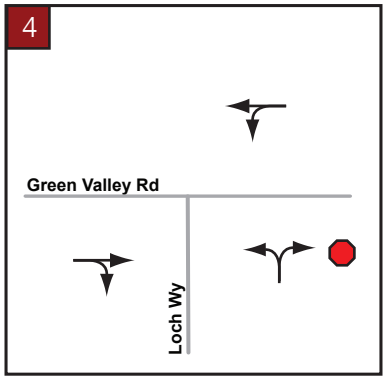

ALTO LLC / LA CAÑADA
CIRCULATION EXHIBIT Y
EL DORADO COUNTY, CALIFORNIA
DECEMBER, 2009
SALMON FALLS ROAD
GATE
A
C DRIVE
A DRIVE
B
LA CAÑADA
TM No. 08-1463
ALTO LLC
TM No. 06-1408
C COURT
B DRIVE
B DRIVE
C
A DRIVE
B DRIVE
D
DIAMANTE ESTATES
TM No. 06-1421
GRANDE AMIS
TM No. 05-1401
CHARTRAW ROAD
E
GATE
MALCOLM DIXON ROAD
F
NEW CONNECTION
GREEN VALLEY ROAD
LEGEND
AREA OF BENEFIT
N
0 400' 800' 1600'
SCALE: 1" = 800'
cta Engineering & Surveying
Civil Engineering ■ Land Surveying ■ Land Planning
3233 Monier Circle, Rancho Cordova, CA 95742
T (916) 638-0919 ■ F (916) 638-2479 ■ www.ctaes.net


MALCOLM DIXON AREA TRAFFIC CIRCULATION PLAN
EXHIBIT X
EL DORADO COUNTY, CALIFORNIA
OCTOBER, 2008
AREA OF BENEFIT
MALCOLM DIXON ROAD WIDENING
MALCOLM DIXON ROAD RECONSTRUCTION
CHARTRAW ROAD (RECONSTRUCTION)
NEW CONNECTION
AREA OF BENEFIT INCLUDES ENCROACHMENT 103E TO GREEN VALLEY ROAD AND 103D TO SALMON FALLS ROAD, INCLUDING WIDENING AND STRIPING.
A DRIVE, B DRIVE & CHARTRAW ROAD *
C COURT & B DRIVE *
EMERGENCY VEHICLE ACCESS (EVA)
SALMON FALLS ROAD
C DRIVE
A DRIVE
B DRIVE
C COURT
LA CAÑADA
TM No. 08-1463
ALTO LLC
TM No. 06-1408
DIAMANTE ESTATES
TM No. 06-1421
GRANDE AMIS
TM No. 05-1401
CHARTRAW ROAD
MALCOLM DIXON ROAD
WILSON ESTATES
GREEN VALLEY ROAD
LEGEND
RECONSTRUCTION AREA
AREA OF BENEFIT FOR PUBLIC IMPROVEMENTS
SEE EXHIBIT V FOR DETAILS
MALCOLM DIXON ROAD WEST PROFILE
MALCOLM DIXON ROAD EAST PROFILE
NEW CONNECTION, MALCOLM DIXON ROAD & CHARTRAW ROAD PROFILE
DESIGN SPEED RELATES TO K-VALUE AS SHOWN
CTA Engineering • Surveying
3233 Monier Circle
Rancho Cordova, CA 95742
(916) 638-0919
(916) 638-2479 Fax









LEGEND

- # Study Intersection (this figure)
- # Study Intersection (not shown on this figure)
- Stop Controlled Approach
- Signalized Study Intersection
- New Roadway Segment
- Project Location

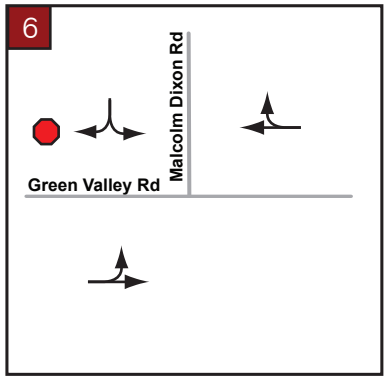
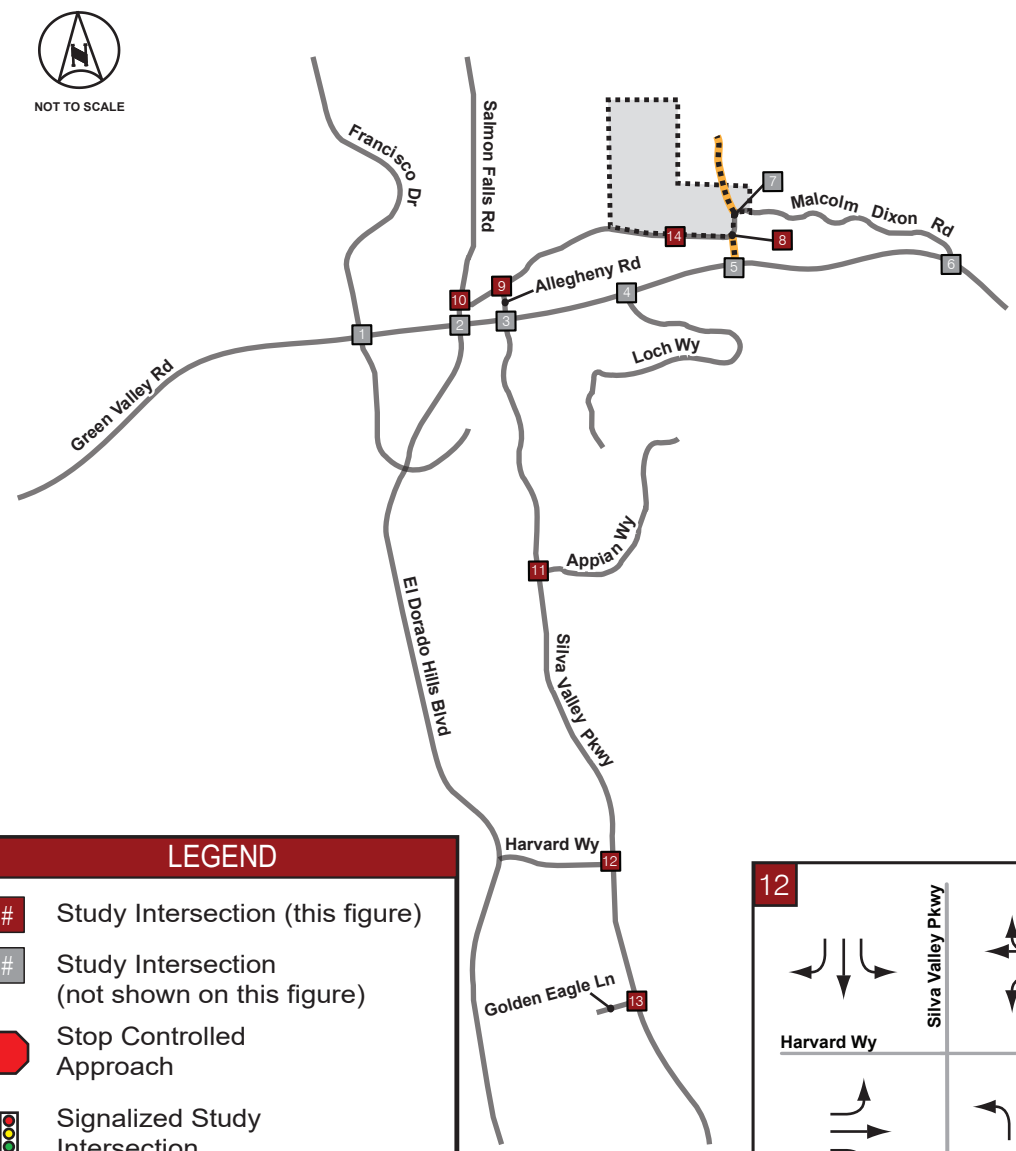
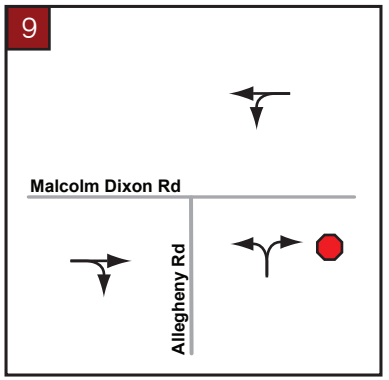
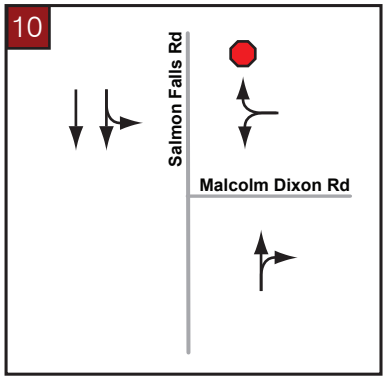
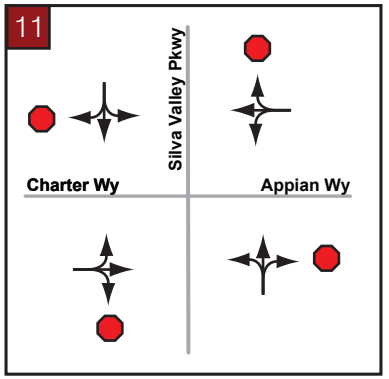


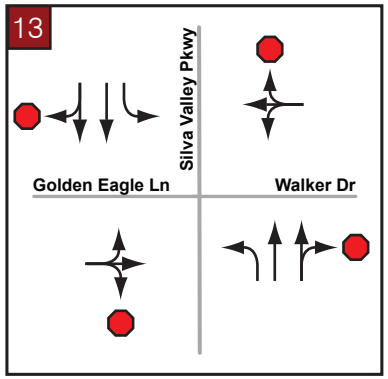
Figure 5a
Study Intersections, Traffic Control, and Lane Geometries











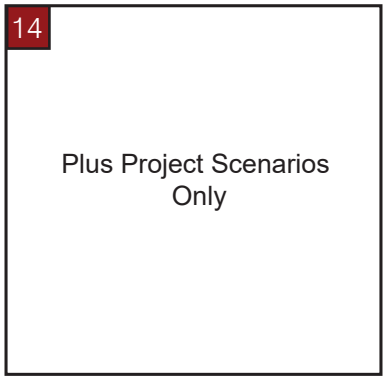
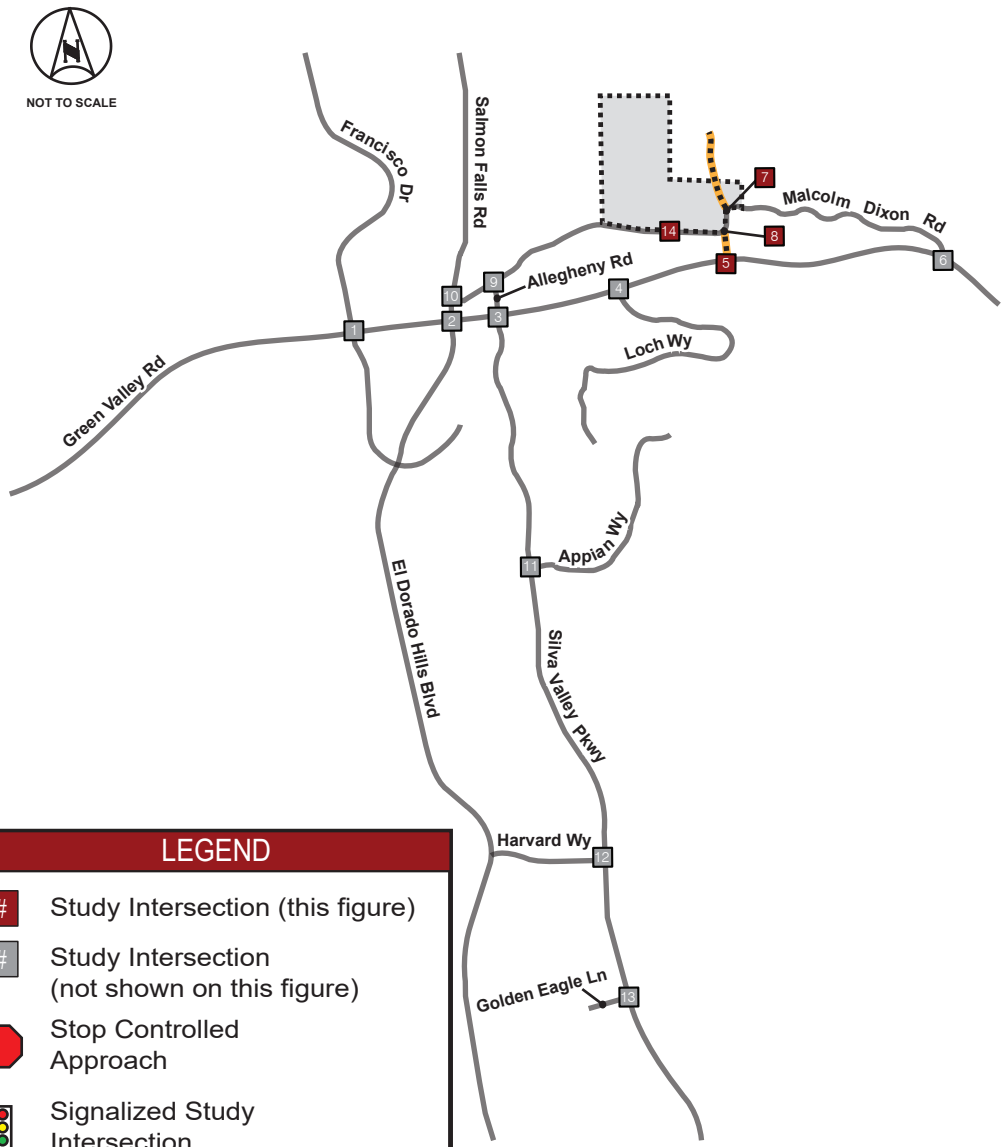
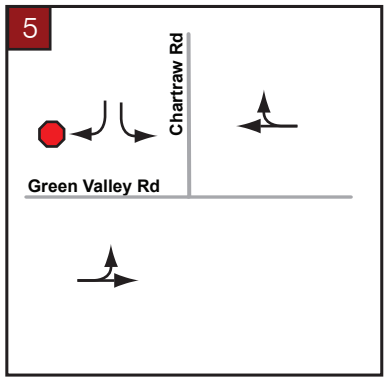
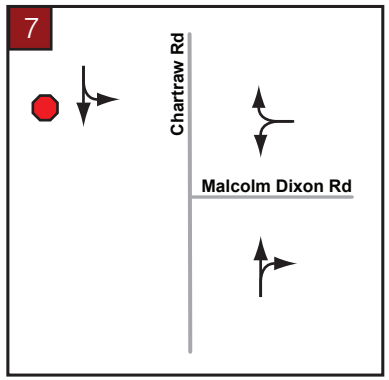
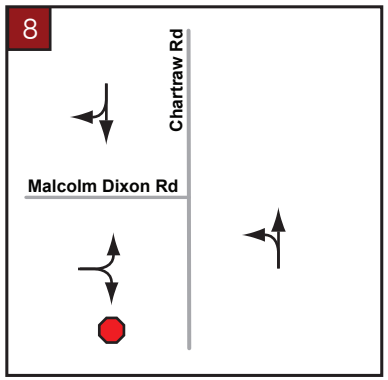


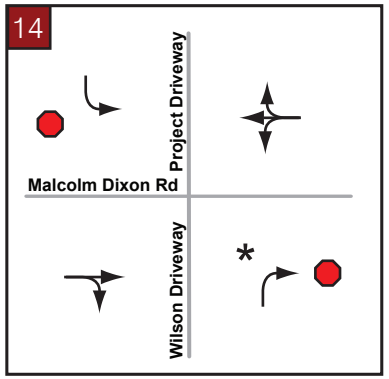
Figure 5b
Study Intersections, Traffic Control, and Lane Geometries











*Approach exists in the Near-Term Scenarios Only

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Figure 5c
Plus Project Study Intersections, Traffic Control, and Lane Geometries

PROJECT AREA ROADWAYS

The following are descriptions of the primary roadways in the vicinity of the project.

US Route 50 (US-50) is an east-west freeway located south of the project site. Generally, US-50 serves all of El Dorado County's major population centers and provides connections to Sacramento County to the west and the State of Nevada to the east. Primary access to the project site from US-50 is provided at the El Dorado Hills Boulevard/Latrobe Road interchange (supplemental access via Silva Valley Parkway interchange in 2016). Within the general project area, US-50 currently serves approximately 95,000 vehicles per day[2] (vpd) west of El Dorado Hills Boulevard/Latrobe Road.

Green Valley Road is an east-west arterial 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 and serves approximately 15,000 vehicles per day[3].

Salmon Falls Road is a north-south arterial roadway that serves as a primary connection for areas located along the eastern border of Folsom Lake, and provides a connection to SR-49 to the north. Through the project area, this roadway serves approximately 7,000 vpd[3] with one travel lane in each direction. South of Green Valley Road, Salmon Falls Road becomes El Dorado Hills Boulevard. **El Dorado Hills Boulevard** provides a primary connection to US-50 for western El Dorado County. Just north of US-50 this roadway carries approximately 30,000 vpd[3].

Silva Valley Parkway is a north-south collector roadway that connects Green Valley Road with Serrano Parkway and eventually US-50. Silva Valley Parkway provides one travel lane in each direction and serves approximately 6,500 vpd[3] just south of Green Valley Road. Although currently under construction, a new US-50 interchange with Silva Valley parkway is assumed to be in place for Near-Term (2025) Conditions.

Malcolm Dixon Road is an east-west local roadway that connects Salmon Falls Road with Green Valley Road. Malcolm Dixon Road is a low-speed, two-lane roadway that primarily provides local residential access.

The **Wilson Connector (Chartraw Road)** is a planned new roadway that will provide a direct connection between Malcolm Dixon Road and Green Valley Road. While named for its location through the planned Wilson Estates project, the Wilson Connector roadway is understood to be required prior to development of Wilson Estates, this proposed project, or any of the other planned development north of Malcolm Dixon Road through this area.

Allegheny Road is a north-south, minor roadway that provides a short, direct connection between Malcolm Dixon Road and Green Valley Road. Allegheny Road becomes Silva Valley Parkway south of Green Valley Road.

ASSESSMENT OF PROPOSED PROJECT

Proposed Project Trip Generation

The number of trips anticipated to be generated by the proposed project were derived using data included in *Trip Generation Manual*, *9th Edition*, published by the Institute of Transportation Engineers (ITE). The anticipated trip generation for this project is shown in **Table 1**.

As shown in **Table 1**, the proposed project is estimated to generate 470 total new daily trips, with 39 new trips occurring during the AM peak-hour, and 48 new trips occurring during the PM peak-hour.

[2] Caltrans Traffic and Vehicle Data Systems Unit, http://traffic-counts.dot.ca.gov/2014all/.
[3] El Dorado County Department of Transportation, 2014.

Table 1 – Proposed Project Trip Generation

Land Use (ITE Code)	Size (# units)	Daily Trips	AM Peak-Hour					PM Peak-Hour				
			Total Trips	IN		OUT		Total Trips	IN		OUT	
				%	Trips	%	Trips		%	Trips	%	Trips
Single-Family Detached Housing (210)	42	474	39	25%	10	75%	29	48	63%	30	37%	18
Net New External Trips:		***470***	***39***		***10***		***29***	***48***		***30***		***18***

Source: *Trip Generation Manual, 9th Edition*, ITE.

Proposed Project Trip Distribution and Assignment

The El Dorado County Travel Demand Model (TDM) was used both as the basis to establish the relative assignment of proposed project trips, and to establish background traffic estimates for analysis scenarios (additional discussion on the specific application of the TDM can be found within each scenario's discussion section). While the County originally provided the most recent iteration of the County's model at the onset of the project[4], subsequent coordination with the County resulted in additional revisions to that model for use in this study[5]. The project trip distribution percentages that resulted from analyses completed for this study are provided in **Figure 6** (2015) and **Figure 7** (2025).

Based on the assumed trip distribution, the net new external trips generated by the project were assigned to the street network as shown in **Figure 8** (2015) and **Figure 9** (2025). It should be noted that additional trip diversion occurred during the Existing (2015) plus Proposed Project Conditions with the incorporation of Chartraw Road construction (see **Figure 10)**.

TRANSPORTATION IMPACT STUDY METHODOLOGY

This transportation impact study was performed in accordance with the County's transportation impact study guidelines.

Level of Service Definitions

Analysis of transportation facility significant environmental impacts is based on the concept of Level of Service (LOS). The LOS of a facility is a qualitative measure used to describe operational conditions. LOS ranges from A (best), which represents minimal delay, to F (worst), which represents heavy delay and a facility that is operating at or near its functional capacity. Levels of Service for this study were determined using methods defined in the *Highway Capacity Manual (HCM) 2010*.

Intersection Analysis

The *HCM 2010* includes procedures for analyzing side-street stop controlled (SSSC), all-way stop controlled (AWSC), and signalized intersections. The SSSC procedure defines LOS as a function of average control delay for each minor street approach movement. Conversely, the AWSC and signalized intersection procedures define LOS as a function of average control delay for the intersection as a whole. **Table 2** presents intersection LOS definitions as defined in the *HCM 2010*.

Roadway Segment Analysis

The *HCM 2010* also includes procedures for analyzing multi-lane and two-lane roadway segments. For multilane roadways segments, LOS is determined based on the density of the traffic stream. For two-lane highways, the LOS calculation is dependent on the class of the roadway. Class I two-lane highways are highways that generally have high speeds; Class II two-lane highways are lower speed facilities that typically serve scenic routes or areas of rugged terrain; and Class III two-lane highways typically serve moderately developed areas with higher densities of local traffic and access.

[4] Email from Natalie Porter, El Dorado County Community Development Agency, September 19, 2014.
[5] Email from Chirag Safi, Kittelson & Associates, Inc., September 4, 2015.

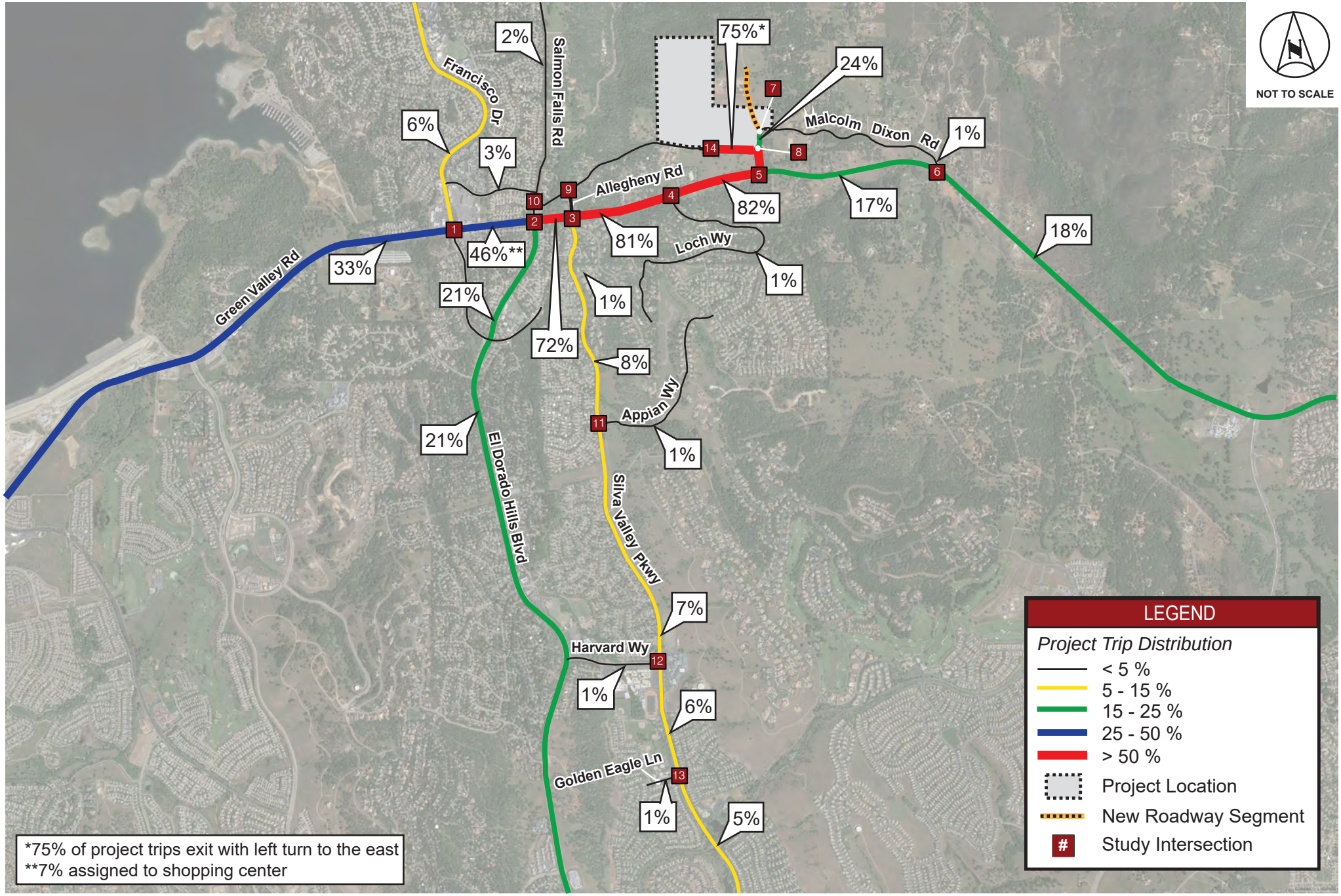

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Figure 6
Existing (2015) Proposed Project Trip Distribution

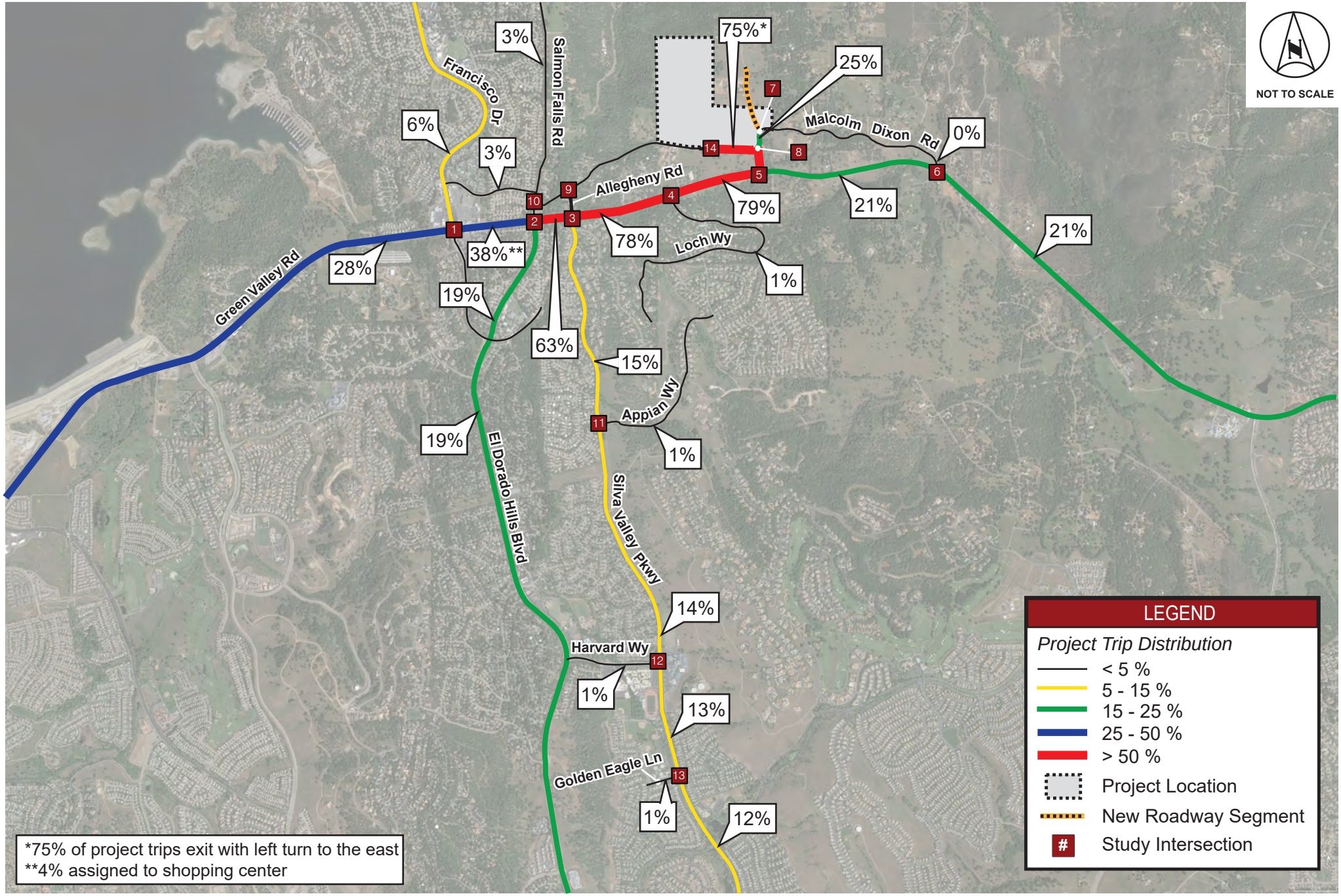

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Figure 7
Near-Term (2025) Proposed Project Trip Distribution

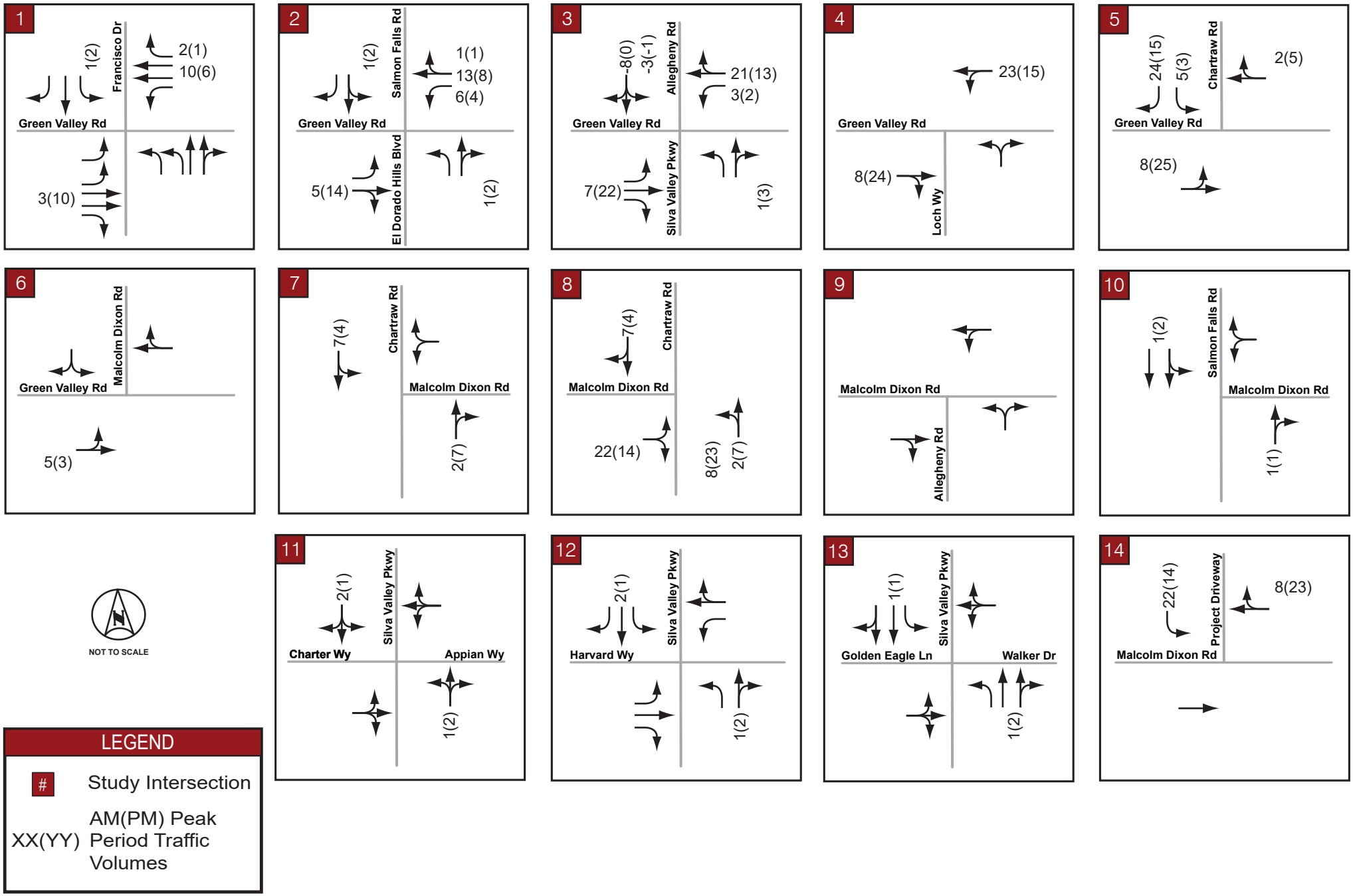

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Figure 8
Existing (2015) Project Trip Assignment

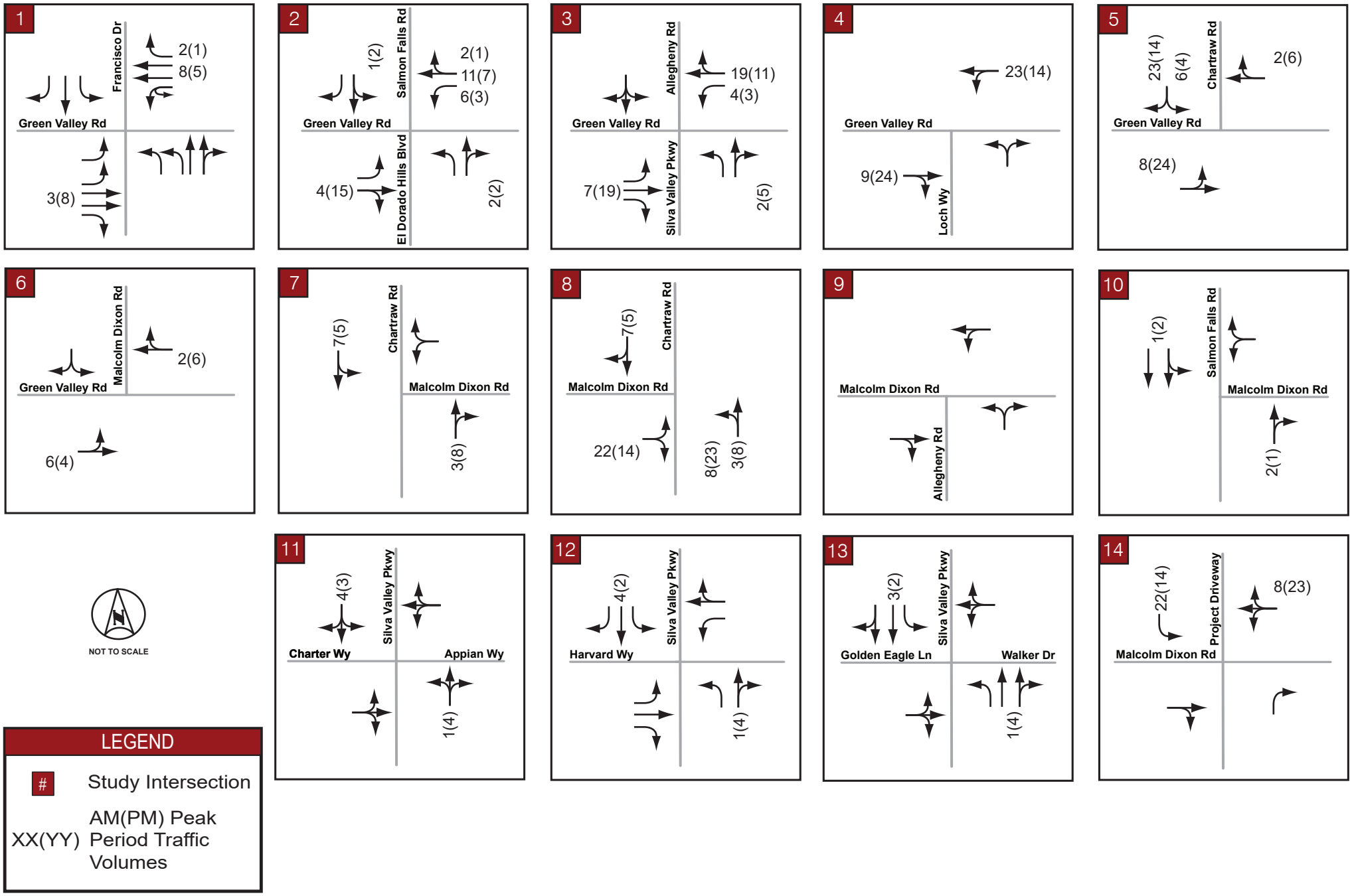

Figure 9
Near-Term (2025) Project Trip Assignment

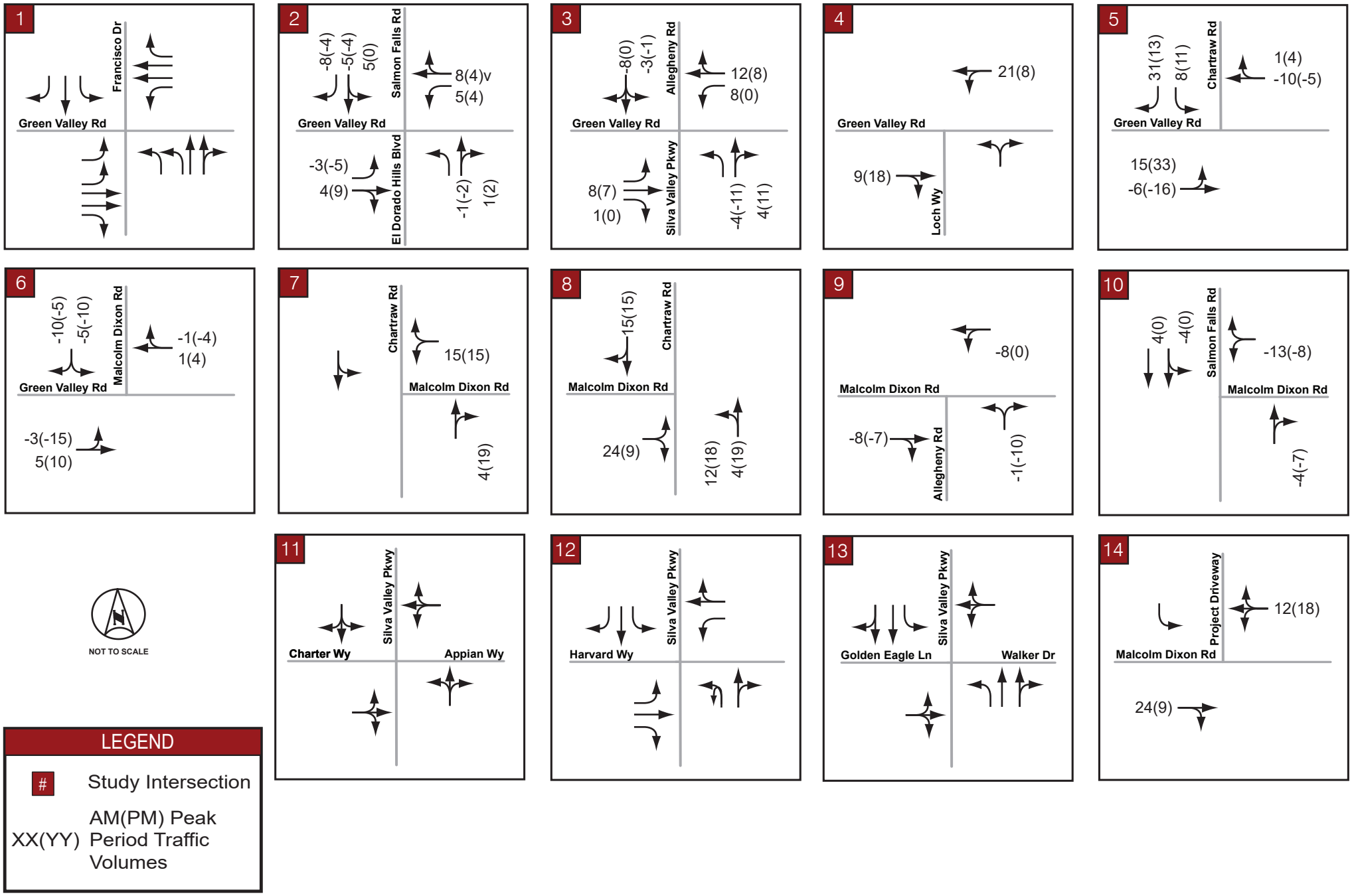
1
Francisco Dr
Green Valley Rd
2
-8(-4)
-5(-4)
5(0)
Salmon Falls Rd
8(4)v
5(4)
Green Valley Rd
-3(-5)
4(9)
El Dorado Hills Blvd
-1(-2)
1(2)
3
-8(0)
-3(-1)
Allegheny Rd
12(8)
8(0)
Green Valley Rd
8(7)
1(0)
Silva Valley Pkwy
-4(-11)
4(11)
4
21(8)
Green Valley Rd
9(18)
Loch Wy
5
31(13)
8(11)
Chartraw Rd
1(4)
-10(-5)
Green Valley Rd
15(33)
-6(-16)
6
-10(-5)
-5(-10)
Malcolm Dixon Rd
-1(-4)
1(4)
Green Valley Rd
-3(-15)
5(10)
7
Chartraw Rd
15(15)
Malcolm Dixon Rd
4(19)
8
15(15)
Chartraw Rd
Malcolm Dixon Rd
24(9)
12(18)
4(19)
9
-8(0)
Malcolm Dixon Rd
-8(-7)
Allegheny Rd
-1(-10)
10
4(0)
-4(0)
Salmon Falls Rd
-13(-8)
Malcolm Dixon Rd
-4(-7)
NOT TO SCALE
11
Silva Valley Pkwy
Charter Wy
Appian Wy
12
Silva Valley Pkwy
Harvard Wy
13
Silva Valley Pkwy
Golden Eagle Ln
Walker Dr
14
Project Driveway
12(18)
Malcolm Dixon Rd
24(9)
LEGEND
Study Intersection
XX(YY) AM(PM) Peak Period Traffic Volumes

Table 2 – Intersection Level of Service Criteria

Level of Service (LOS)	Un-Signalized	Signalized
	Average Control Delay* (sec/veh)	Control Delay per Vehicle (sec/veh)
A	≤ 10	≤ 10
B	> 10 – 15	> 10 – 20
C	> 15 – 25	> 20 – 35
D	> 25 – 35	> 35 – 55
E	> 35 – 50	> 55 – 80
F	> 50	> 80

Source: Highway Capacity Manual, 2010
* Applied to the worst lane/lane group(s) for SSSC

The study roadway segments along Green Valley Road, El Dorado Hills Boulevard, and Silva Valley Parkway considered to be Class II or Class III two-lane highways. For Class II highways (the Green Valley Road segments), LOS is based on the Percent Time Spent Following (PTSF), which represents vehicles' ability to maneuver and the comfort and convenience of travel. Class III highways' (the El Dorado Hills Boulevard and Silva Valley Parkway segments) LOS is based on the Percent of Free-Flow Speed (PFFS), which is the measure representing the ability of vehicles to travel at the posted speed limit. The LOS criteria for multi-lane and two-lane roadway segments are shown in **Table 3**.

Table 3 – Two-Lane Roadway Segment (Class II and III) Level of Service Criteria

Level of Service (LOS)	Class II Percent Time Spent Following, PTSF (%)	Class III Percent Free-Flow Speed, PFFS (%)
A	≤ 40	> 91.7
B	> 40 – 55	> 83.3 – 91.7
C	> 55 – 70	> 75.0 – 83.3
D	> 70 – 85	> 66.7 – 75.0
E	> 85	≤ 66.7

Source: Highway Capacity Manual, 2010

Consistency with General Plan Land Use Designation

As confirmed by a representative of the County[1], the proposed project is located in Traffic Analysis Zone (TAZ) 211 and "complies with the General Plan land use designation. Therefore, a cumulative year conditions analysis is not required."

Based on the above information and direction from County's representative, this LOS analysis was conducted for the study facilities for the following scenarios:

A. Existing (2015) Conditions
B. Existing (2015) plus Proposed Project Conditions
C. Near-Term (2025) Conditions
D. Near-Term (2025) plus Proposed Project Conditions

The following is a discussion of the analyses completed for each of these scenarios.

EXISTING (2015) CONDITIONS

Peak-hour traffic volumes for the Green Valley Road study intersections and roadway segments were obtained from a recent study completed, by others, for the Green Valley Road Corridor[6]. As specified by a representative of the County[7], an annual growth rate of 2 percent was used to grow these 2014 volumes to represent 2015 conditions. Five new weekday AM and PM peak-period intersection turning movement traffic counts were conducted in October 2015 for study intersections #9-#13. These counts were conducted between the hours of 6:00 a.m. and 9:00 a.m., and 4:00 p.m. and 7:00 p.m. The other study intersections, #5, #7, #8, and #14, do not exist today and, therefore, existing counts were not required. Traffic volumes for the remaining three roadway segments (#4-#6) were obtained from the County[3].

Existing (2015) peak-hour turning movement volumes are presented in **Figure 11**, and the traffic count data sheets are provided in **Appendix A**. Analysis worksheets for this scenario are provided in **Appendix B**.

Intersections

Table 4 presents the intersection operating conditions for this analysis scenario. As indicated in **Table 4**, the study intersections operate from LOS A to LOS E during the AM and PM peak-hours.

Table 4 – Existing (2015) Intersection Levels of Service

ID	Intersection	Control	Peak Hour	Existing (2015)	
				Delay (sec)	LOS
1	Green Valley Rd @ Francisco Dr	Signal	AM	53.0	D
			PM	62.8	E
2	Green Valley Rd @ El Dorado Hills Blvd/Salmon Falls Rd	Signal	AM	57.8	E
			PM	45.5	D
3	Green Valley Rd @ Silva Valley Pkwy/Allegheny Rd	Signal	AM	25.8	C
			PM	19.1	B
4	Green Valley Rd @ Loch Way	SSSC*	AM	1.0 (21.7 NB)	C
			PM	0.7 (29.1 NB)	D
5	Green Valley Rd @ Chartraw Rd	SSSC*	AM	*plus Project Only*	
			PM		
6	Green Valley Rd @ Malcolm Dixon Rd	SSSC*	AM	0.5 (15.1 SB)	C
			PM	0.6 (22.8 SB)	C
7	Malcolm Dixon Rd (N) @ Chartraw Rd	SSSC*	AM	*plus Project Only*	
			PM		
8	Malcolm Dixon Rd (S) @ Chartraw Rd	SSSC*	AM	*plus Project Only*	
			PM		
9	Malcolm Dixon Rd @ Allegheny Rd	SSSC*	AM	4.6 (9.8 NB)	A
			PM	4.1 (9.1 NB)	A
10	Salmon Falls Rd @ Malcolm Dixon Rd	SSSC*	AM	2.5 (12.0 WB)	B
			PM	1.3 (12.2 WB)	B
11	Silva Valley Pkwy @ Appian Way	AWSC	AM	24.3	C
			PM	22.2	C
12	Silva Valley Pkwy @ Harvard Way	Signal	AM	33.2	C
			PM	26.9	C
13	Silva Valley Pkwy @ Golden Eagle Ln/Walker Park Dr	AWSC	AM	44.0	E
			PM	14.5	B
14	Malcolm Dixon Rd @ Project Dwy/Wilson Dwy	SSSC*	AM	*plus Project Only*	
			PM		

Notes:

*Side Street Stop Controlled (SSSC) intersections are reported with the intersection delay followed by the worst movement's delay. The reported LOS corresponds to the worst movement.

[6] *Final Corridor Analysis Report, Green Valley Road*, Kittelson & Associates, Inc., October 2014

[7] Email from Chirag Safi, Kittelson & Associates, Inc., September 23, 2015.

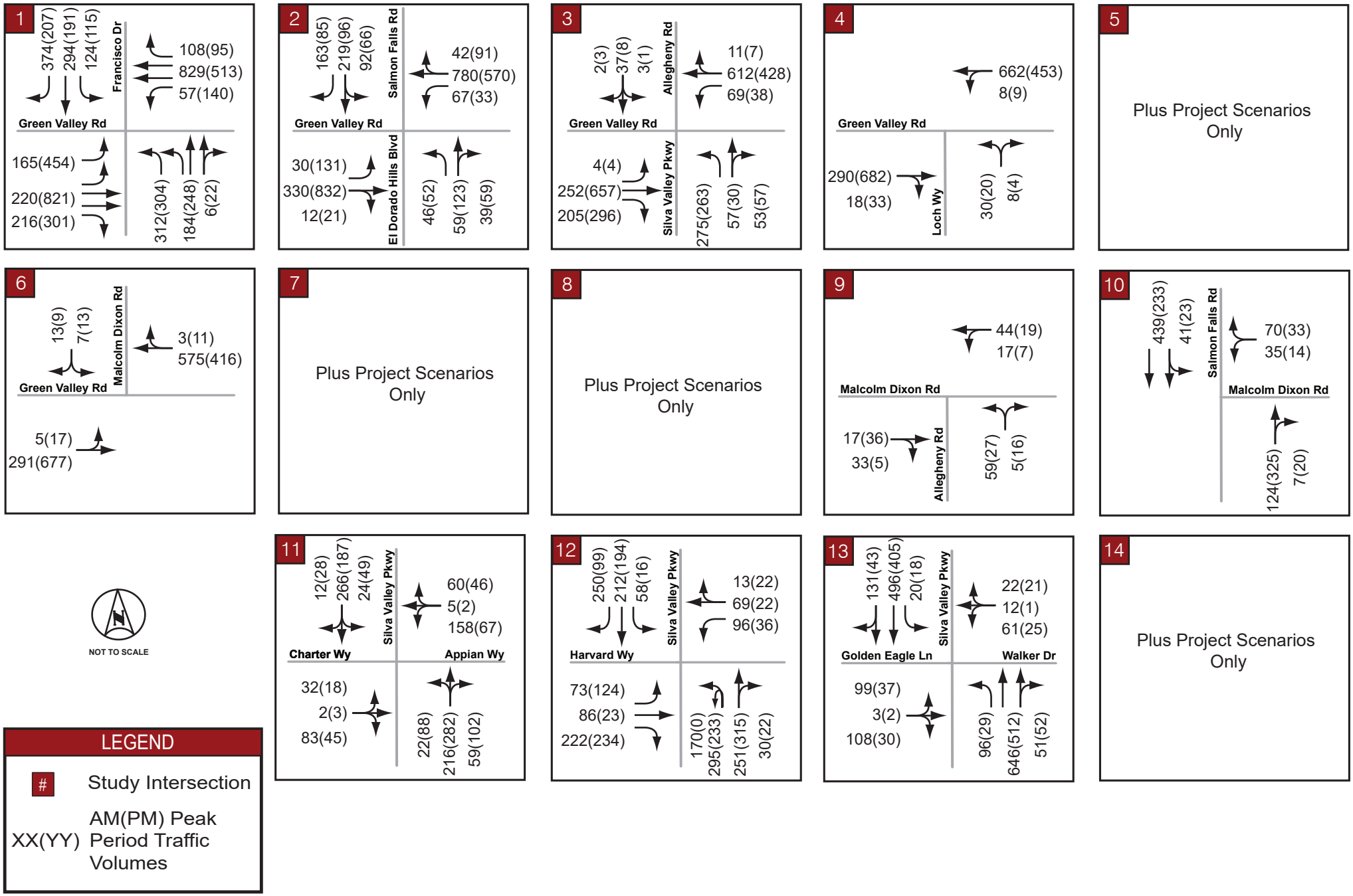

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Figure 11
Existing (2015) Peak-Hour Traffic Volumes

Roadway Segments

Table 5 presents the roadway segment operating conditions for this analysis scenario. As indicated in **Table 5**, the study roadway segments operate from LOS B to LOS E.

Table 5 – Existing (2015) Roadway Segment Levels of Service

Scenario	Location	Class	Peak-Hour	Analysis Direction	Volume	LOS	PTSF/PFFS* (%)
Existing (2015)	Green Valley Rd (between Francisco Dr and El Dorado Hills Blvd/Salmon Falls Rd)	II	AM	WB	989	E	93.7
				EB	372	C	62.3
			PM	WB	707	D	81.0
				EB	984	E	89.5
	Green Valley Rd (between El Dorado Hills Blvd/Salmon Falls Rd and Silva Valley Pkwy)	II	AM	WB	889	E	89.3
				EB	461	C	70.0
			PM	WB	694	D	80.1
				EB	957	E	88.9
	Green Valley Rd (between Silva Valley Pkwy and Wilson Connector/Chartraw Rd)	II	AM	WB	692	D	83.6
				EB	308	B	53.3
			PM	WB	473	D	71.4
				EB	715	D	84.4
	El Dorado Hills Blvd (between Francisco Dr and Governor Dr)	III	AM	NB	478	D	68.3
				SB	839	D	71.4
			PM	NB	726	D	73.1
				SB	599	D	74.8
	Silva Valley Pkwy (between Green Valley Rd and Appian Way)	III	AM	NB	385	C	79.9
				SB	311	C	80.6
			PM	NB	350	C	81.7
				SB	342	C	81.8
	Silva Valley Pkwy (between Appian Way and Harvard Way)	III	AM	NB	297	C	78.7
				SB	507	C	79.4
			PM	NB	472	C	78.6
				SB	299	C	81.2

Notes:

PTSF = Percent Time Spent Following, PFFS = Percent Free-Flow Speed, v/c = Volume to Capacity

* PTSF is reported for Class II Highways. PFFS is reported for Class III Highways.

EXISTING (2015) PLUS PROPOSED PROJECT CONDITIONS

The number of trips estimated to be generated by the proposed project were determined using the ITE *Trip Generation Manual, 9th Edition* and were then assigned to the surrounding transportation network based on the results of a select link analysis completed using a version the El Dorado County TDM prepared specifically for this scenario. Levels of service were then determined at the study facilities. Existing (2015) plus Proposed Project peak-hour turn movement volumes are presented in **Figure 12**. The analysis worksheets for this scenario are provided in **Appendix C**.

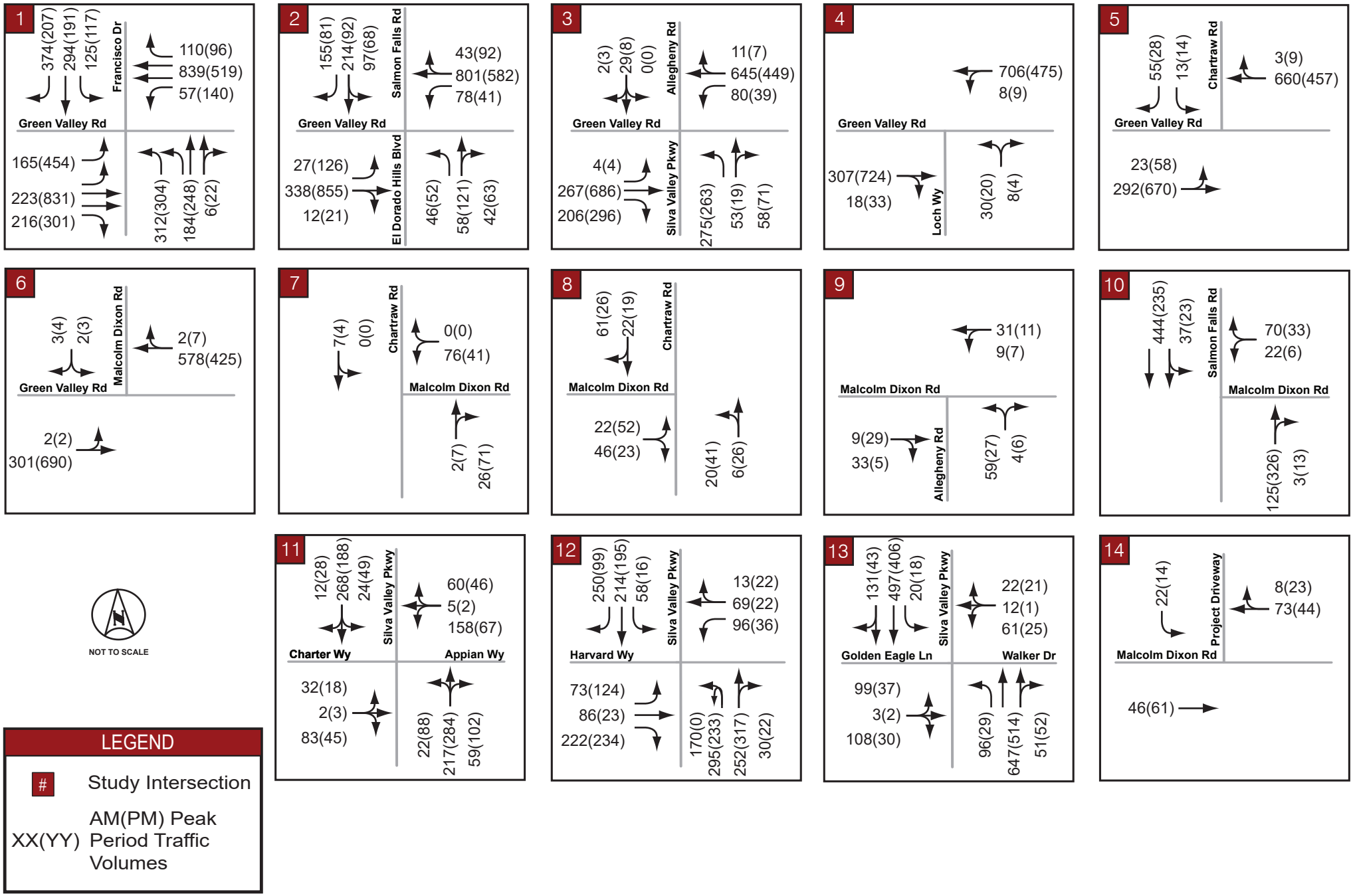

Figure 12
Existing (2015) plus Proposed Project Peak-Hour Traffic Volumes

Intersections

Table 6 provides the intersection operating conditions for this analysis scenario. As indicated in **Table 6**, the study intersections operate from LOS A to LOS E.

Table 6 – Existing (2015) and Existing (2015) plus Proposed Project Intersection Levels of Service

ID	Intersection	Control	Peak Hour	Existing (2015)		Existing (2015) plus Project	
				Delay (sec)	LOS	Delay (sec)	LOS
1	Green Valley Rd @ Francisco Dr	Signal	AM	53.0	D	53.3	D
			PM	62.8	E	63.4	E
2	Green Valley Rd @ El Dorado Hills Blvd/Salmon Falls Rd	Signal	AM	57.8	E	61.3	E
			PM	45.5	D	49.5	D
3	Green Valley Rd @ Silva Valley Pkwy/Allegheny Rd	Signal	AM	25.8	C	26.3	C
			PM	19.1	B	19.7	B
4	Green Valley Rd @ Loch Way	SSSC*	AM	1.0 (21.7 NB)	C	1.0 (23.8 NB)	C
			PM	0.7 (29.1 NB)	D	0.7 (32.3 NB)	D
5	Green Valley Rd @ Chartraw Rd	SSSC*	AM	*plus Project Only*		1.3 (21.6 SB)	C
			PM			1.0 (31.9 SB)	D
6	Green Valley Rd @ Malcolm Dixon Rd	SSSC*	AM	0.5 (15.1 SB)	C	0.1 (14.8 SB)	B
			PM	0.6 (22.8 SB)	C	0.1 (18.2 SB)	C
7	Malcolm Dixon Rd (N) @ Chartraw Rd	SSSC*	AM	*plus Project Only*		5.1 (7.4 WB)	A
			PM			2.5 (7.5 WB)	A
8	Malcolm Dixon Rd (S) @ Chartraw Rd	SSSC*	AM	*plus Project Only*		4.3 (9.0 EB)	A
			PM			5.4 (9.5 EB)	A
9	Malcolm Dixon Rd @ Allegheny Rd	SSSC*	AM	4.6 (9.8 NB)	A	4.8 (9.4 NB)	A
			PM	4.1 (9.1 NB)	A	4.2 (9.1 NB)	A
10	Salmon Falls Rd @ Malcolm Dixon Rd	SSSC*	AM	2.5 (12.0 WB)	B	2.2 (11.2 WB)	B
			PM	1.3 (12.2 WB)	B	1.1 (11.6 WB)	B
11	Silva Valley Pkwy @ Appian Way	AWSC	AM	24.3	C	24.7	C
			PM	22.2	C	22.5	C
12	Silva Valley Pkwy @ Harvard Way	Signal	AM	33.2	C	33.2	C
			PM	26.9	C	26.9	C
13	Silva Valley Pkwy @ Golden Eagle Ln/Walker Park Dr	AWSC	AM	44.0	E	44.2	E
			PM	14.5	B	14.5	B
14	Malcolm Dixon Rd @ Project Dwy/Wilson Dwy	SSSC*	AM	*plus Project Only*		1.4 (9.3 SB)	A
			PM			0.9 (9.2 SB)	A

Notes:

Bold represents unacceptable operations. Shaded represents significant impact.

*Side Street Stop Controlled (SSSC) intersections are reported with the intersection delay followed by the worst minor street movement's delay. The reported LOS corresponds to the worst minor street movement.

Roadway Segments

Table 7 provides the roadway segment operating conditions for this analysis scenario. As indicated in **Table 7**, the study roadway segments operate from LOS C to LOS E.

Table 7 – Existing (2015) plus Proposed Project Roadway Segment Levels of Service

Scenario	Location	Class	Peak-Hour	Analysis Direction	Volume	LOS	PTSF/PFFS* (%)
Existing (2015) plus Project	Green Valley Rd (between Francisco Dr and El Dorado Hills Blvd/Salmon Falls Rd)	II	AM	WB	1002	E	93.5
				EB	377	C	62.6
			PM	WB	715	D	80.8
				EB	1002	E	89.5
	Green Valley Rd (between El Dorado Hills Blvd/Salmon Falls Rd and Silva Valley Pkwy)	II	AM	WB	922	E	89.8
				EB	477	D	71.2
			PM	WB	715	D	81.4
				EB	986	E	89.1
	Green Valley Rd (between Silva Valley Pkwy and Wilson Connector/Chartraw Rd)	II	AM	WB	736	E	85.2
				EB	325	C	55.1
			PM	WB	495	D	72.7
				EB	757	D	84.8
	El Dorado Hills Blvd (between Francisco Dr and Governor Dr)	III	AM	NB	480	D	68.2
				SB	845	D	71.3
			PM	NB	728	D	73.1
				SB	603	D	74.7
	Silva Valley Pkwy (between Green Valley Rd and Appian Way)	III	AM	NB	386	C	79.8
				SB	315	C	80.5
			PM	NB	353	C	81.6
				SB	343	C	81.7
	Silva Valley Pkwy (between Appian Way and Harvard Way)	III	AM	NB	298	C	78.7
				SB	509	C	79.4
			PM	NB	474	C	78.6
				SB	300	C	81.1

Notes:
PTSF = Percent Time Spent Following, PFFS = Percent Free-Flow Speed, v/c = Volume to Capacity
* PTSF is reported for Class II Highways. PFFS is reported for Class III Highways.

NEAR-TERM (2025) CONDITIONS

Based on the availability of model data and as directed by the County, traffic volume estimates for the Near-Term (2025) Condition were determined by interpolating selected El Dorado County TDM 2010 and 2035 analysis results. Specifically, these volumes were achieved by estimating turning movements using 2010 and 2035 land use scenarios and then conducting a straight line analysis to establish year 2025 turning movement estimates. The difference between the resulting 2025 traffic estimate and the 2010 model results (the growth) was then added to Existing (2015) traffic volumes to establish base Near-Term (2025) traffic estimates for this study. These volumes were further refined based on the results of other relevant model scenarios prepared during the course of this study to reflect differences between 2035 and 2025 network conditions, including the provision of a 2-lane Saratoga Way extension between Iron Point Road and Finders Way, and the US-50 interchange with Silva Valley Parkway (Phase 1), both as provided in the County's 10-Year CIP. Adjustment factors were developed based on draft *Central El Dorado Hills Specific Plan* intersection turning movement estimates provided by the County[8]. These factors were then applied to future traffic estimates for this project in an effort to maintain consistency between model post-processing completed for this project and other on-going project analyses in the County.

Near-Term (2025) peak-hour turning movement volumes are presented in **Figure 13**. The analysis worksheets for this scenario are provided in **Appendix D**.

[8] Per emails from Katie Jackson, El Dorado County Community Development Agency, August 27 and September 15, 2015.

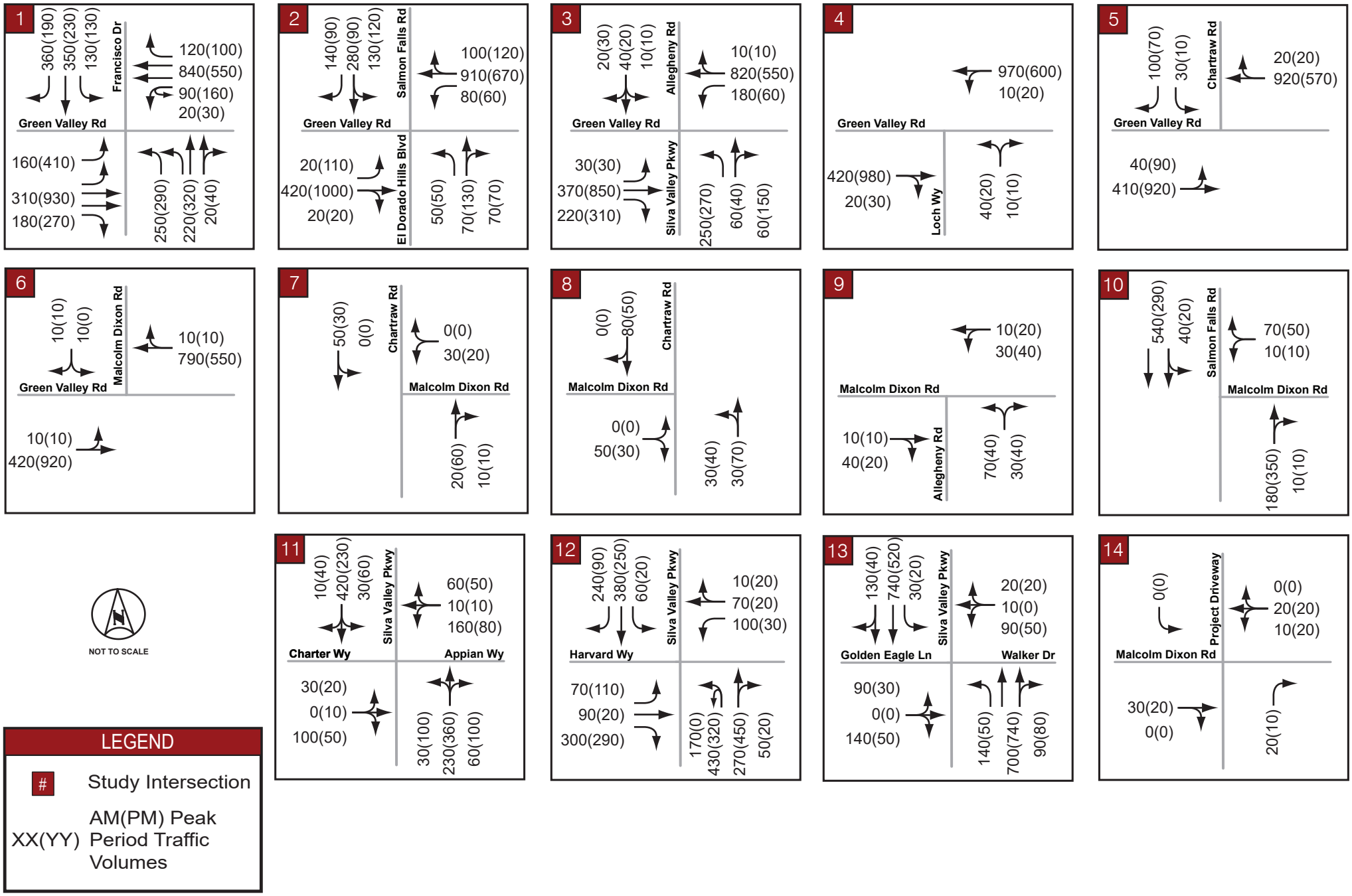

Figure 13
Near-Term (2025) Peak-Hour Traffic Volumes

Intersections

Table 8 provides the intersection operating conditions for this analysis scenario. As indicated in **Table 8**, the study intersections operate from LOS A to LOS F during the AM and PM peak-hours.

Table 8 – Near-Term (2025) Intersection Levels of Service

ID	Intersection	Control	Peak Hour	Near-Term (2025)	
				Delay (sec)	LOS
1	Green Valley Rd @ Francisco Dr	Signal	AM	35.4	D
			PM	59.1	E
2	Green Valley Rd @ El Dorado Hills Blvd/Salmon Falls Rd	Signal	AM	**98.7**	**F**
			PM	**98.9**	**F**
3	Green Valley Rd @ Silva Valley Pkwy/Allegheny Rd	Signal	AM	32.3	C
			PM	31.4	C
4	Green Valley Rd @ Loch Way	SSSC*	AM	1.5 (43.6 NB)	E
			PM	**1.0 (50.4 NB)**	**F**
5	Green Valley Rd @ Chartraw Rd	SSSC*	AM	2.8 (48.3 SB)	E
			PM	1.5 **(71.2 SB)**	**F**
6	Green Valley Rd @ Malcolm Dixon Rd	SSSC*	AM	0.4 (22.7 SB)	C
			PM	0.1 (12.4 SB)	B
7	Malcolm Dixon Rd (N) @ Chartraw Rd	SSSC*	AM	2.0 (7.3 WB)	A
			PM	1.2 (7.4 WB)	A
8	Malcolm Dixon Rd (S) @ Chartraw Rd	SSSC*	AM	3.5 (8.9 EB)	A
			PM	2.9 (8.7 EB)	A
9	Malcolm Dixon Rd @ Allegheny Rd	SSSC*	AM	6.2 (9.5 NB)	A
			PM	6.1 (9.2 NB)	A
10	Salmon Falls Rd @ Malcolm Dixon Rd	SSSC*	AM	1.5 (10.4 WB)	B
			PM	1.2 (11.6 WB)	B
11	Silva Valley Pkwy @ Appian Way	AWSC	AM	22.8	C
			PM	24.3	C
12	Silva Valley Pkwy @ Harvard Way	Signal	AM	57.4	E
			PM	54.2	D
13	Silva Valley Pkwy @ Golden Eagle Ln/Walker Park Dr	AWSC	AM	48.4	E
			PM	24.3	C
14	Malcolm Dixon Rd @ Project Dwy/Wilson Dwy	SSSC*	AM	3.0 (8.5 NB)	A
			PM	3.3 (8.4 NB)	A

Notes:

Bold represents unacceptable operations.

*Side Street Stop Controlled (SSSC) intersections are reported with the intersection delay followed by the worst movement's delay. The reported LOS corresponds to the worst movement.

Roadway Segments

Table 9 presents the roadway segment operating conditions for this analysis scenario. As indicated in **Table 9**, the study roadway segments operate from LOS C to LOS E.

Table 9 – Near-Term (2025) Roadway Segment Levels of Service

Scenario	Location	Class	Peak-Hour	Analysis Direction	Volume	LOS	PTSF/PFFS* (%)
Near-Term (2025)	Green Valley Rd (between Francisco Dr and El Dorado Hills Blvd/Salmon Falls Rd)	II	AM	WB	1100	E	91.8
				EB	460	C	65.2
			PM	WB	810	D	83.8
				EB	1130	E	91.8
	Green Valley Rd (between El Dorado Hills Blvd/Salmon Falls Rd and Silva Valley Pkwy)	II	AM	WB	620	E	91.2
				EB	1090	D	75.5
			PM	WB	850	D	84.9
				EB	1190	E	92.3
	Green Valley Rd (between Silva Valley Pkwy and Wilson Connector/Chartraw Rd)	II	AM	WB	1010	E	90.3
				EB	440	C	62.9
			PM	WB	620	D	75.0
				EB	1010	E	89.9
	El Dorado Hills Blvd (between Francisco Dr and Governor Dr)	III	AM	NB	515	D	72.4
				SB	967	D	70.5
			PM	NB	807	D	72.1
				SB	630	D	72.9
	Silva Valley Pkwy (between Green Valley Rd and Appian Way)	III	AM	NB	370	C	81.2
				SB	440	C	80.5
			PM	NB	460	C	80.0
				SB	390	C	80.7
	Silva Valley Pkwy (between Appian Way and Harvard Way)	III	AM	NB	320	C	79.8
				SB	680	C	76.6
			PM	NB	560	C	78.5
				SB	360	C	80.4

Notes:
PTSF = Percent Time Spent Following, PFFS = Percent Free-Flow Speed, v/c = Volume to Capacity
* PTSF is reported for Class II Highways. PFFS is reported for Class III Highways.

NEAR-TERM (2025) PLUS PROPOSED PROJECT CONDITIONS

The number of trips estimated to be generated by the proposed project were determined using the ITE *Trip Generation Manual, 9th Edition* and were then assigned to the surrounding transportation network based on the results of a select link analysis completed using a version of the El Dorado County TDM prepared specifically for this scenario (based on the method outlined in the prior section). Likewise, background traffic estimates were developed based on the results of analysis completed using a version of the County's TDM prepared specifically for this scenario (refer to prior section for a discussion on the method). Consistent with other project analyses completed within the County, for the Near-Term (2025) scenario which includes project conditions, analyses were prepared to include the difference between growth previously forecasted for the project area and the planned project (to avoid double counting planned growth).

Near-Term (2025) plus Proposed Project peak-hour turning movement volumes are presented in **Figure 14**. Analysis worksheets for this scenario are provided in **Appendix E**.

Intersections
Table 10 provides the intersection operating conditions for this analysis scenario. As indicated in **Table 10**, the study intersections operate from LOS A to LOS F during the AM and PM peak-hours.

Roadway Segments
Table 11 presents the roadway segment operating conditions for this analysis scenario. As indicated in **Table 11**, the study roadway segments operate from LOS C to LOS E.

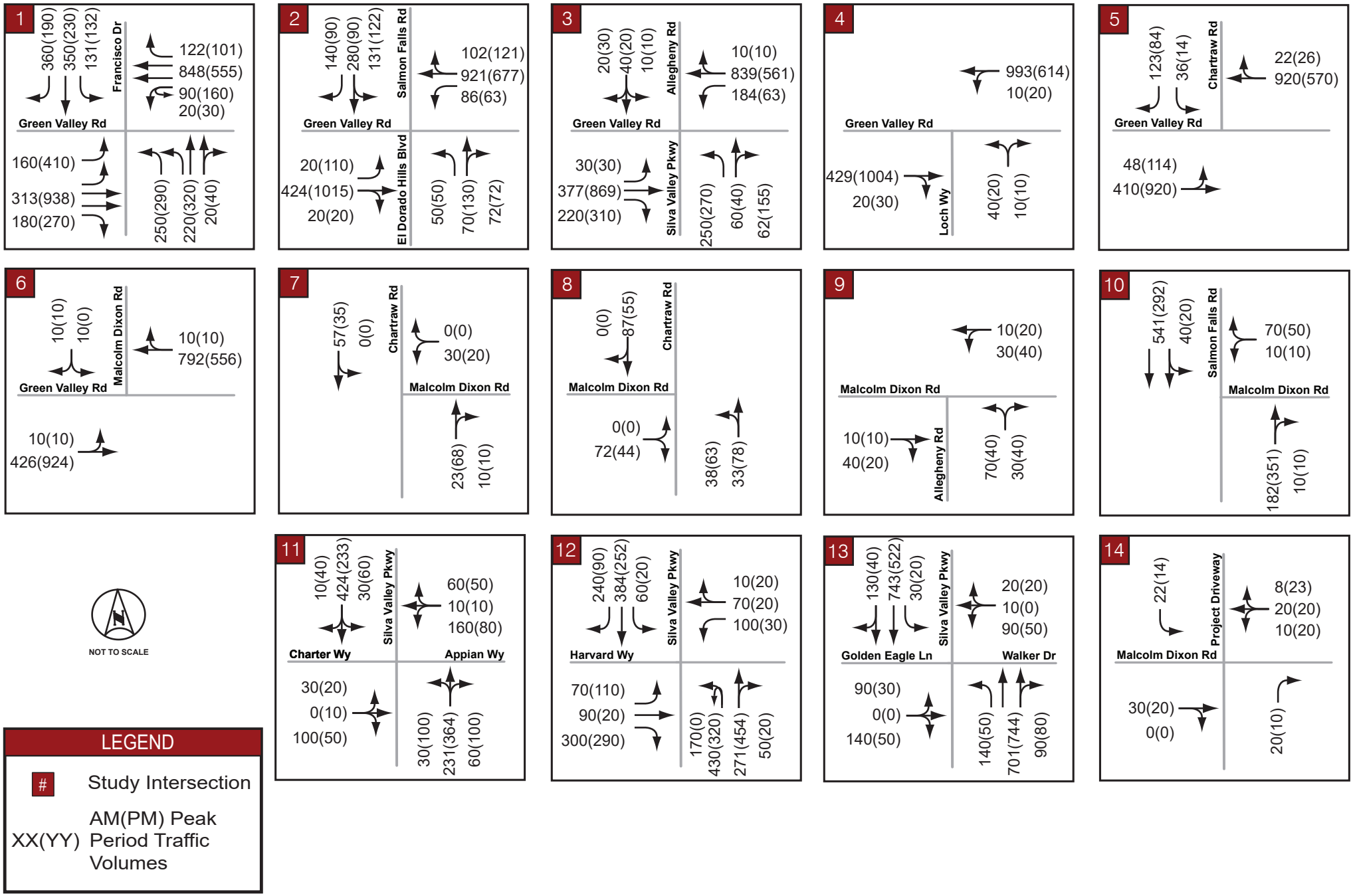

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Figure 14
Near-Term (2025) plus Proposed Project Peak-Hour Traffic Volumes

Table 10 – Near-Term (2025) and Near-Term (2025) plus Proposed Project Intersection Levels of Service

ID	Intersection	Control	Peak Hour	Near-Term (2025)		Near-Term (2025) plus Project	
				Delay (sec)	LOS	Delay (sec)	LOS
1	Green Valley Rd @ Francisco Dr	Signal	AM	35.4	D	35.7	D
			PM	59.1	E	59.6	E
2	Green Valley Rd @ El Dorado Hills Blvd/Salmon Falls Rd	Signal	AM	**98.7**	**F**	**102.2**	**F**
			PM	**98.9**	**F**	**105.2**	**F**
3	Green Valley Rd @ Silva Valley Pkwy/Allegheny Rd	Signal	AM	32.3	C	33.6	C
			PM	31.4	C	33.2	C
4	Green Valley Rd @ Loch Way	SSSC*	AM	1.5 (43.6 NB)	E	1.6 (46.6 NB)	E
			PM	**1.0 (50.4 NB)**	**F**	**1.1 (54.7 NB)**	**F**
5	Green Valley Rd @ Chartraw Rd	SSSC*	AM	2.8 (48.3 SB)	E	3.7 **(54.1 SB)**	**F**
			PM	1.5 **(71.2 SB)**	**F**	2.1 **(93.8 SB)**	**F**
6	Green Valley Rd @ Malcolm Dixon Rd	SSSC*	AM	0.4 (22.7 SB)	C	0.4 (22.9 SB)	C
			PM	0.1 (12.4 SB)	B	0.1 (12.5 SB)	B
7	Malcolm Dixon Rd (N) @ Chartraw Rd	SSSC*	AM	2.0 (7.3 WB)	A	1.8 (7.3 WB)	A
			PM	1.2 (7.4 WB)	A	1.1 (7.4 WB)	A
8	Malcolm Dixon Rd (S) @ Chartraw Rd	SSSC*	AM	3.5 (8.9 EB)	A	4.1 (9.1 EB)	A
			PM	2.9 (8.7 EB)	A	3.6 (8.8 EB)	A
9	Malcolm Dixon Rd @ Allegheny Rd	SSSC*	AM	6.2 (9.5 NB)	A	6.2 (9.5 NB)	A
			PM	6.1 (9.2 NB)	A	6.1 (9.2 NB)	A
10	Salmon Falls Rd @ Malcolm Dixon Rd	SSSC*	AM	1.5 (10.4 WB)	B	1.5 (10.4 WB)	B
			PM	1.2 (11.6 WB)	B	1.2 (11.6 WB)	B
11	Silva Valley Pkwy @ Appian Way	AWSC	AM	22.8	C	23.3	C
			PM	24.3	C	25.0	C
12	Silva Valley Pkwy @ Harvard Way	Signal	AM	57.4	E	59.5	E
			PM	54.2	D	54.3	D
13	Silva Valley Pkwy @ Golden Eagle Ln/Walker Park Dr	AWSC	AM	48.4	E	48.6	E
			PM	24.3	C	24.6	C
14	Malcolm Dixon Rd @ Project Dwy/Wilson Dwy	SSSC*	AM	3.0 (8.5 NB)	A	4.1 (9.3 SB)	A
			PM	3.3 (8.4 NB)	A	3.4 (9.3 SB)	A

Notes:

Bold represents unacceptable operations. Shaded represents significant impact.

*Side Street Stop Controlled (SSSC) intersections are reported with the intersection delay followed by the worst movement's delay. The reported LOS corresponds to the worst movement.

IMPACTS AND MITIGATION

Standards of Significance

Project impacts were determined by comparing conditions with the proposed project to those without the project. Impacts for intersections are created when traffic from the proposed project forces the LOS to fall below a specific threshold. The County's standards[9] specify the following:

> "*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…"* (El Dorado County General Plan Policy TC-Xd[10])
>
> If a project causes the peak hour LOS or volume/capacity ratio on a county road or state highway that would otherwise meet the County standards (without the project) to exceed the values listed in the above text (El Dorado County General Plan Policy TC-Xd[10]), then the impact shall be considered significant.

[9] *Transportation Impact Study Guidelines,* El Dorado County Community Development Agency, November 2014.
[10] *El Dorado County General Plan, Transportation and Circulation Element*, July 2004.

Table 11 – Near-Term (2025) plus Proposed Project Roadway Segment Levels of Service

Scenario	Location	Class	Peak-Hour	Analysis Direction	Volume	LOS	PTSF/PFFS* (%)
Near-Term (2025) plus Project	Green Valley Rd (between Francisco Dr and El Dorado Hills Blvd/Salmon Falls Rd)	II	AM	WB	1111	E	92.9
				EB	464	C	65.4
			PM	WB	817	D	83.8
				EB	1145	E	92.0
	Green Valley Rd (between El Dorado Hills Blvd/Salmon Falls Rd and Silva Valley Pkwy)	II	AM	WB	1109	E	91.9
				EB	627	D	75.6
			PM	WB	861	D	85.0
				EB	1209	E	92.9
	Green Valley Rd (between Silva Valley Pkwy and Wilson Connector/Chartraw Rd)	II	AM	WB	1033	E	91.4
				EB	449	C	64.1
			PM	WB	634	D	76.0
				EB	1034	E	90.6
	El Dorado Hills Blvd (between Francisco Dr and Governor Dr)	III	AM	NB	517	D	72.3
				SB	973	D	70.3
			PM	NB	809	D	72.0
				SB	633	D	72.8
	Silva Valley Pkwy (between Green Valley Rd and Appian Way)	III	AM	NB	372	C	81.1
				SB	444	C	80.4
			PM	NB	465	C	79.9
				SB	393	C	80.6
	Silva Valley Pkwy (between Appian Way and Harvard Way)	III	AM	NB	321	C	79.7
				SB	684	C	76.5
			PM	NB	564	C	78.4
				SB	363	C	80.3

Notes:
PTSF = Percent Time Spent Following, PFFS = Percent Free-Flow Speed, v/c = Volume to Capacity
* PTSF is reported for Class II Highways. PFFS is reported for Class III Highways.

If any county road or state highway fails to meet the above listed county standards (El Dorado County General Plan Policy TC-Xd[10]) for peak hour LOS or volume/capacity ratios without the proposed project, and the project will worsen conditions on the road or highway, then the impact shall be considered significant. The term, worsen is defined for the purpose of this paragraph according to General Plan Policy TC-Xe[10] as follows:

"*A. A 2 percent increase in traffic during the a.m. peak hour, p.m. 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 a.m. peak hour or the p.m. peak hour"

The majority of the study facilities are located within the El Dorado Hills Community Region (LOS E threshold). Four study intersections (Intersections #6-#8 and #14) are located along the El Dorado Hills Community Region Boundary and are, therefore, considered to be located within a Rural Region (LOS D threshold).

Impacts and Mitigation

Existing (2015) plus Proposed Project Conditions

As reflected in **Table 6** and **Table 7**, the addition of the proposed project does not result in a significant impact as defined by the County. Accordingly, no mitigations are required for this scenario.

Near-Term (2025) plus Proposed Project Conditions

As reflected in **Table 10** and **Table 11**, the addition of the proposed project results in three (3) significant impacts as defined by the County. The following is a discussion of the impacts and their associated mitigations. Analysis worksheets for this scenario are provided in **Appendix F.**

Impacts:

Intersections

I1. Intersection #2, Green Valley Rd @ El Dorado Hills Blvd/Salmon Falls Rd
As shown in **Table 10**, this intersection operates at LOS F during the AM and PM peak-hours without the project, and the project contributes more than 10 peak-hour trips to the intersection during the peak-hours. ***This is a significant impact.***

I2. Intersection #4, Green Valley Rd @ Loch Way
As shown in **Table 10**, this intersection operates at LOS F during the PM peak-hour without the project, and the project contributes more than 10 peak-hour trips to the intersection during the PM peak-hour. ***This is a significant impact.***

I3. Intersection #5, Green Valley Rd @ Chartraw Rd
As shown in **Table 10**, this intersection operates at LOS E during the AM peak-hour without the project, and at LOS F with the addition of the proposed Project. During the PM peak, the intersection operates at LOS F and the project contributes more than 10 peak-hour trips to the intersection during the PM peak-hour. ***This is a significant impact.***

Roadway Segments

None.

Mitigation:

Intersections

M1. Intersection #2, Green Valley Rd @ El Dorado Hills Blvd/Salmon Falls Rd
The significant impact at this intersection during the AM and PM peak-hours is mitigated by the County's recently completed Capital Improvement Program (CIP) Project #73151. As shown in **Table 12**, this mitigation measure results in the intersection operating at LOS E during the AM peak-hour and LOS C during the PM peak-hour. Therefore, ***this impact is less than significant.***

M2. Intersection #4, Green Valley Rd @ Loch Way
The significant impact at this intersection during the PM peak-hour can be mitigated by adding a two-way left-turn lane along Green Valley Road in the immediate vicinity of the intersection. The addition of a two-way left-turn lane would provide a left-turn lane for westbound left-turning traffic and would allow for vehicles making a northbound left-turn movement to clear eastbound traffic and wait for a gap in westbound traffic. As shown in **Table 12**, this mitigation measure results in the intersection operating at LOS C during the PM peak-hour. Therefore, ***this impact is less than significant.***

M3. Intersection #5, Green Valley Rd @ Chartraw Rd
The significant impact at this intersection during the AM and PM peak-hours can be mitigated by restricting the southbound left-turn movement. This restriction could be achieved by either constructing a median along Green Valley Road or by constructing an island along the Chartraw Road approach. As a result of this turn restriction, those vehicles originally making the subject southbound left-turn would be rerouted to the Green Valley Road/Malcom Dixon Road intersection (Intersection #6). As shown in **Table 12**, this mitigation measure results in this intersection (Intersection #5) operating at LOS D or better during the AM and PM peak-hours and no other intersections are adversely affected by the reroute. Therefore, ***this impact is less than significant.***

Table 12 – Intersection Levels of Service –
Near-Term (2025) plus Proposed Project Mitigated Conditions

ID	Intersection	Analysis Scenario[+]	Control	AM Peak-Hour		PM Peak-Hour	
				Delay (sec)	LOS	Delay (sec)	LOS
2	Green Valley Rd @ El Dorado Hills Blvd/Salmon Falls Rd	NT	Signal	**98.7**	**F**	**98.9**	**F**
		NT + PP		**102.2**	**F**	**105.2**	**F**
		NT + PP (Mit)		60.1	E	33.9	C
4	Green Valley Rd @ Loch Way	NT	SSSC*	1.5 (43.6 NB)	E	**1.0 (50.4 NB)**	**F**
		NT + PP		1.6 (46.6 NB)	E	**1.1 (54.7 NB)**	**F**
		NT + PP (Mit)		0.8 (22.0 NB)	C	0.5 (24.2 NB)	C
5	Green Valley Rd @ Chartraw Rd	NT	SSSC*	2.8 (48.3 SB)	E	**3.7 (54.1 SB)**	**F**
		NT + PP		1.5 (71.2 SB)	**F**	**2.1 (93.8 SB)**	**F**
		NT + PP (Mit)		2.6 (27.6 SB)	D	1.3 (14.3 SB)	B
6	Green Valley Rd @ Malcolm Dixon Rd	NT	SSSC*	0.4 (22.7 SB)	C	0.1 (12.4 SB)	B
		NT + PP		0.4 (22.9 SB)	C	0.1 (12.5 SB)	B
		NT + PP (Mit)		1.6 (34.9 SB)	D	0.6 (31.2 SB)	D
7	Malcolm Dixon Rd (N) @ Chartraw Rd	NT	SSSC*	2.0 (7.3 WB)	A	1.2 (7.4 WB)	A
		NT + PP		1.8 (7.3 WB)	A	1.1 (7.4 WB)	A
		NT + PP (Mit)		5.1 (9.0 SB)	A	3.2 (9.1 SB)	A
8	Malcolm Dixon Rd (S) @ Chartraw Rd	NT	SSSC*	3.5 (8.9 EB)	A	2.9 (8.7 EB)	A
		NT + PP		4.1 (9.1 EB)	A	3.6 (8.8 EB)	A
		NT + PP (Mit)		4.8 (9.3 EB)	A	4.1 (9.1 EB)	A

Notes:

Bold represents unacceptable operations.

[+] NT = Near-Term (2025), NTPP = Near-Term (2025) plus Proposed Project, Mit = Mitigated

* Side Street Stop Controlled (SSSC) intersections are reported with the intersection delay followed by the worst approach's delay. The reported LOS corresponds to the worst approach.

Roadway Segments

None required.

OTHER CONSIDERATIONS

Peak-Hour Traffic Signal Warrant Evaluation

A planning level assessment of the need for traffic signalization was performed for the un-signalized study intersections. This evaluation was performed consistently with the peak-hour warrant methodologies noted in Section 4C of the *California Manual on Uniform Traffic Control Devices (CMUTCD), 2014 Edition*. A summary of the peak-hour warrant results is presented in **Table 13**.

As shown in **Table 13**, Intersection #13 (Silva Valley Pkwy @ Gold Eagle Ln) satisfies the peak-hour signal warrant with and without the addition of the proposed project. However, the proposed project does not cause the peak-hour signal warrant to be satisfied at any of the study intersections. Detailed results of this analysis are presented in **Appendix G**.

Table 13 – Traffic Signal Warrant Analysis Results

#	Intersection	Analysis Scenario			
		Existing (2015)	Existing (2015) plus PP	Near-Term (2025)	Near-Term (2025) plus PP
4	Green Valley Rd @ Loch Way	No / No	No / No	No / No	No / No
5	Green Valley Rd @ Chartraw Rd		No / No	No / No	No / No
6	Green Valley Rd @ Malcolm Dixon Rd	No / No	No / No	No / No	No / No
7	Malcolm Dixon Rd (N) @ Chartraw Rd		No / No	No / No	No / No
8	Malcolm Dixon Rd (S) @ Chartraw Rd		No / No	No / No	No / No
9	Malcolm Dixon Rd @ Allegheny Rd	No / No	No / No	No / No	No / No
10	Salmon Falls Rd @ Malcolm Dixon Rd	No / No	No / No	No / No	No / No
11	Silva Valley Pkwy @ Appian Way	No / No	No / No	No / No	No / No
13	Silva Valley Pkwy @ Golden Eagle Ln	Yes / No	Yes / No	Yes / No	Yes / No
14	Malcolm Dixon Rd @ Project Dwy		No / No	No / No	No / No

Results are presented in **AM / PM format.**
Note: Peak-hour warrant is satisfied if Condition A or B is met.

Intersection Queuing Evaluation

Vehicle queuing for critical movements at three study intersections (#2, #3, and #5) were evaluated. These three intersections were evaluated for vehicle queuing based several factors, one of which was the potential for vehicle queuing based on project trip distribution. The calculated vehicle queues were compared to actual or anticipated vehicle storage lengths. Results of the queuing evaluation are presented in **Table 14**. Analysis sheets that include the anticipated vehicle queues are presented in Appendices B-F. As presented in **Table 14**, the addition of the proposed project adds nominal additional queuing to the study locations.

Table 14 – Intersection Queuing Evaluation Results for Select Locations

Intersection / Analysis Scenario	Movement	AM Peak-Hour		PM Peak-Hour	
		Available Storage (ft)	95th % Queue (ft)	Available Storage (ft)	95th % Queue (ft)
#2, Green Valley Rd @ El Dorado Hills/Salmon Falls Rd	**WB Left**				
Existing (2015)		105	108	105	88
Existing plus Proposed Project (2015)			123		108
Near-Term (2025)			125		151
Near-Term plus Proposed Project (2025)			133		159
#3, Green Valley Rd @ Silva Valley Pkwy/Allegheny Rd	**WB Left**				
Existing (2015)		345	107	345	68
Existing plus Proposed Project (2015)			119		69
Near-Term (2025)			303		101
Near-Term plus Proposed Project (2025)			312		104
#5, Green Valley Rd @ Chartraw Rd	**EB Left**				
Existing (2015)		100	-	100	-
Existing plus PP (2015)			25		25
Near-Term (2025)			25		25
Near-Term plus PP (2025)			25		25

Source: *Highway Capacity Manual (HCM) 2010* methodology per Synchro© v9.

Site Plan, Access, and On-site Circulation Evaluation

The site plan for the proposed project (**Figure 2**) was qualitatively reviewed for general access and on-site circulation. According to the site plan, access to the site will be provided from Chartraw Road. Additional limited access will be provided from Malcolm Dixon Road. Turn restrictions are proposed at the Malcolm Dixon Road driveway by which access to and from the west is prohibited (emergency vehicle access is maintained). This driveway is opposite the planned Wilson Estates driveway with similar restrictions. Detailed level of service and delay data were previously reported for these access intersections. The combination of these access points, as well as the on-site circulation system appears to provide adequate access to/from the surrounding transportation network.

Bicycle and Pedestrian Facilities Evaluation

According to Chapter 5 of the *El Dorado County Bicycle Transportation Plan*, Class II Bike Lanes are proposed for Green Valley Road, Francisco Drive, and El Dorado Hills Boulevard in the vicinity of the project site. In addition, Class III Bike Routes are proposed for Francisco Drive and Salmon Falls Road/Lakehills Drive north of Green Valley Road. A Class I Bike Path is also proposed for El Dorado Hills Boulevard, south of Francisco Drive.

While the project will not result in removal of a bikeway/bike lane or prohibition of implementation of the facilities identified in the *Plan*, it is required to include pedestrian/bicycle paths connecting to adjacent commercial, research and development, or industrial projects and any schools, parks, or other public facilities. The proposed project will be required to construct on-site roadway and pedestrian facilities in accordance with County design guidelines. These on-site pedestrian and bicycle facilities will connect the project with the proposed adjacent Class II Bike Lanes along Green Valley Road. Through this connection to the proposed bike lane network, the project will provide continuity with adjacent projects, schools, parks, and other public facilities.

Preliminary Traffic Safety Evaluation

According to the County's 2011 *Accident Location Study*[11], several study area sites (i.e., intersections and roadway segments) experienced three (3) or more accidents during a three-year period between January 1, 2009, and December 31, 2011. According to the *Study*, these sites were selected for investigation and determination of corrective action(s). **Table 15** provides a summary of the study area sites and their selected actions.

Table 15 – Project Area Sites Selected for Investigation

Site #	Location Description	Accident Rate[+]	Identified Action
16	El Dorado Hills Blvd at Crown Dr	0.24	None Required
23	Green Valley Rd in vicinity of Silva Valley Pkwy	0.68	None Required
24	Green Valley Rd in vicinity of Deer Valley Rd (West)	0.67	None Required

Source: *Annual Accident Location Study 2011*, County of El Dorado Department of Transportation, May 18, 2012.
[+] # Accidents per Million Vehicles (MV) for single sites (intersections/curves), # Accidents per Million Vehicle Miles (MVM) for roadway sections.

[11] *Annual Accident Location Study 2011*, County of El Dorado Department of Transportation, May 18, 2012.

According to the *Study*, these three (3) sites "do not require further review at this time. However, these sites will continue to be monitored and any subsequent increase in the frequency of accidents may necessitate further review and analysis."

CONCLUSIONS

Based upon the analysis documented in this report, the following conclusions are offered:

- The proposed project is estimated to generate 474 total new daily trips, with 39 new trips occurring during the AM peak-hour, and 48 new trips occurring during the PM peak-hour.
- The proposed project is located within Traffic Analysis Zone (TAZ) 211 and complies with the *General Plan* land use designation. Therefore, new Cumulative (2035) analyses are not required to be completed as part of this study.
- As defined by the County, the addition of the proposed project to the Near-Term (2025) scenario significantly worsens conditions at three study intersections. All three impacts can be mitigated to a ***less than significant*** level.
- Measure E was passed by El Dorado County voters on June 7, 2016, and became effective on July 29, 2016. Measure E amended General Plan Policies TX-Xa, TC-Xf, and TC-Xg and included several "implementation" statements. At the time of this report, the Board of Supervisors (Board) had continued the matter (Resolution 149-2016) off-calendar, and had moved forward with the implementation of the voter approved Measure E Initiative "as written and as it was before the voters." Measure E specifically states (amended General Plan Policy TX-Xa 1) that "Traffic from residential development projects of five or more units or parcels of land shall not result in, or worsen, Level of Service F…" and that "All necessary road capacity improvements shall be fully completed to prevent cumulative traffic impacts from new development from reaching Level of Service F during peak hours…" (General Plan Policy TC-Xa 3). As such, the Vineyards at El Dorado Hills project is directly affected by Measure E. Accordingly, although the Board continues to work through the implementation of the measure, this project will be required to, at a minimum, demonstrate consistency with the measure's requirements. Moreover, consistent with Measure E, the Proposed Project will likely be conditioned to construct all mitigations identified under both Existing (2015) and Near-Term (2025) plus Proposed Project Conditions.

APPENDIX H.2

Supplemental Traffic Assessment

Kimley»Horn

Memorandum

To: Martin Boon, Orbis Financial, LLC

From: Matt Weir, P.E., T.E., PTOE

Re: Supplemental Traffic Assessment
Vineyards at El Dorado Hills

Date: March 9, 2017

Per your request, I have prepared this memorandum to provide an informal supplemental traffic assessment in light of the recent denial of the Dixon Ranch project by the El Dorado County Board of Supervisors on February 14, 2017. You have expressed a desire to understand how the Vineyards at El Dorado Hills' traffic study and its conclusions pertaining to transportation impacts and mitigations may be effected by elimination of the Dixon Ranch project from the forecast traffic conditions on the surrounding transportation network.

As indicated in our previously prepared traffic study for the proposed project[1], "…traffic volume estimates for the Near-Term (2025) Condition were determined by interpolating selected El Dorado County TDM 2010 and 2035 analysis results. Specifically, these volumes were achieved by estimating turning movements using 2010 and 2035 land use scenarios and then conducting a straight line analysis to establish year 2025 turning movement estimates. The difference between the resulting 2025 traffic estimate and the 2010 model results (the growth) was then added to Existing (2015) traffic volumes to establish base Near-Term (2025) traffic estimates for this study."

It is also important to note how the Dixon Ranch project was analyzed and is understood to be reflected in the County's land use and travel demand forecasts. According to the Dixon Ranch traffic study[2],it was necessary to "re-run the County's travel demand model by adding an additional 294 single-family dwelling units to the Traffic Analysis Zone (TAZ) in which the project is located to reflect the addition of the proposed project. As such, the County's travel demand model was updated to include the additional 294 single-family dwelling units within TAZ 335." As a result of this process, it is reasonable to assume that the County's land use and travel demand forecasts only include a portion of the proposed Dixon Ranch project (confirmed to equate to a total of 310 single-family dwelling units).

Consequently, because the Vineyards at El Dorado Hills project is noted as relying on an interpolated volume forecast using the County's travel demand model, and because the Dixon Ranch project was confirmed to have added a portion of their proposed units to the County's assumed growth within the subject TAZ, it is reasonable to conclude that the forecasts used in the Vineyards at El Dorado Hills project incorporate the effect of only a portion (310 single-family dwelling units) and not the full Dixon Ranch project. This volume condition is typical and is considered to be an appropriate representation of Near-Term traffic conditions for use in your project's traffic study.

In addition, we have also confirmed that the Vineyards at El Dorado Hills traffic study manually incorporated traffic from the surrounding, approved single-family residential development projects located both adjacent to and north of the proposed project. Volume from these projects was manually added to the Near-Term (2025) traffic volumes obtained through the aforementioned model interpolation. As a result, the traffic volume forecasts inherent to the Vineyards at El Dorado Hills traffic study are considered to be appropriate and are not adversely influenced by the Dixon Ranch project denial or the know status of the approved adjacent development projects. In summary, the impacts, mitigations, and conclusions of the Vineyards at El Dorado Hills traffic study are valid and accurate.

[1] *Transportation Impact Study, Vineyards at El Dorado Hills (WO#30)*, Kimley-Horn and Associates, Inc., November 11, 2016.
[2] *Revised Final Traffic Impact Study, Dixon Ranch (WO#5)*, Kimley-Horn and Associates, Inc., June 18, 2013.