Exhibit H

VIEWPOINT SCHOOL TENNIS COURTS AND PARKING LOTS PROJECT

Final Initial Study/Mitigated Negative Declaration

Prepared for
City of Calabasas

November 2015

ESA

VIEWPOINT SCHOOL TENNIS COURTS AND PARKING LOTS PROJECT

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City of Calabasas

November 2015

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SECTION 1
Project and Agency Information

1. Project Title:	Viewpoint School Tennis Courts and Parking Lots Project
2. Lead Agency Name and Address:	City of Calabasas 100 Civic Center Way Calabasas, CA 91302
3. Contact Person and Phone Number:	Michael Klein, 818.224.1600
4. Project Location:	23238 Mulholland Highway, 23602 Dry Canyon Cold Creek Road, 23604 Dry Canyon Cold Creek Road, 23620 Mulholland Highway, Calabasas, CA 91302
5. Project Sponsor's Name and Address:	Viewpoint School 23620 Mulholland Highway Calabasas, CA 91302
6. General Plan Designation(s):	23238 Mulholland Hwy - Rural Residential (RR) 23602 Dry Canyon Cold Creek Rd - Hillside Mountainous (HM) 23604 Dry Canyon Cold Creek Road - Hillside Mountainous (HM) 23620 Mulholland Highway – Rural Residential (RR)
7. Zoning Designation(s):	23238 Mulholland Hwy - Rural Residential (RR) 23602 Dry Canyon Cold Creek Rd - Hillside Mountainous (HM) 23604 Dry Canyon Cold Creek Road - Hillside Mountainous (HM) 23620 Mulholland Highway – Rural Residential (RR)

8. **Description of Project:** (Describe the whole action involved, including but not limited to later phases of the project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheets if necessary.)

   The proposed Viewpoint School Tennis Courts and Parking Lots project (proposed project) includes the re-development of three sites (Peters, Brown, and Castle Oak) that would become part of the school campus property. Improvements include installation of six tennis courts including an accessory building, additional campus parking in three areas, and the renovation of two existing residential structures, one to accommodate offices for school administration and the second to provide a primary residence to the school principal.

   The project would remove the Peters property building and appurtenant structures, redevelop the interior of the Castle Oaks property to accommodate the administrative offices, and update the Brown residence to accommodate the principal's primary residence.

9. **Surrounding Land Uses and Setting.** (Briefly describe the project's surroundings.)

   The Peters property is bound by a horse training facility to the east, and a storage yard for the Viewpoint School to the west, Cold Canyon Creek to the south and Mulholland Highway to the north. The Brown site is surrounded by vacant land to the south, a single-family residence to the west and Dry Canyon Cold Creek Road to the north. Similarly, the Castle Oaks site is mostly surrounded by vacant land, the Brown site to the east and Dry Canyon Cold Creek Road to the north. Viewpoint campus is located to the north of both sites, across Dry Canyon Cold Creek Road.

10. **Other public agencies whose approval is required** (e.g., permits, financing approval, or participation agreement. Indicate whether another agency is a responsible or trustee agency.)

    - A Section 404 Permit from the U.S. Army Corps of Engineers (USACE)
    - A Section 401 Water Quality Certification from the Regional Water Quality Control Board (RWQCB)
    - A Section 1602 Streambed Alteration Agreement from the California Department of Fish and Wildlife (CDFW)
    - Compliance with Section 402 to conform to the National Pollution Discharge Elimination System permit requirements, including preparing a Standard Urban Storm Water Mitigation Plan (SUSMP) and Storm Water Pollution Prevention Plan

SECTION 2
Project Description

2.1 Introduction

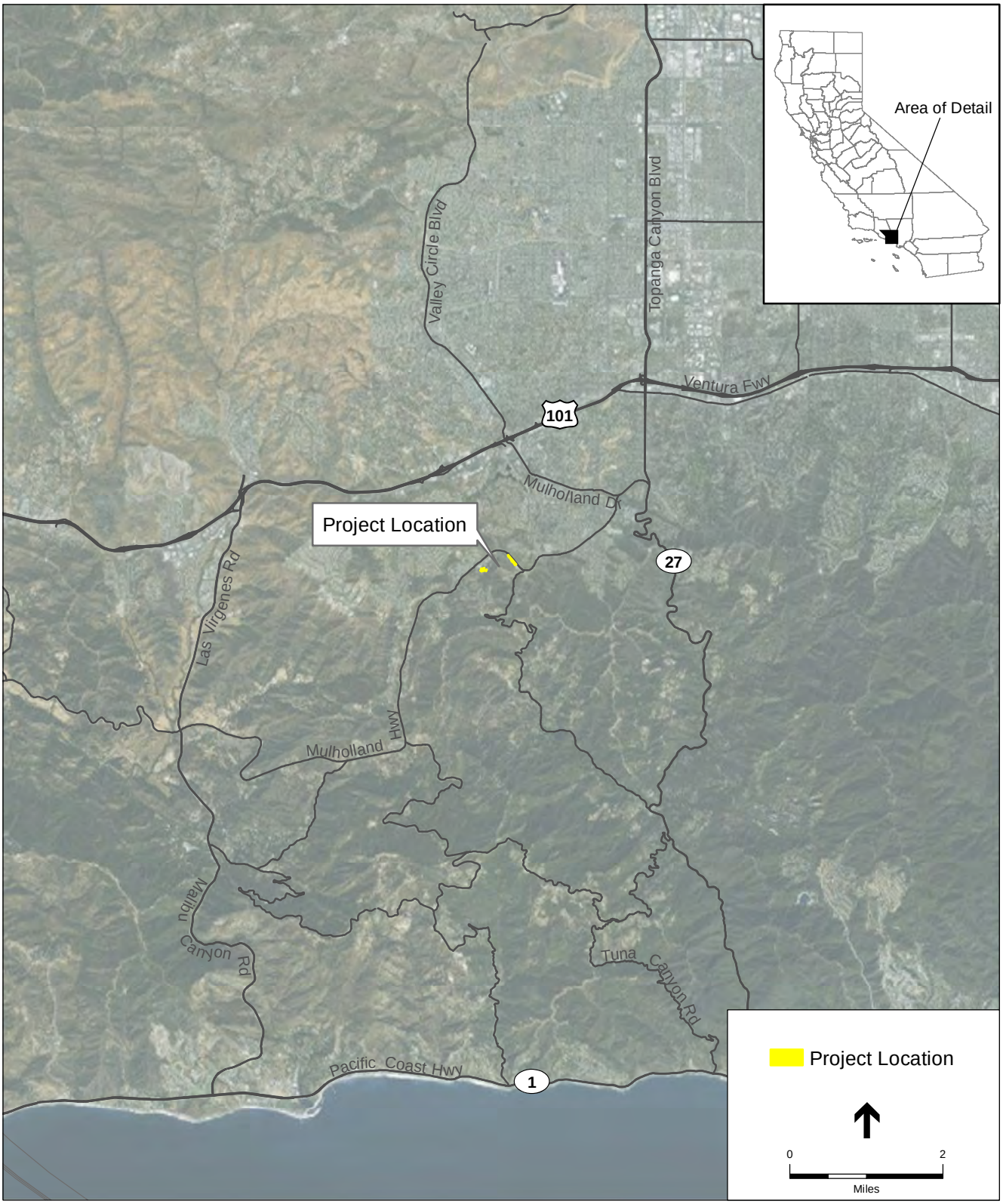
The proposed Viewpoint School Tennis Courts and Parking Lots project (proposed project) includes the development of three adjacent residential sites (Peters, Brown, and Castle Oaks) that would become part of the existing Viewpoint School campus located in the City of Calabasas (City). Improvements on the adjacent sites include the installation of six tennis courts with an accessory building, additional campus parking in three areas, landscaping and the renovation of two existing residential structures, one to accommodate school administration offices and the other to provide a primary residence for the school headmaster.

The proposed project would demolish the existing improvements on 23238 Mulholland Highway (Peters site) including the existing residential structure, swimming pool, and two footbridges over Dry Canyon Cold Creek. The Peters site would be developed with tennis courts, student parking and landscaping. The proposed project would also make improvements (including access and parking lot improvements) to 23602 Dry Canyon Cold Creek Road (Castle Oaks site) properties in order to accommodate new administrative offices. The proposed project would also utilize 23604 Dry Canyon Cold Creek Road (Brown site) as the primary residence for Viewpoint School's headmaster. These sites would also include additional parking to accommodate staff. The proposed improvements would be constructed incrementally over a period of approximately six months.

2.2 Project Location and Site Characteristics

Regional Location

The City encompasses a land area of approximately 13.3 square miles, and is located in the southwestern region of the San Fernando Valley. The City is approximately 22 miles northwest of downtown Los Angeles, tucked between the foothills of the Santa Monica and Santa Susanna Mountains (**see Figure 2-1**). The City is bordered by the community of Hidden Hills to the North, the community of Woodland Hills to the northeast, the Santa Monica Mountains Recreation area to the south and southeast, the City of Agoura Hills to the west.



SOURCE: Dotterweich Carlson Mehner Design, Inc.

Viewpoint School Tennis Courts and Parking Lots . 140358.04

Figure 2-1

Regional Location Map

Project Location

The project is located on three existing residential parcels (Peters, Brown, and Castle Oaks). The project sites are located at 23238 Mulholland Highway (Peters), 23604 Dry Canyon Cold Creek Road (Brown), and 23602 Dry Canyon Cold Creek Road (Castle Oaks).

The existing 40-acre Viewpoint School campus is located in a canyon set in the Santa Monica Mountains and is bordered on the north side by Mulholland Highway and on the south side by Dry Canyon Cold Creek Road. There are several driveway entrances/exits into and out of the campus from both roadways.

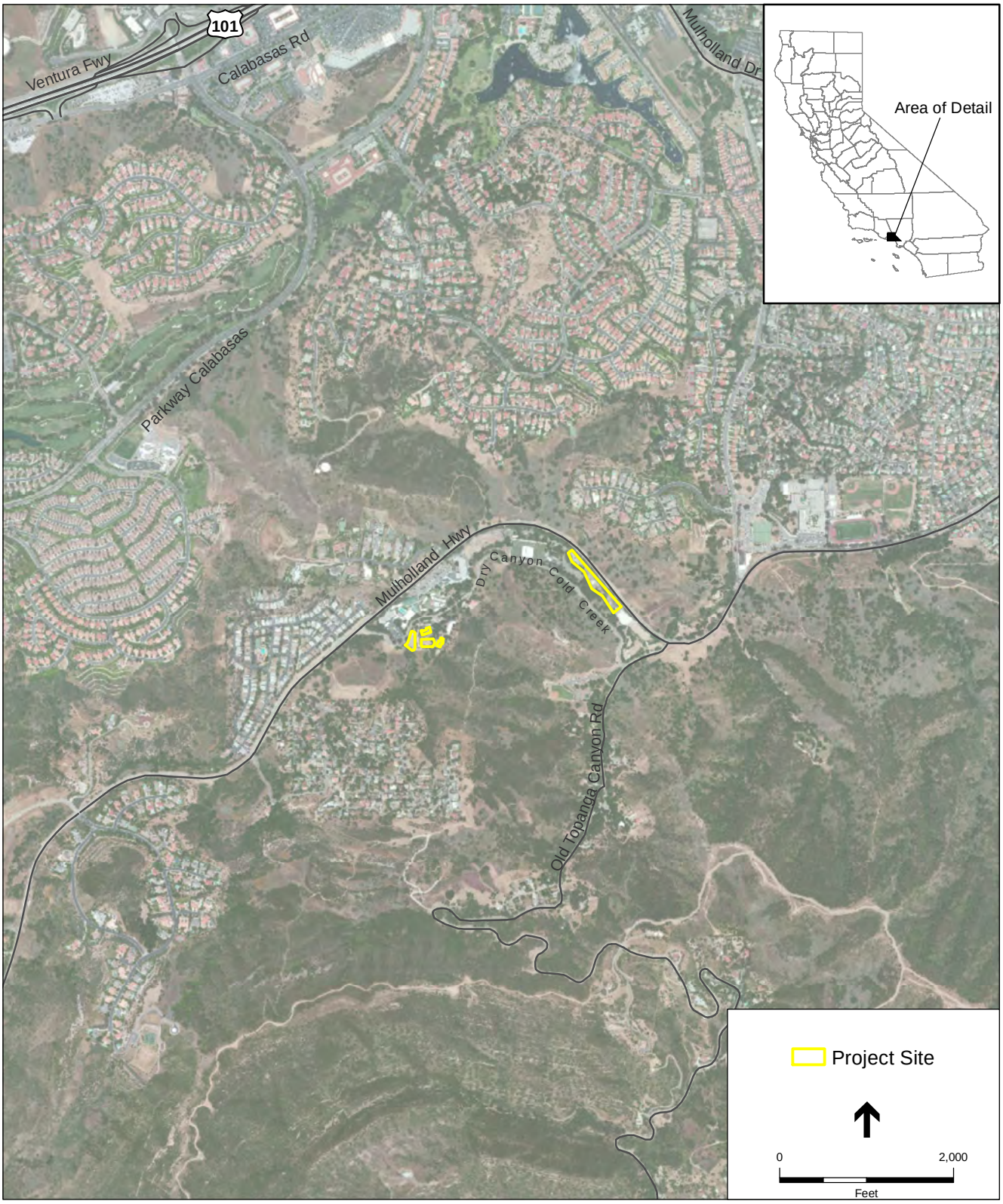
There are two drainage features located within the project boundaries at the Peters site, the perennial Dry Canyon Creek, and one of its unnamed tributaries, which conveys flows seasonally. The topography is one of hills and valleys, with elevations ranging from approximately 1,080 feet on the Peters parcel, at the eastern end of the project site, to approximately 1,470 feet at the southern edge of the Brown parcel, in the southwestern portion of the project site. **Figure 2-2** shows the project site and the aforementioned features within the project vicinity.

Site Characteristics

Peters site (Assessor Parcel Numbers [APNs] 2072-034-003 and 2072-003-025) —The development area totals 5.83-acres which includes the Peters property as well as a portion of the current Viewpoint School campus, which is used as a maintenance yard. The property has an existing house, one pool, and two footbridges which cross the stream and flood channel. The oak tree report indicates that 156 coast live oaks (*Quercus agrifolia*) occur on this property. The Peters site is zoned Rural Residential (RR), has a General Plan land use designation of Rural Residential (RR) and is located within a scenic corridor overlay zone. **Figure 2-3** shows the Peters site parcels.

Brown site (APNs 2072-001-020 and -024) - The parcels total 7.1 acres and contains an existing residence, miscellaneous ancillary structures and landscaping. The Brown site is zoned Hillside Mountainous (HM) and has a General Plan land use designation of Hillside Mountainous (HM).

Castle Oaks site (APN 2072-001-015) - The parcel is 1.66 acres and contains an existing residence, a pool, and landscaping. The oak tree report indicates that 49 coast live oak trees exist on the Castle Oaks and Brown properties. The Castle Oaks site is zoned Hillside Mountainous (HM) and has a General Plan land use designation of Hillside Mountainous (HM). **Figure 2-4** shows the Brown and Castle Oaks site parcels.



SOURCE: Dotterweich Carlson Mehner Design, Inc.

Viewpoint School Tennis Courts and Parking Lots . 140358.04

Figure 2-2

Project Vicinity Map



SOUCE: ESRI

Viewpoint School Tennis Courts and Parking Lots . 140358.04

Figure 2-3

Peters Site Parcels



SOURCE: ESRI

Viewpoint School Tennis Courts and Parking Lots . 140358.04

Figure 2-4

Brown and Castle Oaks Sites Parcels

2.3 Project Objectives

Section 15124(b) of the California Environmental Quality Act (CEQA) Guidelines states that the project description shall contain "*a statement of the objectives sought by the proposed project.*" Section 15124(b) further states that "*the statement of objectives should include the underlying purpose of the project.*" As set forth by the CEQA Guidelines, the list of objectives that the project applicant and City seek to achieve for the proposed project is provided below:

- Provide six tennis courts for the Viewpoint School tennis program, which currently trains and plays offsite.
- Provide additional campus parking in several areas to increase the overall on-campus parking and reduce roadside parking on Dry Canyon Cold Creek Road.
- Provide additional office space for campus administration.
- Provide a primary residence for the school headmaster.

2.4 Project Components

The project applicant (a privately owned school) proposes to develop six tennis courts, additional parking, renovate an existing residential structure for office administration, and use an existing residential structure for the headmaster's primary residence. The proposed project would demolish the existing improvements on the Peters site, including the existing residential structure, swimming pool, and repair or replace two footbridges from Mulholland Drive. The Peters site would be developed with tennis courts, student parking and landscaping. The tennis courts would include six courts and a 700-square-foot (sf) accessory building with bathrooms. The proposed project would also renovate an existing residential structure for office administration at Castle Oaks site and utilize the Brown site as the primary residence for Viewpoint School's headmaster. These sites would also include additional parking to accommodate staff. The proposed project would provide an additional 93 parking spaces for the Viewpoint School. There would be approximately 49 parking spaces at the Peters site, 25 parking spaces at the Brown site, and 19 parking spaces at the Castle Oaks site. **Figure 2-5** depicts the site plan for the Peters site and **Figure 2-6** depicts the site plans for the Brown and Castle Oaks sites. In order to accommodate the proposed private school use, the project involves a request for a General Plan Amendment from Hillside Mountainous (HM) to Rural Residential (RR) and a Zone Change from Hillside Mountainous (HM) to Rural Residential (RR) on the Brown and Castle Oaks Sites.

The proposed project would not increase enrollment at the school nor would it change the fundamental uses of the main campus, rather the proposed project is a physical expansion to better accommodate existing uses, provide increased onsite parking and tennis courts for the school. Currently, students practice and play at off-site facilities. Thus, the proposed project would not generate any additional peak hour daily trips to and from the school site, because the tennis courts would accommodate existing students who are currently practicing and playing at an offsite location. Additionally, the proposed office space and parking would accommodate existing

staff, opening up parking on the main campus for students in order to reduce street parking on Dry Canyon Cold Creek Road.

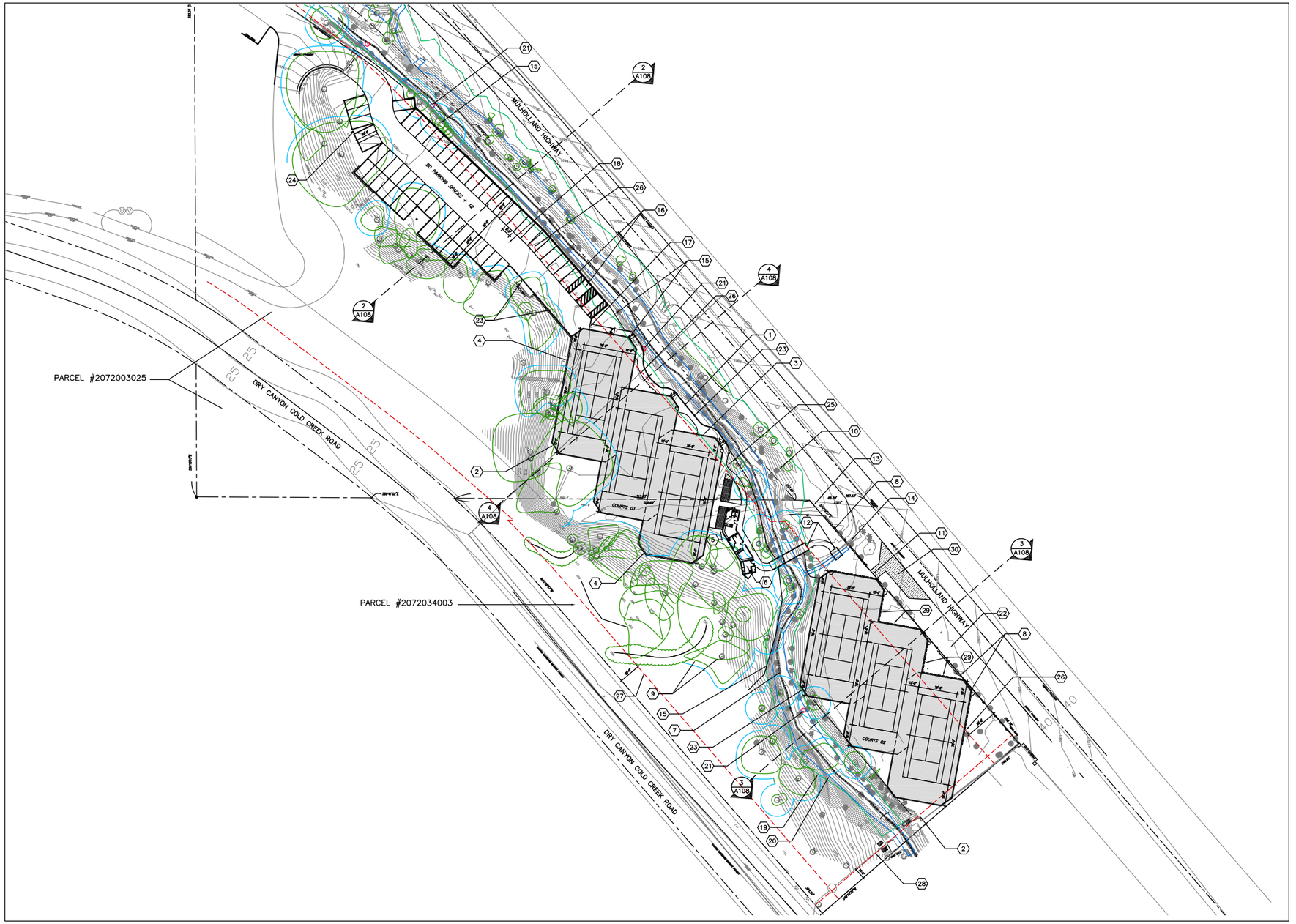
Construction Process and Timeline

Preparation of the Peters site would include the demolition of one residential structure, a swimming pool, ancillary structures, and landscaping. Additionally, land clearing, grading, and excavation activities would occur on the Brown site and Castle Oaks site.

Construction of the proposed project would occur over a 12 to 18 month period, beginning in the second quarter of 2016. If approved, the allowed days and hours for construction activity are Monday through Friday 7:00 a.m. to 6:00 p.m., and Saturday from 8:00 a.m. to 5:00 p.m. No construction would be permitted on Sunday or on City holidays without prior written request and approval from the Community Development Department.

The proposed project would not require any soil import or export, as all soils would be balanced onsite. Demolition materials associated with the existing structures would be recycled and transported from the site via Mulholland Highway to the Calabasas Landfill, located at 5300 Lost Hills Road, Agora, which is located approximately seven miles northwest from the project site.

Heavy equipment such as scrapers, dozers, water trucks, flat-bed trucks, stake bed trucks, backhoes, trenchers, scissor lifts, fork lifts, trash bins, concrete trucks, asphalt paving rollers, dump trucks, barber-green pavers, paint sprayers and semi-trucks would be used during construction. Approximately 20 construction workers would be expected to work onsite at any given time. Expected daily construction trips are estimated at approximately 11 to 25 trips and an estimated 235 total trips are expected to and from the site for the transport of construction workers and construction equipment. Haul routes would be via Mulholland Highway to Old Topanga/Valmar to Mulholland Drive, and staging of construction vehicles and materials would occur on the project site.



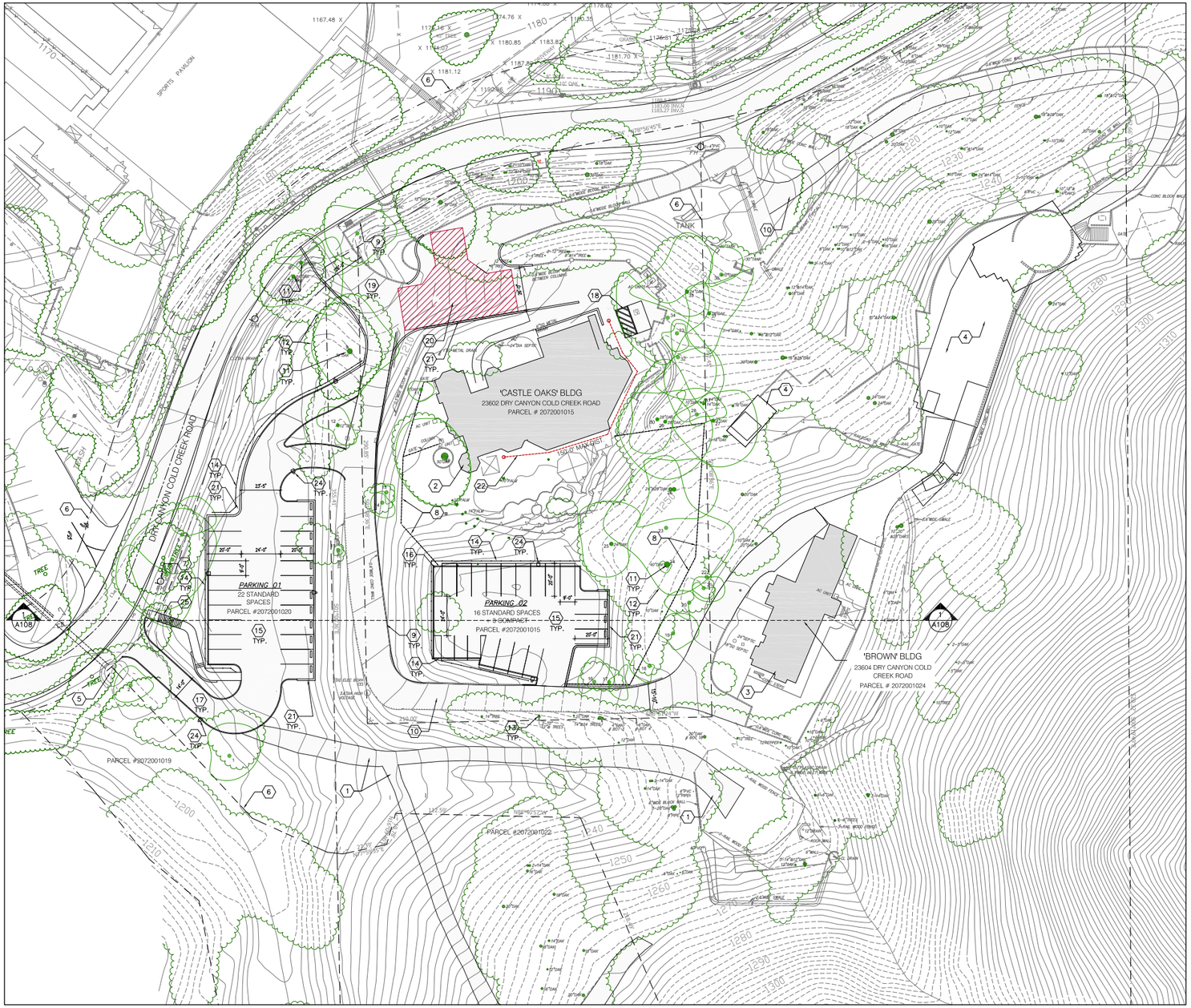
SITE PLAN KEYNOTES:

1. PAVED PEDESTRIAN PATH
2. 45 DEGREE CORNER
3. TENNIS COURT CHAINLINK FENCE, TYP. ALL SIDES
4. CONCRETE RETAINING WALL W/ FENCE ABOVE
5. ALUMINUM BLEACHER– (4) ROW, 21'–0" LONG
6. RESTROOM AND CHANGING FACILITY W/ SPECTATOR SEATING; REFER TO SHEET A109B FOR ENLARGED BUILDING PLAN & ELEVATIONS
7. (E) CREEK FLOWLINE CHANNEL
8. (E) WROUGHT IRON FENCE BETWEEN BRICK PILASTERS
9. (E) OAK TREE & CANOPY, TYP.
10. (E) NON–OAK, TYP.
11. NEW GATE FOR EMERGENCY AND MAINTENANCE ACCESS (WALK THROUGH)
12. NEW PEDESTRIAN BRIDGE TO REPLACE EXISTING; REFER TO DETAILS ON SHEET A109
13. PROPERTY BOUNDARY
14. (E) CULVERT
15. FENCE, TYP. AT PEDESTRIAN PATH AND BEHIND PARKING
16. ACCESSIBLE PARKING SPACE
17. ADA COMPLIANT CURB–CUT
18. NEW PAVED PARKING AREA W/ 24' WIDE DRIVE AISLE
19. CDFW JURISDICTIONAL BOUNDARY LINE
20. USACE/RWQCB JURISDICTIONAL BOUNDARY LINE
21. (E) PIPE OUTLET
22. NEW PLANTING THIS AREA, REFER TO LANDSCAPE DRAWINGS
23. CORNER OF COURT CANTILEVERED OVER CREEK BANK
24. FULL CUT–OFF POLE MTD. LIGHTING, TYP. ; REFER TO LIGHTING PLANS & LUMINAIRE SCHEDULE
25. ADA DRINKING FOUNTAIN, TYP.
26. 30'–0" FRONT YARD SETBACK, TYP.
27. 20'–0" REAR YARD SETBACK, TYP.
28. 10'–0" SIDE YARD SETBACK, TYP.
29. LINE OF NEW TALL NETTING TO PREVENT INTERFERENCE W/ TRAFFIC ALONG MULHOLLAND HWY.; REFER TO SITE SECTIONS & PERSPECTIVES
30. PAVED EMERGENCY PULL–OFF AREA; REFER TO LANDSCAPE PLAN

0 80
Feet

SOURCE: Dotterweich Carlson Mehner Design, Inc.

Figure 2-5
Peters Site Plan



SITE PLAN KEYNOTES:

1. (E) UN–PAVED ROAD
2. (E) 'CASTLE OAKS' BUILDING; EXTERIOR TO REMAIN UNCHANGED; REFER TO SHEET A105 & A106
3. (E) 'BROWN' BUILDING; EXTERIOR TO REMAIN UNCHANGED; REFER TO SHEET A107
4. (E) STRUCTURE TO REMAIN
5. (E) CREEK DISCHARGE
6. (E) PARCEL BOUNDARY
7. (E) FIRE HYDRANT
8. (E) FENCE
9. (E) RETAINING WALL
10. (E) PROPERTY ACCESS ROAD
11. (E) TREE (OAK)
12. (E) OAK TREE DRIPLINE
13. (E) TREE (NON–OAK)
14. NEW FENCE; TO COMPLY W/ CITY OF CALABASAS STANDARDS
15. NEW PAVED PARKING AREA
16. NEW CONCRETE CURB
17. NEW PAVED PARKING ACCESS ROAD; REFER TO CIVIL DRAWINGS
18. NEW ADA PARKING SPACE
19. NEW WIDENED PAVED FIRE ACCESS ROAD; REFER TO CIVIL DRAWINGS
20. NEW AREA FOR INTERMEDIATE FIRE TURN AROUND; REFER TO CIVIL DRAWINGS
21. NEW RETAINING WALL; REFER TO CIVIL DRAWINGS FOR DETAILS
22. FIRE ACCESS MEASUREMENT: 150'–0" MAX
23. RESERVED
24. FULL CUT–OFF POLE MTD. LIGHTING, TYP. REFER TO LIGHTING PLANS & LUMINAIRE SCHEDULE
25. NEW PEDESTRIAN PATH & STAIRS; REFER TO CIVIL DRAWINGS

0 80
Feet

SOURCE: Dotterweich Carlson Mehner Design, Inc.

Figure 2-6
Brown and Castle Oaks Site Plan

2.5 Required Approvals

Actions and approvals required from the City in association with the proposed project include:

- Approval of a Site Plan Review;
- Approval of a Conditional Use Permit;
- Approval of a Scenic Corridor Permit;
- Approval of a General Plan Amendment;
- Approval of a Zone Change;
- Approval of an Oak Tree Permit; and
- Approval of associated building and engineering permits.
- Approval of Demolition Permits
- Approval of a Variance for retaining wall heights

Actions and approvals that may be required from other agencies for the proposed project include:

- A Section 404 Permit from the U.S. Army Corps of Engineers (USACE)
- A Section 401 Water Quality Certification from the Regional Water Quality Control Board (RWQCB)
- A Section 1602 Streambed Alteration Agreement from the California Department of Fish and Wildlife (CDFW)
- Compliance with Section 402 to conform to the National Pollution Discharge Elimination System permit requirements, including preparing a Standard Urban Storm Water Mitigation Plan (SUSMP) and Construction General Permit.

2.6 Project Baseline

Baseline assumptions used for the project impact analysis includes the project site as a currently developed and operational 40-acre Viewpoint School campus and three unoccupied single-family residential units.

SECTION 3
Environmental Checklist

Environmental Factors Potentially Affected

The proposed project could potentially affect the environmental factor(s) checked below. The following pages present a more detailed checklist and discussion of each environmental factor.

☐ Aesthetics	☐ Agriculture and Forestry Resources	☐ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Geology, Soils and Seismicity
☐ Greenhouse Gas Emissions	☐ Hazards and Hazardous Materials	☐ Hydrology and Water Quality
☐ Land Use and Land Use Planning	☐ Mineral Resources	☐ Noise
☐ Population and Housing	☐ Public Services	☐ Recreation
☐ Transportation and Traffic	☐ Utilities and Service Systems	☐ Mandatory Findings of Significance

DETERMINATION: (To be completed by Lead Agency)

On the basis of this initial study:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, no further environmental documentation is required.



9/21/15

Michael Klein
Printed Name

City of Calabasas
For

Aesthetics

Issues (and Supporting Information Sources):		Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
1.	**AESTHETICS — Would the project:**				
a)	Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b)	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☒	☐	☐
c)	Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
d)	Create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area?	☐	☐	☐	☒

Discussion

a) **Less-than-Significant-Impact.** A scenic vista generally provides focal views of objects, settings, or features of visual interest; or panoramic views of large geographic areas of scenic quality, primarily from a given vantage point. A significant impact to a scenic vista would occur if the proposed project introduced an incompatible use that would obstruct, interrupt, or diminish a valued focal and/or panoramic view. The proposed project would develop tennis courts and parking at the Peters property and would refurbish the buildings at the Castle Oaks and Brown properties. None of the project sites are located in areas designated as scenic vistas by the City of Calabasas 2030 General Plan (City of Calabasas General Plan, 2008). **Figure 3-1** shows the proposed landscaping plan for the Peters site. **Figure 3-2** shows the existing views from Mullholland Highway and Dry Canyon Cold Creek Road and the simulated views from these locations following the establishment of the proposed landscaping. As shown in the figures, the proposed project would introduce landscaping that would enhance the visual characteristics of the project sites including landscape designed to shield public views, by providing additional landscaping to screen the new development. As a result, the proposed project would not block, disrupt, or otherwise have adverse effects on a scenic vista, and impacts would be less than significant.

b) **Less-than-Significant-Impact with Mitigation.** Interstate 101 is the nearest highway to the proposed project and it is not designated as scenic highway by the California Highway Mapping System (Caltrans, 2011). However, the 2030 General Plan EIR describes Mulholland Highway as a scenic corridor that extends from Mulholland Drive through the unincorporated territory of Los Angeles County to Las Virgenes Road. The 2030 General Plan EIR describes the corridor as containing diverse topography, including sandstone hills and ridges, immense granite outcrops, stream and riparian habitat, and open areas of rolling meadow and oak woodland. Although the existing Peters site residence and oak trees would be removed, the proposed project would be required to develop the sites in accordance with the review and approval of the Development Review

Committee and the City of Calabasas Oak Tree Ordinance, which requires reforestation, registration, and preservation of all healthy oak trees, unless reasonable and conforming use of a property justifies the removal, transplanting, altering, and/or encroachment into the oak tree's protected zone. An Oak Tree Permit would be required. Recommendations made by L. Newman Design Group, Inc. and incorporated into Mitigation Measure BIO-5 (to preserve where feasible and replace where unfeasible heathy oak trees impacted by the project) and would be required to mitigate impacts to a less than significant level. The proposed project would not substantially alter the scenic resources of the site because only three of 205 oak trees would be removed. Impacts would be less-than-significant with mitigation measure BIO-5 incorporated.

c) **Less-than-Significant Impact.** A significant impact to the visual character/quality of the area would occur if the project removed or destroyed features or structures that are of aesthetic value (such as architectural value), or if the project altered the visual character of the surrounding setting by introducing an incompatible use. **Figures 3-3** and **3-4** show various existing views on the Peters site and the Brown and Castle Oaks sites, respectively.

The Brown and Castle Oaks sites would maintain the visual character of the properties by retaining and renovating the two buildings on-site, developing 44 parking spaces and adding additional landscaping.

The Peters site would remove the existing unoccupied residential building and would develop the site with six tennis courts, a restroom facility and parking. Development of the Peters site, would comply with the City's Scenic Corridor Development Guidelines. For example, at the direction of the City's Architectural Review Panel (ARP), the project would include a dark green net fence up to 30 feet high along Mulholland Highway where the tennis courts are proposed. The proposed net material was recommended by the ARP because it is the least visible type of sport netting available. The type of netting also allows for a tension design with minimal poles. Furthermore, the tennis courts are angled along Mulholland Highway to allow for additional trees to be planted in order to screen the poles. As a result, public views onto the project site would be adequately screened by landscaping, and the 30-foot tall sport netting will be unobtrusive. Therefore, the proposed project would not substantially degrade the existing visual character or quality of the projects sites or surroundings and impacts would be less than significant.

d) **No Impact.** A significant impact would occur if the project caused a substantial increase in ambient illumination levels beyond the property line or caused new lighting to spill-over onto light-sensitive land uses such as residential, some commercial, institutional, and natural areas. The project sites are surrounded by low density residential and school land uses and these land uses do not generate significant light or glare. The new tennis courts would not contain nighttime lighting and no new light or glare sources would be introduced to the project sites. Construction hours would be limited to 7:00 a.m. to 6:00 p.m. during week days and 8:00 a.m. to 5:00 p.m. on Saturdays. As a result, there would

be no new lighting or glare that would affect day or nighttime views in the area and no impact would occur.

References

Caltrans Scenic Highway Mapping Program, Site Accessed March 25, 2015: http://www.dot.ca.gov/hq/LandArch/scenic_highways.

City of Calabasas General Plan 2030 Update, 2008, Accessed March 5, 2015 at: http://www.cityofcalabasas.com/general-plan.html.

City of Calabasas, 2030 General Plan Final Environmental Impact Report SCH #2008041030, December 2008.

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SOURCE: Dotterweich Carlson Mehner Design, Inc.

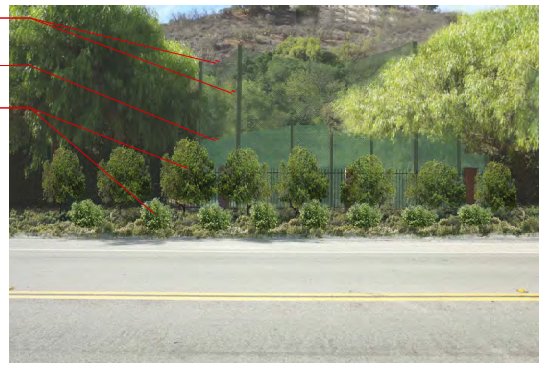
Viewpoint School Tennis Courts and Parking Lots . 140358.04

Figure 3-1
Landscaping Plan

PETERS VISUAL SIMULATIONS



Existing view from Mulholland Hwy



Simulated view following construction and planting



Simulated view after five years of growth

CASTLE OAKS & BROWN PARKING 01 VISUAL SIMULATIONS



Existing view from Dry Canyon Cold Creek Rd



Simulated view from Dry Canyon Cold Creek Rd

SOURCE: Dotterweich Carlson Mehner Design, Inc.

Viewpoint School Tennis Courts and Parking Lots . 140358.04

Figure 3-2
Visual Simulations



Photo 1 - Peters Site Residence, View West



Photo 2 - Landscaping Behind Peters Site Residence, View North



Photo 3 - Peters Site, View Southeast



Photo 4 - Peters Site Mainenance Storage Area, View Northwest

SOURCE: ESA

Viewpoint School Tennis Courts and Parking Lots . 140358.04

Figure 3-3

Existing Views on Peters Site



Photo 1 - Castle Oaks Site Residence, View Southwest



Photo 2 - Rear of Castle Oaks Site Residence, View North



Photo 3 - Brown Site, View Southwest



Photo 4 - Castle Oaks and Brown Sites Horse Corral, View South

SOURCE: ESA

Viewpoint School Tennis Courts and Parking Lots . 140358.04

Figure 3-4

Existing Views on Brown and Castle Oaks Sites

Agricultural and Forest Resources

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
2. AGRICULTURAL AND FOREST RESOURCES — In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. **Would the project:**				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

Discussion

a) **No Impact.** The proposed project is located in a developed area within the City of Calabasas. Surrounding land uses include the Viewpoint School campus, residential land uses, and vacant parcels. Currently, the project sites are developed with residential structures, with scattered surface parking. The City of Calabasas (City) contains no designated Prime Farmland, Unique Farmland, or Farmland of Statewide Importance as shown on maps prepared pursuant the Farmland Mapping and Monitoring Program (California Department of Conservation, 2014). As there is no farmland present on-site, within the immediate vicinity of the project site, or in the City, there would be no direct or indirect impacts related to the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance.

b) **No Impact.** The City does not have any agriculture-oriented zoning designations and contains no Williamson Act Contracted land. The project sites are located in a developed area and are zoned HM and RR. No portion of the project sites or the surrounding land uses are zoned for agriculture and no nearby lands are enrolled under a Williamson Act

contract (California Department of Conservation, 2014). Therefore, there would be no impact related to agricultural zoning or Williamson Act contracts.

c) **No Impact.** The proposed project is in a developed area and is zoned HM and RR. No forest land or timberland zoning is present on the project sites, in the surrounding area, or anywhere in the City. Therefore, the proposed project would not conflict with existing zoning for forest land or timberland and no impact would occur with regards to this issue.

d) **No Impact.** There is no forest land existing on the project sites or in the surrounding area. Thus, the proposed project would not result in the loss of forest land or conversion of forest land to non-forest use and no impact would occur.

e) **No Impact.** As there are no agricultural uses or related operations on or in proximity to the project sites, or anywhere within the City, the proposed project would not involve the conversion of farmland to other uses, either directly or indirectly. No impacts involving the conversion of farmland to non-agricultural use would occur.

References

California Department of Conservation, Farmland Mapping and Monitoring Program, official website, http://www.conservation.ca.gov/dlrp/FMMP/Pages/Index.aspx, Accessed February 10, 2014.

California Department of Conservation, Williamson Act Contracts, official website, http://www.conservation.ca.gov/dlrp/lca/stats_reports/Pages/index.aspx, Accessed February 10, 2014.

Air Quality

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
3. AIR QUALITY — Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. **Would the project:**				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☒	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

Discussion

a) **Less-than-Significant Impact.** The proposed project is located within the South Coast Air Basin (SCAB), which is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The SCAB has a history of recorded air quality violations and is an area where both state and federal ambient air quality standards are exceeded. As such, SCAQMD and the Southern California Association of Governments (SCAG) are responsible for preparing an air quality management plan (AQMP) that addresses federal and state Clean Air Act (CAA) requirements.[1] The AQMP analyzes air quality on a regional level and identifies region-wide attenuation methods to achieve the air quality standards. These region-wide attenuation methods include regulations for stationary-source polluters; facilitation of new transportation technologies, such as low-emission vehicles; and capital improvements, such as park-and-ride facilities and public transit improvements. The most recent 2012 AQMP was adopted by the SCAQMD Governing Board on December 12, 2012. As the proposed project is in the SCAB, the 2012 AQMP is the applicable air quality plan for the project.

Generally, projects that are consistent with the regional population, housing, and employment forecasts identified by SCAG are considered to be consistent with the AQMP growth projections, since the forecast assumptions by SCAG forms the basis of the land use and transportation control portions of the AQMP. Additionally, because

[1] SCAG is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino, and Imperial Counties and addresses regional issues relating to transportation, the economy, community development and the environment.

SCAG's regional growth forecasts are based upon, among other things, land uses designated in general plans, a project that is consistent with the land use designated in a general plan would also be consistent with the SCAG's regional forecast projections, and thus also with the AQMP growth projections.

The proposed project is located on three sites which total 23.82 acres. The Peters site is a 5.83 acre site which also includes an adjacent lot on the current Viewpoint School campus that is used as a maintenance yard. The property has an existing house, one pool, and two footbridges which cross the stream and flood channel from Mulholland Highway. The Brown site totals 10.50 acres and contains an existing residence, other miscellaneous ancillary structures, and landscaping. The Castle Oaks site consists of 1.66 acres and contains an existing residence, a pool, and landscaping. The proposed project would demolish the existing buildings on the Peters site, which would then be developed with tennis courts, student parking and landscaping. The proposed project would also make improvements to the Castle Oaks site in order to accommodate new administrative offices, and utilize the Brown site as the primary residence for Viewpoint School's principal. No demolition would occur on the Castle Oaks or Brown sites.

The proposed project would not increase enrollment at the school nor does it change the fundamental uses of the main campus; rather the proposed project is a physical expansion to better accommodate existing uses by providing increased onsite parking and tennis courts for the school. The proposed project is not anticipated to generate any additional peak hour daily trips, because the tennis courts would accommodate existing students who currently use an offsite location. Additionally, the proposed office space and parking would accommodate existing staff, which opens up parking on the main campus for students and reduces street parking on Dry Canyon Cold Creek Road. As such, because the project would not result in any growth with respect to student enrollment or staff employment, the project would be consistent with SCAG's regional forecast projections and, in turn, would also be consistent with the growth projections accounted for in SCAQMD's AQMP. Therefore, the proposed project would not conflict with, or obstruct, implementation of the AQMP and this impact would be less than significant.

b) **Less-than-Significant Impact.**

Construction

Construction activities associated with the proposed project would generate pollutant emissions from the following construction activities: (1) demolition, site preparation, grading, and excavation; (2) construction workers traveling to and from project site; (3) delivery and hauling of construction supplies to, and debris from, the project site; (4) fuel combustion by onsite construction equipment; and (5) site improvements; application of architectural coatings; and paving. These construction activities would temporarily create emissions of dust, fumes, equipment exhaust, and other air contaminants. The amount of emissions generated on a daily basis would vary, depending on the intensity and types of construction activities occurring simultaneously at the time. Construction of the proposed

project is anticipated to occur over a 6 month period, beginning in the second quarter of 2016.

It is mandatory for all construction projects in the SCAB to comply with SCAQMD Rule 403 for controlling fugitive dust. Incorporating Rule 403 would reduce regional emissions of respirable particulate matter with an aerodynamic diameter of 10 micrometers or less (PM_{10}) and fine particulate matter with an aerodynamic diameter of 2.5 micrometers or less ($PM_{2.5}$) from construction activities. Specific Rule 403 control requirements include, but are not limited to, applying water in sufficient quantities to prevent the generation of visible dust plumes, applying soil binders to uncovered areas, reestablishing ground cover as quickly as possible, utilizing a wheel washing system to remove bulk material from tires and vehicle undercarriages before vehicles exit the project site, covering all trucks hauling soil with a fabric cover and maintaining a freeboard height of 12 inches, and maintaining effective cover over exposed areas. Compliance with Rule 403 was accounted for in the construction emissions modeling.

Emissions of ozone precursors reactive organic gases (ROG) and oxides of nitrogen (NOx) are primarily generated from mobile sources and vary as a function of vehicle trips per day associated with debris hauling, delivery of construction materials, vendor trips, and worker commute trips, and the types and number of heavy-duty, off-road equipment used and the intensity and frequency of their operation. A large portion of construction-related ROG emissions also result from the application of architectural coatings and vary depending on the amount of coatings applied each day.

The project's peak daily construction emissions was prepared utilizing the California Emissions Estimator Model (CalEEMod) to determine whether short-term construction-related emissions of criteria air pollutants associated with the proposed project would exceed SCAQMD's applicable regional thresholds and where mitigation would be required. Modeling was based on project-specific data, when available. Where project-specific information was not available, reasonable assumptions based on other similar types of developments and default model settings were used to estimate criteria air pollutant and ozone precursor emissions. **Table 3-1** summarizes the modeled peak daily emissions of criteria air pollutants and ozone precursors associated with the proposed project's worst-case construction scenario, which accounts for construction activities at the sites.

TABLE 3-1
PROPOSED REGIONAL CONSTRUCTION EMISSIONS

Construction Activities	Estimated Maximum Daily Emissions (lbs./day)					
	ROG	NO_X	CO	SO_2	PM_{10}[a]	$PM_{2.5}$[a]
2016						
Demolition						
Fugitive Dust Emissions	-	-	-	-	.12	0.02
Off-Road Emissions	1.89	19.94	11.21	0.02	1.15	0.10
On-Road Emissions	0.01	0.23	0.10	0.002	0.16	0.04
Total Emissions	**1.90**	**20.17**	**11.31**	**0.022**	**1.43**	**0.16**
Regional Significance Threshold	*75*	*100*	*550*	*150*	*150*	*55*
Significant Impact?	No	No	No	No	No	No
Grading						
Fugitive Dust Emissions	-	-	-	-	0.27	0.07
Off-Road Emissions	3.91	36.89	25.56	0.04	4.64	3.34
On-Road Emissions	0.17	0.10	2.48	0.005	0.29	0.09
Total Emissions	**4.08**	**36.99**	**28.04**	**0.045**	**5.20**	**3.50**
Regional Significance Threshold	*75*	*100*	*550*	*150*	*150*	*55*
Significant Impact?	No	No	No	No	No	No
Trenching						
Off-Road Emissions	3.91	36.89	25.56	0.04	2.02	1.91
On-Road Emissions	0.17	0.23	2.40	0.005	0.84	0.23
Total Emissions	**4.08**	**37.12**	**27.96**	**0.045**	**2.86**	**2.14**
Regional Significance Threshold	*75*	*100*	*550*	*150*	*150*	*55*
Significant Impact?	No	No	No	No	No	No
Building Construction						
Off-Road Emissions	1.06	11.71	4.73	0.01	0.61	0.56
On-Road Emissions	0.21	1.46	3.95	0.008	0.54	0.16
Total Emissions	**1.27**	**13.17**	**8.68**	**0.018**	**1.15**	**0.72**
Regional Significance Threshold	*75*	*100*	*550*	*150*	*150*	*55*
Significant Impact?	No	No	No	No	No	No
Paving						
Off-Road Emissions	5.41	47.17	31.68	0.05	2.65	2.48
On-Road Emissions	0.14	0.19	1.98	0.004	0.37	0.10
Total Emissions	**5.55**	**47.36**	**33.66**	**0.054**	**3.02**	**2.58**
Regional Significance Threshold	*75*	*100*	*550*	*150*	*150*	*55*
Significant Impact?	No	No	No	No	No	No

TABLE 3-1
PROPOSED REGIONAL CONSTRUCTION EMISSIONS

Construction Activities	Estimated Maximum Daily Emissions (lbs./day)					
	ROG	NO_X	CO	SO_2	PM_{10}[a]	$PM_{2.5}$[a]
Architectural Coating						
Off-Road Emissions	21.87	2.37	1.88	0.003	0.20	0.20
On-Road Emissions	0.03	0.05	0.48	0.001	0.09	0.02
Total Emissions	**21.90**	**2.42**	**2.36**	**0.004**	**0.29**	**0.22**
Regional Significance Threshold	*75*	*100*	*550*	*150*	*150*	*55*
Significant Impact?	No	No	No	No	No	No

NOTE: Construction emissions would be slightly different during the summer and winter seasons. Maximum daily emissions of ROG and NO_X would generally be higher during the winter while emissions of CO and SO_2 would generally be higher in the summer. The maximum emissions for each pollutant over the course of the summer and winter seasons are shown in this table.

[a] Emissions shown accounts for the implementation of mandatory dust control measures as required by SCAQMD Rule 403—Fugitive Dust.

As shown in Table 3-1, the maximum daily construction emissions generated by the proposed project's worst-case construction scenario would not exceed SCAQMD's daily significance threshold for any criteria pollutants during any of the construction phases. Therefore, construction phase emissions would have a less than significant impact related to regional air quality.

Operation

Operation of the proposed project would not impact air quality emissions because no facilities would be constructed that would result in additional vehicle trips to and from the project site. As discussed previously, the proposed project is a physical expansion of facilities that only serves to better accommodate existing uses, and would not result in any additional growth in student enrollment or faculty staff. Once constructed, the project area would function as if under existing conditions and would not require daily operational activities that would generate emissions onsite. Criteria pollutant emissions from the project are not anticipated to result in detectable regional air quality increases and therefore, impacts would be less than significant.

c) **Less-than-Significant Impact.** The project sites are located within the SCAB, which is considered the cumulative study area for air quality. Because the SCAB is currently classified as a state nonattainment area for ozone, PM_{10}, and $PM_{2.5}$, cumulative development such as the proposed project along with other reasonably foreseeable future projects in the SCAB as a whole could violate an air quality standard or contribute to an existing or projected air quality violation. However, based on SCAQMD's cumulative air quality impact methodology, SCAQMD recommends that if an individual project results in air emissions of criteria pollutants (ROG, CO, NOx, SOx, PM_{10}, and $PM_{2.5}$) that exceed the SCAQMD's recommended daily thresholds for project-specific impacts, then

it would also result in a cumulatively considerable net increase of these criteria pollutants for which the proposed project region is in non-attainment under an applicable federal or state ambient air quality standard. As shown in Table 3-1, the project's construction emissions would not exceed SCAQMD's daily thresholds during construction. Thus, because the proposed project's construction-period impact would be less than significant, the proposed project would not result in a significant cumulative impact, when considered with other past, present and reasonably foreseeable projects.

In addition, criteria pollutant emissions from the project are anticipated to be negligible when compared to existing conditions because the new facilities would only serve to accommodate existing uses at the campus, the operational emissions associated with the proposed project would also not exceed the SCAQMD's thresholds of significance for any of the criteria pollutants. Furthermore, the proposed project would also be consistent with SCAQMD's AQMP. Thus, the proposed project would not conflict with SCAQMD's air quality planning efforts for nonattainment pollutants and would not lead to a cumulatively considerable net increase in nonattainment pollutants during operations.

Overall, the proposed project's construction and operational emissions contribution to cumulative air quality impacts would be less than significant.

d) **Less-than-Significant Impact.** A significant impact may occur if a project were to generate pollutant concentrations to a degree that would significantly affect sensitive receptors. Sensitive receptors are populations of people that are more susceptible to the effects of air pollution than are the population at large. The SCAQMD identifies the following as sensitive receptors: long-term health care facilities, rehabilitation centers, convalescent centers, retirement homes, residences, schools, playgrounds, child care centers, and athletic facilities. The nearest sensitive receptors to the project site are the single-family residential buildings located northeast, north, northwest, west, southwest and south of the project site, and the school located west of the project site.

Localized Air Quality Impacts – Criteria Air Pollutants

With respect to potential localized air quality impacts on nearby sensitive receptors resulting from implementation of the proposed project, the highest concentrations of pollutant emissions would be generated during the project's construction activities at the site. As such, the project's emissions from construction activities may have the potential to generate localized emissions that could expose sensitive receptors to harmful pollutant concentrations. The SCAQMD has developed localized significance thresholds (LSTs) that are based on the amount of pounds of emissions per day that can be generated by a project that would not cause or contribute to adverse localized air quality impacts. Screening thresholds for these LSTs, which are found in the mass rate look-up tables in SCAQMD's *Final Localized Significance Threshold Methodology* document, apply to projects that are less than or equal to 5 acres in size and are only applicable to a project's onsite emissions for the following criteria pollutants: NOx, CO, PM_{10}, and $PM_{2.5}$. LSTs represent the maximum emissions from a project that are not expected to cause or

contribute to an exceedance of the most stringent applicable federal or state ambient air quality standards, and are developed based on the ambient concentrations of that pollutant for each source receptor area (SRA) within the SCAB. The proposed project is in the City of Calabasas, which is located within SRA 6 (West San Fernando Valley).

The LSTs developed by SCAQMD are provided for the following distances from the source of emissions: 25 meters (82 feet), 50 meters (164 feet), 100 meters (328 feet), 200 meters (656 feet), and 500 meters (1,640). Additionally, the LSTs at these distances also vary based on the size of the project site. The SCAQMD has provided LSTs for sites that are 1 acre, 2 acres, and 5 acres in size. Although the acreage of all three properties, when combined, would exceed one acre in size, for the purpose of presenting a conservative analysis, the total on-site emissions generated from construction activities at all three properties are assessed against the LSTs for a 1-acre site.

The nearest sensitive receptors to the project site would be Viewpoint School, located approximately 300 feet away from the project site's western boundary. Given the proximity of this nearest sensitive receptor from the project site, the LSTs for a 1-acre site with receptors located within 50 meters (164 feet) are used to address the potential localized air quality impacts associated with the proposed project's construction-related NOx, CO, PM_{10}, and $PM_{2.5}$ emissions.

Table 3-2 identifies the daily unmitigated, localized onsite emissions that are estimated to occur during the proposed project's worst-case construction scenario.

TABLE 3-2
UNMITIGATED LOCALIZED DAILY CONSTRUCTION EMISSIONS

	Estimated Maximum Daily On-Site Emissions (lbs./day)			
Construction Phase	**NO_X**	**CO**	**PM_{10}[a]**	**$PM_{2.5}$[a]**
2016				
	47.17	31.68	4.91	3.41
Localized Significance Threshold[b]	*104*	*652*	*11*	*4*
Significant Impact?	No	No	No	No

[a] Emissions account for implementation of dust control measures as required by SCAQMD Rule 403—Fugitive Dust.
[b] LSTs for a 1-acre site in SRA 6 at a receptor distance of 200 meters (656 feet).

SOURCE: ESA, 2015.

As shown in Table 3-2, the peak daily emissions generated at the project site during project construction activities would not exceed the applicable construction LSTs. Therefore, localized air quality impacts from the project's construction activities on the surrounding off-site residential uses would be less than significant.

Toxic Air Contaminants

A substance is considered toxic if it has the potential to cause adverse health effects in humans. A toxic substance released into the air is considered a toxic air contaminant (TAC). TACs are identified by state and federal agencies based on a review of available scientific evidence. In the State of California, TACs are identified through a two-step process that was established in 1983 under the Toxic Air Contaminant Identification and Control Act. This two-step process of risk identification and risk management was designed to protect residents from the health effects of toxic substances in the air.

Construction of the proposed project would result in short-term diesel exhaust emissions from off-road heavy-duty equipment. Diesel exhaust is considered a TAC. Construction would result in the generation of diesel exhaust emissions from the use of off-road diesel equipment required for site preparation and sidewalk paving, and other construction activities.

The dose to which sensitive receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance or substances in the environment and the extent of exposure that person has with the substance. Dose is positively correlated with time, meaning that a longer exposure period would result in a higher exposure level for the maximally exposed individual. Thus, the risks estimated for a maximally exposed individual are higher if a fixed exposure occurs over a longer period of time. According to the Office of Environmental Health Hazard Assessment (OEHHA), health risk assessments (which determine the exposure of sensitive receptors to toxic emissions) should be based on a 70-year exposure period; however, such assessments should be limited to the period/duration of activities associated with the proposed project. Although construction of the entire project would occur over a 6-month period, the proposed project's construction activities during that time would be separated into different work areas (Peters, Brown, and Castle Oaks). Thus, the duration of the construction activities at any location would only constitute a small percentage of the total 70-year exposure period. Diesel particulates from temporary construction activities would, therefore, not be anticipated to result in the exposure of sensitive receptors to levels that exceed applicable standards, and impacts would be less than significant.

Additionally, operation of the proposed project, which consists of six tennis courts with an accessory building, additional campus parking in three areas, and the renovation of two existing residential structures, would not result in release of any TAC emissions. As such, no impacts related to TAC emissions would occur during project operations.

CO Hotspots

CO concentration is a direct function of motor vehicle activity (e.g., idling time and traffic flow conditions); particularly during peak commute hours and certain meteorological conditions. Under specific meteorological conditions (e.g., stable

conditions that result in poor dispersion), CO concentrations may reach unhealthy levels with respect to local sensitive land uses such as residential areas, schools, and hospitals.

Although the proposed project would involve the development of new parking areas, these amenities would only serve to accommodate existing students and faculty staff at the school. As no growth associated with student enrollment or school faculty staff would occur as a result of the proposed project, no new vehicle trips to and from the project site would occur. Thus, no impacts related to CO hotspots would occur from project implementation.

e) **Less-than-Significant Impact**. A significant impact may occur if objectionable odors occur which would adversely impact sensitive receptors. According to the SCAQMD *CEQA Air Quality Handbook*, land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. The proposed project is not a type of use identified by the SCAQMD as being associated with odors. Thus, the proposed project is not expected to result in objectionable odors for the neighboring uses, and impacts would be less than significant.

During construction of the proposed project, exhaust from equipment may produce discernible odors typical of most construction sites. Such odors would be a temporary source of nuisance to adjacent uses, but would not affect a substantial number of people. As odors associated with project construction would be temporary and intermittent in nature, and therefore, impacts associated with objectionable odors would be less than significant.

References

California Air Resources Board (CARB). 2013. Area Designation Maps/State and National. Available: www.arb.ca.gov/desig/adm/adm.htm. Accessed March, 2015.

Kunzman Associates, Inc. 2014. Focused Traffic Analysis. November 26, 2014. (Full report can be found in **Appendix A** of this IS/MND)

United States Environmental Protection Agency (USEPA). 2013. *The Greenbook Nonattainment Areas for Criteria Pollutants*. Available: http://www.epa.gov/air/oaqps/greenbk/index.html. Accessed March, 2015.

Biological Resources

Issues (and Supporting Information Sources):		Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
4.	**BIOLOGICAL RESOURCES — Would the project:**				
a)	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b)	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
c)	Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d)	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e)	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☒	☐	☐
f)	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

Background

Environmental & Occupational Risk Management, Inc. (EORM) conducted surveys of the proposed work areas on November 6, 2014, and April 3, 2015, to document site conditions and assess the potential of the site to support special-status plant or animal species (EORM, 2015). Additional surveys performed on the site include a jurisdictional delineation by FirstCarbon Solutions (FirstCarbon Solutions, 2014) and an oak tree survey by L. Newman Design Group, Inc., (L. Newman Design Group, Inc., 2015). The results of the surveys are incorporated into this document as reports and are provided as **Appendix B**, **Appendix C,** and **Appendix D**, of this IS/MND.

The project site incorporates three existing residential parcels, Peters, Brown, and Castle Oaks, and contains two drainage features within the jurisdiction of the Army Corps of Engineers, Regional Water Quality Control Board, and the California Department of Fish and Wildlife, the perennial Dry Canyon Creek and an unnamed tributary that conveys flows to the creek seasonally. The topography is one of hills and valleys, with elevations ranging from approximately 1,080 feet on the Peters parcel at the eastern end of the project site to

approximately 1,470 feet at the southern edge of the Brown parcel in the southwestern portion of the project site. Plant communities and other land categories present on the project sites include coast live oak woodland, southern willow scrub, remnant coastal sage scrub, and disturbed and developed land. Several native coast live oak (*Quercus agrifolia*) trees occur on and adjacent to the project site. **Figure 3-5** shows the plant communities and disturbed/developed areas on the Castle Oaks and Brown sites and **Figure 3-6** shows the same for the Peters site.

The following special-status species have at least moderate potential for occurrence on or adjacent to the project site: southern California black walnut, southwestern pond turtle, silvery legless lizard, two-striped garter snake, yellow warbler, and western red bat. These species are either known or expected to occur on the site but are not expected to be affected by construction activities, because they will be limited to disturbed areas consisting of existing development

Discussion

a) **Less-Than-Significant with Mitigation.** No federal or state-listed threatened, endangered, or candidate species are known or expected to occur on site. No federally designated critical habitat for listed wildlife species is mapped within or adjacent to the property; therefore, no critical habitat will be affected by the project.

One special-status plant species, Southern California black walnut (*Juglans californica*) (CNPS List 4.2), and one special-status wildlife species, the monarch butterfly (*Danaus plexippus*) (a California Department of Fish and Wildlife "Special Animal" and proposed for listing under the federal Endangered Species Act), were observed on the project site during the reconnaissance-level surveys, though the site and surrounding tree overstory is not suitable to support a roosting colony. Although not observed, the following four California Species of Special Concern have a potential to occur within the creek immediately adjacent to the site based on the presence of suitable habitat: southwestern pond turtle (*Emys marmorata*), yellow warbler (*Setophaga petechia*), two-striped garter snake (*Thamnophis hammondii*), and western red bat (*Lasiurus blossevillii*). Silvery legless lizard (*Anniella pulchra*), a California Species of Special Concern, has the potential to occur within the leaf litter that is present underneath the oak tree canopy on and adjacent to the project site. Because the proposed construction and operation of the proposed project will be confined to previously disturbed areas, impacts to special-status species and their habitats are determined to be less than significant.

The fuel modification plan prepared for the accessory structure that would be built in conjunction with the tennis courts on the Peters site identifies various forms of vegetation impacts such as removal, thinning, and removal of downed wood and leaf-litter, as well as installing irrigation lines, all of which may potentially extend into the existing southern willow scrub and coast live oak woodland habitat areas in Dry Canyon Creek and south of the creek. Any of these actions could have potential adverse effects on those native plant and wildlife communities, including the following special status species: southwestern pond turtle, silvery legless lizard, and two-striped garter snake. The fuel

modification plan also includes plantings of Catalina Cherry (*Prunus lyonii*) and Japanese Privet (*Ligustrum japonicum*), non- native species to the Santa Monica Mountains area.

These species have been identified as having potentially deleterious effects on local ecosystems (see Brusati et al., 2014; Council for Watershed Health, 2015). These effects are determined to be potentially significant, but may be mitigated through implementation of **Mitigation Measure BIO-1.**

Native birds protected in accordance with the federal Migratory Bird Treaty Act and California Fish and Game Code (Sections 3500-3516) are expected to nest onsite. Potential direct impacts that would result in loss of individuals or nest abandonment could occur to birds nesting on or adjacent to the site if the removal of any vegetation occurs during the nesting/breeding season (February 1 to August 31). In addition, indirect impacts such as construction noise, dust, and other human disturbances may deter breeding/nesting behaviors if construction occurs during the breeding/nesting season. Potential direct and indirect impacts to protected nesting birds would be potentially significant, but can be mitigated through implementation of **Mitigation Measure BIO-2**.

> **BIO-1:** To avoid potentially significant impacts to native plant and wildlife populations and sensitive vegetation communities resulting from implementing the proposed fuel modification plan, fuel modification within areas of southern willow scrub and oak woodland will be limited to thinning opposed to complete removal of vegetation within a given area, and/or raising the canopy to a maximum of eight feet from the ground in accordance with the Los Angeles County Fire Department's Fuel Modification Guidelines. A permit shall be required prior to pruning or removing any native oak trees protected in accordance with the City of Calabasas Oak Tree Ordinance (Section 17.32 of the Calabasas Municipal Code).
>
> Additionally, Catalina cherry and Japanese privet, species not native to the Santa Monica Mountains that have been identified as having potentially deleterious effects on local ecosystems, shall be replaced with plant species native to the northern Santa Monica Mountains, such as holly-leaf cherry (*Prunus ilicifolia* ssp. *ilicifolia*) and other non-invasive species.
>
> **BIO-2:** Tree removals, grading, and the initiation of construction shall either: a) occur outside of the bird nesting season (February 1 to August 31); or b) be subject to bird survey requirements. If vegetation clearing occurs during the breeding season, pre-construction bird nesting surveys shall be conducted to determine the locations of nesting birds. Bird surveys shall include a minimum of two nesting bird surveys to be conducted by a qualified biologist no more than 5 days prior to the start of vegetation clearing or the initiation of ground disturbing activities (including prior to ongoing maintenance of riparian vegetation proposed along the banks of Dry Canyon Creek. Bird nesting surveys shall be

reinitiated if external construction activities are halted for more than five days. The nesting bird surveys shall include an area around the project site of up to 500 feet (where feasible and access is permitted). If an active nest is located, a maximum 300-foot buffer (depending on noise and site conditions) would be established surrounding the nest(s) and the buffer shall be demarcated appropriately (i.e., flagging, orange-mesh construction fencing) for avoidance. If any active raptor nests are found, a 500-foot buffer from the nest shall be established until a qualified biologist can confirm that the nest is no longer active (vacated). These avoidance buffers can be reduced at the discretion of the monitoring biologist, based on the location of the nest, typical ambient noise levels for the area, and/or species tolerance to human disturbances. Disturbance can occur within the buffer area only after the birds are no longer reliant on the nest, as determined by the qualified biologist. The results of the nesting bird survey(s) and any buffer efforts as a result of those surveys shall be documented in a brief letter report and submitted to the City no later than two weeks following the final survey.

b) **Less-Than-Significant with Mitigation.** As described above, two sensitive natural communities are present onsite, approximately 1.13 acres of southern willow scrub and 2.0 acres of coast live oak woodland. The proposed project has been designed to largely avoid direct impacts to these communities, because a majority of the project construction will occur in previously disturbed areas. Impacts to native oak trees (and the associated woodland) would be mitigated to less than significant as described below under impact discussion "e"). Thus, impacts to sensitive natural communities associated with these aspects of project implementation are determined to be less than significant.

While the project is designed to avoid a majority of the native southern willow scrub and coast live oak woodland on the site, the operational phase would include ongoing maintenance of southern willow scrub vegetation along approximately 1,000 linear feet of security fencing along Dry Canyon Creek. Required maintenance includes the periodic pruning of southern willow scrub habitat from the fence. In order to minimize impacts to this plant community and its associated habitat, **Mitigation Measure BIO-3** shall be implemented to reduce impacts to less than significant.

BIO-3: Vegetation maintenance along the security fence adjacent to the Dry Canyon Creek shall be limited to the removal of non-native, invasive species, including (but not limited to) palms (*Washingtonia* sp.), shamel ash (*Fraxinus uhdei*), plane tree (*Platanus* x *acerifolia*), English ivy (*Hedera helix*), blue passionflower (*Passiflora caerulea*), bull thistle (*Circium vulgare*), and smilo grass (*Piptatherum miliaceum*). No native will trees shall be removed; however, some pruning of limbs that are 2 inches or less is permissible for proving clearance from the security fence. No more than 25 percent of a tree's canopy shall be removed during a pruning event.

c) **Less-Than-Significant Impact.** Drainage courses with definable bed and bank and their adjacent wetlands are considered "waters of the United States" and fall under the jurisdiction of the U.S. Army Corps of Engineers (USACE) in accordance with Section 404 of the Clean Water Act. Jurisdictional wetlands, as defined by the USACE are lands that, during normal conditions, possess hydric soils, are dominated by wetland vegetation, and are inundated with water for a portion of the growing season.

No portions of the project sites meet USACE criteria for wetlands (First Carbon Solutions, 2014). Additionally, no in-stream or adjacent wetlands are located within the project boundaries or in the immediate vicinity. Construction would be limited to existing developed areas outside of USACE jurisdictional drainages; therefore, the proposed project would not result in impacts to federally protected wetlands as defined by Section 404 of the Clean Water Act.

d) **Less-Than-Significant Impact.** At a local scale, the project site contains features conducive to promote wildlife movement through the site including drainage features, vegetative cover, and appropriate habitat. It is expected that terrestrial wildlife and birds use the site's two streambed corridors to move through the area and the oak woodland for cover. On a regional scale, the site lies outside of the habitat linkages and wildlife movement corridors identified in Figure IV-1 of the City of Calabasas General Plan, the site does not lie within any Los Angeles County Significant Ecological Areas (SEAs), and the site does not lie within a regional wildlife connectivity area as identified by the California Essential Habitat Connectivity Project (Spencer et al 2010).

Project construction impacts will be limited to areas that are already developed or disturbed and the proposed project would not result in significant impacts to Dry Canyon Creek or the onsite tributary, with the exception of some minor trimming of vegetation; therefore, no direct impacts to the movement of resident or migratory fish would occur. However, impacts associated with construction and operation, such as nighttime lighting, could present adverse impacts to wildlife that may use the drainages as a movement corridor. With the implementation of **Mitigation Measure BIO-4**, impacts to fish or wildlife movement will be less than significant.

> **BIO-4:** Construction shall be limited to daytime hours. Nighttime lighting during construction and operation of the proposed facilities shall be shielded downward to avoid spillage as much as practical into the adjacent drainages and oak woodland.

e) **Less-Than-Significant with Mitigation.** The project property and surrounding areas are heavily populated with oak trees. Though the project has been designed to minimize impacts to surrounding native vegetation, project implementation would result in the removal of three coast live oak trees, none of which are Heritage trees as described in the City of Calabasas Oak Tree Ordinance, and would encroach upon another 60 coast live oak trees, of which 19 are Heritage trees. As defined in the Ordinance, "encroachment"

refers to construction taking place within five feet of a City-protected oak tree's dripline or within 15 feet of its trunk. In addition, some pruning of oak trees may be required to provide clearance for the tennis court construction and parking lot. Based on the abundance of oak trees on the project site and surrounding areas and the small number of trees that will be removed as a result of the project, the impacts to the overall oak population in the vicinity of the project site will be relatively minor. A map depicting the locations of the oak trees on the three project properties and a list of oaks expected to be impacted as a result of the project is included in the Oak Tree Report. Impacts to City-protected oak trees would conflict with the City's Oak Tree Ordinance; however, they may be mitigated through implementation of **Mitigation Measure BIO-5**, which requires replacement of trees or monetary compensation.

BIO-5: The project applicant shall obtain a permit from the City of Calabasas prior to removing, encroaching, or pruning a protected oak tree. In order to satisfy the City's requirements to obtain an oak tree permit, a Preliminary Oak Tree Report (L. Newman Design Group) has been prepared that includes the following to mitigate for impacts to the properties' oak trees as a result of the project:

- Oak Tree Planting Plan
- Oak Tree Preservation Program
- Work Procedures Program

f) **No Impact.** The City of Calabasas does not have an adopted Habitat Conservation Plan or Natural Community Conservation Plan. There are no approved local, regional, or state habitat conservation plans in the vicinity of the project, and the project does not occur within the boundaries of the Los Angeles County's Santa Monica Mountains Local Coastal Program. Therefore, the project would have no impact to an adopted HCP, NCCP, or other approved local, regional, or state habitat conservation plan.

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SOURCE: EORM

Viewpoint School Tennis Courts and Parking Lots . 140358.04

Figure 3-5
Native Habitat and Developed/Disturbed Land on Brown and Castle Oaks Sites



SOURCE: EORM

Viewpoint School Tennis Courts and Parking Lots . 140358.04

Figure 3-6
Native Habitat and Developed/Disturbed Land on Peters Site

Cultural Resources

Issues (and Supporting Information Sources):		Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
5.	**CULTURAL RESOURCES — Would the project:**				
a)	Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☒	☐	☐
b)	Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
c)	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐
d)	Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐

Discussion

a) **Less-than-Significant Impact with Mitigation.** ESA conducted a Phase I Cultural Resources Study for the project, which included a records search at the South Central Coastal Information Center (SCCIC), historic map and aerial photograph review, a California Native American Heritage Commission (NAHC) Sacred Lands File (SLF) search and Native American scoping, and a pedestrian field survey (Strauss and Gonzalez, 2015). The complete results of the study are found in **Appendix E** of this IS/MND.

The results of the SCCIC records search indicated that 33 cultural resources studies have been previously conducted within 0.50-mile of the project area, covering approximately 60 percent of the 0.50-mile archaeological search radius (Noyes, 2015). Of these, two studies (LA 1394 and LA 7877) included part of the project area, covering approximately 45 percent of the project area (Noyes, 2015). According to the records search results, the Peters site has never been subject to survey, and the Brown and Castle Oaks sites were surveyed in 1980, with the Brown horse corral (APN 2072-001-020) having been re-surveyed in 2006.

The results of the SCCIC records search indicated that a total of seven cultural resources, all prehistoric archaeological sites, have been previously recorded within 0.50-mile of the project area (**Table 3-3**). None of these seven previously recorded resources appear to have been subject to eligibility evaluation for listing in either the National Register (NR) or California Register (CR).Of these seven resources, none are located within the project area; however, one resource (P-19-001325) is located approximately 250 feet northeast of the Peters site, on the eastern side of Mulholland Highway. Resource P-19-001325 was recorded in 1986 as a surface scatter of lithic and groundstone artifacts (Atwood & McDowell, 1986). Similarly, the six other resources previously recorded within the record search radius consist of prehistoric sites with habitation debris, and lithic and

groundstone scatters. No previously recorded historic-period built resources were identified within or within 0.25-mile of the project area.

TABLE 3-3
PREVIOUSLY RECORDED CULTURAL RESOURCES WITHIN 1/2-MILE OF THE PROJECT AREA

Permanent Trinomial (CA-LAN-)	P-Number (P-19-)	Other Designation	Description	Date Recorded/ Updated	Distance from Project Area
711/712	000712	N/A	Prehistoric site consisting of a lithic scatter and habitation debris.	1975/1979	2,640 feet N
1133	001133	N/A	Prehistoric site consisting of a lithic scatter and habitation debris.	1983	2,300 feet SW
1135	001135	N/A	Prehistoric site consisting of a lithic scatter.	1984/1990	2,580 feet SW
1325	001325	Crown Park Site (VS-656)	Prehistoric site consisting of a lithic scatter and groundstone scatter.	1986	250 feet NE
1342	001342	Glenfed #1	Prehistoric site consisting of a lithic scatter.	1987	730 feet S
N/A	003769	MRT-1	Prehistoric site consisting of a lithic scatter.	2007	960 feet E
N/A	003770	Baiba 1	Prehistoric site consisting of a lithic scatter and habitation debris.	2007	440 feet SE

SOURCE: SCCIC, 2015

Historic maps and aerial photographs were examined in order to provide historical information about the natural topography and natural resources of the project area, and past uses and historic development of the project area. Historic maps reviewed include the 1903 Calabasas 15' topographic quadrangle and the 1947, 1967, and 1980 Calabasas 7.5' topographic quadrangles. Historic aerial photographs from 1947, 1952, 1959, 1967, 1977, 1978, 1980, 1989, 1994, and 2002 were also reviewed (Historicaerials.com, 2015).

Historic topographic maps and aerial photographs indicate that there are several water sources, such as streams and creeks, surrounding the project area (USGS, 1903). Dry Canyon Creek runs in a northeast/southwesterly direction through the Peters site.

According to historic aerial photographs, aside from the presence of Dry Canyon Cold Creek Road and development associated with the Viewpoint School to the north and northwest, the Castle Oaks and Brown sites appear to have remained in their natural state until sometime between 1980 and 1989; with the residences and driveways visible by 1989. Vegetation clearing and some level of grading of the two areas that would become horse corrals (southern portion of Castle Oaks site APN 2072-001-015 and Brown site APN 2072-001-020) appears to have occurred sometime between 1994 and 2002 (Historicaerials.com, 2015).

The NAHC was contacted on February 11, 2015 to request a search of the Sacred Lands Files (SLF) for the project area. In a letter dated February 27, 2015, the NAHC indicated that SLF search failed to indicate the presence of known prehistoric or Native American resources within the project vicinity (Sanchez, 2015). The letter also included an attached list of Native American contacts with ties to the project vicinity and who might possess information pertaining to cultural resources in the area. Contact letters were prepared and mailed via certified mail and email on March 17, 2015 to all individuals and groups indicated by the NAHC contact list. The letters described the proposed project and included maps depicting the location of the project area. Recipients were requested to reply with any information they are able to share about Native American resources that might be affected by the proposed project.

Two responses from individuals on the contact list have been received to date. In a phone call on March 24, 2015, Mr. Richard Angulo, former President of California Indian Council Chumash, stated that he is very familiar with the project area having grown up there, and has personally collected numerous artifacts in the vicinity. He also stated that the project area is very sensitive for Native American cultural resources and requested a Native American monitor be present during earthmoving activities. In a phone call on March 25, 2015, Ms. Beverly Salazar-Folkes, a representative for the Chumash, Tataviam, and Fernandeño tribes, stated that she is very familiar with the project area and its vicinity, and she knows it to be very sensitive for Native American cultural resources. Ms. Salazar-Folkes also stated that although the project area has been subject to previous disturbances associated with development, any ground disturbances may nonetheless still encounter previously undisturbed soils and resources and should therefore be closely monitored.

On March 24, 2015, ESA cultural resources specialists Matthew Gonzalez, B.A., and Monica Strauss, M.A., R.P.A., conducted a pedestrian cultural resources survey of each of the three sites (Peters, Brown, and Castle Oaks) in the project area. The survey areas for the Peters Site and for the Castle Oaks and Brown sites are shown on **Figures 3-7** and **3-8**, respectively.

Peters Site

The Peters site contains several distinct use-areas, which were documented during the survey and are described in detail below. The use-areas include from south to north: (1) residence and pool; (2) olive and citrus orchard; (3) bridges and patio area; (4) nursery and vineyard; and (5) storage yard and parking lot. Areas 1 through 4 are associated with APN 2072-034-003 and area 5 is associated with APN 2072-003-025. Native sediments observed at the Peters site consist of medium brown and grey, fine sandy loams. There was no surface evidence of archaeological resources.

The residence and pool portion of the Peters site is located at the southern end of the site and is delineated roughly by the footprint of the residence, front lawn and associated flower beds, driveway, and gated swimming pool. These areas appear to have been

subject to some level of disturbance in the course of construction, with deep excavation, at least to a depth of 9 feet, associated with the pool. Visibility in this area was highly limited (< 5%) by the residence itself, pool, and landscaping and hardscaping. The depth of past disturbances in areas other than the swimming pool footprint presumably would have been limited to the construction of the building foundation and utilities installations, with minimal disturbances elsewhere.

Brown Site

The survey of the Brown site (APN 2072-001-020) included: (1) the horse corral; and (2) new driveway portion of the site (each of which is described in detail below). Native sediments observed at the Brown site consist of rocky light to medium brown sandy soil. Several rock outcroppings were also present. There was no surface evidence of archaeological resources.

Castle Oaks Site

Survey of the Castle Oaks site (APN 2072-001-015) included: (1) the horse corral; and (2) the T-portion of the driveway at the entry of the site (each of which are described in detail below). Native sediments observed at the Castle Oaks site consist of light to medium brown sandy soil. There was no surface evidence of archaeological resources.

The project area is located in Dry Canyon, which intersects and is adjacent to Dry Canyon Creek in the Santa Monica Mountain range. Prehistoric people are known to have inhabited the area and engaged in varying levels of permanent and temporary habitation as well as hunting and gathering activities that required them to move about the landscape amongst resource patches (Joseph, 2009). The environmental variable most important in the organization of settlement and subsistence patterns in prehistoric times was access to freshwater sources. As the records search indicated, seven prehistoric archaeological resources have been previously recorded within 0.5-miles of the project area. These resources are all indicative of varying types of use of the area, including tool manufacture, food procurement, temporary camps, and longer-term habitation. One prehistoric archaeological resource identified as a lithic and groundstone artifact scatter, P-19-001325, is located on a bluff approximately 250 feet east of the Peters site and measures over 2,500 square meters. This and other resources in the vicinity strongly suggest localized frequenting by prehistoric peoples, especially in light of the proximity to fresh water provided by Dry Canyon Creek. Representatives from the Native American community with ties to the general area have expressed concern over the sensitivity of the project area and the potential for archaeological resources to be encountered during project implementation.

Historic maps and aerial photographs indicate that the three project sites remained in their natural states and generally undisturbed until approximately 1980 and later. Disturbances introduced during that time appear to have been limited to those portions of the sites where necessary for proper foundational support of structures or where a flat surface was desired, leaving intervening spaces relatively undisturbed.

Summary

Three areas have a higher potential for the presence of subsurface archaeological resources: (1) citrus and olive orchard; (2) bridges and patio; and (3) nursery and vineyard. One area, the storage yard and parking lot, is considered to have unknown potential. The remainder of the project area is considered to have a lower potential, but the discovery of archaeological resources in these areas cannot be precluded based on the general cultural resources sensitivity of the area. **Figures 3-9** and **3-10** show the archaeological sensitivity of the Peters Site and the Castle Oaks and Brown Sites, respectively. Ground-disturbing actions that would occur in the more archaeologically sensitive areas include the following:

- Removal of existing trees, hardscaping, and wrought iron fence, and construction of a tennis court with a 14-foot-tall fence, 5.5-foot-tall retaining wall, and trench drain. The tennis court area would be graded to achieve a 1% downslope to the northwest.
- Removal of two footbridges, a concrete pad, and several trees, and construction of two new pedestrian bridges, a new sanitary sewer line, and new utility conduits for future use.
- Removal of existing vineyards and oak trees, and construction of a 700-square-foot accessory room with changing rooms and bathrooms.
- Removal of all existing buildings/structures, a concrete pad, asphalt paving, a portion of a retaining wall, and several trees, and construction of three tennis courts with 14-foot-tall fence, a parking lot, four earth V-ditches, three trench drains, sewer drain lines, retaining walls varying from 1 to 7.5 feet in height, and a 5-foot-tall fence along the property line at Mullholland Highway. The tennis courts would be graded to achieve a downslope of 1% to the west. The parking lot would be graded with a downslope to the east-southeast, which would vary from 1.5% in the west, to 3% in the center, and 2% in the east.

A significant impact to archaeological resources would occur if the project results in a substantial adverse change in the significance of a historical resource. Archaeological resources that are found eligible for listing in the California Register are considered historical resources under CEQA (CEQA Guidelines Section 15064.5(c)), and impacts to these resources could constitute a significant effect on the environment. There is a possibility that subsurface archaeological resources could be encountered as a result of project-related ground-disturbing activities and impacts these resources could constitute a substantial adverse change in the significance of a historical resource. With the incorporation of **Mitigation Measures CUL-1**, **CUL-2,** and **CUL-3**, potential impacts to archaeological resources that qualify as historical resources would be reduced to less than significant.

> **CUL-1:** Construction worker cultural resources sensitivity training shall be conducted prior to the start of ground disturbing activities (including vegetation removal, building demolition, pavement removal, etc.) associated with the

project such that construction personnel become familiar with the types of archaeological resources that might be encountered and procedures required in the event of a discovery. Training shall be conducted by a qualified archaeologist (Qualified Archaeologist) meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (U.S. Department of the Interior, 2008). The applicant shall submit documentation to the City of Calabasas Planning Division demonstrating that construction personnel attended the training discussed above.

CUL-2: Full-time archaeological monitoring shall be conducted for all ground-disturbing activities (including vegetation removal, building demolition, pavement removal, etc.) at three Peters site areas identified as Citrus and Olive Orchard, Bridges and Patio, and Nursery and Vineyard where there is the greatest likelihood of encountering intact archaeological resources deposits. Archaeological monitoring of the initial phases of ground disturbance at the Peters site area identified as Storage Yard and Parking Lot where there is an unknown potential of encountering intact archaeological resources deposits. If during initial observations of a fair sampling of the area, the monitor determines the area lacks archaeological potential due to evidence of past disturbances, monitoring may be discontinued at the monitor's discretion.

Monitoring shall be conducted by an archaeological monitor (or cross-trained archaeological/paleontological monitor) familiar with the types of archaeological resources that could be encountered within the project area, and under the direct supervision of the Qualified Archaeologist. The archaeological monitor shall be empowered to halt or redirect ground-disturbing activities away from the vicinity of a discovery until the Qualified Archaeologist has evaluated the discovery and determined appropriate treatment (as prescribed in Mitigation Measure Cultural-3). The Qualified Archaeologist, in coordination with the City of Calabasas Planning and Environmental Programs Division, may reduce or discontinue monitoring if it is determined that the possibility of encountering buried archaeological deposits is low based on observations of subsurface soil stratigraphy. The archaeological monitor shall keep daily logs detailing the types of activities and soils observed, and any discoveries. After monitoring has been completed, the Qualified Archaeologist shall prepare a monitoring report that details the results of monitoring. The report shall be submitted to the City of Calabasas Planning and Environmental Programs Division, SCCIC, and any Native American groups who request a copy.

CUL-3: In the event of the discovery of archaeological materials, the construction foreman shall immediately halt all work activities in the vicinity (within approximately 50 feet) of the discovery until it can be evaluated by a Qualified Archaeologist. After cessation of earthmoving activities, the construction foreman shall immediately contact City of Calabasas Planning and

Environmental Programs Division. Work shall not resume until authorized by City of Calabasas Planning and Environmental Programs Division and the Qualified Archaeologist.

If the Qualified Archaeologist determines that the discovery constitutes a significant resource under CEQA, preservation in place is the preferred manner of mitigation. In the event preservation in place is demonstrated to be infeasible, and data recovery is determined to be the only feasible mitigation option, a detailed Cultural Resources Treatment Plan shall be prepared and implemented by a Qualified Archaeologist in consultation with City of Calabasas Planning and Environmental Programs Division. In the event that archaeological resources of a Native American origin are unearthed during ground-disturbing activities, the Qualified Archaeologist and the City of Calabasas Planning and Environmental Programs Division shall contact an appropriate Native American representative identified on the NAHC's contact list to consider the need for Native American monitoring and coordination regarding the discovery. Archaeological materials recovered shall be curated at an accredited facility. The report(s) documenting implementation of the Cultural Resources Treatment Plan shall be submitted to City of Calabasas Planning and Environmental Programs Division and SCCIC.

b) **Less-than-Significant Impact with Mitigation.** As discussed above, no archaeological resources are known to exist within the project site; however, there is a potential for discovery of subsurface archaeological resources. Should archaeological resources be discovered, and they do not meet the definition of historical resource (i.e., are not eligible for listing in the California Register), they may be considered for designation as unique archaeological resources (CEQA Guidelines Section 15064.5). If a resource is determined to be a unique archaeological resource as defined in Section 21083.1(g), impacts to the resource could constitute a significant effect on the environment. With the incorporation of **Mitigation Measure CUL-1, CUL-2,** and **CUL-3**, potential impacts to archaeological resources that qualify as unique archaeological resources would be reduced to less than significant.

c) **Less-than-Significant Impact with Mitigation.** A paleontological database search for fossil localities and fossil-bearing sediments located within the general project vicinity was requested from the Natural History Museum of Los Angeles County (NHMLAC).

Results of the paleontological resources records search indicate that no vertebrate fossil localities are known to be directly within the project area (McLeod, 2015). Surficial deposits within the Peters site are composed of marine late Miocene Lower Modelo Formation (Tm), which is also referred to as the Monterey Formation in this area. The nearest fossil locality from the Lower Modelo Formation (Tm) is LACM 5657, which produced a fossil specimen of undetermined baleen whale (*Mysticeti*), approximately 900 feet southeast of the Peters site. Another locality near the Lower Modelo Formation (Tm) is LACM 3173, located approximately 0.4 mile northeast of the Peters site which

produced a specimen of shearwater (*Puffinus*). The last locality from the Lower Modelo Formation is located approximately 1.5 miles west of the Castle Oak and Brown sites, in the uppermost reaches of McCoy Canyon; LACM 5658, which also produced a fossil specimen of undetermined baleen whale (*Mysticeti*) (McLeod, 2015).

Surficial deposits within the Castle Oak and Brown sites contain rock exposures of the marine middle Miocene Upper Topanga Formation (Tt) (McLeod, 2015). The nearest fossil localities from the Upper Topanga Formation (Tt) are LACM 5087, 5651, 6257, 6381, and 7367-7368. All of these localities are located approximately one-half mile south of the Castle Oak and Brown sites, on the south side of the Calabasas Highlands, along Old Topanga Road, except for LACM 7368, which is located approximately 0.4 miles south of the Castle Oak and Browns sites, on top of the ridge on the south side of the Calabasas Highlands. These fossil localities produced fossil specimens of eagle ray (*Myliobatis*), bonito shark (*Isurus*), snaggletooth shark (*Hemipristis*), basking shark (*Cetorhinus*), giant sea bass (*Stereolepis*), grouper (*Lompoquia*), herring (*Ganolytes cameo*), sea cows (*Dugongidae*), and a primitive baleen whale (*Nannocetus*) (McLeod, 2015).

According to the records search results, both the Miocene marine deposits of the Lower Modelo Formation (Tm) and the Upper Topanga Formation (Tt) exposed in the project area may contain significant vertebrate fossils (McLeod, 2015).As a result, even shallow grading could potentially intrude upon sensitive rock units and could cause impacts to unique paleontological resources. With the incorporation of **Mitigation Measures CUL-4**, **CUL-5**, and **CUL-6**, potential impacts to paleontological resources would be reduced to less than significant.

> **CUL-4:** Prior to earthmoving activities, a qualified paleontologist (Qualified Paleontologist) meeting the Society of Vertebrate Paleontology (SVP) Standards (SVP, 2010) shall be retained. The Qualified Paleontologist shall review all design plans and geotechnical investigations related to the project in order to ascertain where excavation will extend into the Lower Modelo Formation (Tm) and the Upper Topanga Formation (Tt) deposits, and could impact highly sensitive sediments.
>
> The Qualified Paleontologist shall also contribute to any construction worker cultural resources sensitivity training either in person or via a training module provided to the Qualified Archaeologist. The training session shall focus on the recognition of the types of paleontological resources that could be encountered within the project area and the procedures to be followed if they are found. The applicant shall submit documentation to the City of Calabasas Planning Division demonstrating that construction personnel attended the training discussed above.
>
> **CUL-5:** Full-time paleontological resources monitoring shall be conducted of all ground disturbances into the Lower Modelo Formation (Tm) and the Upper

Topanga Formation (Tt) deposits and in other areas identified as potentially highly sensitive for paleontological resources. Paleontological resources monitoring shall be performed by a qualified paleontological monitor (or cross-trained archaeological/paleontological monitor) under the direction of the Qualified Paleontologist. Monitors shall have the authority to temporarily halt or divert work away from exposed fossils in order to recover the fossil specimens. Any significant fossils collected during project-related excavations shall be prepared to the point of identification and curated into an accredited repository with retrievable storage. The Qualified Paleontologist, based on observations of subsurface soil stratigraphy or other factors, may reduce or discontinue monitoring, as warranted, if the Qualified Paleontologist determines that the possibility of encountering fossiliferous deposits is low. Monitors shall prepare daily logs detailing the types of activities and soils observed, and any discoveries. The Qualified Paleontologist shall prepare a final monitoring and mitigation report to be submitted to City of Calabasas Planning and Environmental Programs Division and filed with the local repository.

CUL-6: If construction or other project personnel discover any potential fossils during construction, regardless of the depth of work or location, work at the discovery location shall cease until the qualified paleontologist has assessed the discovery and made recommendations as to the appropriate treatment.

d) **Less-than-Significant Impact with Mitigation.** No known cemeteries or other burial places are known to exist within the project area and the proposed project is unlikely to disturb human remains. However, because the proposed project would involve earthmoving activities, it is possible that such actions could unearth, expose, or disturb previously unknown human remains. With the incorporation of **Mitigation Measures CUL-1, CUL-3,** and **CUL-7**, potential impacts to human remains would be less than significant.

CUL-7: If human remains are encountered, the applicant shall halt work in the vicinity (within 100 feet) of the find and contact the Los Angeles County Coroner in accordance with Public Resources Code Section 5097.98 and Health and Safety Code Section 7050.5 and the City of Calabasas Planning Division. If the County Coroner determines that the remains are Native American in origin, the NAHC shall be notified, in accordance with Health and Safety Code Section 7050.5, subdivision (c), and Public Resources Code Section 5097.98 (as amended by AB 2641). The NAHC shall designate a Most Likely Descendant for the remains per Public Resources Code Section 5097.98. Until the landowner has conferred with the Most Likely Descendant, the applicant shall ensure that the immediate vicinity where the discovery occurred is not disturbed by further activity, is adequately protected according to generally accepted cultural or archaeological standards or practices, and that further activities take into account the possibility of multiple burials.

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Preservation (As Amended and Annotated), National Park Service, Washington, D.C.

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1903 Geologic map of the Calabasas 30' quadrangle, Los Angeles County, CA.

1953 Geologic map of the Calabasas 7' quadrangle, Los Angeles County, CA.



SOUCE: ESRI

Viewpoint School Tennis Courts and Parking Lots . 140358.04

Figure 3-7

Peters Site Cultural Survey Areas

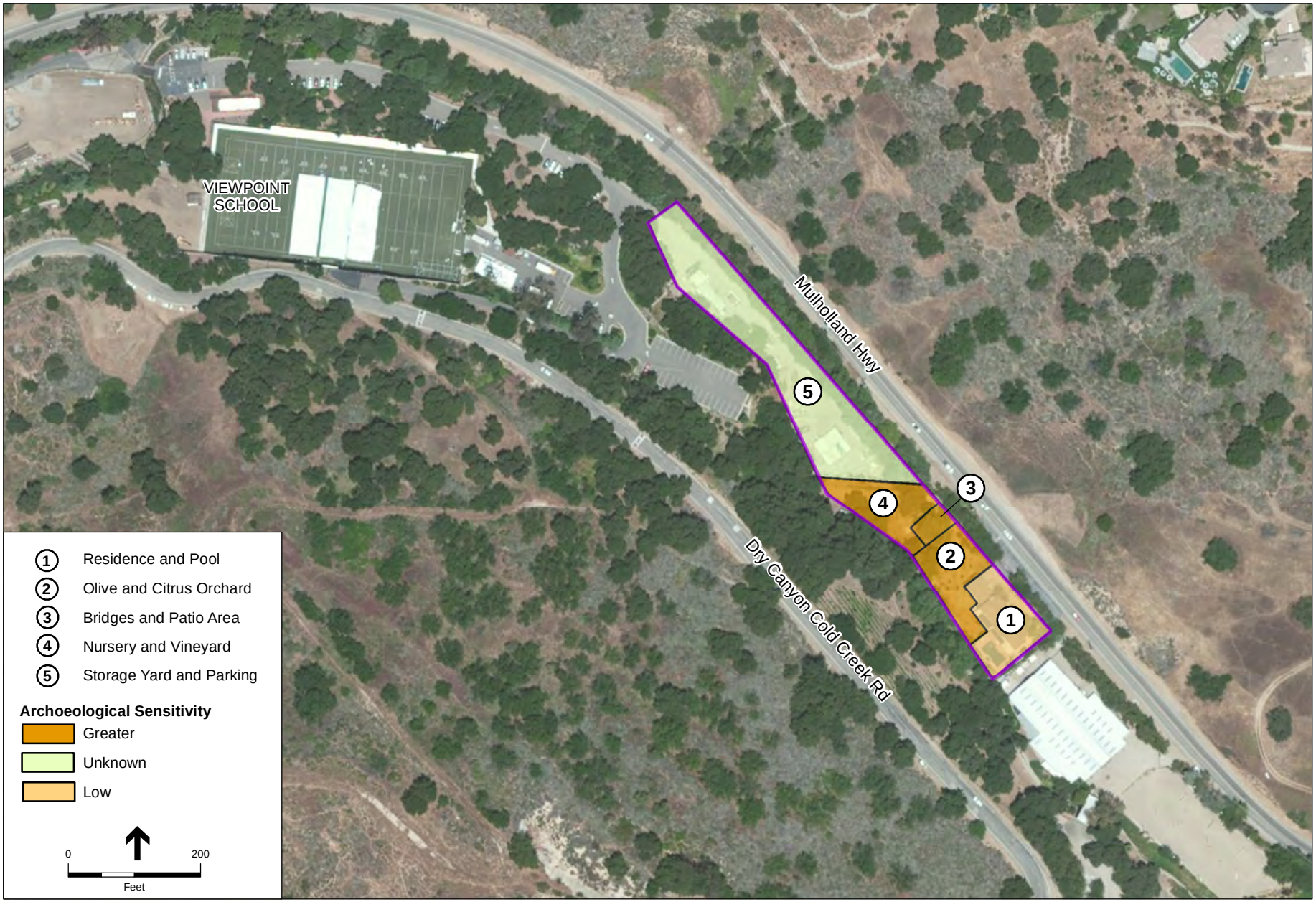


SOURCE: ESRI

Viewpoint School Tennis Courts and Parking Lots . 140358.04

Figure 3-8

Brown and Castle Oaks Sites Cultural Survey Areas



SOUCE: ESRI

Viewpoint School Tennis Courts and Parking Lots . 140358.04

Figure 3-9

Peters Site Archaeological Sensitivity



SOURCE: ESRI

Viewpoint School Tennis Courts and Parking Lots . 140358.04

Figure 3-10

Brown and Castle Oaks Sites Archaeological Sensitivity

Geology, Soils, and Seismicity

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
6. GEOLOGY, SOILS, AND SEISMICITY — Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to Division of Mines and Geology Special Publication 42.)	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☒	☐	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒

Discussion

a.i) **Less-than-Significant Impact.** The project sites are not located within an area designated as an Alquist-Priolo Fault-Rupture Hazard Zone (City of Calabasas General Plan, 2008). Based on previous Geotechnical Investigations prepared for the Viewpoint School site, the nearest active fault to the project site is the Chatsworth Fault, located approximately 0.7 mile from the site (MMA Consultants, 2000). Therefore, the potential for the rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning at the project site is less than significant.

a.ii) **Less-than-Significant Impact.** The City of Calabasas is located in southern California, which is a seismically active region that is susceptible to occasional earthquakes. According to Geotechnical Investigations prepared for the Viewpoint School site there are seven known active faults and three potentially active faults located within 25 miles of the City. Therefore, there is a potential for seismic activity to impact the project sites.

However, because the proposed project includes the development of new tennis courts, parking lots and the reuse of two existing residential structures for use as administrative offices and principal's residence, the project would not introduce new permanent habitable structure to the sites. The structures remaining on the Castle Oaks and Brown sites were subject to building code regulations at the time of development and any structural changes to the existing residential structures would be subject to the California Building Code (CBC) and review by the City's building department. Although it is impossible to prevent any potential structural damage due to a seismic event, with the implementation of California Building Code requirements, impacts to habitable structures from strong seismic ground shaking would be less than significant and impacts to tennis courts and parking lot improvements would also be less than significant.

a.iii) **Less-than-Significant Impact.** Liquefaction is the transformation of loose sediment or soil into a fluid state, usually as a result of ground shaking. Soils that are most susceptible to liquefaction are poorly consolidated and water-saturated. Liquefaction can cause significant earthquake-related damage because structures located on ground that liquefies can collapse or sink into the ground. Liquefaction during large earthquakes commonly disrupts pipelines and road networks and may also cause buildings to settle and move downslope or toward stream banks (CDC, 2007). According to the State of California Seismic Hazards Zones Map, the proposed project is located within a designated liquefaction zone. However, the improvements would be constructed in compliance with earthquake-resistant standards as required by the California Building Code (2013). With appropriate design precautions, the potential for liquefaction or seismically induced settlement along the project alignment to adversely impact the renovated roadway, driveways, and replacement trees would be small. Therefore, the potential for liquefaction would be low and impacts related to liquefaction would be less than significant.

a.iv) **Less-than-Significant Impact with Mitigation**. The City of Calabasas contains numerous steep slopes, which present a moderate to severe slope stability hazard (City of Calabasas General Plan, 2008). Landslides have the potential to damage and destroy structures, roadways and other improvements as well as to deflect and block drainage channels, causing further damage and erosion. Compliance with the CBC would generally address landslides (City of Calabasas General Plan, 2008). According to the State of California Seismic Hazards Zones Map, the proposed project is located within a designated landslide zone. In order to ensure development of the proposed project would not generally harm the public due to hazards associated with landslides, the project applicant shall comply with **Mitigation Measure GEO-1**, in order to reduce potential impacts associated with landslide hazards.

> **GEO-1**: The project proponent shall prepare a site specific landslide study that identifies site specific engineering design features in order to reduce hazards associated with slope instability. The study shall be reviewed and approved by the City Engineer prior to the issuance of grading permits.

b) **Less-than-Significant Impact.** The proposed project would be located within previously developed and disturbed areas. Construction activities could produce exposed soils that could be impacted by short-term erosion during windy or rainy conditions and construction vehicles traveling through the site. Rain events could erode exposed soils and create sediment-laden runoff. However, contractors would implement a Storm Water Pollution Prevention Plan (SWPPP) in compliance with the National Pollutant Discharge Elimination System (NPDES) requirements for stormwater discharges at construction sites. The NPDES Construction General Permit requires the permittees to develop and implement erosion and sediment control best management practices (BMPs) to control/reduce the erosion and loss of topsoil and the consequential discharge of sediment into waters of the United States to the maximum extent practicable. Once construction is complete, the project areas would be either resurfaced or landscaped, and additional operational impacts related to soil erosion or loss of topsoil would not occur. Implementation of the SWPPP and associated BMPs would limit impacts related to soil erosion, loss of topsoil, short-term erosion, and runoff. Therefore, impacts related to soil erosion or the loss of topsoil would be less than significant.

c) **Less-than-Significant Impact.** As stated in above, the proposed project would not be located on geologic unit or soil that is unstable, or that would become unstable as a result of the project. Development of the proposed project would not result in on-site or off-site landslide, lateral spreading, or subsidence. Site improvements would comply with earthquake-resistant standards as required by the CBC. Therefore, the potential for liquefaction would be low and impacts related to liquefaction would be less than significant.

d) **Less-Than-Significant Impact.** There are no expansive soils on the proposed project sites. The project improvements would be installed in an engineered fill material that would be designed to offset any expansive soils present in the area. Impacts from expansive soils would be minimized through CBC design requirements and impacts would be less than significant.

e) **No Impact.** Construction of the project improvements would not include the installation of a new septic system. If bathrooms are developed as part of the tennis courts, the bathrooms would tie into the existing sewer system located at the Brown property. No impacts regarding septic tanks or alternative wastewater disposal systems would occur.

References

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MMA, Preliminary Geotechnical Evaluation prepared for the Viewpoint School Master Plan Development, 2000.

Greenhouse Gas Emissions

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
7. GREENHOUSE GAS EMISSIONS — Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

Discussion

a) **Less–than-Significant Impact.** The proposed project would primarily contribute to global climate change as a result of the emission of greenhouse gases (GHGs) during construction activities. Once construction activities have been completed, the project would not result in an increase in GHG emissions over existing conditions because it would not introduce new traffic sources including new students or staff to the expanded the campus and it would not introduce any new GHG-emitting sources.

GHG impacts are considered to be exclusively cumulative impacts (CAPCOA, 2008); there are no noncumulative GHG emission impacts from a climate change perspective. Thus, the purpose of this GHG analysis is to determine whether the contribution of GHG emissions by the proposed project would be cumulatively considerable.

The City of Calabasas has not adopted any significance criteria or guidelines for GHG analysis. While SCAQMD has issued proposed standards and guidelines, there is no adopted state or local standard for determining the cumulative significance of the proposed project's GHG emissions on global climate change. SCAQMD has currently adopted a 10,000 metric ton per year (MT/year) CO_2e threshold for industrial projects for which it is the lead agency. Additionally, SCAQMD has proposed, but not adopted, a 3,000 MT/year CO_2e threshold for mixed-use developments, a 3,500 MT/year CO_2e threshold for residential developments, and a 1,400 MT/year CO_2e threshold for commercial developments. Alternatively, SCAQMD staff has also proposed the use of a single numerical threshold of 3,000 $MTCO_2e$/year for all non-industrial projects (SCAQMD, 2010). These draft threshold options are being evaluated through the GHG Thresholds Working Group and have not been adopted as of this writing.

In the absence of an adopted threshold applicable to the proposed project, (construction only GHG emitter), it is reasonable under CEQA for the City, as the lead agency, to consider using a screening level that is recommended by SCAQMD. Thus, the annual threshold of 3,000 $MTCO_2e$ proposed by the SCAQMD for non-industrial projects is utilized as a screening level for determining the significance of the project's GHG emissions.

As discussed above, the project's construction-related GHG emissions were estimated for equipment exhaust, truck trips, and worker commute trips using CalEEMod. These CalEEMod outputs are included in **Appendix F** of this IS/MND. The construction of the entire project is anticipated to occur over a 6 month period. For the purposes of conducting a conservative analysis of the project's annual construction-related GHG emissions, it was assumed that the worst-case daily construction scenario analyzed in the regional air quality analysis would occur over the entire duration of the project's 6 month construction period. The project's estimated annual construction GHG emissions were evaluated against the 3,000 MT/year CO_2e screening criteria to determine whether further analysis or mitigation would be required.

The project's estimated annual GHG emissions during construction are shown in **Table 3-4**. With respect to construction GHG emissions, SCAQMD recommends that the total emissions for a project be amortized over a 30-year period (SCAQMD, 2008).

TABLE 3-4
ESTIMATED PROJECT CONSTRUCTION GHG EMISSIONS

Emission Source	Proposed Project Emissions CO_2e (MT/yr.)
Construction	
Total Project Construction[a]	117.38
Annual Project Construction (Amortized over 30 years)	3.9
CAPCOA Screening Threshold	3,000
Significant Impact?	No

NOTES: CO_2e= carbon dioxide equivalent; MT/yr. = metric tons per year; see Appendix F of this IS/MND for CalEEMod model outputs.

[a] The total project construction GHG emissions from CalEEMod have been modified to account for the updated global warming potential (GWP) values in the Intergovernmental Panel on Climate Change's (IPCC) Fourth Assessment Report (AR4) .

As shown in Table 3-4, the proposed project's total annual GHG emissions resulting from construction activities would be approximately 117.38 MT CO_2e per year. When these emissions are amortized over 30 years, the project's annual GHG emissions would be approximately 4 MT CO_2e. Thus, the project's total annual GHG emissions would not exceed the 3,000 MT of CO_2e per year screening threshold recommended by the SCAQMD for non-industrial projects. It should be noted that construction-related emissions of GHG would be temporary and would not be an ongoing burden to the state's GHG inventory. There would not be any new sources of operational GHG emissions associated with the proposed project, as the project's new tennis courts, parking areas, and renovated residences would only serve to better accommodate existing students and school staff (i.e., no increase in vehicle trips to and from the project site or new stationary sources of GHG emissions would occur from project implementation). Therefore, the proposed project would not result in the generation of substantial levels of GHG emissions and would not result in emissions that would adversely affect the statewide

attainment of GHG emission reduction goals of AB 32. This impact would be less than significant.

b) **Less-than-Significant Impact**. The proposed project would not markedly increase emission of GHGs and is not anticipated to conflict with applicable GHG plans, policies, or regulations. AB 32 requires that the CARB, in coordination with state agencies, adopt regulations to require the reporting and verification of statewide GHG emissions and monitor and enforce compliance with the program. State of California Senate Bill 375 (SB 375) requires the reduction of GHG emissions by discouraging sprawl development and dependence on car travel. SB 375 assists in the implementation of AB 32 by integrating land use, regional transportation, and house planning. The proposed project would only generate temporary construction-related GHG emissions and would not generate any long-term operational GHG emissions. Because the project's construction-related emissions would not exceed SCAQMD's 3,000 MT/year CO_2e screening threshold for non-industrial projects, the proposed project would not generate GHG emissions that would significantly impact the environment. Additionally, the project would not result in, or induce, growth in the project area that has not been accounted for by the City of Calabasas. Consequently, no growth-inducing development or land use that would generate GHG emissions would occur under the project. Therefore, the project is not anticipated to conflict with applicable GHG plans, policies, or regulations, including AB 32 or SB 375, and impacts would be less than significant.

References

California Air Resources Board (CARB). 2009. *Climate Change Scoping Plan: A Framework for Change*. Accessed March, 2015.

SCAQMD. 2008. *Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold*. Accessed March, 2015.

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Hazards and Hazardous Materials

Issues (and Supporting Information Sources):		Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
8.	**HAZARDS AND HAZARDOUS MATERIALS — Would the project:**				
a)	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☒	☐	☐
b)	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☒	☐	☐
c)	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d)	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☒	☐
e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f)	For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
h)	Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☒	☐	☐

Discussion

a) **Less-than-Significant with Mitigation**. Construction of the proposed project would require the use of fuels, oils, and lubricants that can be hazardous to the environment. During construction activities, these hazardous materials could accidentally be spilled or otherwise released into the environment exposing construction workers, the public, and/or the environment to potentially hazardous conditions. Construction crews would be required to implement BMPs as part of **Mitigation Measure HAZ-1** for handling hazardous materials during the project, which would minimize hazards to the public. Additionally, required safety measures would be implemented in accordance with the California Department of Industrial Relations General Industry Safety Orders for Spill and Overflow Control (Subchapter 7, Group 16, Article 109, Section 5163). With implementation of **Mitigation Measure HAZ-1,** impacts associated with handling hazardous materials would result in a less-than-significant impact.

HAZ-1: The construction crew shall be required to implement BMPs for handling hazardous materials during the project. The use of construction BMPs shall minimize negative effects on groundwater and soils, and will include, without limitation, the following**:**

- Follow manufacturers' recommendations and regulatory requirements for use, storage, and disposal of chemical products and hazardous materials used in construction;
- Avoid overtopping construction equipment fuel tanks;
- Provide secondary containment for designated construction equipment fueling areas;
- During routine maintenance of construction equipment, properly contain and remove grease and oils; and
- Properly dispose of discarded containers of fuels and other chemicals.

b) **Less-than-Significant with Mitigation**. The Peters site includes the demolition of the existing residence, which has the potential to contain toxic materials that could be released into the environment during demolition. However, because the residence was constructed in 1981 it is unlikely to contain hazardous materials such as lead-based paint or asbestos. The use of lead based paint containing more than 0.06% was banned for residential use in the United States in 1978 by the U.S. Consumer Product Safety Commission. The use of asbestos was banned over a series of Federal Clean Air Actions from 1973 to 1977.

Operation of the proposed project would not include the use or storage of hazardous materials that would potentially cause a threat to the environment or public. As discussed above, construction of the project would require the use of fuels, oils, and lubricants that could be hazardous if accidentally released into the environment. Construction crews would be required to implement BMPs as part of Mitigation Measure HAZ-1 for handling hazardous materials during the project, which would minimize potential for spills that could result the release of hazardous oils or chemicals. Additionally, safety measures would be required to be implemented, in accordance with General Industry Safety Orders for Spill and Overflow Control. With implementation of Mitigation Measure HAZ-1**,** impacts associated with any foreseeable upset and accident conditions involving the release of hazardous materials would be less than significant.

c) **Less-than-Significant Impact.** The Viewpoint School campus is located adjacent to the project site and could be directly impacted by project-related construction activities, and emissions from such activities. Additional Calabasas High School is located approximately 0.5-miles from the project sites. Potential impacts from the proposed project would occur only during construction activities, which would be temporary and localized. The Viewpoint School and Calabasas High School would not be subject to potential release of fuels, oils, and lubricants during the construction of the project. Once renovated, the project area would consist of parking lots, tennis courts and landscaped

areas, and would not require the use of any hazardous materials. Therefore, hazards and hazardous materials impacts to schools would be less than significant.

d) **Less-than-Significant Impact.** No contaminated soils or oil/gas wells were found within the project footprint and the project site was not included on a hazardous materials list compiled pursuant to Government Code Section 65962.5. A database records search included a compilation of environmental records collected from various local, state, and federal organizations. The proposed project sites are not identified or included on a list of hazardous sizes and are not anticipated to create a significant hazard to the public or the environment. Although a database search identified Viewpoint School as being a Leaking Underground Storage Tank (LUST) clean-up site. The site has been remediated and the case is now closed. Because the proposed project would only involve the development of parking lots, tennis courts, and landscaping, the potential for hazardous materials to be excavated during project construction activities is low. Therefore, impacts regarding hazardous materials sites would be less than significant.

e) **No Impact.** The nearest public use airport is Van Nuys Airport located at 16461 Sherman Way in Van Nuys, approximately nine miles northeast of the project site. Because the project would not be located within two miles of an airport, no impacts related to the safety hazard associated with public airports would occur to people living or residing along the project alignment.

f) **No Impact.** There are no private airstrips located in proximity to the project site. The nearest private airstrip is the Lost Hills Heliport located at 27050 Agoura Road, Agoura Hills. The project is not located within any airport safety zones and the project does not include any features that would affect air traffic. Therefore, no impacts associated with private airstrips would occur.

g) **Less-than-Significant Impact.** The proposed project would not impair implementation or physically interfere with the City of Calabasas 2012 Emergency Operation Plan, or any other state or federal agency's emergency evacuation plan. Construction and operation of the proposed project would conform to all Los Angeles County Sheriff's Department's (LASD's) and Los Angeles County Fire Department's (LACFD's) access standards to allow adequate emergency access along any roadways impacted during construction. Furthermore, the ingress and egress for Castle Oak and Brown sites will be upgraded to meet LACFD requirements. As a result, the proposed project would improve accessibility of necessary resources during an emergency. Therefore, impacts to emergency access and plans would be less than significant.

h) **Less-Than-Significant Impact.** The entire City of Calabasas is designated as a high fire hazard zone. However, due to the nature of the proposed project, the development of tennis courts, parking lots, and reuse of two existing residential structures, is not introducing incompatible land uses to an area designated as having a high wildland fire capability. Additionally, the project applicant has prepared a site-specific fuel modification plan that will be reviewed by the LACFD and implemented by the applicant and impacts wildland fires would be reduced to less than significant.

Hydrology and Water Quality

Issues (and Supporting Information Sources):		Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
9.	**HYDROLOGY AND WATER QUALITY — Would the project:**				
a)	Violate any water quality standards or waste discharge requirements?	☐	☒	☐	☐
b)	Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☒	☐
c)	Substantially alter the existing drainage pattern of a site or area through the alteration of the course of a stream or river, or by other means, in a manner that would result in substantial erosion or siltation on- or off-site?	☐	☒	☐	☐
d)	Substantially alter the existing drainage pattern of a site or area through the alteration of the course of a stream or river, or by other means, substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?	☐	☐	☒	☐
e)	Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐
f)	Otherwise substantially degrade water quality?	☐	☐	☒	☐
g)	Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h)	Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	☐	☐	☐	☒
i)	Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j)	Expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

Discussion

a) **Less-than-Significant with Mitigation.** Construction of the proposed project would involve the demolition of a building, disturbance of ground material and would include the presence of various chemicals on-site during construction (equipment fuel, concrete, etc.). If not properly contained, this loose pavement, sediment, and/or chemicals would have the potential to wash into the nearby Dry Canyon Cold Creek or nearby storm drains and pollute surface water.

Prior to construction activities, the applicant or its representatives would obtain all appropriate Regional Water Quality Control Board permits associated with the discharge of water. This includes a Statewide Construction General Permit. The Construction General Permit includes the preparation and development of the SWPPP. The construction contractor would submit a Notice of Intent (NOI) for coverage under the Construction General Permit, upload the SWPPP and all required Permit Registration Documents to the Storm Water Multiple Application Reporting and Tracking System, and obtain a Waste Discharger Identification number. The SWPPP and erosion-control BMPs would be implemented to ensure that water quality would not be impaired. Implementation of **Mitigation Measure HYDRO-1** would ensure impacts to water quality from construction activities would be less than significant.

The proposed project involves demolition of the Peters building, removal of trees, excavation of pavement and underlying sediment, and pavement for parking lots and construction of tennis courts, an ancillary building and landscaping. Once completed, the new pavement would increase impervious surfaces that could introduce pollutants to surface waters. However, the project would include Compliance with stormwater discharge regulations and adherence to Mitigation Measure HYDRO-1 during construction would ensure that the proposed project would not result in water quality violations and impacts would be less than significant.

> **HYDRO-1:** The construction contractor shall prepare a Storm Water Pollution Prevention Plan (SWPPP) on behalf of the applicant for the construction activities associated with the proposed project. The SWPPP shall be maintained at the construction site for the entire duration of construction. The objectives of the SWPPP are to identify pollutant sources that may affect the quality of stormwater discharge and implement BMPs to reduce pollutants in stormwater discharges during construction and post construction. The SWPPP shall include the following:
>
> - Site map;
> - Description of construction materials, practices, and equipment storage and maintenance;
> - Erosion and sedimentation control practices, including soils stabilization, revegetation, and runoff control to limit increases in sediment in stormwater runoff, such as detention basins, fiber rolls, silt fences, check dams, geofabrics, drainage swales, and sandbag dikes; and post-construction BMPs for site stabilization;
> - Spill prevention and control measures;
> - Maintenance and training practices; and
> - Construction Monitoring Plan.

b) **Less-than-Significant Impact.** The proposed project is not underlain by a groundwater basin (California Department of Water Resources Groundwater Information Center, 2015). The closest basin is the Russell Valley Groundwater Basin. Because the proposed project does not lie directly over a Groundwater Basin, the proposed project is not anticipated to impact groundwater recharge with the introduction of additional paved surfaces; the proposed project would not interfere with groundwater recharge or deplete groundwater supply. Therefore, less-than-significant impacts regarding depletion of groundwater supplies and impacts to groundwater recharge would occur.

c) **Less-than-Significant Impact with Mitigation.** The proposed project would not alter the drainage pattern or course of any stream or river. The nearest body of water to the project area is the Dry Canyon Cold Creek which runs through Viewpoint School campus and the Peters site. The creek flows through the site from west to east and the creek sidewalls have been reinforced with stone walls behind the residential unit on the Peters site. Construction of the project would not alter the drainage pattern of Dry Canyon Cold Creek. Although, the proposed project would be located within existing graded pads, impervious surfaces would be created by the parking lots and tennis courts, which could potentially alter existing drainage patterns within the project area. However, the project would include landscape features and filters that would be used to capture and filter stormwater prior to discharge from the project site. In addition, the project is subject to the City of Calabasas development review process, which includes review and approval of all grading plans, drainage plans, and design review. Additionally, the proposed project would be require to implement Mitigation Measure HYDRO-1, which requires implementation of post construction BMPS, therefore impacts to drainage would be less-than-significant with mitigation.

d) **Less-than-Significant Impact.** As stated previously, the proposed project would not alter the course of a stream or river. Although construction of the project could alter the onsite drainage patterns that could result in off-site flooding, the project would include landscape features that would be used to capture and slow the discharge of stormwater from the project site and the project proposes to use only existing discharge points. In addition, the project is subject to the City of Calabasas development review process, which includes review and approval of all grading plans, drainage plans, and design review. Therefore, the proposed project would not substantially increase the rate or amount of surface runoff in a manner that would result in flooding on-site or off-site impacts to receiving waters. Impacts would be less than significant.

e) **Less-than-Significant Impact.** Runoff during construction and operation would drain to the existing stormwater drainage systems. Construction activities would comply with applicable requirements of the Construction General Permit, which include the development of a SWPPP and implementation of its BMPs that control polluted runoff leaving the site and to reduce erosion or siltation in runoff that could clog or overwhelm storm drains. Because the developed site would include additional paved surfaces, there is a potential for an increase in run-off generated from the site. However, because the

project would include the implementation of landscape features that would be used to capture and slow the discharge of stormwater from the project site, the amount of runoff generated on-site is not expected to differ substantially compared to existing conditions. The impact would be less than significant.

f) **Less-than-Significant Impact.** See the discussions under Questions 9(a) through (e). No other substantial water quality degradation is expected to occur as a result of the proposed project. The proposed project would have a less-than-significant impact to water quality on the project site or in the project vicinity.

g) **No Impact.** The proposed project consists of improvements to two existing residences and development of two associated parking lots and the development of tennis courts and an associated parking lot and would not include construction of housing. Therefore, no impacts related to placing housing in a flood plain would occur.

h) **No Impact.** According to the California Department of Water Resources Best Available Map Web Viewer, the proposed project is not located within a 100-year flood hazard area (California Department of Water Resources, 2014). No impacts related to a 100-year flood hazard or redirection of flood flows would occur.

i) **No Impact.** According to the General Plan, the City of Calabasas does not lie within a dam inundation zone (City of Calabasas City of Calabasas General Plan, 2008). No impact related to levee or dam failure would occur.

j) **No Impact.** Construction of the project sites would not increase the risk associated with seiche, tsunami, or mudflow. The nearest large body of water to the project sites is the Pacific Ocean approximately seven miles southwest of the project area. The proposed project would not be located within the range of a seiche hazard zone or tsunami hazard zone. Therefore, no impacts regarding inundation by seiche, tsunami, or mudflow would occur.

References

California Department of Water Resources, Groundwater Information Center GIS, Accessed February 13, 2015 at: http://gis.water.ca.gov/app/groundwater.

City of Calabasas General Plan 2030 Update EIR, 2008, Accessed March 5, 2015 at: http://www.cityofcalabasas.com/general-plan.html.

Federal Emergency Management Agency, Flood Map Service Center, Accessed March 5, 2015 at: http://msc.fema.gov/portal.

Land Use and Land Use Planning

Issues (and Supporting Information Sources):		Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
10.	**LAND USE AND LAND USE PLANNING — Would the project:**				
a)	Physically divide an established community?	☐	☐	☒	☐
b)	Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐
c)	Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☒	☐

Discussion

a) **Less-than-Significant-Impact.** The project sites are developed with three residential structures. Development of the project would not physically divide an established community. Rather, development of the proposed project would include the reuse of two of the residential structures and the demolition of one residential structure. The residential structure that would be removed is not located within an established community, is vacant, and is relatively isolated in its location. Therefore, the proposed project would have a less-than-significant impact.

b) **Less-than-Significant-Impact.** According to the 2008 General Plan Update, the Peters site has a land use designation of Rural Residential (RR) and the Brown and Castle Oaks sites have a land use designation of Hillside Mountainous (HM) (Calabasas City of Calabasas General Plan, 2008). Because private schools are not permitted in the HM zone, the proposed project would include a general plan amendment to change the HM designation for the Brown and Canyon Oak sites to RR and a zone change to change the zoning designation from HM to RR. Furthermore, because the development standards for the HM and RR zones are similar the proposed amendments will not increase the buildable potential of the sites.

The surrounding land use designations include Rural Community (RC), Open Space Development Restricted (OS-DR), Residential Single Family (R-SF), Rural Residential (RR), Hillside Mountainous (HM), Residential Mobile Home (R-MH) and Public Facility Institutional (PF-I). Surrounding properties are developed with single-family homes, mobile homes, a pre-school and park. As a result, the proposed change from HM to RR land use designation, and the proposed school operations on the subject sites are consistent with surrounding land uses. Furthermore, because the proposed project would not include the development of any additional residential units and instead repurposes the existing developed sites, the project would not conflict with the existing or proposed land use designations. Therefore, the proposed project would not conflict with any applicable

land use plan, policy, or regulation of an agency with jurisdiction over the project, and impacts would be less than significant.

c) **Less-than-Significant-Impact.** The proposed project is not located within a habitat conservation plan or natural community conservation plan. The proposed project does not conflict with the provisions within the adopted conservation plan. Impacts would be less than significant.

References

City of Calabasas General Plan 2030 Update EIR, 2008, Accessed March 5, 2015 at: http://www.cityofcalabasas.com/general-plan.html.

City of Calabasas General Plan 2030 Update, 2008, Accessed March 5, 2015 at: http://www.cityofcalabasas.com/general-plan.html.

Mineral Resources

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
11. MINERAL RESOURCES — Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

Discussion

a) **No Impact.** The City of Calabasas contains areas identified as MRZ-3, which are areas that contain mineral deposits for which the significance cannot be evaluated. However, because the project area is a primarily developed community; resource extraction would not be compatible with the existing and planned land uses (Calabasas General Plan EIR, 2008). The proposed project would not result in the loss of availability of a known mineral resource, and no impact would occur.

b) **No Impact.** The City of Calabasas contains areas identified as MRZ-3, which are areas that contain mineral deposits for which the significance cannot be evaluated. However, because the project area is a primarily developed community; resource extraction would not be compatible with the existing and planned land uses (Calabasas General Plan EIR, 2008). The City is not considered to be a potential future source for mineral resources, thus, the proposed project would not result in the loss of availability of a locally important mineral resource, and no impact would occur.

References

City of Calabasas General Plan 2030 Update EIR, 2008, Accessed March 5, 2015 at: http://www.cityofcalabasas.com/general-plan.html.

Noise

Issues (and Supporting Information Sources):		Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
12.	**NOISE — Would the project:**				
a)	Result in Exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b)	Result in Exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c)	Result in A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
d)	Result in A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☒	☐	☐
e)	For a project located within an airport land use plan area, or, where such a plan has not been adopted, in an area within two miles of a public airport or public use airport, would the project expose people residing or working in the area to excessive noise levels?	☐	☐	☐	☒
f)	For a project located in the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Discussion

a) **Less than significant.** A significant impact may occur if the proposed project would generate excessive noise that exceeds the noise level standards set forth in the General Plan Noise Element and Noise Ordinance of the City of Calabasas.

Construction Noise

The project would result in a temporary increase in noise levels due to transport of workers and equipment, and short-term daytime project construction activities and management activities. Construction activities anticipated for the project include site preparation, site grading, site trenching, building construction, paving, and architectural coating. Construction of the proposed project would occur over a six-month period.

The proposed project would be completed in four phases with construction scheduled to begin in the second quarter of 2016. The four phases would include demolition, grading, trenching and site restoration (project installation, paving, and architectural coating). The proposed management activity would utilize heavy equipment such as dozers, backhoes, concrete trucks, asphalt paving rollers and loaders. Small-scale machinery such as air compressors, cement and motor mixers, concrete/industrial saws, compactors, excavators, crawler tractors, pavers, paving equipment, paving compactors, surfacing equipment, sweepers/scrubbers, and welders would be used during various construction phases.

Table 3-5 shows the typical noise levels (L_{eq}) produced by various types of construction equipment that are based on a distance of 50 feet between the equipment and noise receptor.

TABLE 3-5
CONSTRUCTION EQUIPMENT NOISE EMISSION LEVELS

Construction Equipment	Typical Noise Level at 50 Feet (dBA, L_{eq})
Air Compressor	81
Backhoe	80
Compactor	82
Concrete Mixer	85
Concrete Pump	82
Crane (Mobile)	83
Dozer	85
Generator	81
Grader	85
Jack Hammer	88
Loader	85
Paver	89
Pile-driver (Impact)	101
Pile-driver (Sonic)	96
Pneumatic Tool	85
Pump	76
Roller	74
Saw	76
Scraper	89
Truck	88

SOURCE: Federal Transit Administration, 2006.

Approximately 20 construction workers would be expected to work on-site at any given time. An estimated 235 total trips are expected to and from the site for the transport of construction workers and construction equipment. Haul routes would be via Mulholland Highway to Old Topanga/Valmar to Mulholland Drive, and staging of construction vehicles and materials would occur on the project site.

The City of Calabasas Code Section 17.20.160 establishes noise standards for the project area. Under section 17.20.160 (C), noise sources associated with construction qualify as an "exception" to the noise standards. This section states, "Noise sources associated with construction, including the idling of construction vehicles, provided such activities do not take place before 7:00 a.m. or after 6:00 p.m. on any day except Saturday in which no construction is allowed before 8:00 a.m. or after 5:00 p.m. No construction is allowed on Sunday's or federal holidays. These requirements may be modified by a conditional use permit." As discussed in the Project Description, the project's construction activities would comply with the allowable hours for construction by the City, therefore the impact associated with exposure of persons to, or generation of, noise levels in excess of

standards established in the local general plan or noise ordinance would be less than significant.

Operational Noise

The proposed project, which consists of six new tennis courts with an accessory building, new parking areas, and two renovated residential structures, would not have any operational generating sources at the project site. Thus, with respect to operational noise during project operations no impact would occur.

b) **Less-than-Significant Impact.** Groundborne vibration would be generated from the operation of heavy construction equipment for the proposed parking lots and tennis court facilities, which could potentially affect the existing land uses located in proximity to the construction areas. Once project construction has been completed, the main operational source will be from vehicular traffic to and from the proposed parking lots.

Construction

For the purpose of this analysis, the vibration level for a large bulldozer provided in the Federal Transit Administrations (FTA) *Transit Noise and Vibration Impact Assessment* (2006) was used to evaluate vibration source levels for construction equipment under a worst-case construction scenario.

The CEQA Guidelines do not define the levels at which groundborne vibration or groundborne noises are considered "excessive." Numerous public and private organizations and governing bodies have provided guidelines to assist in the analysis of vibration; however, the federal, state, and local governments have yet to establish specific vibration requirements. Additionally, there are no federal, state, or local vibration regulations or guidelines directly applicable to the proposed project. However, publications of the FTA and California Department of Transportation (Caltrans)[2] are two of the seminal works for the analysis of vibration relating to transportation and construction-induced vibration. The proposed project is not subject to FTA or Caltrans regulations; nonetheless, these guidelines serve as a useful tool to evaluate vibration impacts. For the purpose of this analysis, the vibration criteria for structural damage and human annoyance established in the most recent Caltrans' *Transportation and Construction Vibration Guidance Manual* (2013), which are shown in **Table 3-6** and **Table 3-7**, respectively, are used to evaluate the potential vibration impacts of the project on nearby land uses. Although the proposed project is not subject to Caltrans regulations, the vibration criteria recommended by Caltrans nonetheless serves as a useful tool to evaluate vibration impacts and its 2013 guidance manual represents the most current publication that is available.

[2] California Department of Transportation (Caltrans). 2013. Transportation and Construction Vibration Guidance Manual. September 2013.

TABLE 3-6
CALTRANS VIBRATION DAMAGE POTENTIAL THRESHOLD CRITERIA

	Maximum PPV (in/sec)	
Structure and Condition	**Transient Sources**	**Continuous/Frequent Intermittent Sources**
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

NOTE: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.
PPV = peak particle velocity.

SOURCE: Caltrans, 2013.

TABLE 3-7
CALTRANS VIBRATION ANNOYANCE POTENTIAL CRITERIA

	Maximum PPV (in/sec)	
Structure and Condition	**Transient Sources**	**Continuous/Frequent Intermittent Sources**
Barely perceptible	0.04	0.01
Distinctly perceptible	0.25	0.04
Strongly perceptible	0.9	0.10
Severe	2.0	0.4

NOTE: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

SOURCE: Caltrans, 2013.

The project would involve the temporary and intermittent use of construction equipment for various construction activities at the project site, which can result in the generation of groundborne vibration levels. Groundborne vibration is a concern when sensitive receptors, such as homes or schools, are in proximity to the vibration sources. The project area is located adjacent to a school that is currently undergoing minor construction. The nearest off-site sensitive receptors are residences located approximately 600 feet away from the Peters property, and nearest school building of the Viewpoint School is located 300 feet from the Castle Oaks Property. No major sources of vibration levels, such as pile driving or blasting would be required for the proposed project.

The various peak particle velocity (PPV) vibration velocities for several types of construction equipment, along with their corresponding RMS velocities (in VdB), that can generate perceptible vibration levels are identified in **Table 3-8**. Based on the information presented in Table 3-8, vibration velocities could reach as high as approximately 0.089 inches per second PPV at 25 feet from a large bulldozer, which corresponds to a RMS velocity level of 87 VdB at 25 feet from the large bulldozer.

TABLE 3-8
VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT

	Approximate PPV (in/sec)					Approximate RMS (VdB)				
Equipment	25 Feet	50 Feet	60 Feet	75 Feet	100 Feet	25 Feet	50 Feet	60 Feet	75 Feet	100 Feet
Large Bulldozer	0.089	0.031	0.024	0.017	0.011	87	78	76	73	69
Loaded Trucks	0.076	0.027	0.020	0.015	0.010	86	77	75	72	68
Jackhammer	0.035	0.012	0.009	0.007	0.004	79	70	68	65	61
Small Bulldozer	0.003	0.001	0.0008	0.0006	0.0004	58	49	47	44	40

SOURCE: FTA, 2006.

Under normal propagation conditions, the vibration level at the nearest off-site residence located 600 feet from the project site's construction area would be 0.0085 in/sec, and the vibration level at the nearest Viewpoint School building (located 300 feet from the project's site construction) would be 0.0241 in/sec. None of the building structures at the identified off-site sensitive use locations are considered to be historic or fragile structures that are extremely susceptible to vibration damage. For the purpose of this analysis, the identified off-site residential structures are considered to be "older residential structures," and "modern industrial/commercial buildings" for Viewpoint School, based on the structure descriptions provided under Caltrans vibration criteria (refer to Table 3-5). None of the existing off-site residential and school structures would be exposed to PPV groundborne vibration levels that exceed the criteria for transient vibration sources shown in Table 3-5. As such, impacts related to building damage from the project's construction-related vibration levels would be less than significant. Additionally, based on Caltrans criteria for human annoyance (refer to Table 3-7), the vibration levels experienced at the nearest identified receptors would be less than barely perceptible. Therefore, given the distance from existing residences and school, as well as the short duration and typical construction activities involved that do not generate substantial vibration levels, impacts are considered less than significant.

Operation

The proposed project, which consists of six new tennis courts with an accessory building, new parking areas, and two renovated residential structures, would include vibration-

generating sources. Thus, no impact with respect to groundborne vibration during project operations would occur.

c) **Less-than-Significant Impact.** Long-term operation of the proposed project would not have a significant effect on the community noise environment in proximity to the project site. Noise sources associated with project operations that would have potential noise impacts include: off-site vehicle traffic, on-site parking, and outdoor tennis court space. As discussed previously, the project's new tennis courts, parking areas, and renovated residences would only serve to better accommodate existing students and school staff and would not increase the existing amount of vehicle trips to and from the project site. As the six tennis courts would create an increase in noise when in operation, they would be located far enough away (600 feet) from residential structures to not cause a substantial permanent increase in noise. As such, off-site noise levels resulting from the proposed project would not generate a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project. Therefore, impacts related to a substantial permanent increase in ambient noise would be less than significant.

d) **Less-than-Significant with Mitigation Incorporated.** The proposed project would involve construction activities that would result in temporary noise increases in the project site vicinity. Temporary construction noise impacts would occur from the noise levels generated by the transport of workers and movement of construction vehicles and materials to and from the project area, and from the noise generated on-site during demolition, grading, and construction activities. Construction activities are carried out in discrete phases, each of which has a unique mix of equipment (if any) and, consequently, unique noise characteristics. These various sequential phases would change the character of the noise levels surrounding the construction sites as work progresses. There will be minimal import and export of soil, therefore construction traffic is anticipated to be minimal.

Project construction could result in noise impacts to various types of sensitive receptors, including nearby residences and school buildings. The associated construction activities would increase the ambient noise levels above existing conditions, which could be perceived as a nuisance to sensitive receptors in the area. However, this impact is temporary and would cease once construction is completed. The project area is surrounded by undeveloped land to the south; Creekside Park and Wild Walnut Park are also southeast of the project site. Residential areas are located to the northeast, north, northwest, and west of the project site. The Viewpoint School is located adjacent to the project site and currently has minor construction activities underway. In general, construction would occur Monday through Friday from 7:00 a.m. to 6:00 p.m., and Saturday 8:00 a.m. to 5:00 p.m. Although project construction would comply with the City's allowable construction hours, the nearby sensitive receptors would still be exposed to temporary or periodic increases in their existing ambient noise levels during project construction. As such, noise impacts related to a substantial temporary or periodic increase in the ambient noise levels at nearby receptors to the project site would be

potentially significant. Provided that all construction activities are limited to the City's allowable construction hours and days, and that **Mitigation Measure NOISE-1** is incorporated to reduce project-specific noise levels, less-than-significant impacts would result from construction with mitigation measures incorporated.

> **NOISE-1:** During project construction, the construction contractor(s) shall ensure that:
>
> - All construction equipment, fixed or mobile, shall be equipped with properly operating and maintained mufflers.
> - Construction noise reduction methods such as shutting off idling equipment, installing temporary acoustic barriers around stationary construction noise sources, and use of electric air compressors and similar power tools, rather than diesel equipment, shall be used where feasible. Unattended construction vehicles shall not idle for more than 5 minutes when located within 200 feet from residential properties.
> - During construction, stationary construction equipment shall be placed such that emitted noise is directed away from or shielded from the nearest school building located within 300 feet of the project's construction area.
> - During construction, stockpiling and vehicle staging areas shall be located as far as practical from noise-sensitive receptors. These areas shall be depicted on the final construction plans.
> - Construction hours, allowable workdays, and the phone number of the job superintendent shall be clearly posted at all construction entrances to allow surrounding property owners and residents to contact the job superintendent if necessary.

e) **No Impact.** The project area is not in an area within two miles of a public airport, public use airport, or airport land use plan area. The nearest public use airport is the Van Nuys Airport located at 16461 Sherman Way in Van Nuys, approximately nine miles northeast of the project site. As such, the project would not expose people residing or working in the project area to excessive airport-related noise levels, and no impact would occur in this regard.

f) **No Impact.** The nearest private airport, Lost Hills Heliport located at 27050 Agoura Road, is located approximately four miles west from the project area. As such, the project would not expose people residing or working in the project area to excessive airstrip-related noise levels, and no impact would occur.

References

California Department of Transportation (Caltrans). 2013. *Transportation and Construction Vibration Guidance Manual*.

City of Calabasas General Plan 2030 Update, 2008, Accessed March 5, 2015 at: http://www.cityofcalabasas.com/general-plan.html.

City of Calabasas Municipal Code. Accessed March 5, 2015 at: https://www.municode.com/library/ca/calabasas_city/codes/code_of_ordinances.

Federal Transit Administration. 2006. *Transit Noise and Vibration Impact Assessment*.

Population and Housing

Issues (and Supporting Information Sources):		*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
13.	**POPULATION AND HOUSING — Would the project:**				
a)	Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b)	Displace substantial numbers of existing housing units, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c)	Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Discussion

a) **No Impact.** The proposed project is not anticipated to induce substantial population growth in the area, either directly and structure and repurpose two other existing residential structures. The construction of the tennis courts and development of parking lots are intended to accommodate existing students and faculty at the Viewpoint school and would not result in increased enrollment. Due to the small nature of the proposed project, there would be no impacts related to population growth.

b) **No Impact.** The proposed project is not anticipated to displace a substantial number of housing units. The proposed project would remove one existing vacant residential structure and repurpose two other existing residential structures. The construction of the tennis courts and development of parking lots are intended to accommodate existing students and faculty, thus the project would not displace a substantial number of existing housing units and there would be no impacts related to housing displacement.

c) **No Impact.** The proposed project is not anticipated to displace a substantial number of people. The proposed project would remove one existing residential structure and repurpose two other existing residential structures. The construction of the tennis courts and development of parking lots are intended to accommodate existing students and faculty, thus the project would not displace a substantial number of people and there would be no impacts related to requiring housing elsewhere.

Public Services

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
14. PUBLIC SERVICES — Would the project:				
a) Result in substantial adverse physical impacts associated with the provision of, or the need for, new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:				
i) Fire protection?	☐	☐	☐	☒
ii) Police protection?	☐	☐	☐	☒
iii) Schools?	☐	☐	☐	☒
iv) Parks?	☐	☐	☐	☒
v) Other public facilities?	☐	☐	☐	☒

Discussion

a.i-ai.v) **No Impact.** The proposed project would not require the provision of new or additional public services. There would be no increase in demand for police, fire, or other emergency services associated with this project. The proposed project would not result in substantial adverse impacts to any local schools, parks, hospitals, or other public facilities because the proposed project involves the demolition of one residential unit and the repurposing of two others. The project would accommodate existing students and faculty and is not a community development project which would generate the need for additional public services and result in impacts to public facilities. There would be a temporary increase on-site of construction workers, with a maximum of 20 workers at any given time. However, this temporary increase would not require new or expanded public services. Public services related to fire protection, police protection, schools, or parks would not need to be augmented as a result of the proposed project. Therefore, no impact would occur.

Recreation

Issues (and Supporting Information Sources):		Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
15.	**RECREATION — Would the project:**				
a)	Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated?	☐	☐	☐	☒
b)	Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☐	☒

Discussion

a) **No Impact.** The proposed project would demolish one existing residence and repurpose two other residences. Additionally, the project would construct tennis courts for Viewpoint School student use and three new parking areas for existing Viewpoint School students and staff. The proposed project would not generate additional residents to the project area and would not increase the use of existing neighborhood and regional parks or other recreational facilities. No impacts would occur.

b) **No Impact**. Although the proposed project would develop six tennis courts at the project site, existing Viewpoint School students would utilize the courts. The students would be diverted from practicing and playing tennis off-site. No adverse physical effect on the environment would occur from the construction or expansion of recreational facilities and no impact would occur.

Transportation and Traffic

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
16. TRANSPORTATION AND TRAFFIC — Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☒	☐
b) Conflict with an applicable congestion management program, including, but not limited to, level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☒	☐
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location, that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
e) Result in inadequate emergency access?	☐	☐	☒	☐
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☒

Discussion

a) **Less-than-Significant Impact.** The proposed project is located between Dry Canyon Cold Creek Road and Mulholland Highway, west of Old Topanga Canyon Road in the City of Calabasas. Of these roadways, Mulholland Highway is identified as a principal arterial route in the Los Angeles Congestion Management Plan (CMP) Highway and Roadway System (Los Angeles County Metropolitan Transportation Authority, 2010). Adjacent to the project sites is the Viewpoint School which is developed and is currently undergoing minor construction activities. The Viewpoint School is the main source for trip generation near the project sites. The ingress for the Peters site is on Dry Canyon Cold Creek Road and the egress is on Mulholland Highway. Two site access locations for the Brown site and Castle Oaks site are on Dry Canyon Cold Creek Road.

Project trip generation rates were determined for only weekday evening peak hour inbound and outbound traffic for the proposed land use. The project traffic volumes were determined by multiplying the trip generation rates by the land use quantity. The proposed project would add trips to the evening peak hour. **Table 3-9** depicts the trip generation rates and project peak hour volumes.

TABLE 3-9
PROJECT TRIP GENERATION[1]

			Evening		
Land Use	**Quantity**	**Units**	**Inbound**	**Outbound**	**Total**
Trip Generation Rates Tennis Courts	6	Court	1.94	1.94	3.88
Trips Generated Tennis Courts	6	Court	12	12	24

[1] The Institute of Transportation Engineers, Trip Generation, 9th Edition, 2012.

SOURCE: Kunzman Associates, Inc. 2014.

As shown above in Table 3-9, the proposed tennis courts are projected to generate approximately 24 vehicles per hour during the weekday evening peak hour. It should be noted that students are currently driven or bussed off-site for tennis activities. Students will not be driven or bussed off-site with completion of the project which will result in a lower amount of net trips from the Viewpoint School. However, in order to provide a conservative estimate for trip generation, this change has not been included in trip generation totals.

The proposed supplemental parking at the Brown site and Castle Oaks site would not generate any additional school-related trips, but would shift a nominal amount of existing trips from existing parking lots and from street parking to the proposed parking areas. This shift would likely result in a minor improvement in congestion along Dry Creek Cold Canyon Road and at existing project accesses. With the addition of project trips to both the existing condition and the opening year in 2016 condition, the study area intersections are anticipated to continue to operate at LOS A, which is an acceptable level of service (shown in **Table 3-10** and **Table 3-11**). As a result, implementation of the proposed project would result in less-than-significant traffic impacts related to an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system.

TABLE 3-10
EXISTING PLUS PROJECT CONDITIONS

Intersection	Traffic Control[2]	Evening Peak Hour V/C-LOS[1]
Dry Canyon Cold Creek Road (NS) at: Mulholland Highway (EW) #1	CSS	0.310-A
Loop Road (NS) at: Mulholland Highway (EW)#2	CSS	0.310-A
Old Topanga Canyon Road (NS) at: Dry Canton Cold Creek Road (EW)#3	CAA	0.550-A
Old Topanga Canyon Road (NS) at: Mulholland Highway (EW) #4	CSS	0.135-A

1. Volume over Capacity Ratio (V/C) or Delay has been calculated using the following analysis software: Traffix, Version 7.9.0215. Per the Highway Capacity Manual, overall average for intersection delay and level of service are shown for intersections with traffic signal or all way stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.
2. CSS = Cross Street Stop

SOURCE Kunzman Associates, Inc. 2014.

TABLE 3-11
OPENING YEAR (2016) INTERSECTION CAPACITY UTILIZATION AND LEVEL OF SERVICE

Intersection	Traffic Control[2]	Without Project Evening Peak Hour V/C-LOS[1]	With Project Evening Peak Hour V/C-LOS
Dry Canyon Cold Creek Road (NS) at: Mulholland Highway (EW) #1	CSS	0.320-A	0.320-A
Loop Road (NS) at: Mulholland Highway (EW)#2	CSS	0.416-A	0.420-A
Old Topanga Canyon Road (NS) at: Dry Canton Cold Creek Road (EW)#3	CSS	0.561-A	0.566-A
Old Topanga Canyon Road (NS) at: Mulholland Highway (EW)#4	CSS	0.131-A	0.135-A

1. Volume over Capacity Ratio (V/C) or Delay has been calculated using the following analysis software: Traffix, Version 7.9.0215. Per the Highway Capacity Manual, overall average for intersection delay and level of service are shown for intersections with traffic signal or all way stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.
2. CSS = Cross Street Stop

SOURCE Kunzman Associates, Inc. 2014.

b) **Less-than-Significant Impact.** The Los Angeles County Metropolitan Transportation Authority (MTA) adopted their most recent CMP in 2010. This CMP identifies level of service (LOS) E or better as acceptable for the designated CMP highway and road system. The CMP further states, "a significant impact occurs when the proposed project increases traffic demand on a CMP facility by two percent of capacity (V/C [volume to capacity ratio] = 0.02), causing LOS F (V/C > 1.00). If the facility is already at LOS F, a significant impact occurs when the proposed project increases traffic demand on a CMP facility by one percent of capacity (V/C = 0.02)."

Based on the City of Calabasas General Plan Circulation Element, an impact is considered significant if the project related increase in the volume capacity ration equals or exceeds the thresholds below:

TABLE 3-12
SIGNIFICANT IMPACT THRESHOLDS FOR INTERSECTIONS

Level of Service	Volume/Capacity	Incremental Increase
D	0.81-0.90	0.020 or more
E	0.81-1.00	0.015 or more
F	1.01-more	0.01 or more

SOURCE: Kunzman Associates, Inc. 2014.

The General Plan Circulation Element states that peak hour intersection operations of Level of Service C or better are generally acceptable, except at several existing deficient intersections, none of which are in the project study area. Therefore, any intersection operating at Level of Service D or worse is considered deficient.

As described above, the proposed project would not add 50 or more trips during either the AM or PM weekday peak hours to any CMP facility and would not add 150 or more trips, in either direction, during either the AM or PM weekday peak hours to a mainline freeway. Thus, an impact analysis for CMP facilities is not required for the proposed project. In addition, according to the City of Calabasas General Plan Circulation Element, the proposed project would not significantly impact the LOS at any roadway intersections. Therefore, the proposed project would not exceed, either individually or cumulatively, an established LOS, and would have less-than-significant impacts.

c) **No Impact.** The proposed project is not located in the immediate vicinity of an airport or private airstrip. The nearest public use airport is Van Nuys Airport located at 16461 Sherman Way in Van Nuys, approximately nine miles northeast of the project site. The nearest private airstrip is the Lost Hills Heliport located at 27050 Agoura Road, Agoura Hills. Project activities would not alter the existing air traffic patterns, levels, or locations and would thus not result in safety risks. No impact would occur.

d) **No Impact.** Construction and operation of the proposed project does not include the creation of new roadways, the project would utilize existing roadways in the project vicinity. The project would not alter existing public roadways or create hazardous design features such as sharp curves or dangerous intersections. Sight distance at project accesses would be required to comply with standard Caltrans and County of Los Angeles sight distance standards. The final grading, landscaping, and street improvement plans shall demonstrate that sight distance standards are met. Such plans must be reviewed by the City and approved prior to issue of grading permits. Therefore, implementation of the proposed project would not result in impacts related to hazardous design features.

e) **Less-than-Significant Impact.** The ingress for the Peters site is on Dry Canyon Cold Creek Road and the egress is on Mulholland Highway. The two accesses for the Brown site and the Castle Oaks site are on Dry Canyon Cold Creek Road. All accesses are adequate for emergency access or access to nearby uses. The proposed project does not involve the elimination of a through-route, does not involve the narrowing of a roadway, and all proposed roadways, access roads and drive lanes meet the LACFD access standards. The proposed project would reduce parking on the sides of Dry Canyon Cold Creek Road, thus creating a safer and wider route for emergency vehicles. No other modifications with the potential to affect emergency access would occur in conjunction with the proposed project. As such, construction and operation of the proposed project would result in a less-than-significant impact with respect to emergency access.

f) **No Impact.** The proposed project would be constructed and operated in compliance with adopted polices, plans, and programs supporting public transit, bicycle, and pedestrian facilities. There are bus stations near the proposed project site utilized by students, faculty, and teachers. Transportation for students is offered through Tumbleweed Transportation, a private school bus company in which Viewpoint School contracts with. Public transportation along Mulholland Highway (Line 1) provides transportation service to and from Viewpoint School. The proposed project site is not located along these bus routes, and the proposed project would not alter or conflict with existing bus stops and schedules. Therefore, impacts related to transit services would not occur. Furthermore, the proposed project would not alter existing public bike and pedestrian facilities.

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Utilities and Service Systems

Issues (and Supporting Information Sources):		Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
17.	**UTILITIES AND SERVICE SYSTEMS — Would the project:**				
a)	Conflict with wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b)	Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
c)	Require or result in the construction of new storm water drainage facilities, or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
d)	Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☒
e)	Result in a determination by the wastewater treatment provider that would serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f)	Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐
g)	Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☒	☐

Discussion

a) **No Impact.** The proposed project includes the construction of tennis courts that would contain a restroom and changing facility to accommodate students. The small facility would generate wastewater that would be disposed of through the existing wastewater conveyance connections at the project site. As no hazardous materials would be used on-site as part of the proposed project, project wastewater is not expected to exceed established wastewater treatment requirements of the applicable Regional Water Quality Control Board. Therefore, no impact would occur concerning wastewater treatment requirements.

b) **No Impact.** The project site's existing facilities and utility hook-ups would accommodate the proposed project's water and wastewater treatment requirements. As no permanent employees would be required for the project, construction of the proposed project would not result in or require a need for expansion of water or wastewater treatment. Therefore, no construction of new water or wastewater treatment facilities or expansion of existing facilities would occur as a result of the proposed project.

c) **Less-than-Significant Impact.** Construction of the project would not alter the drainage pattern of the Dry Canyon Cold Creek. Although, the proposed project would be located within exiting graded pads, impervious surfaces would be created by the parking lots and tennis courts, which could potentially alter existing drainage patterns within the project area. The proposed project would include the development of storm water drainage facilities to ensure that stormwater is effectively detained and conveyed off-site. The project would include landscape features that would be used to capture and filter stormwater prior to discharge from the project site and the project proposes to use only existing discharge points. In addition, the project is subject to the City of Calabasas development review process, which includes review and approval of all grading plans, drainage plans, and design review. Additionally, the proposed project would be require to implement Mitigation Measure HYDRO-1, which requires implementation of post construction BMPS, therefore impacts associated with the development of these conveyance facilities would be less than significant.

d) **No Impact.** The proposed project would require water to accommodate uses at the two repurposed residences and the new ancillary facility located at the tennis courts. However, the water use would be similar to the previous residential water uses. As such, no new or expanded water entitlements would be required as a result of the proposed project. Therefore, no impacts would occur.

e) **No Impact.** The project involves the repurposing of two existing residences and the development of tennis courts and parking facilities. Although the tennis courts would include a restroom and changing facility, it would not produce wastewater that would require an increase in wastewater treatment capacity by the existing wastewater treatment provider. Therefore, there would be no impacts to the existing wastewater treatment provider.

f) **Less-than-Significant Impact.** Construction of the proposed project would result in minor amounts of excavated soil for construction of the tennis courts and parking lots. It is anticipated that there will be minor grading work and the proposed project site would have balanced earthwork. Additionally, the project would demolish the existing residence at the Peters property. The amount of solid waste generated at the proposed project area would not be a significant amount, and would not place a great demand on the local landfill. In addition, materials would be recycled to the maximum extent practicable. Therefore, less-than-significant impacts on local landfill services from the generation of solid waste would occur.

g) **Less-than-Significant Impact.** The proposed project would generate solid waste during construction activities. Construction waste would include rocks, dirt, cardboard or green waste, as well as demolition materials from the Peters site. Assembly Bill 939, also known as the 1989 Integrated waste Management Act requires Los Angeles County to attain specific waste diversion goals. Construction materials would be recycled to the maximum extent practicable. In addition, the California Solid Waste Reuse and Recycling Access Act of 1991, as amended, requires expanded or new development projects to incorporate storage areas for recycling bins into the proposed project design. The proposed project would include storage areas for recycling bins, as necessary, and would comply with federal, state, and local statutes and regulations related to solid waste.

Mandatory Findings of Significance

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
18. MANDATORY FINDINGS OF SIGNIFICANCE — Would the project:				
a) Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b) Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☒	☐
c) Have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

Discussion

a) **Less-Than-Significant with Mitigation.** As described above under impact 4.a), no federal or state-listed threatened or endangered species are known or expected to occur on-site. There is no federally designated critical habitat for listed wildlife species mapped within the property. The proposed fuel modification plan for the accessory structure would require various forms of vegetation removal, vegetation thinning, irrigation, and removal of downed wood and lead-litter, potentially extending into the existing southern willow scrub and coast live oak woodland habitat areas in Dry Canyon Creek and south of the creek. Any of these actions could have potential adverse effects on these native plant and wildlife communities including some special status species.

Additionally, direct impacts could occur to birds nesting on-site if the removal of any vegetation occurs during nesting/breeding season (February 1 to August 31). Indirect impacts to birds could also occur through construction noise, dust, and other human disturbances. These disturbances may deter breeding/nesting behaviors if construction occurs during the breeding/nesting season. The potential impacts to native plant communities, wildlife communities, special status species, and native birds, protected under state and federal laws, would be reduced to a less-than-significant level with implementation of Mitigation Measure BIO-1, BIO-2, and MM BIO-3. The proposed project would result in impacts, through removal, to protected oak trees located on-site. This impact is reduced to a less-than-significant level through incorporation of Mitigation Measure BIO-4.

As described under impacts 5.a) through 5.c) there was no surface evidence of archaeological resources. Three areas within the project boundaries (citrus and olive orchard, bridges and patio, and nursery and vineyard) have a higher potential for the presence of archaeological resources. There is a possibility that subsurface archaeological resources could be encountered as a result of project-related ground disturbance activities and impacts to these resources could constitute a substantial adverse change in the significance of a historical resource. With the incorporation of Mitigation Measures CUL-1 and MM CUL-2, potential impacts to archaeological resources that qualify as historical resources would be reduced to less than significant.

The project site is located within an area of high sensitivity for paleontological resources. As a result of the existing site geology, shallow grading could potentially intrude upon sensitive rock units and could cause impacts to unique paleontological resources. Implementation of Mitigation Measures CUL-3 through CUL-5 would reduce potential impacts to paleontological resources to less than significant.

b) **Less-than-Significant Impact.** A cumulative impact could occur if the project would result in an incrementally considerable contribution to a significant cumulative impact in consideration of past, present and reasonably foreseeable future projects for each resource area.

The proposed project does not include any aesthetic, agricultural, or mineral resources that could be impacted, and the project would have no effect on land use, population, housing, public services, and utilities. As a result, cumulative impacts related to these resources would not occur.

In addition, air quality, greenhouse gas, noise, hazardous material, water quality, and traffic impacts that are generated by construction activities would be short-term and limited by minimal construction workers traveling to the site, and a short construction period. The minimal emissions, noise, traffic, and water pollutants generated by the project would also be less than cumulatively considerable due to the location of the project and limited construction activities and duration occurring at the same time. Chemicals used on-site during project operation would comply with existing federal, state, and local regulations pertaining to hazardous materials use, treatment, storage, and disposal. Furthermore, impacts related to biological resources, cultural resources, and landslides would be less than cumulatively considerable with implementation of Mitigation Measures. Therefore, the proposed project would not result in any impacts that would be individually limited, but cumulatively considerable resulting from the planned facility development.

c) **Less-than-Significant Impact.** Based on the analysis above, the proposed project would have potentially significant environmental effects on biological resources, cultural resources, geology, soils, hazards and hazardous materials, hydrology and water quality, and noise that could cause substantial adverse effects on human beings, either directly or

indirectly. However, implementation of mitigation measures, as provided within each of these resource topic sections of this environmental checklist, would reduce project-related potentially significant impacts to a less-than-significant level. Therefore, after implementation of mitigation measures, the proposed project would result in a less-than-significant environmental impact to human beings.

APPENDIX A

Traffic Analysis

KUNZMAN ASSOCIATES, INC.

VIEWPOINT SCHOOL
TENNIS COURTS AND PARKING
FOCUSED TRAFFIC ANALYSIS

November 26, 2014

Traffic Engineering | Transportation Planning | Parking | Noise/Vibration | Expert Witness
Air Quality | Global Climate Change | Health Risk Assessment

KUNZMAN ASSOCIATES, INC.

VIEWPOINT SCHOOL
TENNIS COURTS AND PARKING
FOCUSED TRAFFIC ANALYSIS

November 26, 2014

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VIEWPOINT SCHOOL
TENNIS COURTS AND PARKING
FOCUSED TRAFFIC ANALYSIS

This report contains the focused traffic analysis for the Viewpoint School Student Parking and Tennis Courts project. The project site is located along the south side of Mulholland Drive, just west of Old Topanga Canyon Road in the City of Calabasas. The proposed project consists of adding 6 tennis courts and three small parking lots with a total of 114 parking spaces to an existing private school.

The traffic report contains documentation of existing traffic conditions, trips generated by the project, distribution of the project trips to roads outside the project, and an analysis of future traffic conditions. Each of these topics is contained in a separate section of the report. The first section is "Findings", and subsequent sections expand upon the findings. In this way, information on any particular aspect of the study can be easily located by the reader.

Although this is a technical report, every effort has been made to write the report clearly and concisely. To assist the reader with those terms unique to transportation engineering, a glossary of terms is provided within Appendix A.

I. Findings

This section summarizes the existing traffic conditions, project traffic impacts, and the proposed mitigation measures.

A. Definition of Deficiency and Significant Impact

The following definitions of deficiencies and significant impacts have been developed in accordance with the City of Calabasas General Plan Circulation Element requirements and the County of Los Angeles Traffic Impact Analysis Report Guidelines.

Based on the City of Calabasas General Plan Circulation Element, an impact is considered significant if the project related increase in the volume to capacity ratio equals or exceeds the thresholds shown below:

Significant Impact Threshold for Intersections		
Level of Service	Volume/Capacity	Incremental Increase
D	0.81-0.90	0.020 or more
E	0.91-1.00	0.015 or more
F	1.01 - more	0.01 or more

The General Plan Circulation Element states that peak hour intersection operations of Level of Service C or better are generally acceptable, except at several existing deficient intersections, none of which are in the project study area. Therefore, any intersection operating at Level of Service D or worse will be considered deficient.

B. Existing Traffic Conditions

1. There is currently a private school in operation at the project site. The existing number of students and faculty are not proposed to change.

2. The study area includes the following intersections:

   Dry Canyon Cold Creek Road (NS) at:
   - Mulholland Highway (EW) - #1

   Loop Road (NS) at:
   - Mulholland Highway (EW) - #2

   Old Topanga Canyon Road (NS) at:
   - Dry Canyon Cold Creek Road (EW) - #3
   - Mulholland Highway (EW) - #4

3. The study area intersections currently operate within acceptable Levels of Service during the evening peak hour for Existing traffic conditions (see Table 1).

C. Traffic Impacts

1. The proposed project consists of adding 6 tennis courts and three small parking lots with a total of 114 parking spaces to an existing private school.

2. The proposed tennis courts are projected to generate approximately 24 vehicles per hour that will occur during the weekday evening peak hour (see Table 2).

3. The proposed supplemental parking at the southwest site will not generate any additional school-related trips, but will shift a nominal amount of existing trips from existing parking lots and from street parking to the proposed parking areas. This shift will likely result in a minor improvement in congestion along Dry Creek Cold Canyon Road and at existing project accesses.

4. The study area intersections are projected to operate within acceptable Levels of Service during the evening peak hour for Existing Plus Project[1] traffic conditions (see Table 3).

5. The study area intersections are projected to operate within acceptable Levels of Service during the evening peak hour for Opening Year (2016) Without Project traffic conditions (see Table 4).

6. The study area intersections are projected to operate within acceptable Levels of Service during the evening peak hour for Opening Year (2016) With Project traffic conditions (see Table 5).

D. Recommendations

Site specific circulation and vehicular access recommendations are depicted on Figure 13.

1. Sight distance at project accesses shall comply with standard California Department of Transportation and City of Calabasas sight distance standards. The final grading, landscaping, and street improvement plans shall demonstrate that sight distance standards are met. Such plans must be reviewed by the City and approved as consistent with this measure prior to issue of grading permits.

2. The project shall provide sufficient parking spaces to meet the City of Calabasas parking code requirements.

3. On-site traffic signing and striping should be implemented in conjunction with detailed construction plans for the project.

[1] The existing plus project conditions has been analyzed to comply with the Sunnyvale West Neighborhood Association v. City of Sunnyvale CEQA court case. This scenario assumes the full development of the proposed project and full absorption of the proposed project trips on the circulation system at the present time. This scenario is provided for informational purposes only, and will not be used for impact determinations or mitigation.

4. As is the case for any roadway design, the City of Calabasas should periodically review traffic operations in the vicinity of the project once the project is constructed to assure that the traffic operations are satisfactory.

The project site does not significantly impact the study area intersections during the evening peak hour for Opening Year (2016) With Project traffic conditions. Therefore, no roadway lane additions, widening or traffic signal improvements are recommended because of the trips generated by the proposed project.

II. Congestion Management Program Methodology

This section discusses the County Congestion Management Program. The purpose, prescribed methodology, and definition of a significant traffic impact are discussed.

A. County Congestion Management Program

The Congestion Management Program is a result of Proposition 111 which was a statewide initiative approved by the voters in June 1990. The proposition allowed for a nine cent per gallon state gasoline tax increase over a five year period.

Proposition 111 explicitly stated that the new gas tax revenues were to be used to fix existing traffic problems and was not to be used to promote future development. For a city to get its share of the Proposition 111 gas tax, it has to follow certain procedures specified by the State Legislature. The legislation requires that a Traffic Impact Analysis be prepared for new development. The Traffic Impact Analysis is prepared to monitor and fix traffic problems caused by new development.

The Legislature requires that adjacent jurisdictions use a standard methodology for conducting a Traffic Impact Analysis. To assure that adjacent jurisdictions use a standard methodology in preparing Traffic Impact Analyses, one common procedure is that all cities within a county, and the county agency itself, adopt and use one standard methodology for conducting Traffic Impact Analyses.

Although each county has developed standards for preparing Traffic Impact Analysis's, Traffic Impact Analysis requirements do vary in detail from one county to another, but not in overall intent or concept. The general approach selected by each county for conducting Traffic Impact Analysis's has common elements.

The general approach for conducting a Traffic Impact Analysis is that existing weekday peak hour traffic is counted and the percent of roadway capacity currently used is determined. Then growth in traffic is accounted for and added to existing traffic and the percent of roadway capacity used is again determined. Then the project traffic is added and the percent of roadway capacity used is again determined. If the new project adds traffic to an overcrowded facility, then the new project has to mitigate the traffic impact so that the facility operates at a level that is no worse than before the project traffic was added.

If the project size is below a certain minimum threshold level, then a project does not have to have a Traffic Impact Analysis prepared, once it is shown or agreed that the project is below the minimum threshold. If a project is bigger than the minimum threshold size, then a Traffic Impact Analysis is required.

B. Prescribed Methodology for a Traffic Impact Analysis

The Traffic Impact Analysis must include all monitored intersections to which the project adds traffic above a certain minimum amount. In Los Angeles County, the monitored

intersections are contained in Appendix A of the Congestion Management Program for the County of Los Angeles.

In Los Angeles County, the minimum project added traffic that is needed before an intersection has to be studied is if the project adds 50 two way trips in either the morning or evening weekday peak hour.

If a project adds more traffic than the minimum threshold amount to an intersection, then that intersection has to be analyzed for deficiencies.

If the intersection has to be analyzed for deficiencies, then mitigation is required if the existing traffic plus anticipated traffic growth plus project traffic does cause the Intersection Capacity Utilization to go above a certain point.

In the City of Calabasas, the impact is considered significant if the project related increase in the volume to capacity ratio equals or exceeds the thresholds shown below:

Significant Impact Threshold for Intersections		
Level of Service	Volume/Capacity	Incremental Increase
D	0.81-0.90	0.020 or more
E	0.91-1.00	0.015 or more
F	1.01 - more	0.01 or more

An intersection mitigation measure shall either fix the deficiency, or reduce the Intersection Capacity Utilization so that it is below the level that occurs without the project.

In the City of Calabasas, the technique used to calculate Intersection Capacity Utilization is as follows. The City specifies a lane capacity of 1,800 vehicles per lane per hour of green time for through and turns lanes, except that a capacity of 1,620 vehicles per lane per hour of green time is used for dual turn lanes. No yellow clearance time factor is utilized and no right-turn on red credit is allotted.

Project trips are generated using rates and procedures contained in the Institute of Transportation Engineers, Trip Generation, 9th Edition, 2012. The Traffic Impact Analysis has to be prepared by a licensed Traffic Engineer.

This traffic report has been prepared in accordance with the Traffic Impact Analysis requirements except as noted. The Traffic Impact Analysis not only examined the Congestion Management Program system of roads and intersections, but also other roads and intersections.

The project generated trips were added to intersections, and a full intersection analysis was conducted, even when the project added traffic failed to meet the minimum thresholds that require an intersection analysis.

C. Mitigation Measures

If a project is large enough to require that a Traffic Impact Analysis be prepared, and if the project adds traffic to an intersection above a minimum threshold, and if the intersection is operating at above an acceptable level of operation, then the project must mitigate its traffic impact.

Traffic mitigation can be in many forms including adding lanes. Lanes can sometimes be obtained through restriping or elimination of parking, and sometimes require spot roadway widening.

III. Project Description

This section discusses the project's location and proposed development. Figure 1 shows the project location map and Figures 2 and 3 illustrate the southeast and southwest area site plans, respectively.

A. Location

The project site is located along the south side of Mulholland Drive, just west of Old Topanga Canyon Road in the City of Calabasas.

B. Proposed Project

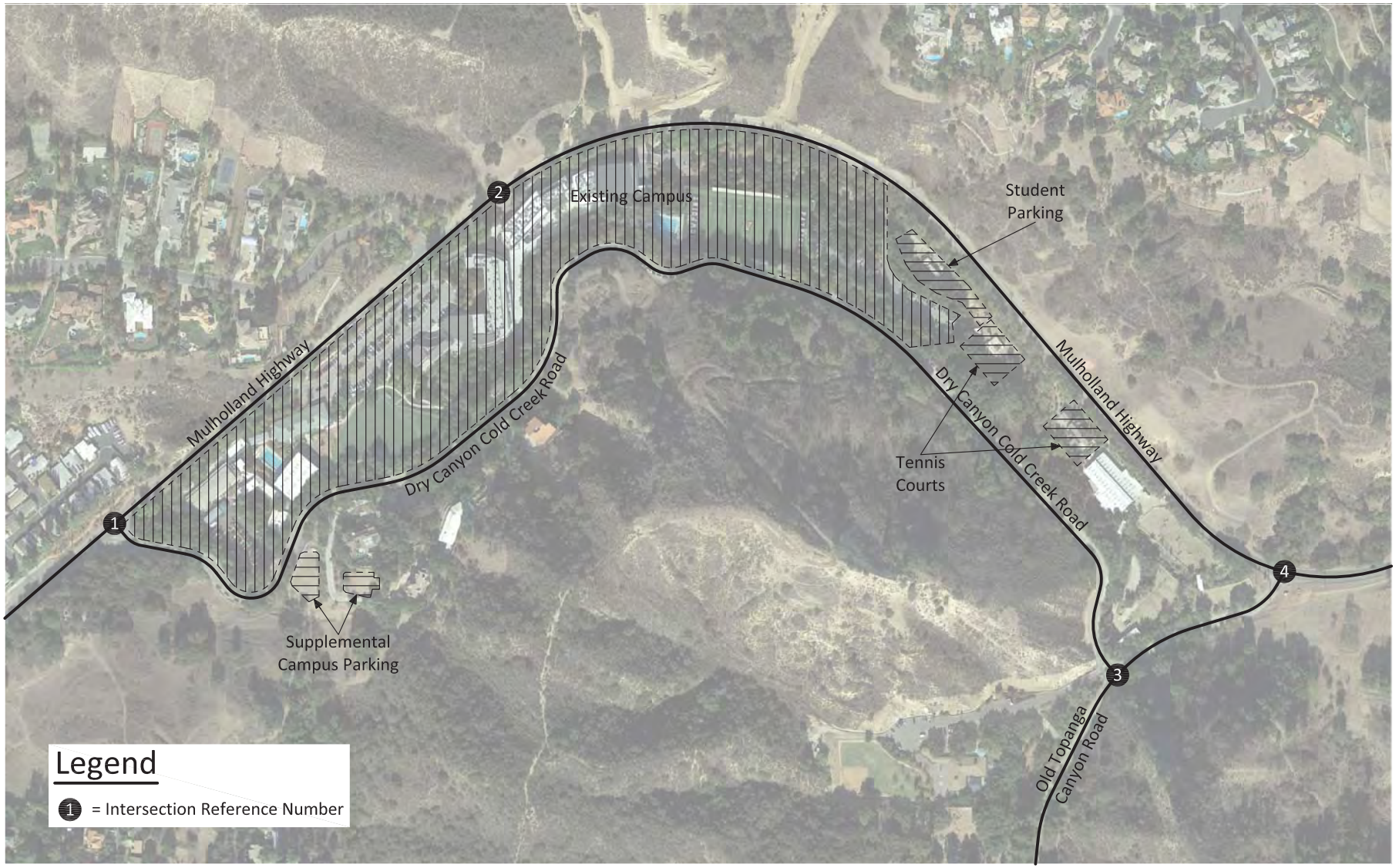
There is currently a private school in operation at the project site. The existing number of students and faculty are not proposed to change.

The proposed project consists of student parking and tennis courts on an approximately 5-acre area on the southeast end of the Viewpoint School Campus as well as supplemental campus parking on an approximately 2-acre area on the southwest side of Dry Canyon Cold Creek Road, across from the southwest entrance to the Viewpoint School Campus. The proposed project will include 71 parking spaces and six tennis courts on the southeastern site, as well as two supplemental parking lots with 40 parking spaces on the southwestern site. The ingress for the southeastern site is on Dry Canyon Cold Creek Road and the egress is on Mulholland Highway. The two accesses for the southwestern site are on Dry Canyon Cold Creek Road.

In the proposed student parking and tennis courts area, the site as it exists before the project includes a maintenance area for Viewpoint School and one single-family detached residential dwelling unit residence situated along Dry Canyon Cold Creek Road, just south of Mulholland Highway.

In the proposed supplemental campus parking area, the site as it exists before the project includes two single-family detached residential dwelling units and associated structures, just south of Dry Canyon Cold Creek Road. The residences will not be changed; the supplemental parking areas for the Viewpoint School will be provided on former horse corral areas associated with these residential sites.

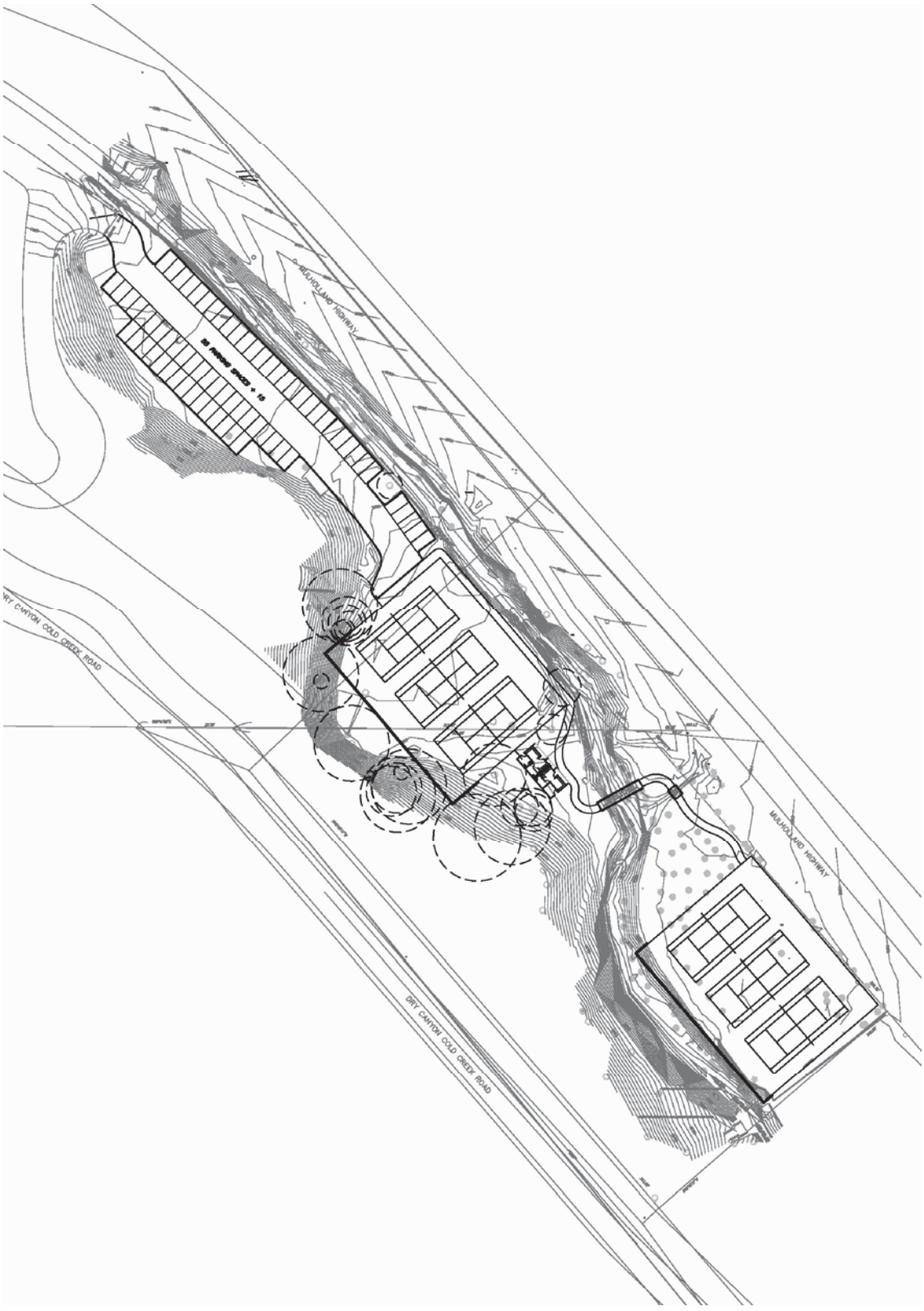
Figure 1
Project Location Map



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Figure 2
Southeast Area Site Plan Site Plan



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Figure 3
Southwest Area Site Plan



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IV. Existing Traffic Conditions

The traffic conditions as they exist today are discussed below and illustrated on Figures 4 to 7.

A. Surrounding Street System

Roadways that will be utilized by the development include Dry Canyon Cold Creek Road, Mulholland Highway, and Old Topanga Canyon Road.

Dry Canyon Cold Creek Road: This east-west roadway currently is two lanes undivided in the study area. Dry Canyon Cold Creek Road is classified as a local street in the City of Calabasas General Plan Circulation Element.

Mulholland Highway: This north-south roadway currently is two lanes divided to five lanes divided in the study area. Mulholland Highway is classified as an Arterial in the City of Calabasas General Plan Circulation Element.

Old Topanga Canyon Road: This east-west roadway currently is two lanes undivided in the study area. Old Topanga Canyon Road is classified as a Collector in the City of Calabasas General Plan Circulation Element.

B. Existing Travel Lanes and Intersection Controls

Figure 4 identifies the existing roadway conditions for study area roadways. The number of through lanes for existing roadways and the existing intersection controls are identified.

C. Existing Levels of Service

The technique used to assess the operation of an intersection is known as Intersection Capacity Utilization, as described in Appendix D. To calculate an Intersection Capacity Utilization value, the volume of traffic using the intersection is compared with the capacity of the intersection. An Intersection Capacity Utilization value is usually expressed as a decimal. The decimal represents that portion of the hour required to provide sufficient capacity to accommodate all intersection traffic if all approaches operate at capacity.

The Levels of Service for the existing traffic conditions have been calculated and are shown in Table 1. Existing Levels of Service are based upon manual weekday evening peak hour intersection turning movement counts made for Kunzman Associates, Inc. in November 2014 (see Figure 5). Traffic count worksheets are provided in Appendix C.

The evening peak hour is between 4:00 PM and 6:00 PM. The actual peak hour within the peak period is the four consecutive 15 minute periods with the highest total volume when all movements are added together. Thus, the weekday evening peak hour at one intersection may be 4:45 PM to 5:45 PM if those four consecutive 15 minute periods have the highest combined volume.

The study area intersections currently operate within acceptable Levels of Service during the evening peak hour for Existing traffic conditions (see Table 1). Existing Level of Service worksheets are provided in Appendix D.

D. Existing City of Calabasas Circulation Plan

Figure 6 shows the current City of Calabasas Circulation Plan. This figure shows the nature and extent of arterial highways that are needed to adequately serve the ultimate development depicted by the land use element of the General Plan.

E. Transit Service

Transit service is currently served by Calabasas Public Transportation Shuttle Service Line 1 along Mulholland Highway (see Figure 7).

Table 1

Existing Intersection Capacity Utilization and Level of Service

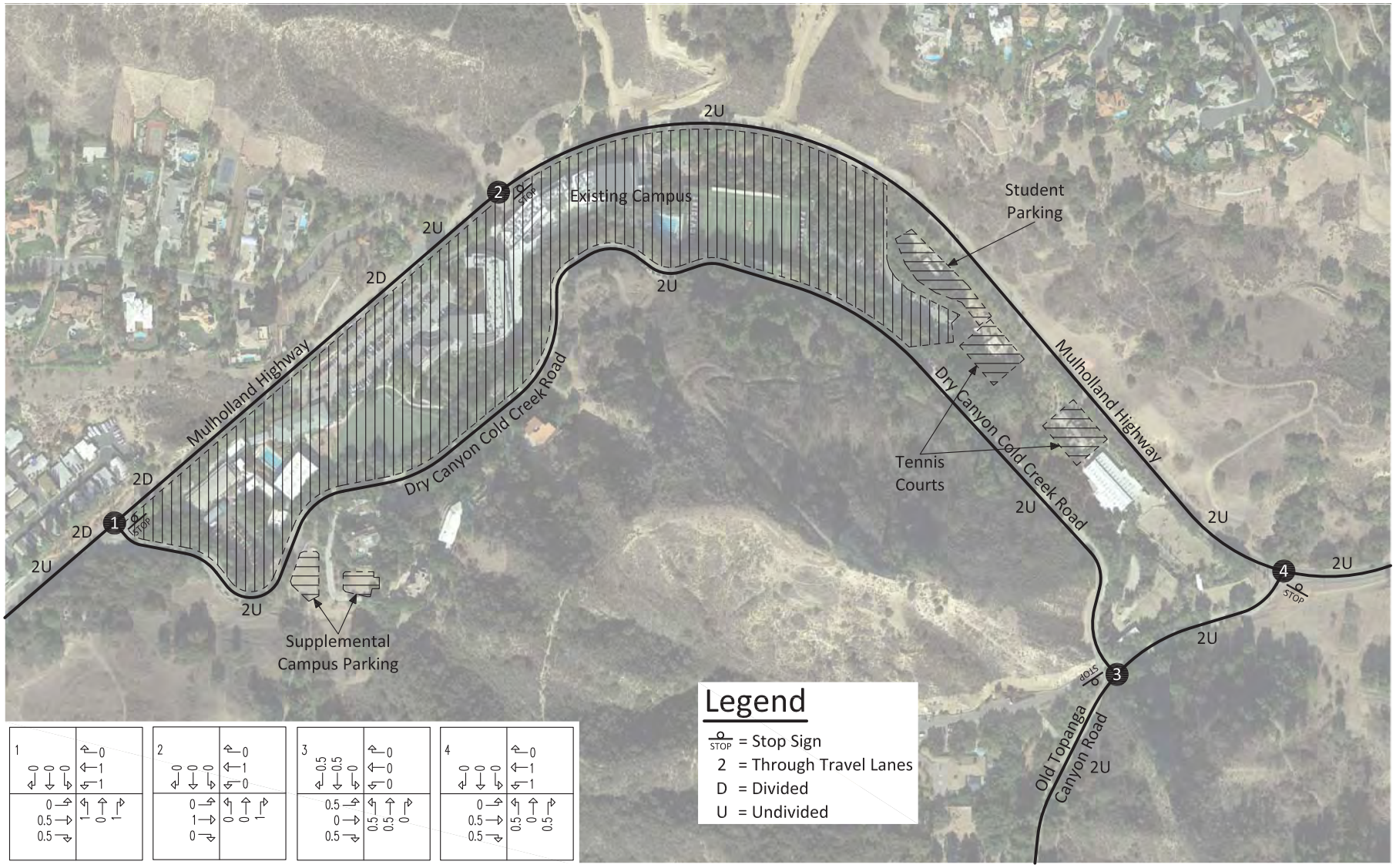
Intersection	Traffic Control[3]	Intersection Approach Lanes[1]												Evening Peak Hour V/C - LOS[2]
		Northbound			Southbound			Eastbound			Westbound			
		L	T	R	L	T	R	L	T	R	L	T	R	
Dry Canyon Cold Creek Road (NS) at:														
Mulholland Highway (EW) - #1	CSS	1	0	1	0	0	0	0	0.5	0.5	1	1	0	0.308-A
Loop Road (NS) at:														
Mulholland Highway (EW) - #2	CSS	1	3	0	0	2	2	1	0	1	0	0	0	0.400-A
Old Topanga Canyon Road (NS) at:														
Dry Canyon Cold Creek Road (EW) - #3	CSS	0.5	0.5	0	0	0.5	0.5	0	1	0	0	0	0	0.539-A
Mulholland Highway (EW) - #4	CSS	0	1	0	0	0	0	0	0.5	0.5	1	1	0	0.126-A

[1] When a right turn lane is designated, the lane can either be striped or unstriped. To function as a right turn lane, there must be sufficient width for right turning vehicles to travel outside the through lanes. L = Left; T = Through; R = Right

[2] Volume over Capacity Ratio (V/C) or Delay has been calculated using the following analysis software: Traffix, Version 7.9.0215. Per the Highway Capacity Manual, overall average for intersection delay and level of service are shown for intersections with traffic signal or all way stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

[3] CSS = Cross Street Stop

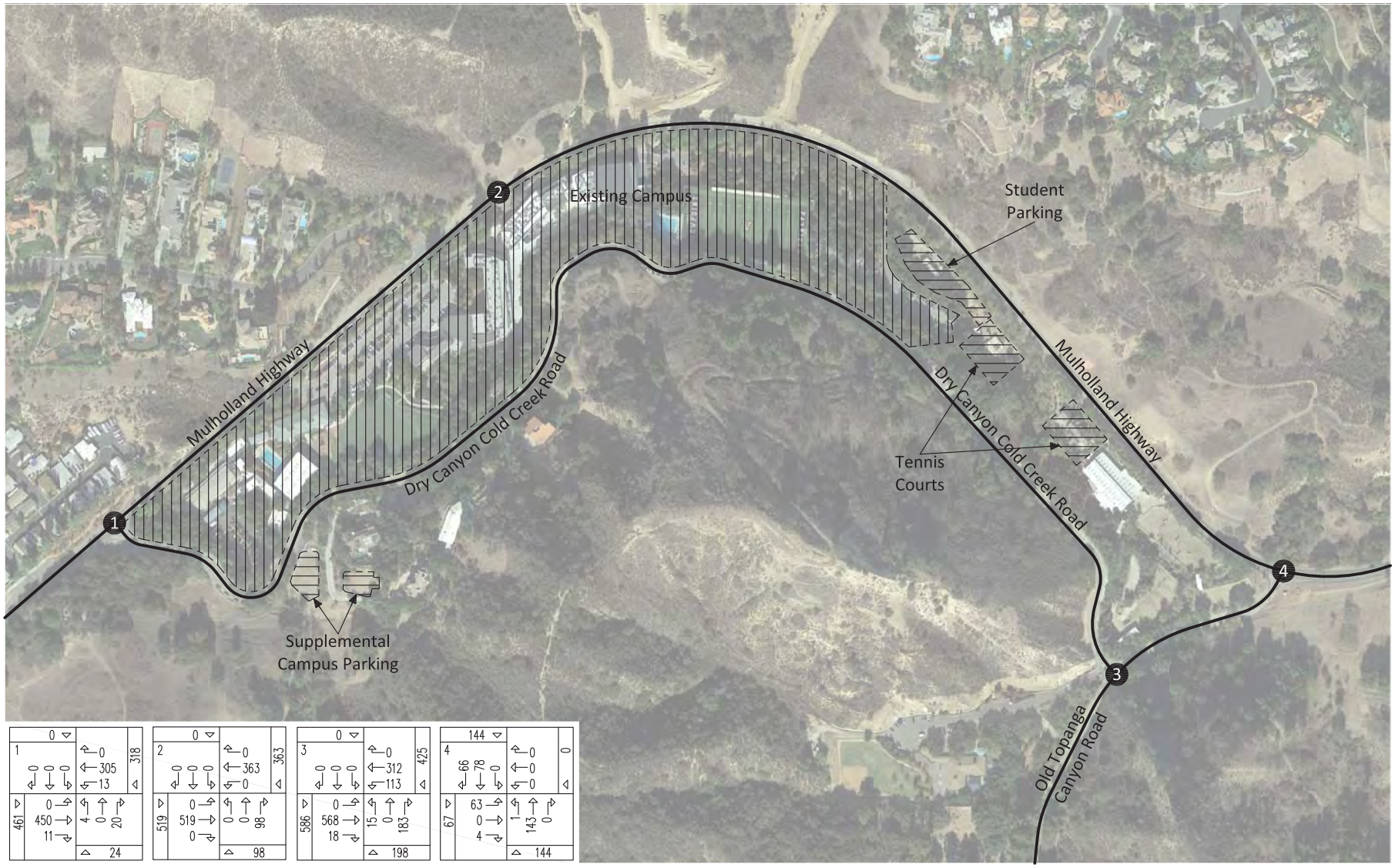
Figure 4
Existing Through Travel Lanes and Intersection Controls



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Intersection reference numbers are in upper left corner of turning movement boxes.

Figure 5
Existing Evening Peak Hour Intersection Turning Movement Volumes

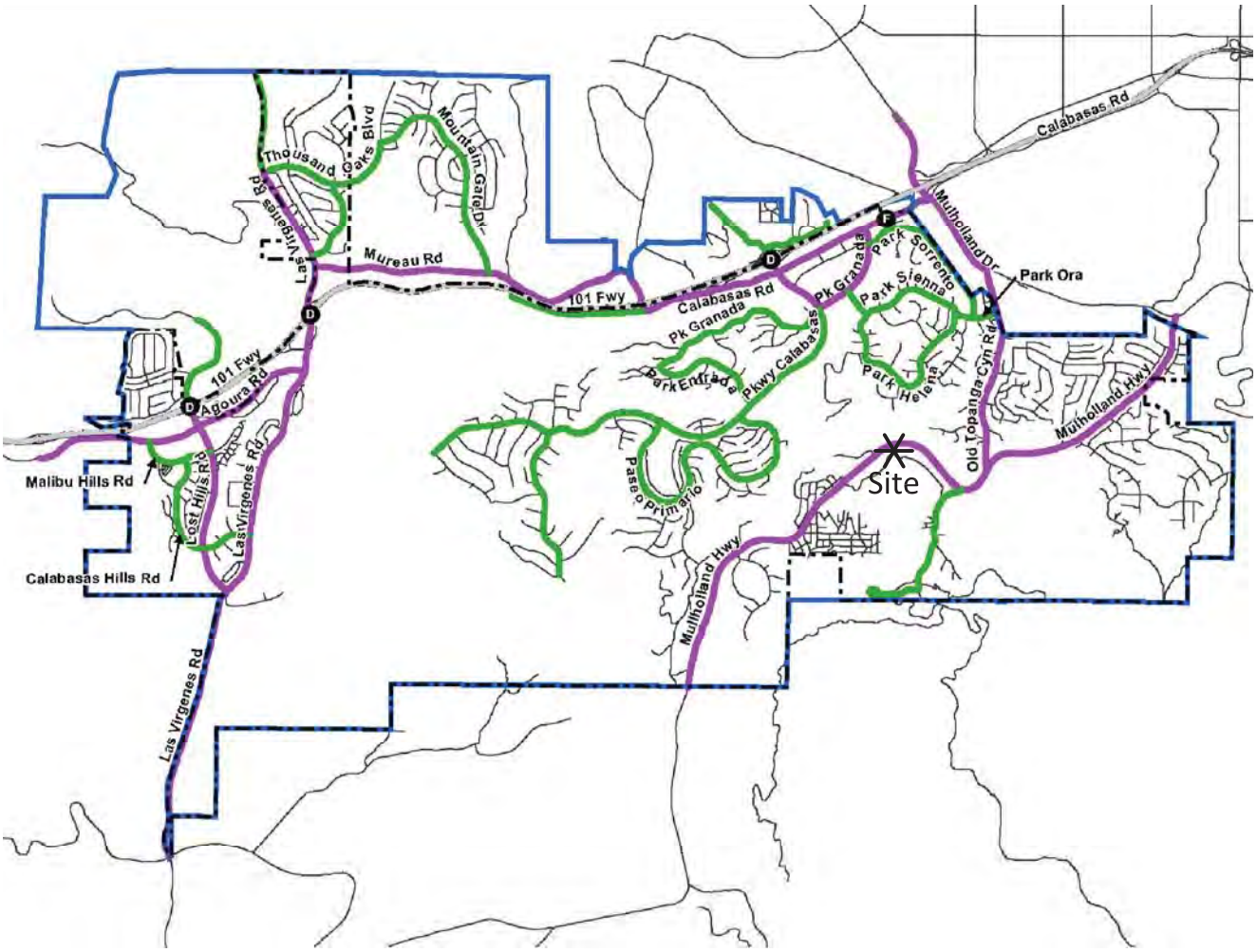


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KUNZMAN ASSOCIATES, INC. Intersection reference numbers are in upper left corner of turning movement boxes.

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Figure 6
City of Calabasas Circulation Element

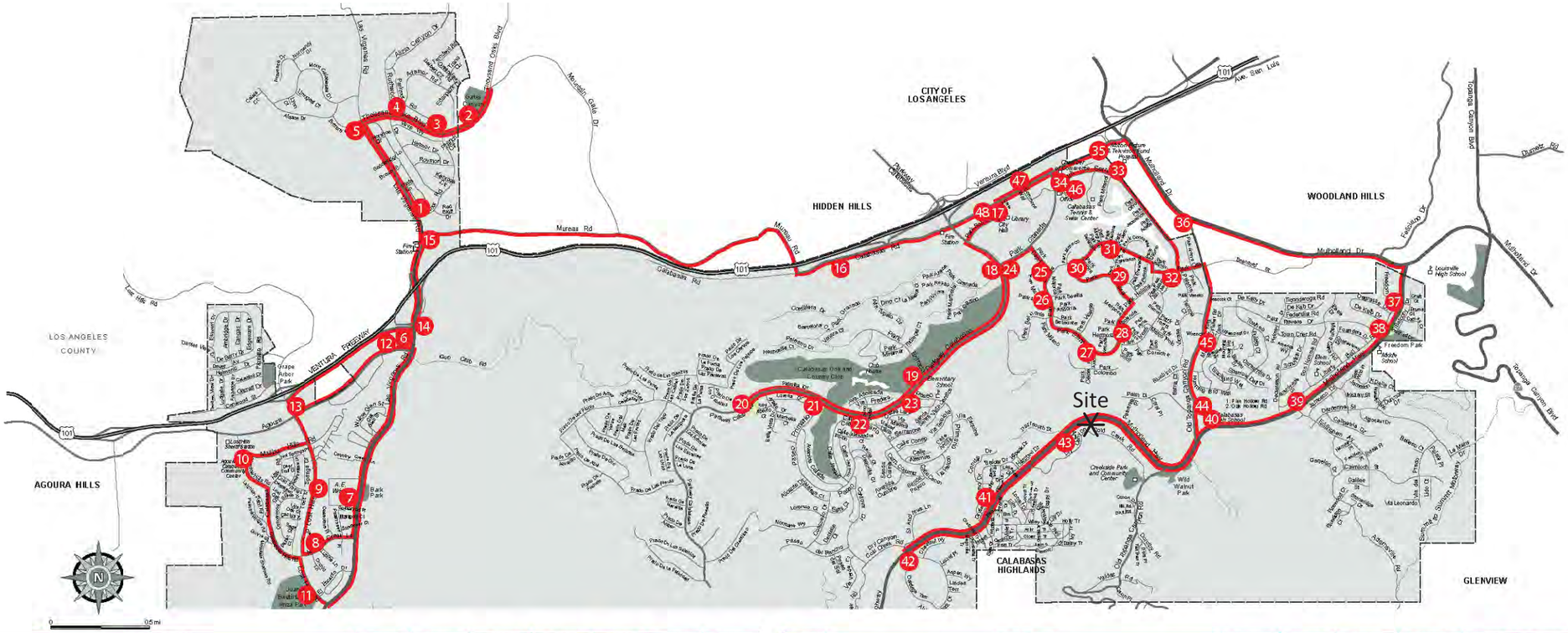


Legend

- Calabasas City Boundary
- Plan Area Boundary
- Arterial
- Collector
- Local Street
- (D) Level of Service Standard

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Figure 7
City of Calabasas Public Transportation Shuttle Service Map



STOP	LOCATION	TIMES	TIMES	TIMES	TIMES	TIMES	TIMES	TIMES
1	Las Virgenes Road at Parkmcr Road	6:30 AM	8:18 AM	10:06 AM	12:04 PM	1:52 PM	3:40 PM	5:38 PM
2	Thousand Oaks Boulevard at Gates Canyon Park	6:34 AM	8:22 AM	10:10 AM	12:08 PM	1:56 PM	3:44 PM	5:42 PM
3	Thousand Oaks Boulevard at Parkmor Road	6:35 AM	8:23 AM	10:11 AM	12:09 PM	1:57 PM	3:45 PM	5:43 PM
4	Thousand Oaks Boulevard at Ruthwood Drive	6:36 AM	8:24 AM	10:12 AM	12:10 PM	1:58 PM	3:46 PM	5:44 PM
5	Las Virgenes Road at Thousand Oaks Boulevard	6:38 AM	8:26 AM	10:14 AM	12:12 PM	2:00 PM	3:48 PM	5:46 PM
6	Las Virgenes Road at Shell Station	6:41 AM	8:29 AM	10:17 AM	12:15 PM	2:03 PM	3:51 PM	5:49 PM
7	Las Virgenes Road at A.E. Wright Middle School	6:44 AM	8:32 AM	10:30 AM	12:18 PM	2:06 PM	4:04 PM	5:52 PM
8	Meadow Creek Lane at Oleander Court	6:45 AM	8:33 AM	10:31 AM	12:19 PM	2:07 PM	4:05 PM	5:53 PM
9	Lost Hills Road at Cold Springs Street	6:46 AM	8:34 AM	10:32 AM	12:20 PM	2:08 PM	4:06 PM	5:54 PM
10	Malibu Hills Road at Agoura Hills/Calabasas Community Center	6:49 AM	8:37 AM	10:35 AM	12:23 PM	2:11 PM	4:09 PM	5:57 PM
11	Lost Hills Road at Juan Bautista de Anza Park	6:52 AM	8:40 AM	10:38 AM	12:26 PM	2:14 PM	4:12 PM	6:00 PM
12	Agoura Road at Las Virgenes Road (Metro)	6:57 AM	8:45 AM	10:43 AM	12:31 PM	2:19 PM	4:17 PM	
13	Agoura Road at Lost Hills Road (Metro - Summit)	6:59 AM	8:47 AM	10:45 AM	12:33 PM	2:21 PM	4:19 PM	
14	Las Virgenes Road at Southbound US 101	7:01 AM	8:49 AM	10:47 AM	12:35 PM	2:23 PM	4:21 PM	
15	Las Virgenes Road at Mureau Road	7:03 AM	8:51 AM	10:49 AM	12:37 PM	2:25 PM	4:23 PM	
16	Calabasas Road between BMW/Acura Dealerships	7:10 AM	8:58 AM	10:56 AM	12:44 PM	2:32 PM	4:30 PM	
17	Park Sorrento at Civic Center Way (City Hall)	7:12 AM	9:00 AM	10:58 AM	12:46 PM	2:34 PM	4:32 PM	
18	Parkway Calabasas at Park Granada	7:13 AM	9:01 AM	10:59 AM	12:47 PM	2:35 PM	4:33 PM	
19	Parkway Calabasas at Park Entrada	7:15 AM	9:03 AM	11:01 AM	12:49 PM	2:37 PM	4:35 PM	
20	Parkway Calabasas at the Oaks Gate	7:19 AM	9:07 AM	11:05 AM	12:53 PM	2:41 PM	4:39 PM	
21	Parkway Calabasas at Paseo Primario (South)	7:20 AM	9:08 AM	11:06 AM	12:54 PM	2:42 PM	4:40 PM	
22	Parkway Calabasas at Camino Portal	7:21 AM	9:09 AM	11:07 AM	12:55 PM	2:43 PM	4:41 PM	
23	Parkway Calabasas at Paseo Primario (North)	7:22 AM	9:10 AM	11:08 AM	12:56 PM	2:44 PM	4:42 PM	
24	Park Granada at Parkway Calabasas	7:25 AM	9:13 AM	11:11 AM	12:59 PM	2:47 PM	4:45 PM	

STOP	LOCATION	TIMES	TIMES	TIMES	TIMES	TIMES	TIMES
25	Park Sienna at Park Capri	7:26 AM	9:14 AM	11:12 AM	1:00 PM	2:48 PM	4:46 PM
26	Park Sienna at Park Antigua	7:27 AM	9:15 AM	11:13 AM	1:01 PM	2:49 PM	4:47 PM
27	Park Sienna at Park Antonio	7:28 AM	9:16 AM	11:14 AM	1:02 PM	2:50 PM	4:48 PM
28	Park Helena at Park Hacienda	7:29 AM	9:17 AM	11:15 AM	1:03 PM	2:51 PM	4:49 PM
29	Park Alisal at Park Corona	7:30 AM	9:18 AM	11:16 AM	1:04 PM	2:52 PM	4:50 PM
30	Park Sienna at Park Alisal	7:31 AM	9:19 AM	11:17 AM	1:05 PM	2:53 PM	4:51 PM
31	Park Sienna at Park Cordero	7:32 AM	9:20 AM	11:18 AM	1:06 PM	2:54 PM	4:52 PM
32	Park Sorrento at Park Ora	7:33 AM	9:21 AM	11:19 AM	1:07 PM	2:55 PM	4:53 PM
33	Park Sorrento at Park Mirasol	7:35 AM	9:23 AM	11:21 AM	1:09 PM	2:57 PM	4:55 PM
34	Park Sorrento at Park Granada	7:36 AM	9:24 AM	11:22 AM	1:10 PM	2:58 PM	4:56 PM
35	Calabasas Road at El Canon Avenue	7:37 AM	9:25 AM	11:23 AM	1:11 PM	2:59 PM	4:57 PM
36	Mulholland Drive at Valmar Road	7:39 AM	9:27 AM	11:25 AM	1:13 PM	3:01 PM	4:59 PM
37	Mulholland Highway at Freedom Drive	7:43 AM	9:31 AM	11:29 AM	1:17 PM	3:05 PM	5:03 PM
38	Mulholland Highway at Paul Revere Drive	7:44 AM	9:32 AM	11:30 AM	1:18 PM	3:06 PM	5:04 PM
39	Mulholland Highway at Eddingham Avenue	7:46 AM	9:34 AM	11:32 AM	1:20 PM	3:08 PM	5:06 PM
40	Mulholland Highway at Calabasas High School	7:47 AM	9:35 AM	11:33 AM	1:21 PM	3:09 PM	5:07 PM
41	Mulholland Highway at Mobile Home Estates	7:52 AM	9:40 AM	11:38 AM	1:26 PM	3:14 PM	5:12 PM
42	Mulholland Highway at Mountain Park Drive	7:54 AM	9:42 AM	11:40 AM	1:28 PM	3:16 PM	5:14 PM
43	Mulholland Highway at Viewpoint School	7:57 AM	9:45 AM	11:43 AM	1:31 PM	3:19 PM	5:17 PM
44	Old Topanga Canyon Road at Calabasas High School	8:00 AM	9:48 AM	11:46 AM	1:34 PM	3:21 PM	5:19 PM
45	Old Topanga Canyon Road at Wrencrest Drive	8:01 AM	9:49 AM	11:47 AM	1:35 PM	3:23 PM	5:21 PM
46	Park Sorrento at Park Granada	8:04 AM	9:52 AM	11:50 AM	1:38 PM	3:26 PM	5:24 PM
47	Calabasas Road at Commons Way	8:06 AM	9:54 AM	11:52 AM	1:40 PM	3:28 PM	5:26 PM
48	Park Sorrento at Civic Center Way (City Hall)	8:07 AM	9:55 AM	11:53 AM	1:41 PM	3:29 PM	5:27 PM

Figure 7
City of Calabasas Public Transportation Shuttle Service Map

Source: City of Calabasas

V. Project Traffic

The proposed project consists of adding 6 tennis courts and three small parking lots with a total of 114 parking spaces to an existing private school.

The ingress for the southeastern site is on Dry Canyon Cold Creek Road and the egress is on Mulholland Highway. The two accesses for the southwestern site are on Dry Canyon Cold Creek Road.

A. Trip Generation

The trips generated by the project are determined by multiplying an appropriate trip generation rate by the quantities of land uses. Trip generation rates are predicated on the assumption that energy costs, the availability of roadway capacity, the availability of vehicles to drive, and life styles remain similar to what are known today. A major change in these variables may affect trip generation rates.

The proposed project will only add trips to the evening peak hour, trip generation rates were determined for only weekday evening peak hour inbound and outbound traffic for the proposed land use. By multiplying the trip generation rates by the land use quantity, the project traffic volumes are determined. Table 2 exhibits the trip generation rates and project peak hour volumes. The trip generation rates are from the Institute of Transportation Engineers, Trip Generation, 9th Edition, 2012.

The proposed tennis courts are projected to generate approximately 24 vehicles per hour during the weekday evening peak hour. It should be noted that students are currently either driven or bussed off-site for tennis activities. This will not continue with completion of the project and will result in a lower amount of net trips. To provide a conservative estimate, this change has not been included in trip generation totals.

The proposed supplemental parking at the southwest site will not generate any additional school-related trips, but will shift a nominal amount of existing trips from existing parking lots and from street parking to the proposed parking areas. This shift will likely result in a minor improvement in congestion along Dry Creek Cold Canyon Road and at existing project accesses.

B. Trip Distribution

Figures 8 and 9 contain the directional distributions of the project trips for the proposed land uses.

To determine the trip distributions for the proposed project, peak hour traffic counts of the existing directional distribution of traffic for existing areas in the vicinity of the site, and other additional information on future development and traffic impacts in the area were reviewed.

C. Trip Assignment

Based on the identified trip generation and distributions, project evening peak hour intersection turning movement volumes expected from the project are shown on Figure 10.

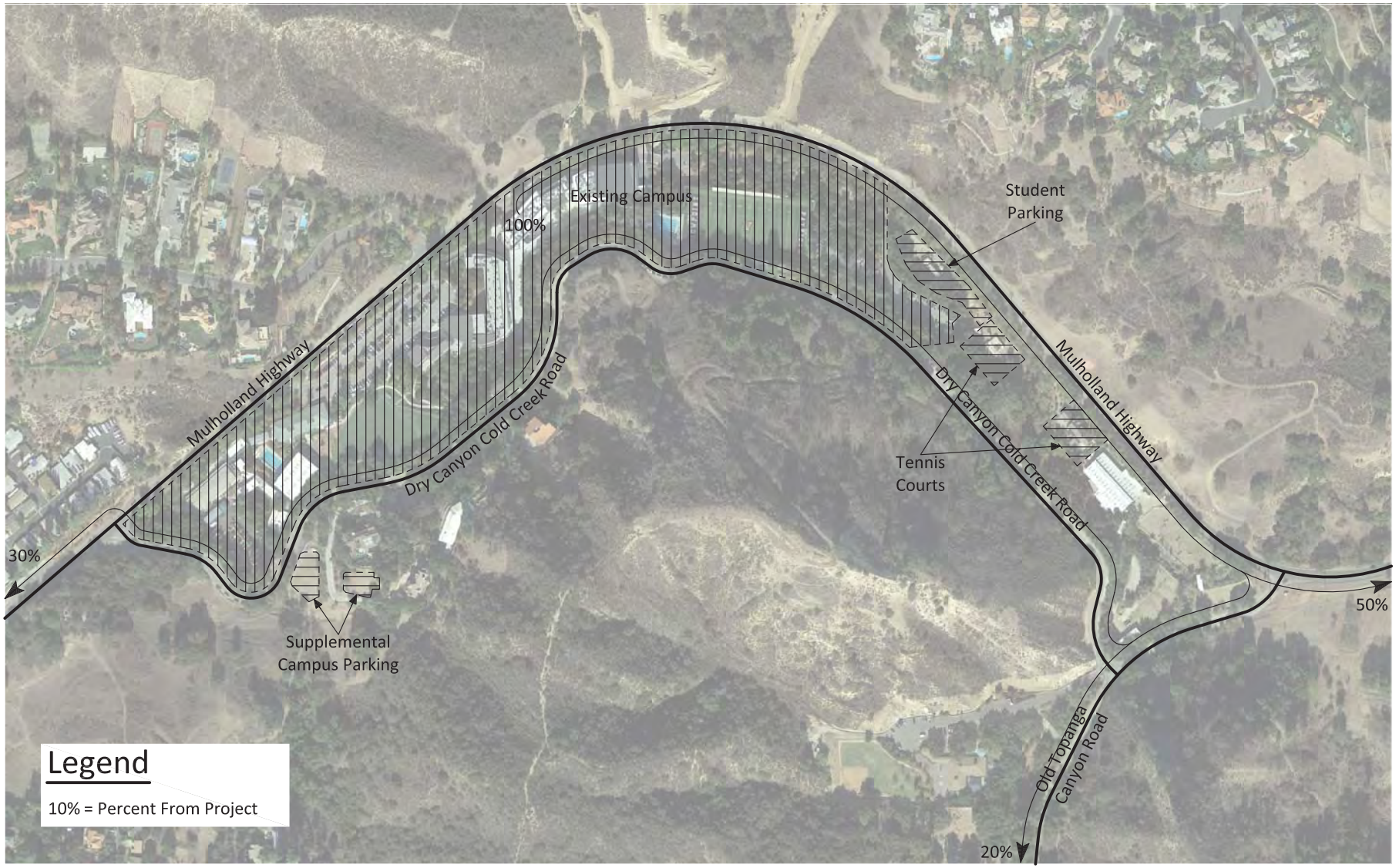
Table 2

Project Trip Generation[1]

Land Use	Quantity	Units	Evening		
			Inbound	Outbound	Total
Trip Generation Rates					
Tennis Courts	6	Court	1.94	1.94	3.88
Trips Generated					
Tennis Courts	6	Court	12	12	24

[1] Source: Institute of Transportation Engineers, Trip Generation, 9th Edition, 2012, Land Use Category 490.

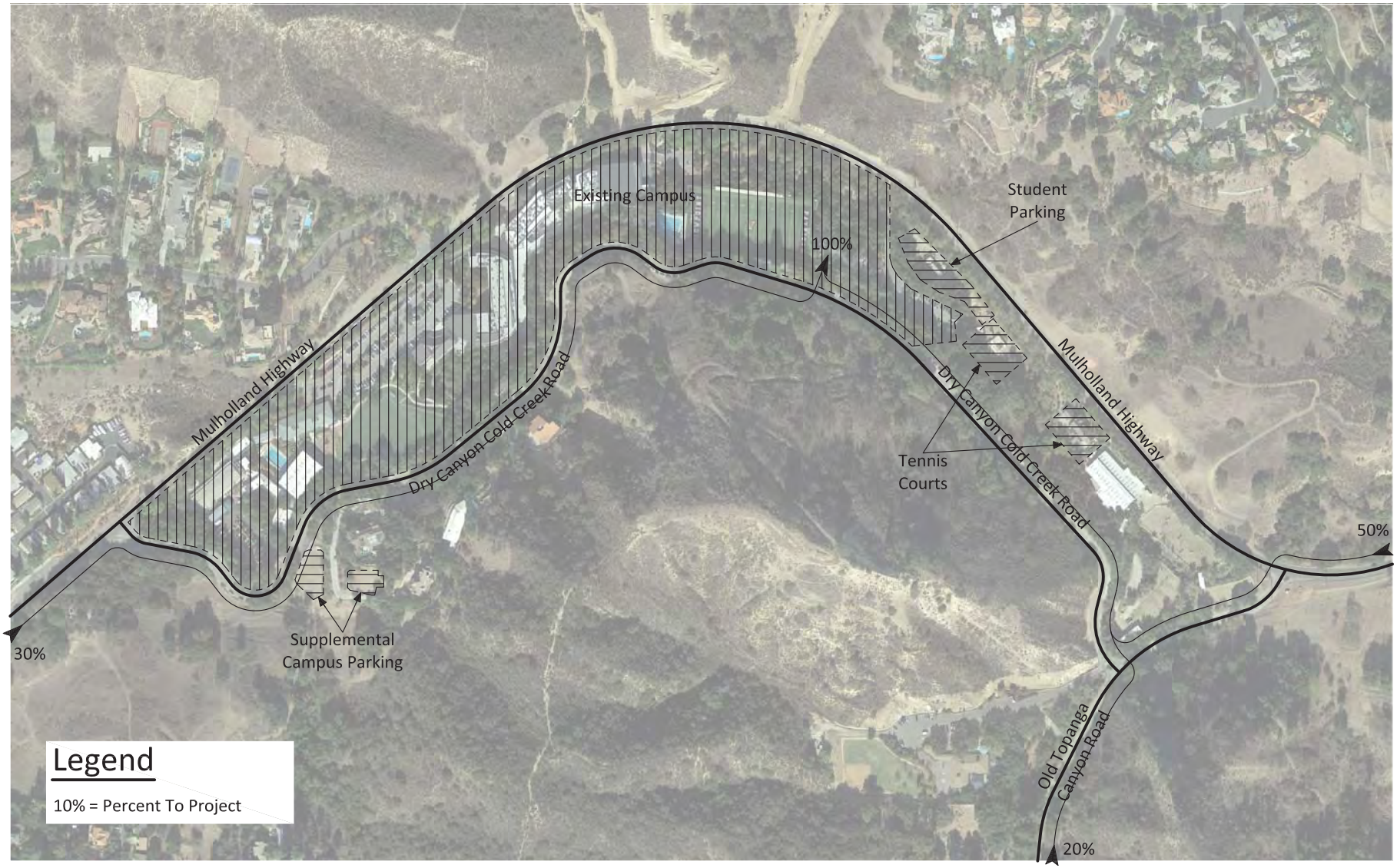
Figure 8
Project Outbound Trip Distribution



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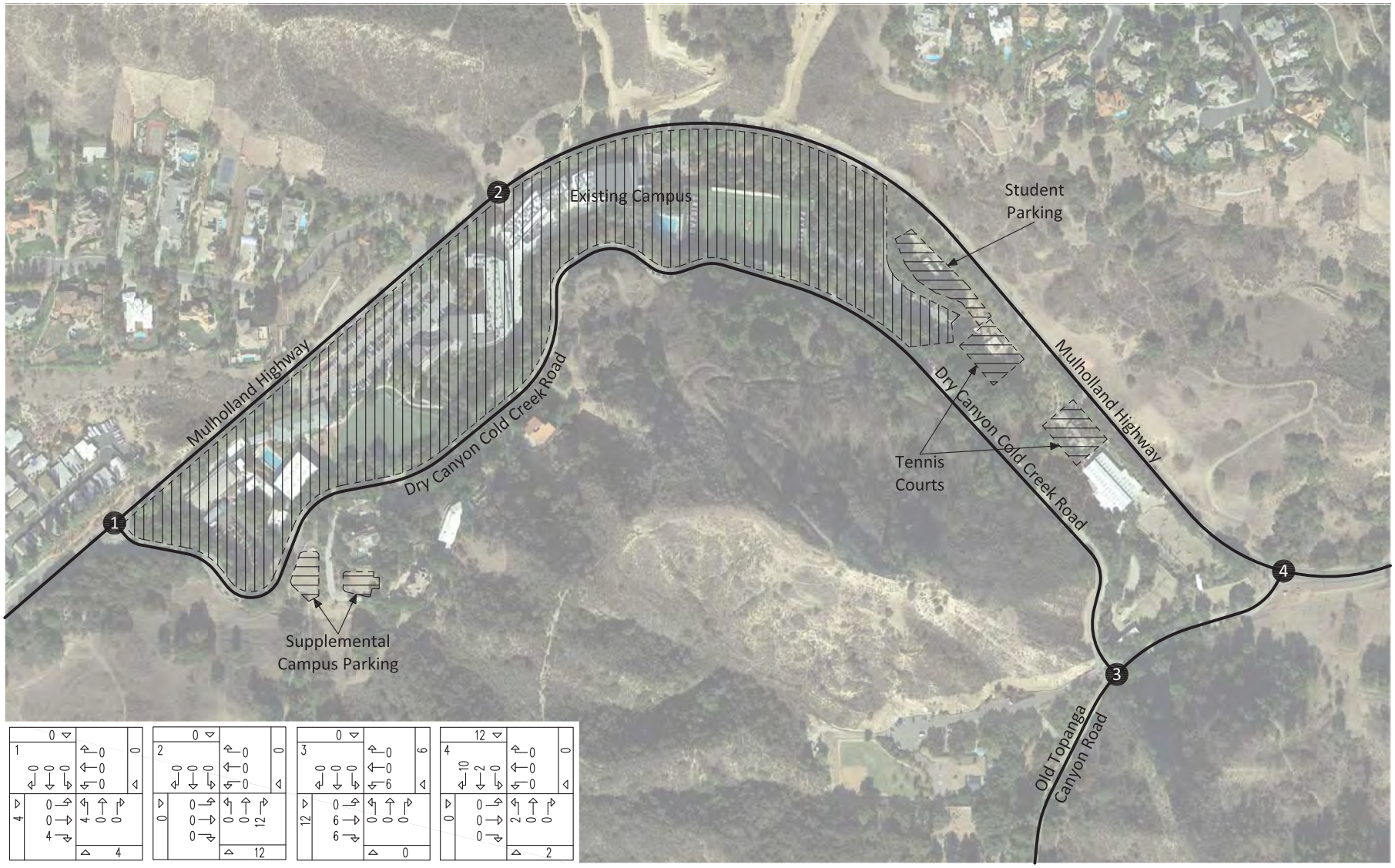
Figure 9
Project Inbound Trip Distribution



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Figure 10
Project Evening Peak Hour Intersection Turning Movement Volumes



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KUNZMAN ASSOCIATES, INC. Intersection reference numbers are in upper left corner of turning movement boxes.

OVER 35 YEARS OF EXCELLENT SERVICE

VI. Future Conditions

A. Future Volumes

To assess Existing Plus Project traffic conditions, existing traffic is combined with project traffic.

For Opening Year (2016) Without Project traffic conditions, an area-wide growth rate has been utilized to account for area-wide growth on study area roadways. Opening Year (2016) traffic volumes have been calculated based on a "conservative" two (2) percent annual growth rate of existing traffic volumes over a two year period. Project traffic volumes were then added to the Opening Year (2016) Without Project traffic volumes to assess Opening Year (2016) With Project traffic conditions.

B. Future Level of Service

1. Existing Plus Project

The Existing Plus Project delay and Level of Service for the study area roadway network are shown in Table 3. Table 3 shows delay values based on the geometrics at the study area intersections. Existing Plus Project delay calculation worksheets are provided in Appendix F. Existing Plus Project evening peak hour intersection turning movement volumes are shown on Figure 11.

As shown in Table 3, the study area intersections are projected to operate within acceptable Levels of Service during the evening peak hour for Existing Plus Project traffic conditions.

2. Opening Year (2016) Without Project

The Opening Year (2016) Without Project delay and Level of Service for the study area roadway network without the proposed project are shown in Table 5. Table 5 shows delay values based on the geometrics at the study area intersections. Opening Year (2016) Without Project delay calculation worksheets are provided in Appendix F. Opening Year (2016) Without Project evening peak hour intersection turning movement volumes are shown on Figure 12.

As shown in Table 5, the study area intersections are projected to operate within acceptable Levels of Service during the evening peak hour for Opening Year (2016) Without Project traffic conditions.

3. Opening Year (2016) With Project

The Opening Year (2016) With Project delay and Level of Service for the study area roadway network with the proposed project are shown in Table 6. Table 6 shows delay values based on the geometrics at the study area intersections. Opening Year

(2016) With Project delay calculation worksheets are provided in Appendix F. Opening Year (2016) With Project evening peak hour intersection turning movement volumes are shown on Figure 13.

As shown in Table 6, the study area intersections are projected to operate within acceptable Levels of Service during the evening peak hour for Opening Year (2016) With Project traffic conditions.

Table 3

Existing Plus Project Intersection Capacity and Level of Service

Intersection	Traffic Control[3]	Intersection Approach Lanes[1]												Evening Peak Hour
		Northbound			Southbound			Eastbound			Westbound			
		L	T	R	L	T	R	L	T	R	L	T	R	V/C - LOS[2]
Dry Canyon Cold Creek Road (NS) at:														
Mulholland Highway (EW) - #1	CSS	1	0	1	0	0	0	0	0.5	0.5	1	1	0	0.310-A
Loop Road (NS) at:														
Mulholland Highway (EW) - #2	CSS	1	3	0	0	2	2	1	0	1	0	0	0	0.408-A
Old Topanga Canyon Road (NS) at:														
Dry Canyon Cold Creek Road (EW) - #3	CSS	0.5	0.5	0	0	0.5	0.5	0	1	0	0	0	0	0.550-A
Mulholland Highway (EW) - #4	CSS	0	1	0	0	0	0	0	0.5	0.5	1	1	0	0.135-A

[1] When a right turn lane is designated, the lane can either be striped or unstriped. To function as a right turn lane, there must be sufficient width for right turning vehicles to travel outside the through lanes. L = Left; T = Through; R = Right

[2] Volume over Capacity Ratio (V/C) or Delay has been calculated using the following analysis software: Traffix, Version 7.9.0215. Per the Highway Capacity Manual, overall average for intersection delay and level of service are shown for intersections with traffic signal or all way stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

[3] CSS = Cross Street Stop

Table 4

Opening Year (2016) Without Project Intersection Capacity Utilization and Level of Service

Intersection	Traffic Control[3]	Intersection Approach Lanes[1]												Evening Peak Hour
		Northbound			Southbound			Eastbound			Westbound			
		L	T	R	L	T	R	L	T	R	L	T	R	V/C - LOS[2]
Dry Canyon Cold Creek Road (NS) at:														
Mulholland Highway (EW) - #1	CSS	1	0	1	0	0	0	0	0.5	0.5	1	1	0	0.320-A
Loop Road (NS) at:														
Mulholland Highway (EW) - #2	CSS	1	3	0	0	2	2	1	0	1	0	0	0	0.416-A
Old Topanga Canyon Road (NS) at:														
Dry Canyon Cold Creek Road (EW) - #3	CSS	0.5	0.5	0	0	0.5	0.5	0	1	0	0	0	0	0.561-A
Mulholland Highway (EW) - #4	CSS	0	1	0	0	0	0	0	0.5	0.5	1	1	0	0.131-A

[1] When a right turn lane is designated, the lane can either be striped or unstriped. To function as a right turn lane, there must be sufficient width for right turning vehicles to travel outside the through lanes. L = Left; T = Through; R = Right

[2] Volume over Capacity Ratio (V/C) or Delay has been calculated using the following analysis software: Traffix, Version 7.9.0215. Per the Highway Capacity Manual, overall average for intersection delay and level of service are shown for intersections with traffic signal or all way stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

[3] CSS = Cross Street Stop

Table 5

Opening Year (2016) With Project Intersection Capacity Utilization and Level of Service

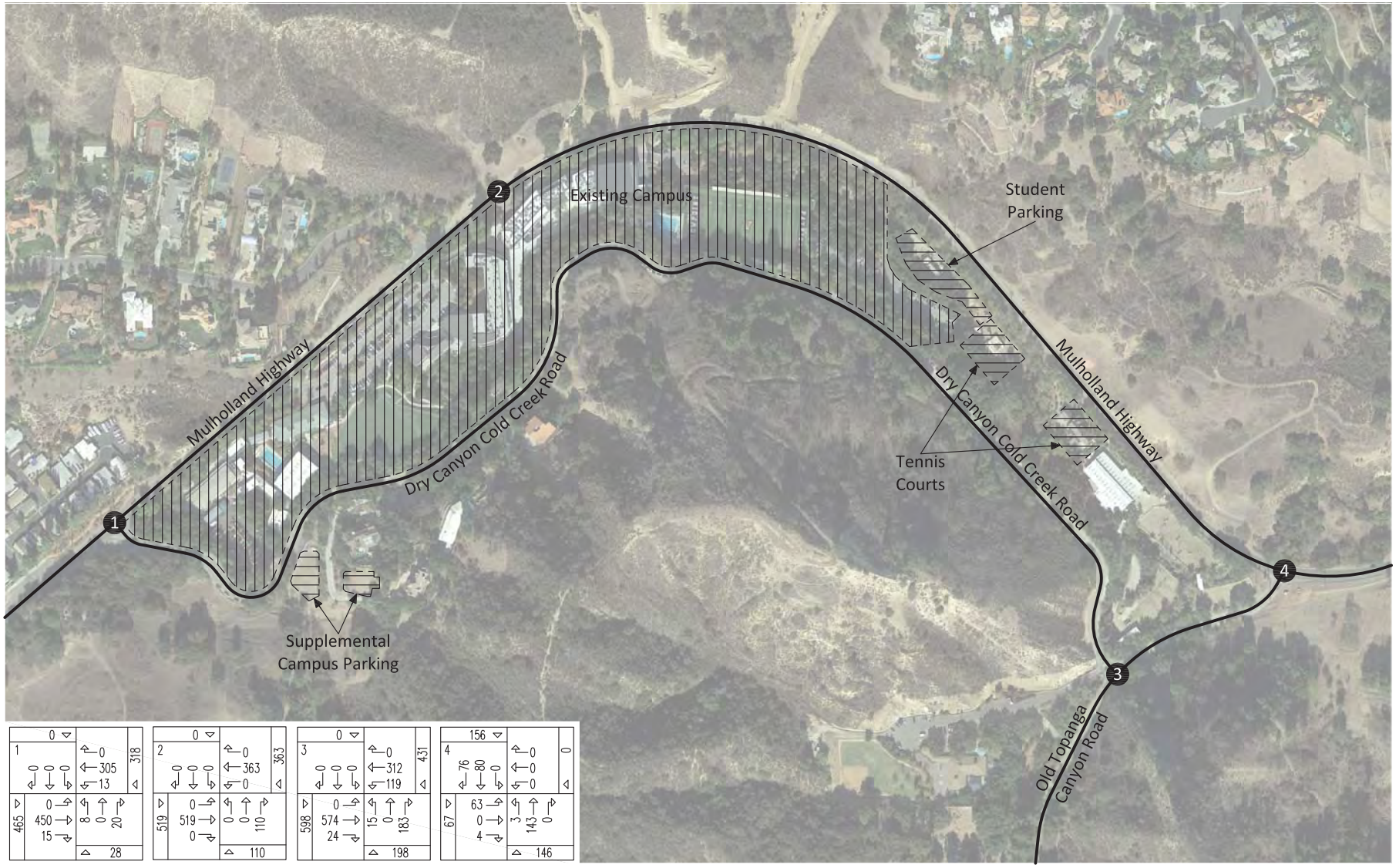
Intersection	Traffic Control[3]	Intersection Approach Lanes[1]												Evening Peak Hour
		Northbound			Southbound			Eastbound			Westbound			
		L	T	R	L	T	R	L	T	R	L	T	R	V/C - LOS[2]
Dry Canyon Cold Creek Road (NS) at:														
Mulholland Highway (EW) - #1	CSS	1	0	1	0	0	0	0	0.5	0.5	1	1	0	0.320-A
Loop Road (NS) at:														
Mulholland Highway (EW) - #2	CSS	1	3	0	0	2	2	1	0	1	0	0	0	0.420-A
Old Topanga Canyon Road (NS) at:														
Dry Canyon Cold Creek Road (EW) - #3	CSS	0.5	0.5	0	0	0.5	0.5	0	1	0	0	0	0	0.566-A
Mulholland Highway (EW) - #4	CSS	0	1	0	0	0	0	0	0.5	0.5	1	1	0	0.135-A

[1] When a right turn lane is designated, the lane can either be striped or unstriped. To function as a right turn lane, there must be sufficient width for right turning vehicles to travel outside the through lanes. L = Left; T = Through; R = Right

[2] Volume over Capacity Ratio (V/C) or Delay has been calculated using the following analysis software: Traffix, Version 7.9.0215. Per the Highway Capacity Manual, overall average for intersection delay and level of service are shown for intersections with traffic signal or all way stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

[3] CSS = Cross Street Stop

Figure 11
Existing Plus Project
Evening Peak Hour Intersection Turning Movement Volumes

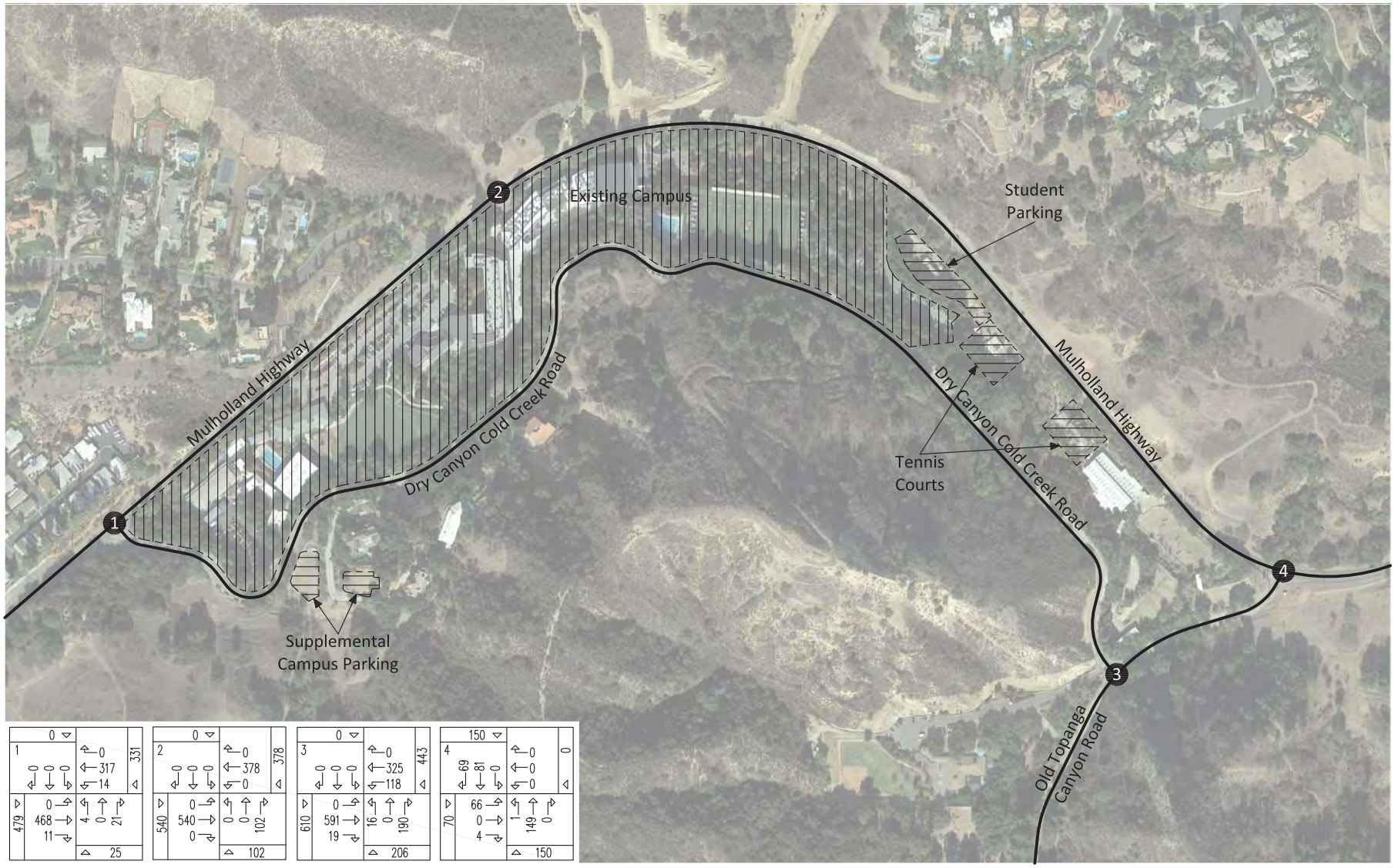


5809/11

KUNZMAN ASSOCIATES, INC. Intersection reference numbers are in upper left corner of turning movement boxes.

OVER 35 YEARS OF EXCELLENT SERVICE

Figure 12
Opening Year (2016) Without Project
Evening Peak Hour Intersection Turning Movement Volumes

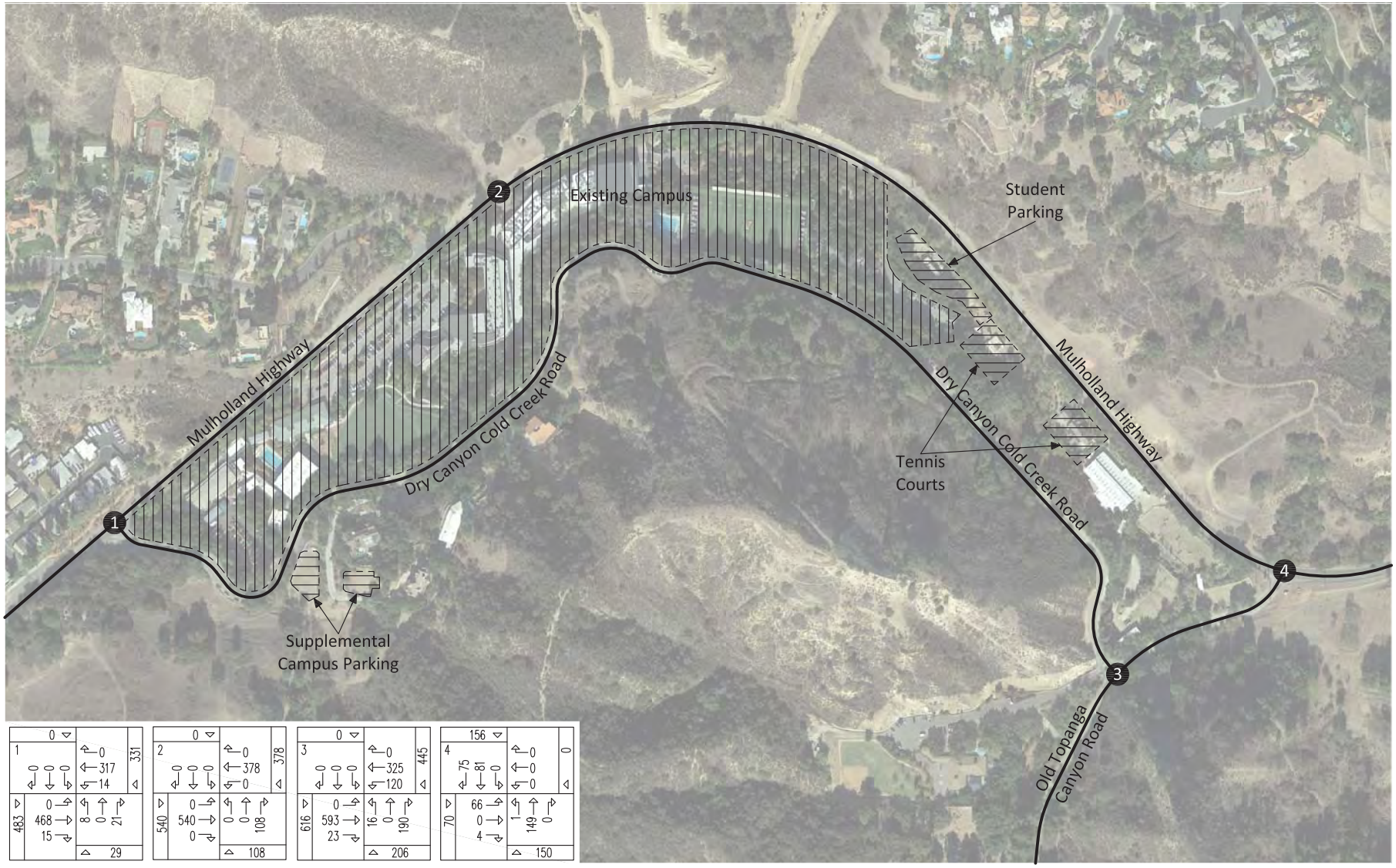


KUNZMAN ASSOCIATES, INC. Intersection reference numbers are in upper left corner of turning movement boxes.

5809/12

OVER 35 YEARS OF EXCELLENT SERVICE

Figure 13
Opening Year (2016) With Project
Evening Peak Hour Intersection Turning Movement Volumes



5809/13

KUNZMAN ASSOCIATES, INC. Intersection reference numbers are in upper left corner of turning movement boxes.

OVER 35 YEARS OF EXCELLENT SERVICE

VII. Recommendations

A. Site Access

The ingress for the southeastern site is on Dry Canyon Cold Creek Road and the egress is on Mulholland Highway. The two accesses for the southwestern site are on Dry Canyon Cold Creek Road.

B. Roadway Improvements

Site-specific circulation and vehicular access recommendations are depicted on Figure 14.

1. Sight distance at project accesses shall comply with standard California Department of Transportation and County of Los Angeles sight distance standards. The final grading, landscaping, and street improvement plans shall demonstrate that sight distance standards are met. Such plans must be reviewed by the City and approved as consistent with this measure prior to issue of grading permits.

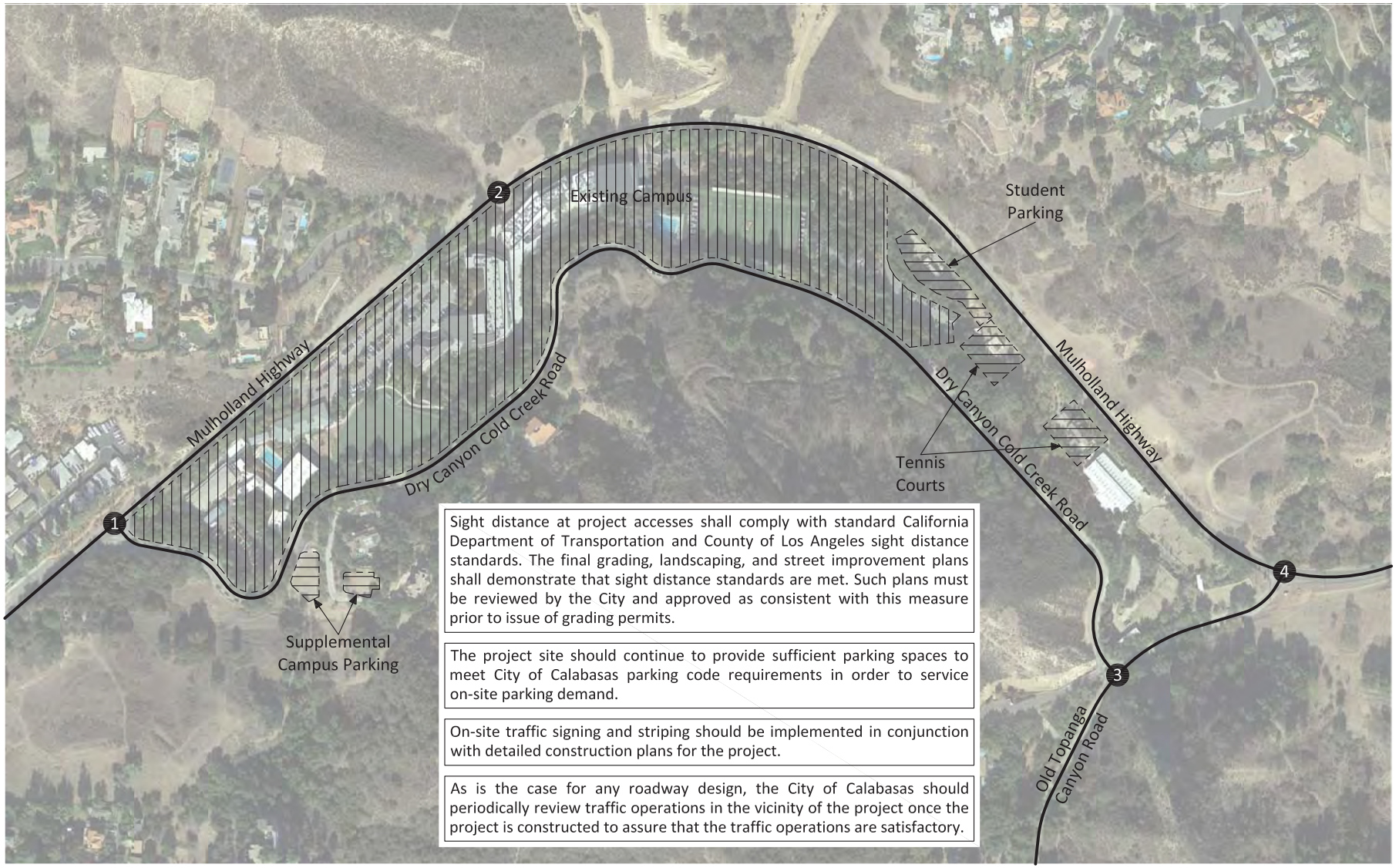
2. The project site should continue to provide sufficient parking spaces to meet City of Calabasas parking code requirements in order to service on-site parking demand.

3. On-site traffic signing and striping should be implemented in conjunction with detailed construction plans for the project.

4. As is the case for any roadway design, the City of Calabasas should periodically review traffic operations in the vicinity of the project once the project is constructed to assure that the traffic operations are satisfactory.

The project site does not significantly impact the study area intersections during the evening peak hour for Opening Year (2016) With Project traffic conditions. Therefore, no roadway lane additions, widening or traffic signal improvements are recommended because of trips generated by the proposed site.

Figure 14
Circulation Recommendations



Sight distance at project accesses shall comply with standard California Department of Transportation and County of Los Angeles sight distance standards. The final grading, landscaping, and street improvement plans shall demonstrate that sight distance standards are met. Such plans must be reviewed by the City and approved as consistent with this measure prior to issue of grading permits.

The project site should continue to provide sufficient parking spaces to meet City of Calabasas parking code requirements in order to service on-site parking demand.

On-site traffic signing and striping should be implemented in conjunction with detailed construction plans for the project.

As is the case for any roadway design, the City of Calabasas should periodically review traffic operations in the vicinity of the project once the project is constructed to assure that the traffic operations are satisfactory.

5809/14

Appendices

Appendix A – Glossary of Transportation Terms

Appendix B – Traffic Count Worksheets

Appendix C – Explanation and Calculation of Intersection Capacity Utilization

APPENDIX A

Glossary of Transportation Terms

GLOSSARY OF TRANSPORTATION TERMS

COMMON ABBREVIATIONS

AC:	Acres
ADT:	Average Daily Traffic
Caltrans:	California Department of Transportation
DU:	Dwelling Unit
ICU:	Intersection Capacity Utilization
LOS:	Level of Service
TSF:	Thousand Square Feet
V/C:	Volume/Capacity
VMT:	Vehicle Miles Traveled

TERMS

AVERAGE DAILY TRAFFIC: The total volume during a year divided by the number of days in a year. Usually only weekdays are included.

BANDWIDTH: The number of seconds of green time available for through traffic in a signal progression.

BOTTLENECK: A constriction along a travelway that limits the amount of traffic that can proceed downstream from its location.

CAPACITY: The maximum number of vehicles that can be reasonably expected to pass over a given section of a lane or a roadway in a given time period.

CHANNELIZATION: The separation or regulation of conflicting traffic movements into definite paths of travel by the use of pavement markings, raised islands, or other suitable means to facilitate the safe and orderly movements of both vehicles and pedestrians.

CLEARANCE INTERVAL: Nearly same as yellow time. If there is an all red interval after the end of a yellow, then that is also added into the clearance interval.

CORDON: An imaginary line around an area across which vehicles, persons, or other items are counted (in and out).

CYCLE LENGTH: The time period in seconds required for one complete signal cycle.

CUL-DE-SAC STREET: A local street open at one end only, and with special provisions for turning around.

DAILY CAPACITY: The daily volume of traffic that will result in a volume during the peak hour equal to the capacity of the roadway.

DELAY: The time consumed while traffic is impeded in its movement by some element over which it has no control, usually expressed in seconds per vehicle.

DEMAND RESPONSIVE SIGNAL: Same as traffic-actuated signal.

DENSITY: The number of vehicles occupying in a unit length of the through traffic lanes of a roadway at any given instant. Usually expressed in vehicles per mile.

DETECTOR: A device that responds to a physical stimulus and transmits a resulting impulse to the signal controller.

DESIGN SPEED: A speed selected for purposes of design. Features of a highway, such as curvature, superelevation, and sight distance (upon which the safe operation of vehicles is dependent) are correlated to design speed.

DIRECTIONAL SPLIT: The percent of traffic in the peak direction at any point in time.

DIVERSION: The rerouting of peak hour traffic to avoid congestion.

FORCED FLOW: Opposite of free flow.

FREE FLOW: Volumes are well below capacity. Vehicles can maneuver freely and travel is unimpeded by other traffic.

GAP: Time or distance between successive vehicles in a traffic stream, rear bumper to front bumper.

HEADWAY: Time or distance spacing between successive vehicles in a traffic stream, front bumper to front bumper.

INTERCONNECTED SIGNAL SYSTEM: A number of intersections that are connected to achieve signal progression.

LEVEL OF SERVICE: A qualitative measure of a number of factors, which include speed and travel time, traffic interruptions, freedom to maneuver, safety, driving comfort and convenience, and operating costs.

LOOP DETECTOR: A vehicle detector consisting of a loop of wire embedded in the roadway, energized by alternating current and producing an output circuit closure when passed over by a vehicle.

MINIMUM ACCEPTABLE GAP: Smallest time headway between successive vehicles in a traffic stream into which another vehicle is willing and able to cross or merge.

MULTI-MODAL: More than one mode; such as automobile, bus transit, rail rapid transit, and bicycle transportation modes.

OFFSET: The time interval in seconds between the beginning of green at one intersection and the beginning of green at an adjacent intersection.

PLATOON: A closely grouped component of traffic that is composed of several vehicles moving, or standing ready to move, with clear spaces ahead and behind.

ORIGIN-DESTINATION SURVEY: A survey to determine the point of origin and the point of destination for a given vehicle trip.

PASSENGER CAR EQUIVALENTS (PCE): One car is one Passenger Car Equivalent. A truck is equal to 2 or 3 Passenger Car Equivalents in that a truck requires longer to start, goes slower, and accelerates slower. Loaded trucks have a higher Passenger Car Equivalent than empty trucks.

PEAK HOUR: The 60 consecutive minutes with the highest number of vehicles.

PRETIMED SIGNAL: A type of traffic signal that directs traffic to stop and go on a predetermined time schedule without regard to traffic conditions. Also, fixed time signal.

PROGRESSION: A term used to describe the progressive movement of traffic through several signalized intersections.

SCREEN-LINE: An imaginary line or physical feature across which all trips are counted, normally to verify the validity of mathematical traffic models.

SIGNAL CYCLE: The time period in seconds required for one complete sequence of signal indications.

SIGNAL PHASE: The part of the signal cycle allocated to one or more traffic movements.

STARTING DELAY: The delay experienced in initiating the movement of queued traffic from a stop to an average running speed through a signalized intersection.

TRAFFIC-ACTUATED SIGNAL: A type of traffic signal that directs traffic to stop and go in accordance with the demands of traffic, as registered by the actuation of detectors.

TRIP: The movement of a person or vehicle from one location (origin) to another (destination). For example, from home to store to home are two trips, not one.

TRIP-END: One end of a trip at either the origin or destination; i.e. each trip has two trip-ends. A trip-end occurs when a person, object, or message is transferred to or from a vehicle.

TRIP GENERATION RATE: The quantity of trips produced and/or attracted by a specific land use stated in terms of units such as per dwelling, per acre, and per 1,000 square feet of floor space.

TRUCK: A vehicle having dual tires on one or more axles, or having more than two axles.

UNBALANCED FLOW: Heavier traffic flow in one direction than the other. On a daily basis, most facilities have balanced flow. During the peak hours, flow is seldom balanced in an urban area.

VEHICLE MILES OF TRAVEL: A measure of the amount of usage of a section of highway, obtained by multiplying the average daily traffic by length of facility in miles.

APPENDIX B

Traffic Count Worksheets

INTERSECTION TURNING MOVEMENT COUNTS

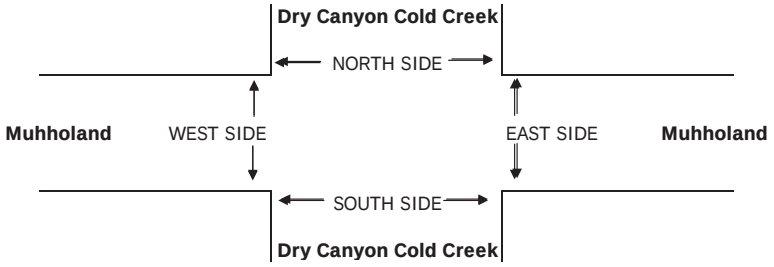
Prepared by AIMTD LLC, 951.249.3226 pacific@aimtd.com

DATE:	LOCATION:	Calabasas	PROJECT #:	SC0489
Thu, Nov 13, 14	NORTH & SOUTH:	Dry Canyon Cold Creek	LOCATION #:	1
	EAST & WEST:	Muhholland	CONTROL:	

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

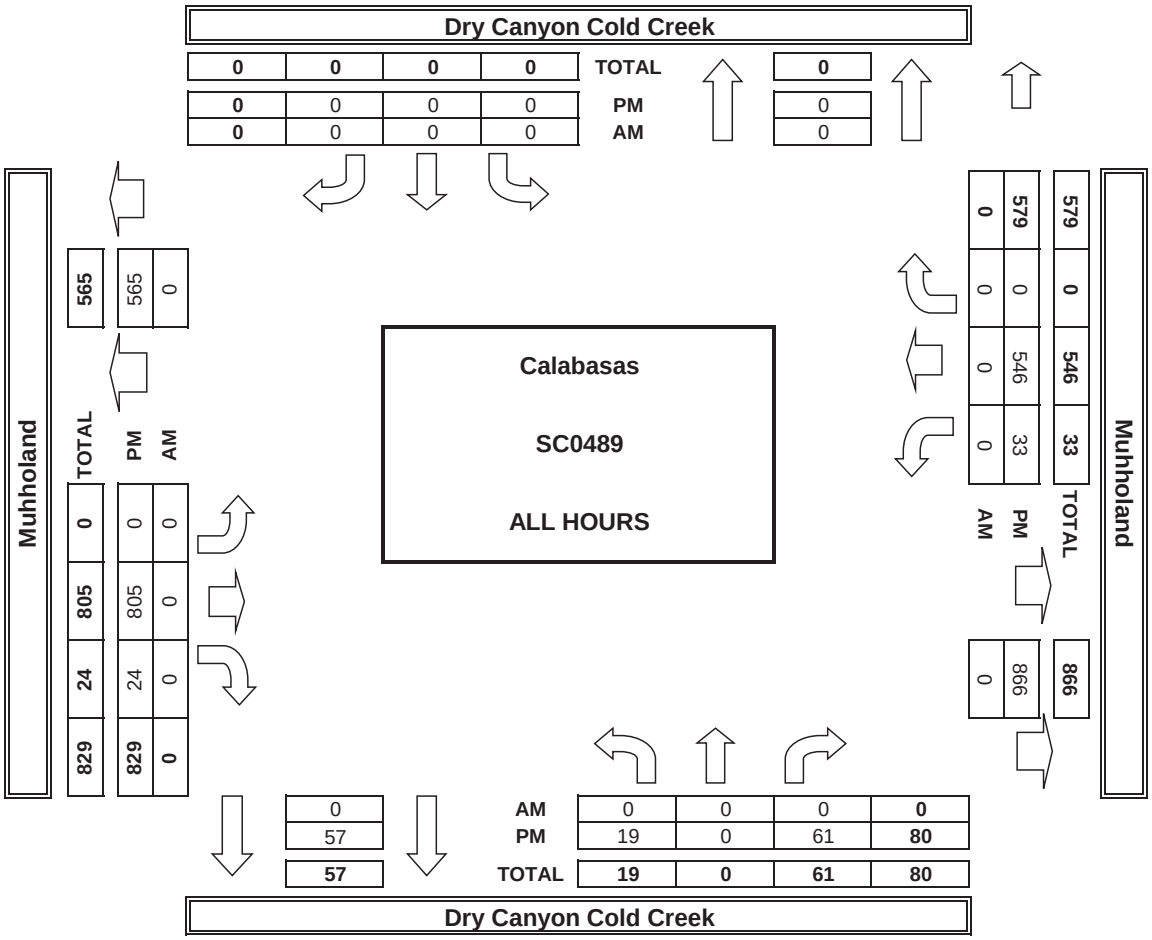
		NORTHBOUND Dry Canyon Cold Creek			SOUTHBOUND Dry Canyon Cold Creek			EASTBOUND Muhholland			WESTBOUND Muhholland				U-TURNS				
	LANES:	NL 1	NT x	NR 1	SL x	ST x	SR x	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL	NB X	SB X	EB X	WB X	TTL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%						
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0					
	BEGIN PEAK HR		8:45 AM																
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0					
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%						
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000					
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0					
PM	4:00 PM	1	0	4	0	0	0	0	72	2	4	59	0	142	0	0	0	0	0
	4:15 PM	6	0	11	0	0	0	0	92	8	11	56	0	184	0	0	0	0	0
	4:30 PM	6	0	22	0	0	0	0	93	3	4	55	0	183	0	0	0	1	1
	4:45 PM	0	0	6	0	0	0	0	114	2	2	65	0	0	0	0	0	0	0
	5:00 PM	0	0	4	0	0	0	0	104	4	1	62	0	175	0	0	0	0	0
	5:15 PM	2	0	4	0	0	0	0	123	3	5	77	0	214	0	0	0	0	0
	5:30 PM	2	0	6	0	0	0	0	109	2	5	101	0	225	0	0	0	0	0
	5:45 PM	2	0	4	0	0	0	0	98	0	1	71	0	176	0	0	0	0	0
	VOLUMES	19	0	61	0	0	0	0	805	24	33	546	0	1,300	0	0	0	1	1
	APPROACH %	24%	0%	76%	0%	0%	0%	0%	97%	3%	6%	94%	0%						
	APP/DEPART	80	/	0	0	/	57	829	/	867	580	/	565	0					
	BEGIN PEAK HR		4:45 PM																
	VOLUMES	4	0	20	0	0	0	0	450	11	13	305	0	803					
	APPROACH %	17%	0%	83%	0%	0%	0%	0%	98%	2%	4%	96%	0%						
	PEAK HR FACTOR		0.750			0.000			0.915			0.750		0.892					
	APP/DEPART	24	/	0	0	/	24	461	/	470	318	/	309	0					

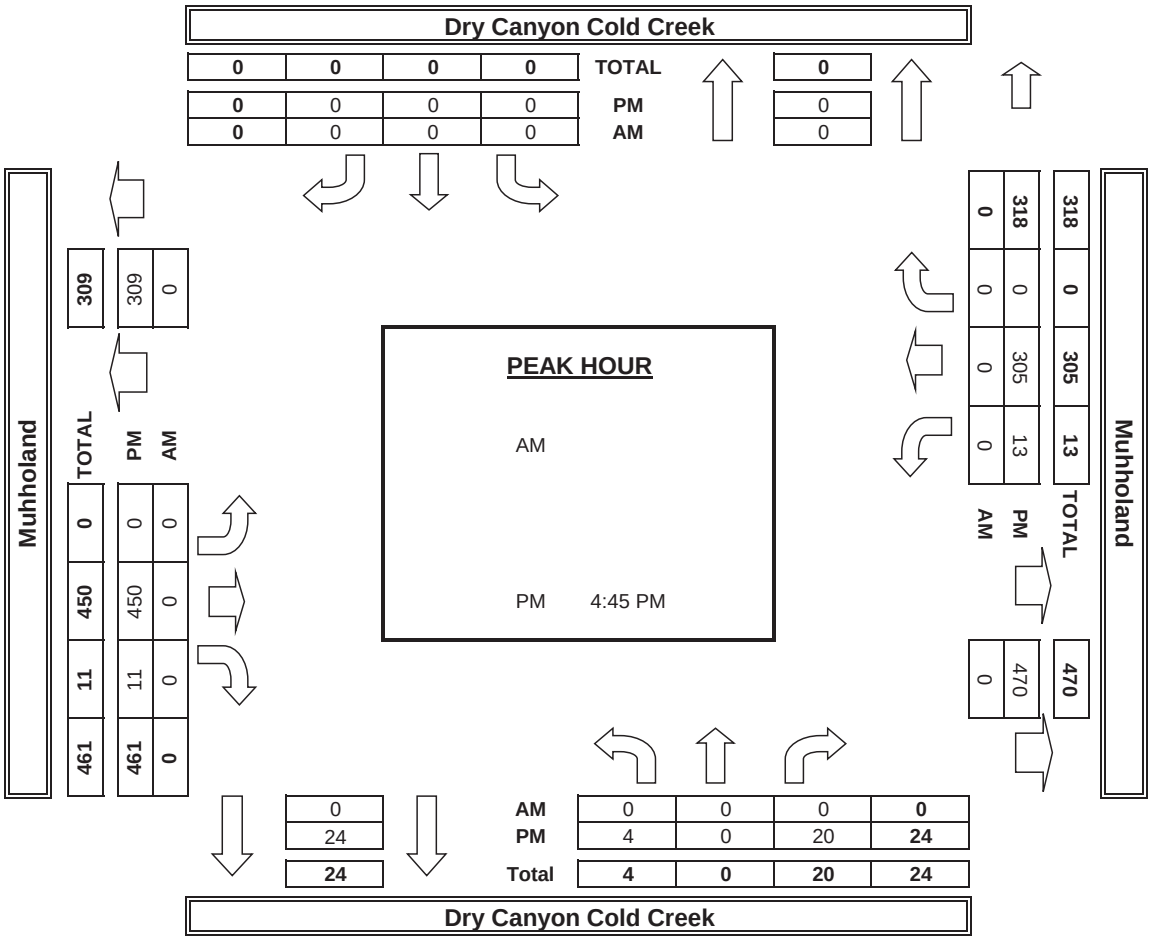


		PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

Prepared by AIMTD LLC, 951.249.3226pacific@aimtd.com

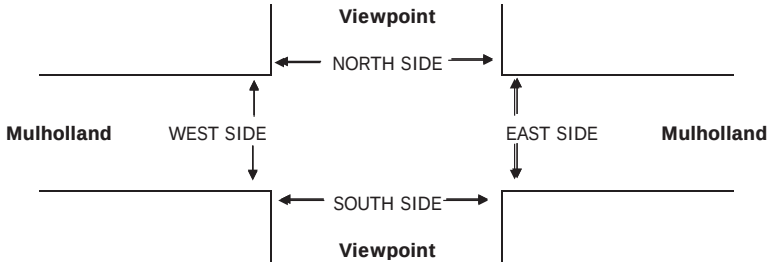
DATE:			
Thu, Nov 13, 14	LOCATION:	Calabasas	PROJECT #: SC0489
	NORTH & SOUTH:	Viewpoint	LOCATION #: 2
	EAST & WEST:	Mulholland	CONTROL:

NOTES:

Gate

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

		NORTHBOUND Viewpoint			SOUTHBOUND Viewpoint			EASTBOUND Mulholland			WESTBOUND Mulholland				U-TURNS				
	LANES:	NL 0	NT x	NR 0	SL 0	ST 0	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL	NB X	SB X	EB X	WB X	TTL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%						
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0					
	BEGIN PEAK HR		8:45 AM																
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0					
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%						
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000					
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0					
PM	4:00 PM	0	0	12	0	0	0	0	120	0	0	73	0	205	0	0	0	0	0
	4:15 PM	0	0	9	0	0	0	0	124	0	0	77	0	210	0	0	0	0	0
	4:30 PM	0	0	6	0	0	0	0	138	0	0	61	0	205	0	0	0	0	0
	4:45 PM	0	0	18	0	0	0	0	135	0	0	71	0	224	0	0	0	0	0
	5:00 PM	0	0	18	0	0	0	0	118	0	0	78	0	214	0	0	0	0	0
	5:15 PM	0	0	33	0	0	0	0	128	0	0	95	0	256	0	0	0	0	0
	5:30 PM	0	0	29	0	0	0	0	138	0	0	119	0	286	0	0	0	0	0
	5:45 PM	0	0	12	0	0	0	0	120	0	0	79	0	211	0	0	0	0	0
	VOLUMES	0	0	137	0	0	0	0	1,021	0	0	653	0	1,811	0	0	0	0	0
	APPROACH %	0%	0%	100%	0%	0%	0%	0%	100%	0%	0%	100%	0%						
	APP/DEPART	137	/	0	0	/	0	1,021	/	1,158	653	/	653	0					
	BEGIN PEAK HR		4:45 PM																
	VOLUMES	0	0	98	0	0	0	0	519	0	0	363	0	980					
	APPROACH %	0%	0%	100%	0%	0%	0%	0%	100%	0%	0%	100%	0%						
	PEAK HR FACTOR		0.742			0.000			0.940			0.763		0.857					
	APP/DEPART	98	/	0	0	/	0	519	/	617	363	/	363	0					



		PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

INTERSECTION TURNING MOVEMENT COUNTS

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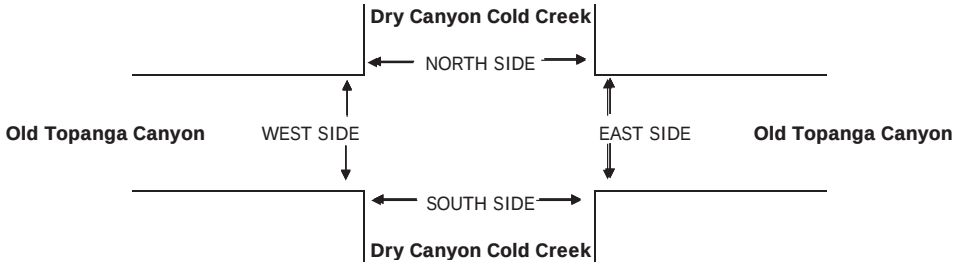
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Thu, Nov 13, 14	NORTH & SOUTH:	Dry Canyon Cold Creek	LOCATION #:	3
	EAST & WEST:	Old Topanga Canyon	CONTROL:	

NOTES:

Gate at the location, not on Google map/street view

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

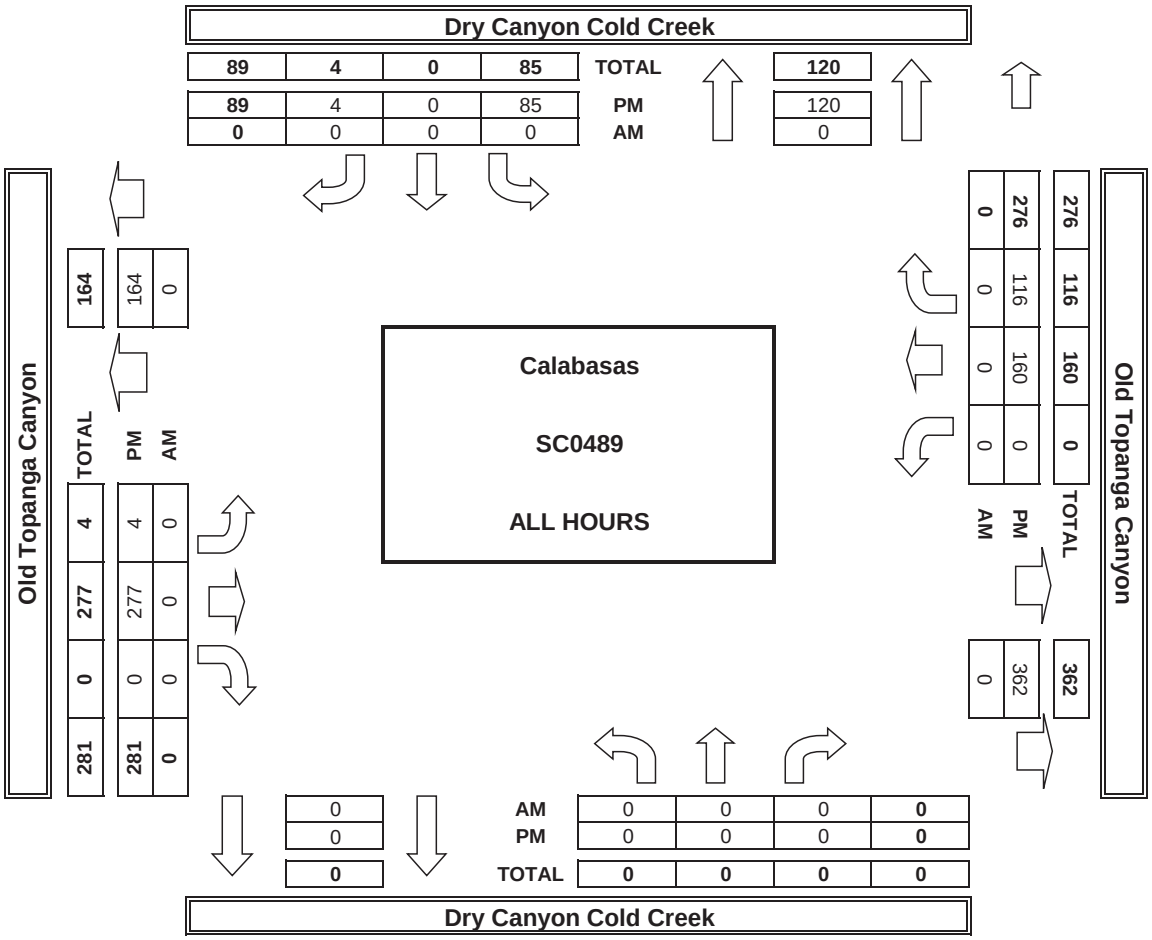
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	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0					
	BEGIN PEAK HR		8:45 AM																
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0					
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%						
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	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0					
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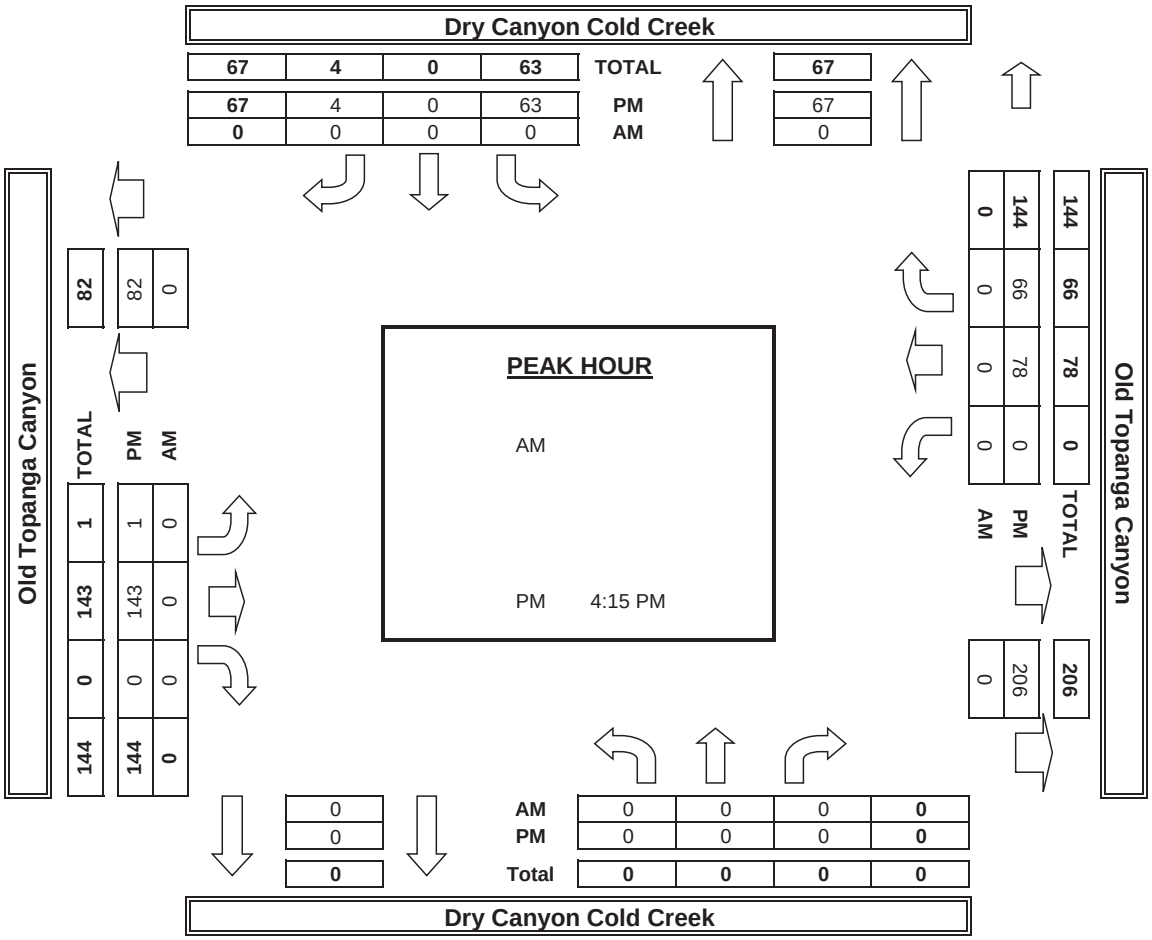


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	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

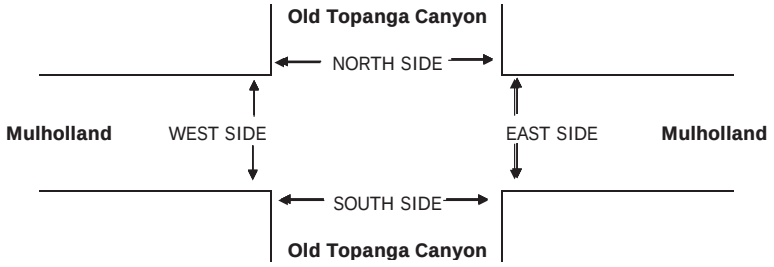
Prepared by AIMTD LLC, 951.249.3226 pacific@aimtd.com

DATE:	LOCATION:	Calabasas	PROJECT #:	SC0489
Thu, Nov 13, 14	NORTH & SOUTH:	Old Topanga Canyon	LOCATION #:	4
	EAST & WEST:	Mulholland	CONTROL:	

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

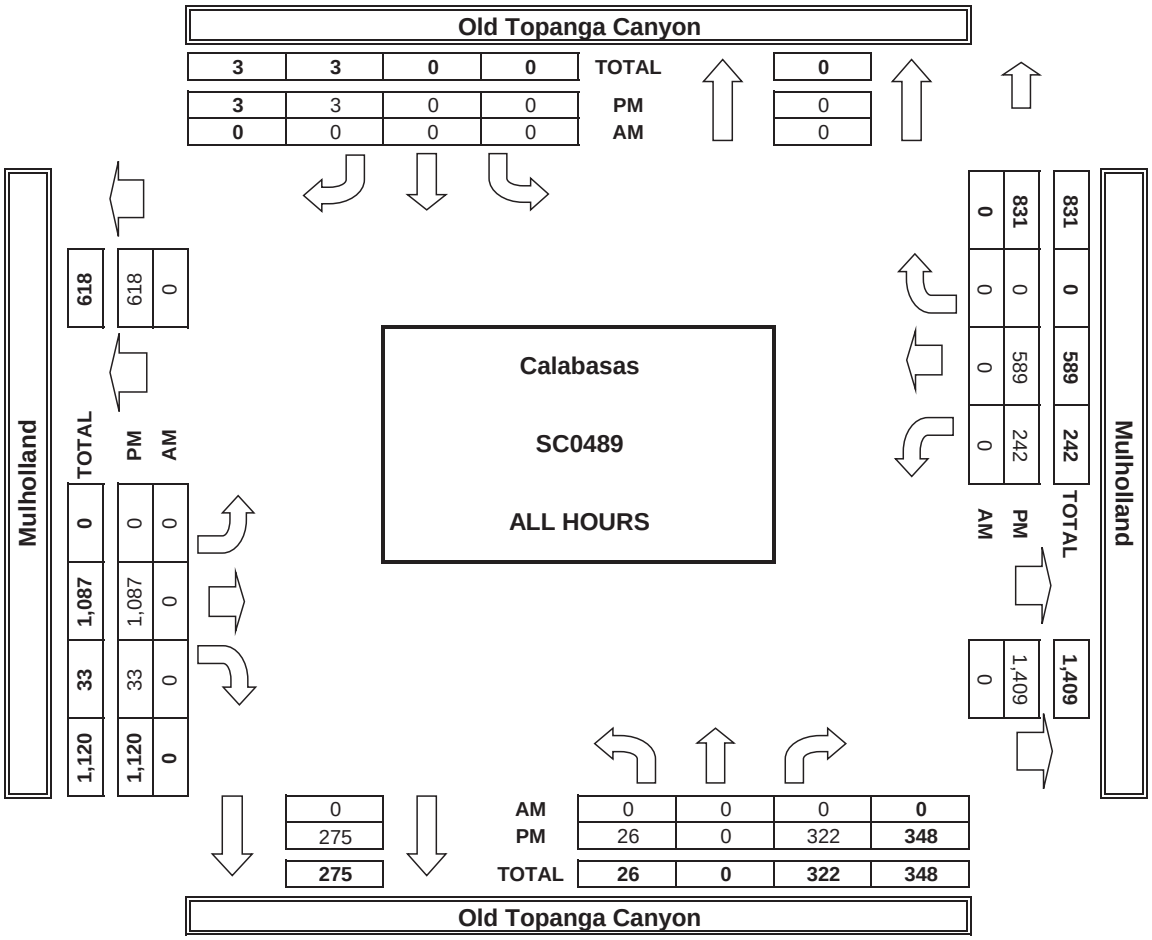
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	LANES:	NL 0	NT x	NR 0	SL 0	ST 0	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL	NB X	SB X	EB X	WB X	TTL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0					
	BEGIN PEAK HR		8:45 AM																
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0					
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%						
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000					
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0					
PM	4:00 PM	3	0	24	0	0	0	0	139	5	39	72	0	282	0	0	0	0	0
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	VOLUMES	26	0	322	0	0	3	0	1,087	33	242	589	0	2,302	0	0	0	0	0
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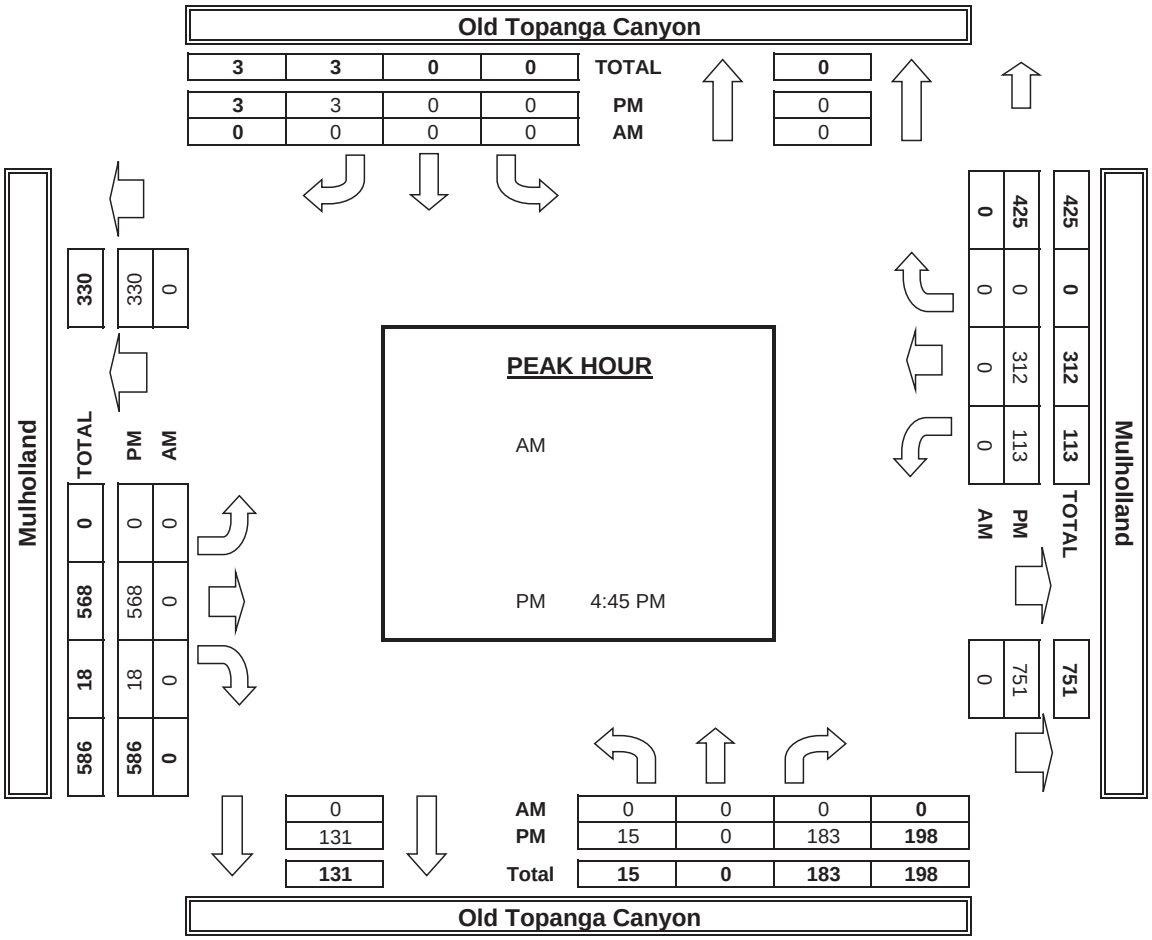


		PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AimTD LLC

TURNING MOVEMENT COUNTS





APPENDIX C

Explanation and Calculation of
Intersection Capacity Utilization

EXPLANATION AND CALCULATION OF
INTERSECTION CAPACITY UTILIZATION

Overview

The ability of a roadway to carry traffic is referred to as capacity. The capacity is usually greater between intersections and less at intersections because traffic flows continuously between them and only during the green phase at them. Capacity at intersections is best defined in terms of vehicles per lane per hour of green. If capacity is 1,600 vehicles per lane per hour of green, and if the green phase is 50 percent of the cycle and there are three lanes, then the capacity is 1,600 times 50 percent times 3 lanes, or 2,400 vehicles per hour for that approach.

The technique used to compare the volume and capacity at a signalized intersection is known as Intersection Capacity Utilization. Intersection Capacity Utilization, usually expressed as a percent, is the proportion of an hour required to provide sufficient capacity to accommodate all intersection traffic if all approaches operate at capacity. If an intersection is operating at 80 percent of capacity (i.e., an Intersection Capacity Utilization of 80 percent), then 20 percent of the signal cycle is not used. The signal could show red on all indications 20 percent of the time and the signal would just accommodate approaching traffic.

Intersection Capacity Utilization analysis consists of (a) determining the proportion of signal time needed to serve each conflicting movement of traffic, (b) summing the times for the movements, and (c) comparing the total time required to the total time available. For example, if for north-south traffic the northbound traffic is 1,600 vehicles per hour, the southbound traffic is 1,200 vehicles per hour, and the capacity of either direction is 3,200 vehicles per hour, then the northbound traffic is critical and requires 1,600/3,200 or 50 percent of the signal time. If for east-west traffic, 30 percent of the signal time is required, then it can be seen that the Intersection Capacity Utilization is 50 plus 30, or 80 percent. When left turn arrows (left turn phasing) exist, they are incorporated into the analysis. The critical movements are usually the heavy left turn movements and the opposing through movements.

The Intersection Capacity Utilization technique is an ideal tool to quantify existing as well as future intersection operation. The impact of adding a lane can be quickly determined by examining the effect the lane has on the Intersection Capacity Utilization.

Intersection Capacity Utilization Worksheets That Follow This Discussion

The Intersection Capacity Utilization worksheet table contains the following information:

1. Peak hour turning movement volumes.

2. Number of lanes that serve each movement.

3. For right turn lanes, whether the lane is a free right turn lane, whether it has a right turn arrow, and the percent of right turns on red that are assumed.

4. Capacity assumed per lane.

5. Capacity available to serve each movement (number of lanes times capacity per lane).

6. Volume to capacity ratio for each movement.

7. Whether the movement's volume to capacity ratio is critical and adds to the Intersection Capacity Utilization value.

8. The yellow time or clearance interval assumed.

9. Adjustments for right turn movements.

10. The Intersection Capacity Utilization and Level of Service.

The Intersection Capacity Utilization Worksheet also has two graphics on the same page. These two graphics show the following:

1. Peak hour turning movement volumes.

2. Number of lanes that serve each movement.

3. The approach and exit leg volumes.

4. The two-way leg volumes.

5. An estimate of daily traffic volumes that is fairly close to actual counts and is based strictly on the peak hour leg volumes multiplied by a factor.

6. Percent of daily traffic in peak hours.

7. Percent of peak hour leg volume that is inbound versus outbound.

A more detailed discussion of Intersection Capacity Utilization and Level of Service follows.

Level of Service

Level of Service is used to describe the quality of traffic flow. Levels of Service A to C operate quite well. Level of Service C is typically the standard to which rural roadways are designed.

Level of Service D is characterized by fairly restricted traffic flow. Level of Service D is the standard to which urban roadways are typically designed. Level of Service E is the maximum volume a facility can accommodate and will result in possible stoppages of momentary duration. Level of Service F occurs when a facility is overloaded and is characterized by stop-and-go traffic with stoppages of long duration.

A description of the various Levels of Service appears at the end of the Intersection Capacity Utilization description, along with the relationship between Intersection Capacity Utilization and Level of Service.

Signalized Intersections

Although calculating an Intersection Capacity Utilization value for an unsignalized intersection is invalid, the presumption is that a signal can be installed and the calculation shows whether the geometrics are capable of accommodating the expected volumes with a signal. A traffic signal becomes warranted before Level of Service D is reached for a signalized intersection.

Signal Timing

The Intersection Capacity Utilization calculation assumes that a signal is properly timed. It is possible to have an Intersection Capacity Utilization well below 100 percent, yet have severe traffic congestion. This would occur if one or more movements are not getting sufficient green time to satisfy its demand, and excess green time exists on other movements. This is an operational problem that should be remedied.

Lane Capacity

Capacity is often defined in terms of roadway width; however, standard lanes have approximately the same capacity whether they are 11 or 14 feet wide. Our data indicates a typical lane, whether a through lane or a left turn lane, has a capacity of

approximately 1,750 vehicles per hour of green time, with nearly all locations showing a capacity greater than 1,600 vehicles per hour of green per lane. Right turn lanes have a slightly lower capacity; however 1,600 vehicles per hour is a valid capacity assumption for right turn lanes.

This finding is published in the August 1978 issue of Institute of Transportation Engineers Journal in the article entitled, "Another Look at Signalized Intersection Capacity" by William Kunzman. A capacity of 1,600 vehicles per hour per lane with no yellow time penalty, or 1,700 vehicles per hour with a 3 or 5 percent yellow time penalty is reasonable.

Yellow Time

The yellow time can either be assumed to be completely used and no penalty applied, or it can be assumed to be only partially usable. Total yellow time accounts for approximately 10 percent of a signal cycle, and a penalty of 3 to 5 percent is reasonable.

During peak hour traffic operation the yellow times are nearly completely used. If there is no left turn phasing, the left turn vehicles completely use the yellow time. Even if there is left turn phasing, the through traffic continues to enter the intersection on the yellow until just a split second before the red.

Shared Lanes

Shared lanes occur in many locations. A shared lane is often found at the end of an off ramp where the ramp forms an intersection with the cross street. Often at a diamond interchange off ramp, there are three lanes. In the case of a diamond interchange, the middle lane is sometimes shared, and the driver can turn left, go through, or turn right from that lane.

If one assumes a three lane off ramp as described above, and if one assumes that each lane has 1,600 capacity, and if one assumes that there are 1,000 left turns per hour, 500 right turns per hour, and 100 through vehicles per hour, then how should one assume that the three lanes operate. There are three ways that it is done.

One way is to just assume that all 1,600 vehicles (1,000 plus 500 plus 100) are served simultaneously by three lanes. When this is done, the capacity is 3 times 1,600 or 4,800, and the amount of green time needed to serve the ramp is 1,600 vehicles divided by 4,800 capacity or 33.3 percent. This assumption effectively assumes perfect lane distribution between the three lanes that is not realistic. It also means a left turn can be made from the right lane.

Another way is to equally split the capacity of a shared lane and in this case to assume there are 1.33 left turn lanes, 1.33 right turn lanes, and 0.33 through lanes. With this assumption, the critical movement is the left turns and the 1,000 left turns are served by a capacity of 1.33 times 1,600, or 2,133. The volume to capacity ratio of the critical move is 1,000 divided by 2,133 or 46.9 percent.

The first method results in a critical move of 33.3 percent and the second method results in a critical move of 46.9 percent. Neither is very accurate, and the difference in the calculated Level of Service will be approximately 1.5 Levels of Service (one Level of Service is 10 percent).

The way Kunzman Associates does it is to assign fractional lanes in a reasonable way. In this example, it would be assumed that there are 1.1 right turn lanes, 0.2 through lanes, and 1.7 left turn lanes. The volume to capacity ratios for each movement would be 31.3 percent for the through traffic, 28.4 percent for the right turn movement, and 36.8 percent for the left turn movement. The critical movement would be the 36.8 percent for the left turns.

Right Turn on Red

Kunzman Associates' software treats right turn lanes in one of five different ways. Each right turn lane is classified into one of five cases. The five cases are (1) free right turn lane, (2) right turn lane with separate right turn arrow, (3) standard right turn lane with no right turns on red allowed, (4) standard right turn lane with a certain percentage of right turns on red allowed, and (5) separate right turn arrow and a certain percentage of right turns on red allowed.

Free Right Turn Lane

If it is a free right turn lane, then it is given a capacity of one full lane with continuous or 100 percent green time. A Free right turn lane occurs when there is a separate approach lane for right turning vehicles, there is a separate departure lane for the right turning vehicles after they turn and are exiting the intersection, and the through cross street traffic does not interfere with the vehicles after they turn right.

Separate Right Turn Arrow

If there is a separate right turn arrow, then it is assumed that vehicles are given a green indication and can proceed on what is known as the left turn overlap.

The left turn overlap for a northbound right turn is the westbound left turn. When the left turn overlap has a green indication, the right turn lane is also given a green arrow

indication. Thus, if there is a northbound right turn arrow, then it can be turned green for the period of time that the westbound left turns are proceeding.

If there are more right turns than can be accommodated during the northbound through green and the time that the northbound right turn arrow is on, then an adjustment is made to the Intersection Capacity Utilization to account for the green time that needs to be added to the northbound through green to accommodate the northbound right turns.

Standard Right Turn Lane, No Right Turns on Red

A standard right turn lane, with no right turn on red assumed, proceeds only when there is a green indication displayed for the adjacent through movement. If additional green time is needed above that amount of time, then in the Intersection Capacity Utilization calculation a right turn adjustment green time is added above the green time that is needed to serve the adjacent through movement.

Standard Right Turn Lane, With Right Turns on Red

A standard right turn lane with say 20 percent of the right turns allowed to turn right on a red indication is calculated the same as the standard right turn case where there is no right turn on red allowed, except that the right turn adjustment is reduced to account for the 20 percent of the right turning vehicles that can logically turn right on a red light. The right turns on red are never allowed to exceed the time the overlap left turns take plus the unused part of the green cycle that the cross street traffic moving from left to right has.

As an example of how 20 percent of the cars are allowed to turn right on a red indication, assume that the northbound right turn volume needs 40 percent of the signal cycle to be satisfied. To allow 20 percent of the northbound right turns to turn right on red, then during 8 percent of the signal cycle (40 percent of signal cycle times 20 percent that can turn right on red) right turns on red will be allowed if it is feasible.

For this example, assume that 15 percent of the signal cycle is green for the northbound through traffic, and that means that 15 percent of the signal cycle is available to satisfy northbound right turns. After the northbound through traffic has received its green, 25 percent of the signal cycle is still needed to satisfy the northbound right turns (40 percent of the signal cycle minus the 15 percent of the signal cycle that the northbound through used).

Assume that the westbound left turns require a green time of 6 percent of the signal cycle. This 6 percent of the signal cycle is used by northbound right turns on red. After accounting for the northbound right turns that occur on the westbound overlap

left turn, 19 percent of the signal cycle is still needed for the northbound right turns (25 percent of the cycle was needed after the northbound through green time was accounted for [see above paragraph], and 6 percent was served during the westbound left turn overlap). Also, at this point 6 percent of the signal cycle has been used for northbound right turns on red, and still 2 percent more of the right turns will be allowed to occur on the red if there is unused eastbound through green time.

For purpose of this example, assume that the westbound through green is critical, and that 15 percent of the signal cycle is unused by eastbound through traffic. Thus, 2 percent more of the signal cycle can be used by the northbound right turns on red since there is 15 seconds of unused green time being given to the eastbound through traffic.

At this point, 8 percent of the signal cycle was available to serve northbound right turning vehicles on red, and 15 percent of the signal cycle was available to serve right turning vehicles on the northbound through green. So 23 percent of the signal cycle has been available for northbound right turns.

Because 40 percent of the signal cycle is needed to serve northbound right turns, there is still a need for 17 percent more of the signal cycle to be available for northbound right turns. What this means is the northbound through traffic green time is increased by 17 percent of the cycle length to serve the unserved right turn volume, and a 17 percent adjustment is added to the Intersection Capacity Utilization to account for the northbound right turns that were not served on the northbound through green time or when right turns on red were assumed.

Separate Right Turn Arrow, With Right Turns on Red

A right turn lane with a separate right turn arrow, plus a certain percentage of right turns allowed on red is calculated the same way as a standard right turn lane with a certain percentage of right turns allowed on red, except the turns which occur on the right turn arrow are not counted as part of the percentage of right turns that occur on red.

Critical Lane Method

Intersection Capacity Utilization parallels another calculation procedure known as the Critical Lane Method with one exception. Critical Lane Method dimensions capacity in terms of standardized vehicles per hour per lane. A Critical Lane Method result of 800 vehicles per hour means that the intersection operates as though 800 vehicles were using a single lane continuously. If one assumes a lane capacity of 1,600 vehicles per hour, then a Critical Lane Method calculation resulting in 800 vehicles per hour is the same as an Intersection Capacity Utilization calculation of 50 percent since 800/1,600

is 50 percent. It is our opinion that the Critical Lane Method is inferior to the Intersection Capacity Utilization method simply because a statement such as "The Critical Lane Method value is 800 vehicles per hour" means little to most persons, whereas a statement such as "The Intersection Capacity Utilization is 50 percent" communicates clearly. Critical Lane Method results directly correspond to Intersection Capacity Utilization results. The correspondence is as follows, assuming a lane capacity of 1,600 vehicles per hour and no clearance interval.

Critical Lane Method Method Result	**Intersection Capacity Utilization Result**
800 vehicles per hour	50 percent
960 vehicles per hour	60 percent
1,120 vehicles per hour	70 percent
1,280 vehicles per hour	80 percent
1,440 vehicles per hour	90 percent
1,600 vehicles per hour	100 percent
1,760 vehicles per hour	110 percent

INTERSECTION CAPACITY UTILIZATION
LEVEL OF SERVICE DESCRIPTION[1]

Level of Service	Description	Volume to Capacity Ratio
A	Level of Service A occurs when progression is extremely favorable and vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.	0.600 and below
B	Level of Service B generally occurs with good progression and/or short cycle lengths. More vehicles stop than for Level of Service A, causing higher levels of average delay.	0.601 to 0.700
C	Level of Service C generally results when there is fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear in this level. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.	0.701 to 0.800
D	Level of Service D generally results in noticeable congestion. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volume to capacity ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.	0.801 to 0.900
E	Level of Service E is considered to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high volume to capacity ratios. Individual cycle failures are frequent.	0.901 to 1.000
F	Level of Service F is considered to be unacceptable to most drivers. This condition often occurs when oversaturation, i.e., when arrival flow rates exceed the capacity of the intersection. It may also occur at high volume to capacity ratios below 1.00 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.	1.001 and up

[1] Source: Highway Capacity Manual Special Report 209, Transportation Research Board, National Research Council Washington D.C., 2000.

Existing

Viewpoint School Student Parking and Tennis Courts
Existing
Evening Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #1 Dry Canyon Cold Creek Road (NS) at Mulholland Highway (EW)

Cycle (sec):	100	Critical Vol./Cap.(X):	0.308
Loss Time (sec):	0 (Y+R=0.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	100	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	0	0 1	0	0 0	0 0	0	0 0	0 1 0	1 0	1	0 0
Volume Module:												
Base Vol:	4	0	20	0	0	0	0	450	11	13	305	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	4	0	20	0	0	0	0	450	11	13	305	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
PHF Volume:	4	0	22	0	0	0	0	504	12	15	342	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	4	0	22	0	0	0	0	504	12	15	342	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	4	0	22	0	0	0	0	504	12	15	342	0
Saturation Flow Module:												
Sat/Lane:	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	0.98	0.02	1.00	1.00	0.00
Final Sat.:	1800	0	1800	0	0	0	0	1757	43	1800	1800	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.29	0.29	0.01	0.19	0.00
Crit Moves:			****					****		****		

Viewpoint School Student Parking and Tennis Courts
Existing
Evening Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #2 Loop Road (NS) at Mulholland Highway (EW)

Cycle (sec):	100	Critical Vol./Cap.(X):	0.400
Loss Time (sec):	0 (Y+R=0.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	100	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0 0	1	0 0	0 0	0	0 0	1 0	0	0 0	1 0	0
Volume Module:												
Base Vol:	0	0	98	0	0	0	0	519	0	0	363	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	98	0	0	0	0	519	0	0	363	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
PHF Volume:	0	0	114	0	0	0	0	606	0	0	424	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	114	0	0	0	0	606	0	0	424	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	114	0	0	0	0	606	0	0	424	0
Saturation Flow Module:												
Sat/Lane:	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00
Final Sat.:	0	0	1800	0	0	0	0	1800	0	0	1800	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.34	0.00	0.00	0.24	0.00
Crit Moves:			****					****		****		

Viewpoint School Student Parking and Tennis Courts
Existing
Evening Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #3 Old Topanga Canyon Road (NS) at Mulholland Highway (EW)

Cycle (sec):	100	Critical Vol./Cap.(X):	0.539
Loss Time (sec):	0 (Y+R=0.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	100	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	1! 0	0	0 0	0 0	0	0 0	0 1	0	1 0	1 0	0
Volume Module:												
Base Vol:	15	0	183	0	0	0	0	568	18	113	312	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	15	0	183	0	0	0	0	568	18	113	312	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	16	0	198	0	0	0	0	615	19	122	338	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	16	0	198	0	0	0	0	615	19	122	338	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	16	0	198	0	0	0	0	615	19	122	338	0
Saturation Flow Module:												
Sat/Lane:	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.08	0.00	0.92	0.00	0.00	0.00	0.00	0.97	0.03	1.00	1.00	0.00
Final Sat.:	136	0	1664	0	0	0	0	1745	55	1800	1800	0
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.12	0.00	0.00	0.00	0.00	0.35	0.35	0.07	0.19	0.00
Crit Moves:			****					****		****		

Viewpoint School Student Parking and Tennis Courts
Existing
Evening Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #4 Old Topanga Canyon Road (NS) at Dry Canyon Cold Creek Road (EW)

Cycle (sec):	100	Critical Vol./Cap.(X):	0.126
Loss Time (sec):	0 (Y+R=0.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	100	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 1	0	0 0	0	0 0	1 0	0	0 1!	0 0	0	0 0	0 0 0
Volume Module:												
Base Vol:	1	143	0	0	78	66	63	0	4	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1	143	0	0	78	66	63	0	4	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	1	156	0	0	85	72	69	0	4	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1	156	0	0	85	72	69	0	4	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	1	156	0	0	85	72	69	0	4	0	0	0
Saturation Flow Module:												
Sat/Lane:	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.01	0.99	0.00	0.00	0.54	0.46	0.94	0.00	0.06	0.00	0.00	0.00
Final Sat.:	13	1787	0	0	975	825	1693	0	107	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.09	0.00	0.00	0.09	0.09	0.04	0.00	0.04	0.00	0.00	0.00
Crit Moves:	****				****		****					

Existing Plus Project

Viewpoint School Student Parking and Tennis Courts
Existing Plus Project
Evening Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Dry Canyon Cold Creek Road (NS) at Mulholland Highway (EW)

Cycle (sec):	100	Critical Vol./Cap.(X):	0.310
Loss Time (sec):	0 (Y+R=0.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	100	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	0 0	1	0 0	0 0	0	0 0	0 0	1 0	1 0	1 0	0
Volume Module:												
Base Vol:	4	0	20	0	0	0	0	450	11	13	305	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	4	0	20	0	0	0	0	450	11	13	305	0
Added Vol:	4	0	0	0	0	0	0	0	4	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	8	0	20	0	0	0	0	450	15	13	305	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
PHF Volume:	9	0	22	0	0	0	0	504	17	15	342	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	9	0	22	0	0	0	0	504	17	15	342	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	9	0	22	0	0	0	0	504	17	15	342	0
Saturation Flow Module:												
Sat/Lane:	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	0.97	0.03	1.00	1.00	0.00
Final Sat.:	1800	0	1800	0	0	0	0	1742	58	1800	1800	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.29	0.29	0.01	0.19	0.00
Crit Moves:			****					****		****		

Viewpoint School Student Parking and Tennis Courts
Existing Plus Project
Evening Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #2 Loop Road (NS) at Mulholland Highway (EW)

Cycle (sec):	100	Critical Vol./Cap.(X):	0.408
Loss Time (sec):	0 (Y+R=0.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	100	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0	0 1	0 0	0	0 0	0 0	1	0 0	0 0	1	0 0
Volume Module:												
Base Vol:	0	0	98	0	0	0	0	519	0	0	363	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	98	0	0	0	0	519	0	0	363	0
Added Vol:	0	0	12	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	110	0	0	0	0	519	0	0	363	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
PHF Volume:	0	0	128	0	0	0	0	606	0	0	424	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	128	0	0	0	0	606	0	0	424	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	128	0	0	0	0	606	0	0	424	0
Saturation Flow Module:												
Sat/Lane:	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00
Final Sat.:	0	0	1800	0	0	0	0	1800	0	0	1800	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.34	0.00	0.00	0.24	0.00
Crit Moves:			****					****		****		

Viewpoint School Student Parking and Tennis Courts
Existing Plus Project
Evening Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #3 Old Topanga Canyon Road (NS) at Mulholland Highway (EW)

Cycle (sec):	100	Critical Vol./Cap.(X):	0.550
Loss Time (sec):	0 (Y+R=0.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	100	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	1! 0	0	0 0	0 0	0	0 0	0 1	0	1 0	1 0	0
Volume Module:												
Base Vol:	15	0	183	0	0	0	0	568	18	113	312	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	15	0	183	0	0	0	0	568	18	113	312	0
Added Vol:	0	0	0	0	0	0	0	6	6	6	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	15	0	183	0	0	0	0	574	24	119	312	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	16	0	198	0	0	0	0	621	26	129	338	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	16	0	198	0	0	0	0	621	26	129	338	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	16	0	198	0	0	0	0	621	26	129	338	0
Saturation Flow Module:												
Sat/Lane:	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.08	0.00	0.92	0.00	0.00	0.00	0.00	0.96	0.04	1.00	1.00	0.00
Final Sat.:	136	0	1664	0	0	0	0	1728	72	1800	1800	0
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.12	0.00	0.00	0.00	0.00	0.36	0.36	0.07	0.19	0.00
Crit Moves:			****					****		****		

Viewpoint School Student Parking and Tennis Courts
Existing Plus Project
Evening Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Old Topanga Canyon Road (NS) at Dry Canyon Cold Creek Road (EW)

Cycle (sec):	100	Critical Vol./Cap.(X):	0.135
Loss Time (sec):	0 (Y+R=0.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	100	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 1	0 0	0	0 0	0 1	0	0 0	1! 0	0	0 0	0 0	0
Volume Module:												
Base Vol:	1	143	0	0	78	66	63	0	4	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1	143	0	0	78	66	63	0	4	0	0	0
Added Vol:	2	0	0	0	2	10	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	3	143	0	0	80	76	63	0	4	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	3	156	0	0	87	83	69	0	4	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	3	156	0	0	87	83	69	0	4	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	3	156	0	0	87	83	69	0	4	0	0	0
Saturation Flow Module:												
Sat/Lane:	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.02	0.98	0.00	0.00	0.51	0.49	0.94	0.00	0.06	0.00	0.00	0.00
Final Sat.:	37	1763	0	0	923	877	1693	0	107	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.09	0.00	0.00	0.09	0.09	0.04	0.00	0.04	0.00	0.00	0.00
Crit Moves:	****				****		****					

Opening Year (2016) Without Project

Viewpoint School Student Parking and Tennis Courts
Opening Year (2016) Without Project
Evening Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Dry Canyon Cold Creek Road (NS) at Mulholland Highway (EW)

Cycle (sec):	100	Critical Vol./Cap.(X):	0.320
Loss Time (sec):	0 (Y+R=0.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	100	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	0	0 1	0	0 0	0 0	0	0 0	1 0	1	0 1	0 0
Volume Module:												
Base Vol:	4	0	20	0	0	0	0	450	11	13	305	0
Growth Adj:	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Initial Bse:	4	0	21	0	0	0	0	468	11	14	317	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	4	0	21	0	0	0	0	468	11	14	317	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
PHF Volume:	5	0	23	0	0	0	0	525	13	15	356	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	5	0	23	0	0	0	0	525	13	15	356	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	5	0	23	0	0	0	0	525	13	15	356	0
Saturation Flow Module:												
Sat/Lane:	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	0.98	0.02	1.00	1.00	0.00
Final Sat.:	1800	0	1800	0	0	0	0	1757	43	1800	1800	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.30	0.30	0.01	0.20	0.00
Crit Moves:			****					****		****		

Viewpoint School Student Parking and Tennis Courts
Opening Year (2016) Without Project
Evening Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #2 Loop Road (NS) at Mulholland Highway (EW)

Cycle (sec):	100	Critical Vol./Cap.(X):	0.416
Loss Time (sec):	0 (Y+R=0.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	100	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0	0 1	0 0	0	0 0	0 0	1	0 0	0 0	1	0 0
Volume Module:												
Base Vol:	0	0	98	0	0	0	0	519	0	0	363	0
Growth Adj:	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Initial Bse:	0	0	102	0	0	0	0	540	0	0	378	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	102	0	0	0	0	540	0	0	378	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
PHF Volume:	0	0	119	0	0	0	0	630	0	0	441	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	119	0	0	0	0	630	0	0	441	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	119	0	0	0	0	630	0	0	441	0
Saturation Flow Module:												
Sat/Lane:	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00
Final Sat.:	0	0	1800	0	0	0	0	1800	0	0	1800	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.35	0.00	0.00	0.24	0.00
Crit Moves:			****					****		****		

Viewpoint School Student Parking and Tennis Courts
Opening Year (2016) Without Project
Evening Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #3 Old Topanga Canyon Road (NS) at Mulholland Highway (EW)

Cycle (sec):	100	Critical Vol./Cap.(X):	0.561
Loss Time (sec):	0 (Y+R=0.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	100	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	1!	0 0	0 0	0 0	0	0 0	0 1	0	1 0	1 0	0
Volume Module:												
Base Vol:	15	0	183	0	0	0	0	568	18	113	312	0
Growth Adj:	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Initial Bse:	16	0	190	0	0	0	0	591	19	118	325	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	16	0	190	0	0	0	0	591	19	118	325	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	17	0	206	0	0	0	0	640	20	127	351	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	17	0	206	0	0	0	0	640	20	127	351	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	17	0	206	0	0	0	0	640	20	127	351	0
Saturation Flow Module:												
Sat/Lane:	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.08	0.00	0.92	0.00	0.00	0.00	0.00	0.97	0.03	1.00	1.00	0.00
Final Sat.:	136	0	1664	0	0	0	0	1745	55	1800	1800	0
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.12	0.00	0.00	0.00	0.00	0.37	0.37	0.07	0.20	0.00
Crit Moves:			****					****		****		

Viewpoint School Student Parking and Tennis Courts
Opening Year (2016) Without Project
Evening Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Old Topanga Canyon Road (NS) at Dry Canyon Cold Creek Road (EW)

Cycle (sec): 100 Critical Vol./Cap.(X): 0.131
Loss Time (sec): 0 (Y+R=0.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 100 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 1	0 0	0	0 0	0 1	0	0 0	1! 0	0	0 0	0 0	0
Volume Module:												
Base Vol:	1	143	0	0	78	66	63	0	4	0	0	0
Growth Adj:	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Initial Bse:	1	149	0	0	81	69	66	0	4	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	1	149	0	0	81	69	66	0	4	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	1	163	0	0	89	75	72	0	5	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1	163	0	0	89	75	72	0	5	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	1	163	0	0	89	75	72	0	5	0	0	0
Saturation Flow Module:												
Sat/Lane:	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.01	0.99	0.00	0.00	0.54	0.46	0.94	xxxx	0.06	0.00	0.00	0.00
Final Sat.:	13	1787	0	0	975	825	1693	0	107	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.09	0.00	0.00	0.09	0.09	0.04	0.00	0.04	0.00	0.00	0.00
Crit Moves:	****				****		****					

Opening Year (2016) With Project

Viewpoint School Student Parking and Tennis Courts
Opening Year (2016) With Project
Evening Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Dry Canyon Cold Creek Road (NS) at Mulholland Highway (EW)

Cycle (sec):	100	Critical Vol./Cap.(X):	0.315
Loss Time (sec):	0 (Y+R=0.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	100	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	0	0 1	0	0 0	0 0	0	0 0	1 0	1	0 1	0 0
Volume Module:												
Base Vol:	4	0	20	0	0	0	0	450	11	13	305	0
Growth Adj:	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Initial Bse:	4	0	21	0	0	0	0	468	11	14	317	0
Added Vol:	4	0	0	0	0	0	0	0	4	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	8	0	21	0	0	0	0	468	15	14	317	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
PHF Volume:	9	0	23	0	0	0	0	525	17	15	356	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	9	0	23	0	0	0	0	525	17	15	356	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	9	0	23	0	0	0	0	525	17	15	356	0
Saturation Flow Module:												
Sat/Lane:	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	0.97	0.03	1.00	1.00	0.00
Final Sat.:	1800	0	1800	0	0	0	0	1743	57	1800	1800	0
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.30	0.30	0.01	0.20	0.00
Crit Moves:	****							****		****		

Viewpoint School Student Parking and Tennis Courts
Opening Year (2016) With Project
Evening Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #2 Loop Road (NS) at Mulholland Highway (EW)

Cycle (sec):	100	Critical Vol./Cap.(X):	0.420
Loss Time (sec):	0 (Y+R=0.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	100	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0 0	1	0 0	0 0	0	0 0	1 0	0	0 0	1 0	0
Volume Module:												
Base Vol:	0	0	98	0	0	0	0	519	0	0	363	0
Growth Adj:	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Initial Bse:	0	0	102	0	0	0	0	540	0	0	378	0
Added Vol:	0	0	6	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	108	0	0	0	0	540	0	0	378	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
PHF Volume:	0	0	126	0	0	0	0	630	0	0	441	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	126	0	0	0	0	630	0	0	441	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	126	0	0	0	0	630	0	0	441	0
Saturation Flow Module:												
Sat/Lane:	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00
Final Sat.:	0	0	1800	0	0	0	0	1800	0	0	1800	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.35	0.00	0.00	0.24	0.00
Crit Moves:			****					****		****		

Viewpoint School Student Parking and Tennis Courts
Opening Year (2016) With Project
Evening Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #3 Old Topanga Canyon Road (NS) at Mulholland Highway (EW)

Cycle (sec):	100	Critical Vol./Cap.(X):	0.566
Loss Time (sec):	0 (Y+R=0.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	100	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	1! 0	0	0 0	0 0	0	0 0	0 1	0	1 0	1 0	0
Volume Module:												
Base Vol:	15	0	183	0	0	0	0	568	18	113	312	0
Growth Adj:	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Initial Bse:	16	0	190	0	0	0	0	591	19	118	325	0
Added Vol:	0	0	0	0	0	0	0	2	4	2	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	16	0	190	0	0	0	0	593	23	120	325	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	17	0	206	0	0	0	0	642	25	129	351	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	17	0	206	0	0	0	0	642	25	129	351	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	17	0	206	0	0	0	0	642	25	129	351	0
Saturation Flow Module:												
Sat/Lane:	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.08	0.00	0.92	0.00	0.00	0.00	0.00	0.96	0.04	1.00	1.00	0.00
Final Sat.:	136	0	1664	0	0	0	0	1734	66	1800	1800	0
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.12	0.00	0.00	0.00	0.00	0.37	0.37	0.07	0.20	0.00
Crit Moves:			****					****		****		

Viewpoint School Student Parking and Tennis Courts
Opening Year (2016) With Project
Evening Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Old Topanga Canyon Road (NS) at Dry Canyon Cold Creek Road (EW)

Cycle (sec):	100	Critical Vol./Cap.(X):	0.135
Loss Time (sec):	0 (Y+R=0.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	100	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 1	0 0	0	0 0	0 1	0	0 0	1! 0	0	0 0	0 0	0
Volume Module:												
Base Vol:	1	143	0	0	78	66	63	0	4	0	0	0
Growth Adj:	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Initial Bse:	1	149	0	0	81	69	66	0	4	0	0	0
Added Vol:	0	0	0	0	0	6	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	1	149	0	0	81	75	66	0	4	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	1	163	0	0	89	82	72	0	5	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1	163	0	0	89	82	72	0	5	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	1	163	0	0	89	82	72	0	5	0	0	0
Saturation Flow Module:												
Sat/Lane:	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.01	0.99	0.00	0.00	0.52	0.48	0.94	xxxx	0.06	0.00	0.00	0.00
Final Sat.:	13	1787	0	0	937	863	1693	0	107	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.09	0.00	0.00	0.09	0.09	0.04	0.00	0.04	0.00	0.00	0.00
Crit Moves:	****				****		****					



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APPENDIX B

Biological Resources Study

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April 29, 2015

Mr. Nathan Humphreys
Director of Facilities and Construction
Viewpoint School
23620 Mulholland Highway
Calabasas, CA 91302

Re: Biological Resources Study - Peters, Castle Oaks, and Brown Project
EORM® Project No. 15-0272

Dear Mr. Humphreys:

Introduction and Scope of Work

At the request of Viewpoint School, Environmental and Occupational Risk Management, Inc. (EORM®) has prepared this biological technical report addressing the Viewpoint School Improvement project site ("project site" or "site") located in the City of Calabasas in Los Angeles County, California. The proposed project involves improvements to three newly acquired parcels (the "Peters," "Castle Oak," and "Brown" properties) that will be incorporated into the existing school campus property. The existing Viewpoint School campus property covers approximately 19.27 acres, and addition of the three properties, Peters (2.26 acre), Castle Oak (2.19 acres), and Brown (6.60 acres) will increase the size of the campus property to 30.32 acres. It is anticipated that this biological technical report will be incorporated into a Mitigated Negative Declaration for the project, with the City of Calabasas serving as CEQA lead agency.

Project Location and Surrounding Land Uses

The project site is located in southwestern Los Angeles County, on the urban/natural interface of the northern Santa Monica Mountains (see Figures 1–2). The site straddles Dry Canyon/Cold Creek south of Mulholland Highway and west of Old Topanga Canyon Road. Surrounding land uses in the project vicinity (in addition to the existing Viewpoint School campus), consist of a mix of rural and higher-density residential housing and natural open space. Higher-density housing lies to the north and west of the site, and lower-density housing lies to the south and east, interspersed with natural open space.

Project Description

The proposed project involves (1) installing six tennis courts and an associated accessory building on the Peters parcel; (2) replacing an existing footbridge in place on the Peters parcel; (3) increasing the area of campus parking on portions of the Castle Oak and Brown parcels; and (4) formalizing the ongoing periodic pruning of riparian vegetation along an existing security fence along approximately 1,000 linear feet of the security fence that runs along the south side of Dry Canyon Creek through the Viewpoint

campus. A fuel modification plan has been proposed (Dotterweich Carlson Mehner Design, Inc., and L. Newman Design Group, Inc. 2014). Two sets of retaining walls are proposed to configure the tennis court areas. No new lighting is proposed.

The Study Area for the proposed project, shown in Figures 3 and 4, consists of the entire Peters parcel, the area of the existing maintenance yard, and those portions of the Castle Oaks and Brown parcels proposed for impacts.

The project has been designed to avoid and minimize impact to resources, and to be self-mitigating by (1) establishing the new features within areas of existing development; (2) removing approximately 20,000 square feet of impermeable surfaces and non-native invasive species (house/landscaping, driveways, patios, pool) and installing 2,500 square feet of permeable surfaces and native plant species; (3) improving runoff conditions for 40,000 square feet of an existing dirt maintenance lot by establishing filtered drainage to existing discharge points; and (4) conducting on-site removal of non-native vegetation from Dry Canyon/Cold Creek throughout the length of the project area (approximately 6,000 square feet).

Methods

The information and analyses in this report are based upon review of the relevant literature and regulations, review of project plans, observations made in the field by EORM Senior Biologist Robert Hamilton, and the results of two specialized studies:

- To document and characterize wetland and riparian resources on the site, a jurisdictional delineation was conducted (FirstCarbon Solutions 2014).
- To document and characterize oak resources on the site, an oak tree report was completed (L. Newman Group, Inc. 2014).

Consistent with the requirement of CEQA and the CEQA Guidelines, this biological technical report describes the existing setting on the project site, analyzes the anticipated effects of project actions on biological resources, and recommends any mitigation measures that may be required to reduce potentially significant impacts to a level less than significant.

Literature Review

EORM reviewed literature associated with the plants and vertebrate wildlife species documented to be present in the area of the Proposed Project. This included, but was not limited to:

- California Native Plant Society's Online Inventory of Rare and Endangered Plants (www.rareplants.cnps.org), accessed on 21 November 2014.
- Consortium of California Herbaria web page (www.ucjeps.berkeley.edu/consortium), accessed on November 21, 2014 to search for sensitive plant species known from the Calabasas area.
- California Natural Diversity Data Base (2014a, 2014b, 2014c), reviewed together to develop a list of a list of sensitive species known from the U.S. Geologic Survey's Calabasas, Malibu Beach, Canoga Park, and Topanga 7.5' topographic quadrangles.

- US Department of Agriculture, Natural Resources Conservation Services (NRCS). 2015. Web Soil Survey. National Cooperative Soil Survey. http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm. Accessed 18 April 2015.
- Rincon Consultants, Inc. 2012. Biological Resources Assessment: Mulholland Highway Project. Report dated 27 June 2102 for BSVERCOM, LLC., Calabasas, CA, and the City of Calabasas. This report provides information on biological resources present, or potentially present, on the 17-acre parcel located just north of the project site.
- Cooper, D. S. and Hamilton, R. A. 2014. A Conservation Analysis for the Santa Monica Mountains "Coastal Zone" in Los Angeles County. Report dated 22 October 2012, revised 3 January 2014. Prepared for County of Los Angeles, Dept. of Regional Planning. This report provides a summary of information on the floral and faunal resources of the Santa Monica Mountains "Coastal Zone", an area of approximately 52,000 acres located south of the project site.

Field Visits

EORM Senior Biologist Robert Hamilton has worked on the Viewpoint School campus, conducting wildlife surveys and directing the ecological restoration of Dry Canyon Creek since 2008. In 2012, he prepared a biological constraints analysis of the 4.48-acre parcel located west of and adjacent to the Brown property. For the current project, Mr. Hamilton conducted two field visits to the project site:

- 6 November 2014, from 1030 to 1400. Skies were clear, winds were calm, and the temperature was 86-88 degrees F. The purpose was to map and characterize the plant communities on each of the three parcels, to record all plants and wildlife observed, and to identify any potentially sensitive biological resources that should be avoided during site planning, to the extent feasible.
- 3 April 2015, from 1030 to 1430. Skies were partly cloudy, winds were calm, and the temperature was 70-76 degrees F. The purpose was to record all plants and wildlife observed, and to identify any potentially sensitive biological resources that should be avoided during site planning, to the extent feasible.

Mr. Hamilton and EORM Project Scientist Elizabeth Zernik toured the site with Brock Warmuth of the California Department of Fish & Wildlife (CDFW) on 11 December 2014 to review the proposed actions and to afford CDFW an opportunity to provide feedback on the proposed project.

The field visits focused on areas that would be potentially affected by the proposed project (i.e., the project site). Other parts of the existing campus, and of the Brown parcel located away from the project site as defined in this report, were not inspected.

Setting

Topography

The project site incorporates three existing residential parcels and contains two drainage features: the perennial Dry Canyon Creek and one of its unnamed tributaries, which conveys flows seasonally. Dry Canyon Creek lies within the watershed of Arroyo Calabasas, which flows into the Los Angeles River and ultimately the Pacific Ocean. The topography is one of hills and valleys, with elevations ranging from approximately 1,080 feet on the Peters parcel, at the eastern end of the project site, to approximately 1,470 feet at the southern edge of the Brown parcel, in the southwestern portion of the project site.

Soils

The following soil types are mapped on the project site, in decreasing order of representation:

- Cumulic Haploxerolls with 0 to 9 percent slopes, which is alluvium derived from volcanic and sedimentary rock.
- Topanga-Mipolomol-Sapwi association with 30 to 75 percent slopes, which is colluvium and/or residuum weathered from sandstone, shale and slate.
- Sumiwawa-Hipuk-Rock outcrop complex with 30 to 75 percent slopes, which is colluvium derived from sandstone and/or residuum weathered from sandstone.
- Urban land-Xerorthents, landscaped, complex, rarely flooded, with 0 to 5 percent slopes, which is colluvium and residuum derived from sedimentary rock and other mixed sources.

Plant Communities and Associated Wildlife Species

Figures 3 and 4 shows the plant communities present within the Study Area, as described in the following paragraphs and classified based upon the system of Holland (1986). The following paragraphs also discuss some of the wildlife species typically associated with each community in the Santa Monica Mountains. Plant and wildlife species observed within the Study Area are depicted in Attachments 1-3.

Coast Live Oak Woodland

This community typically occupies deep soils on moist, north- and east-facing slopes and in shady canyon bottoms. On the project site the main oak woodland occurs along the north-facing slope south of Dry Canyon Creek, and consists of Coast Live Oaks (*Quercus agrifolia*), sometimes mixed with smaller numbers of Southern California Black Walnuts (*Juglans californica*), forming either a continuous or broken canopy. The sparsely vegetated understory includes shrubs, especially Poison Oak (*Toxicodendron diversilobum*) and Blue Elderberry (*Sambucus nigra* ssp. *caerulea*), as well as herbaceous species, including Wild Cucumber (*Marah macrocarpa*), Common Eucrypta (*Eucrypta chrysanthemifolia*), Narrow-leaved Bedstraw (*Galium angustifolium*), Caterpillar Phacelia (*Phacelia cicutaria*), and various exotic grasses. Per the Oak Tree Survey for the project, some of the Coast Live Oaks on the project site have grown to massive size. The largest on the site reach heights of 55–60 feet, with trunk diameters as large as 48 inches. Coast Live Oak woodland accounts for approximately 2 acres of the study area.

Oak woodlands are known to provide valuable habitat for many types of wildlife. Salamanders, such as the Monterey Ensatina (*Ensatina eschscholtzii*) and Arboreal Salamander (*Aneides lugubris*), rely on the moisture and cover provided by downed wood and deep leaf litter beneath oaks. Snakes known to forage in oak woodlands include the California Kingsnake (*Lampropeltis californiae*) and San Bernardino Ring-necked Snake (*Diadophis punctatus modestus*). Many birds are associated with oak woodlands, among them the Band-tailed Pigeon (*Patagioenas fasciata*), Western Scrub-Jay (*Aphelocoma californica*), Bewick's Wren (*Thryomanes bewickii*), Oak Titmouse (*Baeolophus inornatus*), Spotted Towhee (*Pipilo maculatus*), and Dark-eyed Junco (*Junco hyemalis*). Mammals found in oak woodlands include the Deer Mouse (*Peromyscus maniculatus*), Gray Fox (*Urocyon cinereo-argenteus*), and Bobcat (*Felis rufus*).

Southern Willow Scrub

This riparian woodland community occurs in a narrow band in the perennial Dry Canyon Creek, where the tree canopy is continuous. The dominant tree there is Arroyo Willow (*Salix lasiolepis*); other trees present are Red Willow (*S. laevigata*), Southern California Black Walnut, Coast Live Oak, and one California Sycamore (*Platanus racemosa*). Shrubs in the understory include Blue Elderberry and Mulefat (*Baccharis salicifolia*). Native sub-shrubs and herbaceous species include Mugwort (*Artemisia douglasiana*), Western Verbena (*Verbena lasiostachys*), Wild Cucumber, and Hooker's Evening Primrose (*Oenothera elata*). A variety of non-native plant species is found within this community in Dry Canyon Creek, including palms (*Washingtonia* sp.), Shamel Ash (*Fraxinus uhdei*), Plane Tree (*Platanus* x *acerifolia*), English Ivy (*Hedera helix*), Blue Passionflower (*Passiflora caerulea*), Bull Thistle (*Circium vulgare*), and non-native Smilo Grass (*Piptatherum miliaceum*). Southern willow scrub accounts for approximately 1.08 acres of the study area in Dry Canyon Creek.

In the drier unnamed drainage in the western part of the project site, the broken canopy includes Arroyo Willow, Red Willow, and Coast Live Oak; shrubs in the understory include Mulefat, Coyote Brush, and Chaparral Honeysuckle (*Lonicera subspicata*); the understory consists of Ripgut Brome (*Bromus diandrus*), Italian Thistle (*Carduus pycnocephalus*), Bristly Ox Tongue (*Helminthotheca echioides*), and Mugwort. Southern willow scrub accounts for approximately 0.05 acres of the study area in the unnamed drainage.

Southern willow scrub habitat provides the water needed by the Baja California Treefrog (*Pseudacris hypochondriaca*). Snakes and lizards regularly use riparian habitats, including such species as the California Striped Racer (*Coluber lateralis lateralis*), Two-striped Garter Snake (*Thamnophis hammondii*), San Diego Alligator Lizard (*Elgaria multicarinata webbii*) and Western Fence Lizard (*Sceloperus occidentalis*). Many birds utilize willow scrub, including the Black-chinned Hummingbird (*Archilochus alexandri*), Downy Woodpecker (*Picoides pubescens*), Black Phoebe (*Sayornis nigricans*), Pacific-slope Flycatcher (*Empidonax difficilis*), and American Goldfinch (*Carduelis tristis*).

Mammals associated with Southern Willow Scrub in the region include the Raccoon (*Procyon lotor*) and Virginia Opossum (*Didelphis virginiana*).

Coastal Sage Scrub Remnant

Adjacent to the northwestern cleared pad on the Brown property is a remnant stand of coastal sage scrub that includes Coyote Brush, Laurel Sumac (*Malosma laurina*), and Purple Nightshade (*Solanum xanti*). This isolated stand of scrub covers 0.06 acre, which is too limited to provide habitat of much value to the wildlife species typical of coastal sage scrub habitat in the region. It is to be expected that this patch of habitat provides some habitat value for wildlife species occurring in the nearby southern willow scrub and developed/disturbed communities.

Disturbed and Developed

Disturbed and developed vegetation communities, as these terms are used in the habitat classification system, collectively refer to the areas that have been modified by humans and devoted to human uses. Developed portions of the project site include existing residences, paved driveways, courtyards, pools, landscaped areas, and a small vineyard on the Peters property. Disturbed areas include graded pads that

have been used for horse-riding and as the existing maintenance yard for Viewpoint School. Disturbed and developed areas cover approximately 3 acres on the study area of the project site.

The existing landscaping in these areas, generally involving exotic plants, can provide foraging and/or nesting habitat for such human-adapted species as the Western Fence Lizard, Anna's Hummingbird (*Calypte anna*), Yellow-rumped Warbler (*Setophaga coronata*), California Towhee (*Melozone crissalis*) and House Finch (*Haemorhous mexicanus*).

Sensitive Biological Resources

This section reviews issues of potential biological sensitivity relevant to the proposed project.

Special Status Species

Special status species are plants and animals known to occur, or potentially occurring, on the project site that are endangered or rare, as those terms are used in CEQA and its Guidelines, or that are of current local, regional, or state concern. Legal protection for special status species varies widely, from the relatively comprehensive protection extended to listed threatened or endangered species to no legal status at present. This analysis considers both the known occurrences of sensitive species on and near the site, as observed by EORM personnel or others, as well as the potential status of sensitive species on or near the site, as determined through the literature search and the overall ranges and habitat requirements of the different species.

It is noted here that sensitive species associated with coastal sage scrub habitat are generally determined not to have realistic potential for occurrence on the project site because the 0.06-acre remnant of this habitat type on the site is (a) very small, (b) isolated from larger expanses of coastal sage scrub by surrounding developed/disturbed habitat, (c) not characterized by unusual soils associated with rare plants, and (d) vegetated with common, disturbance-adapted shrub species (*Baccharis pilularis*, *Malosma laurina*, and *Solanum xanti*) not typically associated with rare plants or wildlife. Thus, the following species are considered to have extremely low potential to occur on the site:

- Braunton's Milkvetch (*Astragalus brauntonii*)
- Malibu Baccharis (*Baccharis malibuensis*)
- Round-leaved Filaree (*California macropylla*)
- Catalina Mariposa Lily (*Calochortus catalinae*)
- Slender Mariposa Lily (*Calochortus clavatus* var. *gracilis*)
- Plummer's Mariposa Lily (*Calochortus plummerae*)
- San Fernando Valley Spineflower (*Chorizanthe parryi* var. *fernandina*)
- Small-flowered Morning-Glory (*Convolvulus simulans*)
- Santa Susana Tarplant (*Deinandra minthornii*)
- Western Dichondra (*Dichondra occidentalis*)
- Santa Monica Mountains Dudleya (*Dudleya cymosa* ssp. *ovatifolia*)
- Thickleaf Monardella (*Monardella hypoleuca* ssp. *hypoleuca*)
- Ojai Navarretia (*Navarretia ojaiensis*)

- Chaparral Nolina (*Nolina cismontana*)
- Lyon's pentachaeta (*Pentachaeta Lyonii*)

Table 1 lists and briefly discusses each special status plant species known to occur on the Project Site, or that has potential to occur there. Species observed onsite are listed in Attachment 3.

Table 1: Special Status Species

Species	Status (Fed/State/CNPS)	Occurrence/Habitat/Threats
Plants		
Southern California Black Walnut *Juglans californica*	—/—/4.2	**Occurs on the site** This tree is a component of the oak woodland and southern willow scrub communities on the project site. It is not a rare plant, but woodlands dominated by this species are threatened by urbanization and grazing, non-native plants, and possibly by lack of natural reproduction. Possibly threatened by hybridization with horticultural varieties of walnut.
Ocellated Tiger-Lily *Lilium humboldtii* ssp. *ocellatum*	—/—/4.2	**Very low potential for occurrence on the site** This striking wildflower occurs in riparian woodlands in the Santa Monica Mountains and other mountain ranges in the region. The nearest record is from approximately 3 miles southwest of the project site, in Stunt Canyon. Threatened by development and horticultural collecting on the mainland, and by feral herbivores on the Channel Islands. This conspicuous species has not been observed in Dry Canyon and was not observed during botanical surveys of site, or during previous visits to this area by the project biologist during the blooming season (March to August).
Wildlife		
Monarch butterfly *Danaus plexippus*	PFL/—/—	**Occurs on the site, but very unlikely to roost** This widespread insect has been proposed for listing as threatened or endangered by the federal government. EORM has observed this butterfly on the site before, but has not observed it roosting anywhere on the site. Typical roosting habitat for this species consists of groves of tall trees — especially eucalyptus — within approximately one mile of the coast, which provide suitable microclimate for the species during fall and winter. The site is approximately 6.5 miles inland and does not appear to have any groves of trees suitable for roosting by this species.

Species	Status (Fed/State/CNPS)	Occurrence/Habitat/Threats
Gertsch's Socalchemmis Spider *Socalchemmis gertschi*	—/—/—	**Very low potential for occurrence** This spider is known from two locations, in Brentwood and Topanga Canyons. Its habitat consists of sage scrub, chaparral, oak woodland, coniferous forest, generally in rocky outcrops or talus slopes (moveable rocks with spaces or cracks). Figure IV-2 in the Calabasas General Plan (City of Calabasas 2008) depicts a population of this species approximately 0.5 mile south of the project site. Since the project site lacks rocky outcrops or talus slopes, this spider is considered unlikely to occur there.
Arroyo Toad *Anaxyrus californicus*	FE/CSC/—	**Very low potential for occurrence** This toad occurs in shallow, slow-moving stream habitats, and riparian habitats that are disturbed naturally on a regular basis, primarily by flooding. The stream must be large enough for channel scouring processes to occur but not so large that habitat structure is lost after floods. The species is unknown from the project site and is very unlikely to occur there due to lack of appropriate habitat.
California Red-legged Frog *Rana draytonii*	FT/CSC/—	**Considered absent** This frog formerly occurred in the Santa Monica Mountains, in Trancas, Solstice, Malibu, and Topanga Canyons, but has not been recorded since 1965 (Cooper and Hamilton 2014_. It has not been observed on the project site and is considered absent.
Southwestern Pond Turtle *Emys marmorata*	—/CSC/—	**Low to moderate potential for occurrence** Rare, local, and declining in the Santa Monica Mountains, with the nearest known population in Topanga Canyon (Dagit et al. 2006, Cooper and Hamilton 2014). This turtle has not been observed on the site, and habitat conditions are only moderately suitable due to general lack of deep ponds with logs for resting, but given perennial water in Dry Canyon the species is considered to have low to moderate potential to occur there.
Silvery Legless Lizard *Anniella pulchra*	—/CSC/—	**Low to moderate potential for occurrence** The single record in the Santa Monica Mountains is a 1965 specimen from Malibu Canyon (Cooper and Hamilton 2014). In the wider region, this lizard can be locally common in areas of sandy/loose soil, oak woodland with deep oak duff for burrowing. It has not been observed on the project site, and is considered to have low to moderate potential for occurrence in the site's oak woodland and southern willow scrub habitats.

Species	Status (Fed/State/CNPS)	Occurrence/Habitat/Threats
California Mountain Kingsnake (San Diego population) *Lampropeltis zonata (pulchra)*	—/CSC/—	**Moderate potential for occurrence** Known to occur along rocky streams in the Santa Monica Mountains; probably uncommon but widespread in canyons and other areas with rocky outcrops (Cooper and Hamilton 2014). Potentially suitable habitat occurs along Dry Canyon Creek.
Two-striped Garter Snake *Thamnophis hammondii*	—/CSC/—	**Moderate to high potential for occurrence** This aquatic snake is restricted to streams and associated riparian/canyon-bottom habitat. Recent records from Topanga area, most commonly in lower Topanga Canyon south of town (R. Dagit in litt.); presumably still widespread. Numerous older specimens, including from Malibu Creek, Cold Creek, Trancas Canyon, Las Flores Canyon, Esconido Canyon (Cooper and Hamilton 2014). This snake has not been recorded on the site, but potentially suitable habitat occurs along the perennial Dry Canyon Creek.
Yellow Warbler *Setophaga petechia*	—/CSC/—	**Moderate potential for occurrence** In coastal southern California, this songbird rarely breeds away from willows (e.g., largely absent from oak woodland). In the Santa Monica Mountains, Yellow Warblers nest in several larger canyons with permanent water and mature riparian woodland, including Malibu Creek, Cold Creek and Topanga Canyon drainages (Cooper and Hamilton 2014). Yellow Warblers have been recorded on the Viewpoint School campus during migration, but there has been no evidence of nesting (R.A. Hamilton pers. obs.). Southern willow scrub habitat on the project site represents potentially suitable nesting habitat, and this species is considered to have moderate potential to nest on the site.
Western Mastiff Bat *Eumops perotis californicus*	—/CSC/—	**Low potential for occurrence** This large bat occupies a variety of habitats, including woodlands, coastal scrub, and chaparral, where it roosts in crevices in rock, structures, or under the bark of trees. It has not been widely recorded in the Santa Monica Mountains (Cooper and Hamilton 2014), and is considered to have low potential to roost on the site; fly-overs may be more regular.

Species	Status (Fed/State/CNPS)	Occurrence/Habitat/Threats
Western Red Bat *Lasiurus blossevillii*	—/CSC/—	**Moderate potential for occurrence** This bat roosts in the foliage of trees and shrubs in forests, especially riparian woodlands dominated by cottonwood, sycamore, and willow. It has not been widely recorded in the Santa Monica Mountains (Cooper and Hamilton 2014), but is considered to have moderate potential to roost in the site's southern willow scrub or oak woodland habitats.

Definitions:
Federal
FE = Listed as endangered under the federal Endangered Species Act.
FT = Listed as threatened under the federal Endangered Species Act.
PFL = Proposed for listing as endangered or threatened under the federal Endangered Species Act.
State of California
CSC = California Species of Special Concern. It is the goal and responsibility of CDFW to maintain viable populations of all native species. To this end, the Department has designated certain vertebrate species as Species of Special Concern because declining population levels, limited ranges, and/or continuing threats have made them vulnerable to extinction. The goal of designating species as "Species of Special Concern" is to halt or reverse their decline by calling attention to their plight and addressing the issues of concern early enough to secure their long term viability. Not all "Species of Special Concern" have declined equally; some species may be just starting to decline, while others may have already reached the point where they meet the criteria for listing as a "Threatened" or "Endangered" species under the State and/or Federal Endangered Species Acts.
California Native Plant Society (CNPS)
List 4.2 = A watch-list of plants with limited distributions; fairly endangered in California (20–80% occurrences threatened).

Regulatory Setting

The proposed project is subject to local, state, and federal regulations associated with multiple regulatory programs, including the federal Endangered Species Act (FESA) and federal Clean Water Act, California Endangered Species Act (CESA), California Environmental Quality Act (CEQA), various provisions of the California Fish and Game Code, as well the City of Calabasas General Plan. These programs were developed to protect a variety of natural resources, including state and federally listed plants and animals; special-status species that are not listed as threatened or endangered by state or federal governments; aquatic resources, such as riparian communities; and ecological communities of limited distribution, such as oak trees and oak woodlands.

Federal Resource Regulations

Federal Endangered Species Act, Section 10 and Section 7

"Take" of a species listed as threatened or endangered is generally prohibited under federal law without a special permit. Section 10(a)(1)(B) of the federal Endangered Species Act (ESA) allows for take of a threatened or endangered species incidental to development activities once a Habitat Conservation Plan (HCP) has been prepared to the satisfaction of the U.S. Fish & Wildlife Service (USFWS). For projects with federal funding, or that require a federal action, Section 7 of the ESA allows for consultation between the affected agency and the USFWS to determine what measures may be necessary to compensate for the incidental take of a listed species. If the listed species, or federally designated "critical habitat" for that species, occurs in a portion of the project subject to federal jurisdiction or activity (such as "waters of the United States"), then consultation under Section 7 is usually permissible and may be required. Incidental take authority for threatened and endangered species may be obtained through Section 7 of the ESA when such federal agency action is involved.

Federal Clean Water Act, Section 404

Under Section 404 of the Clean Water Act, the U.S. Army Corps of Engineers (Corps) regulates the discharge of dredged and/or fill material into "waters of the United States," including adjacent "wetlands" that are subject to the Corps jurisdiction. Project proponents must obtain a permit from the Corps for all discharges of dredged or fill material into waters of the United States, including wetlands, before proceeding with a proposed activity. Before any actions that may affect surface waters are carried out, a delineation of jurisdictional waters of the United States must be completed, following Corps protocols, in order to determine whether the project area encompasses wetlands or other waters of the United States that qualify for Clean Water Act protection.

Wetlands are defined for federal regulatory purposes as areas "inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3, 40 CFR 230.3).

Section 404 permits may be issued only for the "least environmentally damaging practicable alternative." That is, authorization of a proposed discharge is prohibited if there is a practicable alternative that would have less adverse impacts and lacks other significant adverse consequences.

Federal Clean Water Act, Section 401

Under Section 401 of the Clean Water Act, applicants for a federal license or permit, such as a Section 404 Permit, must obtain certification from the state, or a waiver of certification, that the activity will not adversely affect water quality. The mission of the California Regional Water Quality Control Board (RWQCB) is to develop and enforce water quality objectives and implement plans, which will best protect the beneficial uses of the State's waters, recognizing local differences in climate, topography, geology, and hydrology.

A complete application for 401 Certification will include a conceptual Water Quality Management Plan addressing the key water quality features of the project to ensure the integrity of water quality in the area during and post-construction. Under separate authorities granted by State law (i.e., the Porter-Cologne Water Quality Control Act), the RWQCB may assert jurisdiction over dredge or fill activities within non-federal, State waters through issuance of Waste Discharge Requirements (WDRs). Processing of a WDR is similar to that of a Section 401 certification and addressing impacts to non-Federal waters may be streamlined within the 401 process at RWQCB discretion.

California Environmental Quality Act

The California Environmental Quality Act (CEQA) applies to all discretionary projects proposed to be conducted or approved by a California public agency. The purpose of CEQA is to:

- Disclose to the public the significant environmental effects of a proposed discretionary project, through the preparation of an Initial Study (IS), which is typically followed by a Negative Declaration (ND) or Environmental Impact Report (EIR).
- Prevent or minimize damage to the environment through development of project alternatives, mitigation measures, and mitigation monitoring.
- Disclose to the public the agency decision-making process utilized to approve discretionary projects through findings and statements of overriding consideration.
- Enhance public participation in the environmental review process through scoping meetings, public notice, public review, hearings, and the judicial process.
- Improve interagency coordination through early consultations, scoping meetings, notices of preparation, and State Clearinghouse review.

The City of Calabasas will be the CEQA lead agency for this project.

City of Calabasas 2030 General Plan

The Calabasas General Plan functions as a guide to the type of community that Calabasas citizens desire for their future and provides the means by which that desired future can be achieved. The General Plan is a "constitution" for local decision making that addresses the range of immediate, mid-, and long-term issues with which the community is concerned, including but not limited to environmental sensitivity and preservation, public services, and economic vitality. The Plan is intended to allow land use and policy determinations to be made within a comprehensive framework that incorporates public health, safety, and "quality of life" considerations in a manner that recognizes the resource limitations and the fragility of the community's natural environment.

The Conservation Element contains the following policies:

- IV-1 Maintain an up-to-date inventory and map of sensitive, threatened, and endangered flora and fauna within Calabasas, as well as sensitive biological habitat areas and habitat linkages.
- IV-2 Ensure that new developments, including roads, maintain the biotic habitat value of riparian areas, oak woodlands, habitat linkages, and other sensitive biological habitats. Specifically, the following are unacceptable biological impacts:
  - Net loss of wetlands or riparian vegetation
  - Measurable reduction in species diversity

  - Loss of breeding and roosting areas, foraging areas, habitat linkages, or food sources that will result in a measurable reduction in the reproductive capacity of biotic resources.
- IV-3 Require new developments on properties that include sensitive biotic habitats to cluster development in the least sensitive portions of the property and preserve and/or restore the most sensitive resources without creating urban development patterns in rural areas.
- IV-4 As feasible and without creating public safety concerns, restore riparian corridors to a natural or quasi-natural condition.
- IV-5 Maintain buffers between natural riparian areas and development in order to avoid disturbance of riparian habitat and wildlife movement.
- IV-6 Require separation of construction activities from sensitive biological resources through the use of buffers, setbacks, and temporary protective fencing.
- IV-7 Regulate construction activities to eliminate potentially destructive practices that adversely affect environmentally sensitive areas.
- IV-8 Maintain strategic alliances with federal and state agencies involved in the Santa Monica Mountains National Recreation Area to ensure the ongoing management of areas that are preserved because of their biological significance.

Calabasas has adopted an Oak Tree Ordinance that requires reforestation, registration, and preservation of all healthy oak trees, unless reasonable and conforming use of a property justifies the removal, transplanting, altering, and/or encroachment into the oak tree's protected zone. The Ordinance also requires establishment of an Oak Habitat Preservation Program to provide for reforestation and replacement of woodlands, public acquisition of woodlands, and public education regarding habitat preservation. Continued enforcement of the Oak Tree Ordinance will be a key component of the maintenance and enhancement of the urban forest in Calabasas.

The City's Oak Tree Preservation and Protection Guidelines define "heritage trees" as those oaks having a diameter of 24 inches or greater at 4.5 feet above natural grade. The request to alter or encroach within the protected zone of an oak tree or scrub oak habitat is warranted to enable reasonable and conforming use of the property, which would otherwise be prevented by the presence of the oak tree or scrub oak habitat. In addition, such alterations and encroachments can be performed without significant long-term adverse impacts to the oak tree or scrub oak habitat. Reasonable use of the property shall be determined in accordance with the guidelines.

Native oak trees play a significant role in the Calabasas landscape (City of Calabasas General Plan 2008). Section 17.26.070 of the City of Calabasas Municipal Code requires that an Oak Tree Permit be obtained for the alteration of any healthy oak tree greater than 2 inches in diameter.

A ground level GPS-based oak tree inventory and assessment was conducted by the L. Newman Design Group, Inc. between June and November of 2014. Diameter at breast height (DBH), height, canopy spread, crown, trunk, overall growth, presence of insect and disease, and general health were recorded based upon the existing presentation of each oak tree within the site. The Oak Tree Report (L. Newman Design Group, Inc. 2014; see Attachment 2) identified more than 156 Coast Live Oaks on the Peters property and 49 oak trees on the Castle Oaks and Brown property. Per the City's Oak Tree Preservation and Protection Guidelines, heritage trees are considered oak trees with a diameter of 24 inches or

greater at 4.5 feet above natural grade. Based on these criteria, 49 oaks on the project site are considered heritage trees.

Wildlife Movement

Constricting the movement of wildlife and plant seeds increases the risk of local extinctions. Habitat fragmentation consequently threatens the viability of these remaining natural resources. Large areas of habitat, or narrower linkages of habitat between large areas, provide movement opportunities for wildlife. Movement serves to facilitate the geographic distribution of genetic material, thus maintaining a level of variability in the gene pool of an animal population. Influxes of animals from nearby larger populations contribute to the genetic diversity of a local population, helping to ensure the population's ability to adapt to changing environmental conditions. Many plant species that depend on relatively sedentary insects for pollination also benefit from habitat linkages that allow for genetic exchange and dispersal. Reduced insect movement due to habitat fragmentation results in reduced genetic vigor in those plants. Likewise, plant seeds and propagules can be transported via the feces, fur, or feathers of birds or mammals.

At a local scale, the project site contains features conducive to promote wildlife movement through the site including drainage features, vegetative cover, and appropriate habitat. It is expected that terrestrial wildlife and birds use the site's two streambed corridors to move through the area and the oak woodland for cover. The site is located in the footprint of existing residential development, and the proposed tennis courts and parking areas have been designed specifically to avoid the two onsite drainage courses that are presumed to facilitate localized movement of wildlife through the area.

On a regional scale, the site lies outside of the habitat linkages and wildlife movement corridors identified in Figure IV-1 of the Calabasas General Plan. The site does not lie within any Los Angeles County Significant Ecological Areas (SEAs). Finally, the site does not lie within a regional wildlife connectivity area as identified by the California Essential Habitat Connectivity Project (Spencer et al. 2010).

Significance Criteria

Consistent with Appendix G of the CEQA Guidelines, an impact is considered significant (before considering offsetting mitigation measures) if the lead agency determines that project implementation would result in one or more of the following:

- Substantial adverse effects, either directly or through habitat modifications, on any species identified as being a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by CDFW or USFWS;
- Substantial adverse effects on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by CDFG or USFWS;
- Substantial adverse effects on federally protected aquatic resources as defined by Section 404 of the Clean Water Act through direct removal, filling, hydrological interruption, or other means;
- Substantial interference with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or interference with the use of native wildlife nursery sites;
- A conflict with any local policy or ordinance protecting biological resources, such as a tree preservation policy or ordinance; or
- A conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state HCP.
- The following impact discussions are organized according to these specified thresholds, acknowledging that certain Project actions fall under more than one threshold (e.g., impacts to a riparian area that may support sensitive species).

Impact Analysis and Mitigation Measures

Impact BIO-1 Consistent with Appendix G of the CEQA Guidelines, the proposed project would have a significant effect on biological resources if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as being a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by CDFW or USFWS.

No federally or state-listed species are known or expected on the site. No federally designated critical habitat for listed wildlife species is mapped within the property, and no critical habitat will be affected by the project. The following special status species have been determined to have at least moderate potential for occurrence on the project site: Southern California Black Walnut, Southwestern Pond Turtle, Silvery Legless Lizard, California Mountain Kingsnake (San Diego population), Two-striped Garter Snake, Yellow Warbler, and Western Red Bat. These species are either known or expected to occur on the site but are not expected to be substantially affected by construction activity, which generally shall be limited to areas of existing development. Thus, impacts to special status species or their habitat are determined to be less than significant.

The proposed fuel modification plan for the building that would be built in conjunction with the tennis courts on the Peters property identifies various forms of vegetation removal, vegetation thinning, irrigation, and removal of downed wood and leaf-litter, potentially extending into the existing Southern Willow Scrub and Oak Woodland habitat areas in Dry Canyon Creek and south of the creek. Any of these actions could have potential adverse effects on those native plant and wildlife communities, potentially including the following special status species: Southwestern Pond Turtle, Silvery Legless Lizard, California Mountain Kingsnake (San Diego population), and Two-striped Garter Snake. The plan also identifies plantings of Catalina Cherry (*Prunus lyonii*) and Japanese Privet (*Ligustrum japonicum*), species not native to the Santa Monica Mountains that have been identified as having potentially deleterious effects on local ecosystems (see Brusati et al. 2014, Council for Watershed Health 2015). These effects are determined to be potentially significant but mitigable through avoidance of the impacts. This would require alteration of the proposed fuel modification plan.

Native birds protected under state and federal laws prohibiting disruption of active nesting (i.e., under the California Fish and Game Code and the federal Migratory Bird Treaty Act) are expected to nest onsite. Potential direct impacts (loss of individuals) could occur to birds nesting onsite if the removal of any vegetation occurs during the nesting/breeding season (February 1 to August 31). In addition, indirect impacts such as construction noise, dust, and other human disturbances may deter breeding/nesting behaviors if construction occurs during the breeding/nesting season. If construction occurs during the nesting season, potential direct and indirect impacts to protected nesting birds would be a **potentially significant but mitigable** impact.

Mitigation Measure BIO-1(a): Refinement of Fuel Modification Plan

In order to avoid potentially significant impacts to native plant and wildlife populations within the site's riparian and oak woodland biotic communities, the following items specified in the existing plan shall not apply to areas mapped as either southern willow scrub or oak woodland:

- "Landscaping and vegetation in this zone shall consist primarily of green lawns, ground covers not exceeding 6 inches in height, and adequately spaced shrubs. The overall characteristics of the landscape shall provide adequate defensible space in a fire environment."
- "Except for dwarf varieties or mature trees small in stature, trees are generally not recommended within Zone A."
- "Irrigation by automatic or manual systems shall be provided to landscaping to maintain healthy vegetation and fire resistance."
- "Landscaping and vegetation in this zone shall typically consist primarily of green lawns, ground covers, and adequately spaced shrubs and trees."
- "Unless otherwise approved, ground covers shall be maintained at a height not to exceed 6 inches in Zone B, 12 inches is acceptable within 50 feet of a structure and 18 inches beyond 50 feet in Zone B if it is on a slope. The overall characteristics of the landscape shall provide adequate defensible space in a fire environment. Specimen native plants may be approved to remain if properly maintained for adequate defensible space. Annual grasses and weeds shall be maintained at a height not to exceed 3 inches."

- "Plants in Zone B shall typically be fire resistant and spaced appropriately. Species selection should be made referencing the fuel modification plant list. Other species may be utilized subject to approval."
- "Required thinning and clearance will be determined upon inspection. Required clearance may increase to the maximum allowed by the fire code as needed because of vegetation growth."
- "Vegetation in this zone may consist of modified existing native plants, adequately spaced ornamental shrubs and trees, or both. There may also be replacement landscape planting with ornamental or native species to meet minimum slope coverage requirements of city or county agencies or other landscape or hillside ordinances. In all cases the overall characteristics of the landscape shall provide adequate defensible space in a fire environment."
- "Plants in zone c shall be spaced appropriately. Existing native vegetation shall be modified by thinning and removal of those species constituting a fire risk. These species include, but are not limited to chamise, sage, sage brush, and buckwheat."
- "Annual grasses and weeds shall be maintained at a height not to exceed 3 inches."
- "General spacing for existing native shrubs or groups of shrubs is 15 feet between canopies."
- "Native plants may be thinned by reduced amounts as the distance from development increases."
- "General spacing for existing native trees or groups of trees is 30 feet between canopies. This distance may increase or decrease depending on the slope, arrangement of the trees in relation to slope, and the species of tree."

Catalina Cherry (*Prunus lyonii*) and Japanese Privet *(Ligustrum japonicum*), species not native to the Santa Monica Mountains that have been identified as having potentially deleterious effects on local ecosystems, shall be replaced, preferably with plant species native to the northern Santa Monica Mountains. Holly-leaf Cherry (*Prunus ilicifolia* ssp. *ilicifolia*) would be one appropriate replacement.

Mitigation Measure BIO-1(b): Avoid Bird Nesting Season or Conduct Nesting Bird Surveys and Provide Buffers

Tree removals, grading, and the initiation of construction shall either: a) occur outside of the bird nesting season (February 1 to August 31); or b) be subject to bird survey requirements. If vegetation clearing occurs during the breeding season, pre-construction bird nesting surveys shall be conducted to determine the locations of nesting birds. Bird surveys shall include a minimum of two nesting bird surveys to be conducted by a qualified biologist no more than one week prior to the start of vegetation clearing or construction. Bird nesting surveys shall be reinitiated if construction is halted for more than three days. The nesting bird surveys shall include a survey buffer around the project site of up to 500 feet (where feasible) to accommodate raptors. If a nesting bird or special status species is located, a maximum 300-foot buffer (depending on noise and site conditions) would be established surrounding the nest(s) and the buffer shall be flagged for avoidance. If any active raptor nests are found, typically a suitable buffer area of 250–500 feet from the nest shall be established until the nest becomes inactive (vacated). These avoidance buffers can be reduced based upon the recommendation the qualified biologist conducting the surveys. Disturbance can occur within the buffer area only after the birds are no longer reliant on the nest, as determined by the qualified biologist. If any special status bird species nests are found, consultation with the local CDFW representative and/or USFWS representative is

recommended to determine what avoidance actions should be taken. The results of the nesting bird survey(s) and any buffer efforts as a result of those surveys shall be documented in a brief letter report and submitted to the City no later than two weeks following the final survey.

Mitigation Measure BIO-1(b) also applies to potential impacts to nesting birds associated with the ongoing maintenance of riparian vegetation along approximately 1,000 linear feet of security fencing along Dry Canyon Creek (see Impact BIO-2).

Level of Significance After Mitigation: Implementation of Measures BIO-1(a) and BIO-1(b) would reduce impacts to species identified as being a candidate, sensitive, or special status species to a **less than significant level**.

Impact BIO-2 Consistent with Appendix G of the CEQA Guidelines, the proposed project would have a significant effect on biological resources if it would:

- Have a substantial adverse impact on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS.

Two sensitive natural communities, southern willow scrub and oak woodland, are present onsite. The proposed project has been designed to largely avoid direct impacts to these communities associated with construction of the tennis courts, rebuilding of the existing footbridge, and provision of additional parking for the school. Thus, impacts to sensitive natural communities associated with these aspects of project implementation are determined to be less than significant. Note, however, that the impacts associated with the proposed removal of three oaks, and encroachment upon several additional oaks, and are addressed subsequently in Impact BIO-6.

The project description includes formalizing the ongoing maintenance of southern willow scrub vegetation along approximately 1,000 linear feet of security fencing along Dry Canyon Creek. This maintenance involves the periodic pruning back of southern willow scrub habitat from the fence, which is determined to be a **potentially significant but mitigable** impact upon this habitat and associated wildlife populations.

Mitigation Measure BIO-2(a): Eradication of Exotic Species from Dry Canyon Creek

Mitigation for adverse effects of ongoing pruning back of riparian vegetation from approximately 1,000 linear feet the security fence along Dry Canyon Creek shall consist of the ongoing removal of all non-native vegetation from the same stretch of Dry Canyon Creek. As indicate in the Setting, this section of the creek currently supports a variety of non-native, invasive species, including palms (*Washingtonia* sp.), Shamel Ash (*Fraxinus uhdei*), Plane Tree (*Platanus* x *acerifolia*), English Ivy (*Hedera helix*), Blue Passionflower (*Passiflora caerulea*), Bull Thistle (*Circium vulgare*), and non-native Smilo Grass (*Piptatherum miliaceum*). During each year that Viewpoint School prunes back native vegetation from the fence, Viewpoint School shall submit an annual report to the City Planning Director and the local office of the California Department of Fish and Wildlife demonstrating that all non-native vegetation has been removed from the bed of Dry Canyon Creek in the approximately 1,000-foot segment of the creek that is adjacent to the safety fence. This work shall be directed by a qualified biologist and/or arborist.

The report shall include appropriate details concerning the timing and general extent of native vegetation pruning, and the timing and general extent of non-native plant removal, as well as specifying each non-native species removed. The report shall include representative photos.

As noted previously, Mitigation Measure BIO-1(b) also applies to the ongoing maintenance of riparian vegetation along the security fence (Impact BIO-2, in part).

Level of Significance After Mitigation: Implementation of Measures BIO-2(a) and BIO-2(b) would reduce impacts to sensitive natural communities to a **less than significant level**.

Impact BIO-3 Consistent with Appendix G of the CEQA Guidelines, the proposed project would have a significant effect on biological resources if it would:

- Adversely impact federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) either individually or in combination with the known or probable impacts of other activities through direct removal, filling, hydrological interruption, or other means.

The proposed project is designed to avoid adverse impacts to protected wetlands. Any impacts to such resources associated with project implementation are determined to be **less than significant**.

Impact BIO-4 Consistent with Appendix G of the CEQA Guidelines, the proposed project would have a significant effect on biological resources if it would:

- Interfere substantially with the movement of any resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors, or impede the use of wildlife nursery sites.

The proposed project is designed to avoid interfering substantially with the movement of any resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors, or impeding the use of wildlife nursery sites. Any impacts to such resources associated with project implementation are determined to be **less than significant.**

Impact BIO-5 Consistent with Appendix G of the CEQA Guidelines, the proposed project would have a significant effect on biological resources if it would:

- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

Project implementation would result in the removal of three Coast Live Oaks (no heritage oaks) and would encroach upon another 60 Coast Live Oaks (including 19 heritage oaks) protected under the City of Calabasas Oak Tree Ordinance. As defined by L. Newman Associates in the Oak Tree Report for this project (see Attachment 2), “encroachment” refers to construction taking place within five feet of an oak’s dripline/canopy or within 15 feet of its trunk. In addition, some pruning of large limbs may be required to provide clearance for the tennis court construction and parking lot.

Table 2 below identifies the oaks that would be removed or encroached upon, and their sizes, as recorded in the Oak Tree Report. Heritage trees are denoted with an asterisk (*) next to the tree number.

Table 2. Oak Encroachments/Removals

Oak Tree Number	Trunk Diameter (inches)	Tree Height (feet)
Removals		
Peters Parcel		
643	3	10
644	19	25
Castle Oaks/Brown Parcels		
10	2, 2	12
Encroachments		
Peters Parcel		
227*	38, 10, 9	50
228*	48	55
230	12	20
231*	25, 18	35
237	12, 4	20
238*	14, 13	30
240*	16, 15, 15	35
243*	30, 28	50
244*	28	50
245	12	25
268*	19, 18, 15, 15, 8, 6	25
269	14	35
270	9	25
271	6	20
272*	32, 16	50
273*	41, 28, 22	55
274*	22, 17	40
534	10	25
535	9	20
536	8	20
645	7	20
646	3, 3, 1	10
648	10	25
649	13	30
650	10	20
651*	33, 15	55
653*	29, 10	55
673*	26	35
675	21	25
689	3	10

Oak Tree Number	Trunk Diameter (inches)	Tree Height (feet)
709	7	15
710	12	30
711	4	10
751	3	20
768	3	8
769	10	30
770	2	12
771	2	8
772	2	8
773	2	8
777	2	8
778	2	8
Castle Oaks/Brown Parcels		
1	14	30
2	6	20
3*	19, 11, 4	30
4*	24	35
5	11	25
6*	22,12	30
7	21	25
8*	26	35
9*	36	40
12	6, 4, 4, 4, 2	6
13	4.5	20
14	5.5	20
15	2	9
16	6, 6, 2.5	20
17	5.5	15
18	5	20
19	10	20
20	5.5	15
21	2, 2, 1	12
22	6, 4	20

The project's impacts to City-protected Coast Live Oaks are determined to be **significant but mitigable**.

Mitigation Measure BIO-5: Oak Tree Mitigation Program

Mitigation for adverse effects of the project on Coast Live Oaks is identified in the project's Oak Tree Report by L. Newman Associates (see Appendix 2). The project's Oak Tree Planting Plan is outlined on Page 2 of the Oak Tree Report:

- Oak trees shall be replaced on an inch for inch basis (i.e., replacement trees adding up to a minimum of 26 inches of trunk diameter shall be planted).
- The landscape architect for this project shall design into the landscape the replacement trees.
- The irrigation system (i.e., drip system or comparable) to water these newly planted replacement trees shall be compatible with the watering requirement of the project's indigenous oak trees.
- The irrigation system maintenance program should water these replacement trees for the first 3 years at least to establish the trees. Thereafter, watering should be done only in the winter months during periods of severe drought as deemed necessary by the landscape architect.

The Oak Tree Report also includes an Oak Tree Preservation Program and Work Procedures Program. These elements shall form the basis for the project proponent obtaining the oak tree permit required to comply with the City's requirements.

Level of Significance After Mitigation: Implementation of Measures BIO-5, and procurement of an oak tree permit for the specified impacts to oak resources will reduce the impacts on protected oak species to a **less than significant level**.

Impact BIO-6 Consistent with Appendix G of the CEQA Guidelines, the proposed project would have a significant effect on biological resources if it would:

- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plans.

The proposed project Implementation of the proposed project would not conflict with any adopted Habitat Preservation Plan or Natural Communities Conservation Plan, or other local adopted conservation plans. **No significant impact is identified.**

Cumulative Impact Analysis

All impacts associated with implementation of the proposed project would be mitigated to a level less than significant through the implementation of the measures identified herein. With implementation of these measures, the project is determined to not substantially contribute to any impacts upon biological resources that are regionally significant. Thus, the project's contributions to any cumulatively significant effects are determined to be **less than significant**.

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Should you have any questions, please contact the undersigned at 805.288.5070.

Regards,

Elizabeth Zernik
Project Scientist

Reviewed by:

Robert A. Hamilton
Senior Biologist

Attachment 1: Figures

Attachment 2: Reports

Attachment 3: Species List

Attachment 1

Figures



Figure 1: Regional Location

Source: FCS Preliminary Delineation of Jurisdictional Waters and Wetlands, November 2014

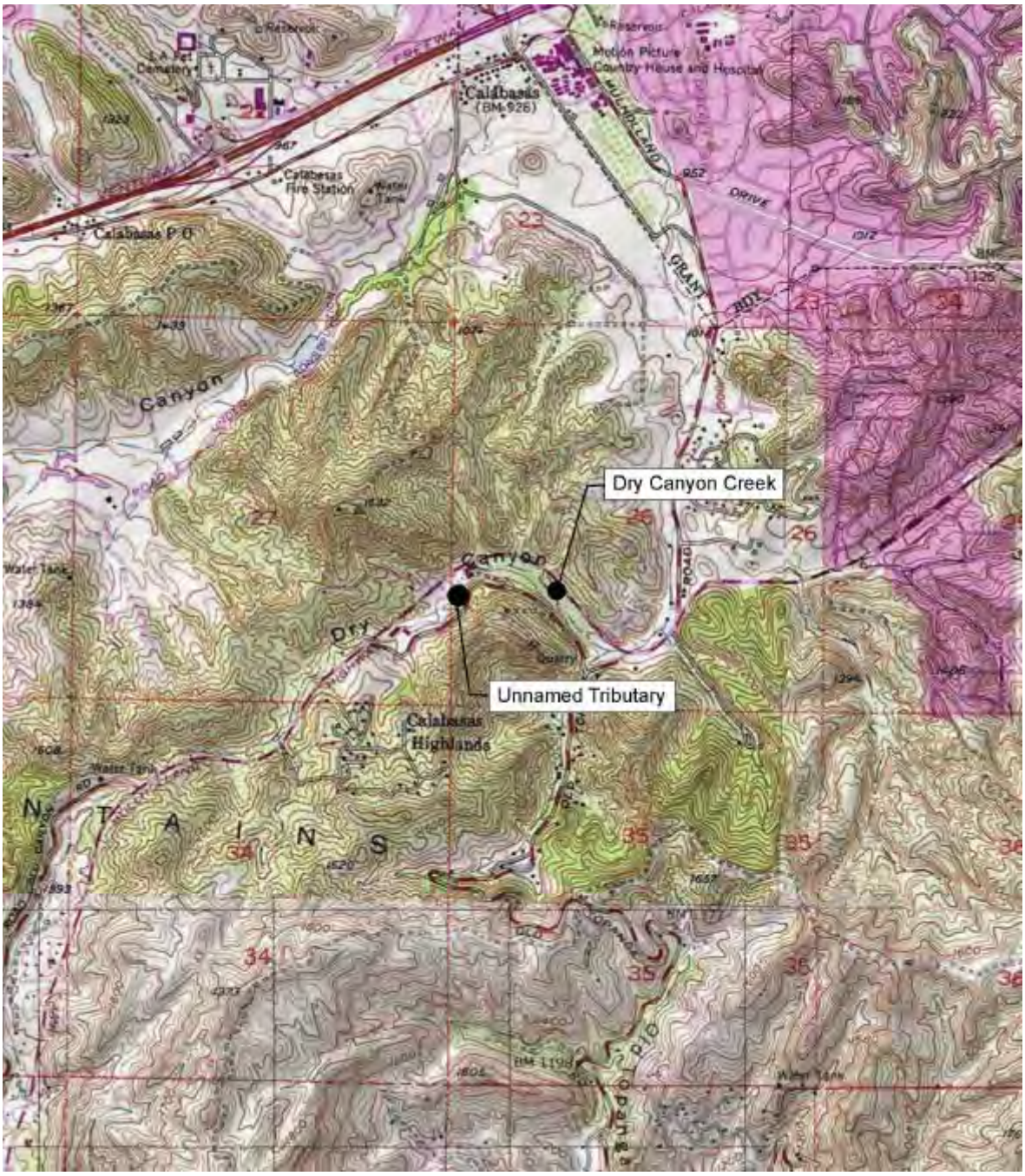


Figure 2: Project Vicinity

Source: FCS Preliminary Delineation of Jurisdictional Waters and Wetlands, November 2014



LEGEND

- COAST LIVE OAK WOODLAND
- SOUTHERN WILLOW SCRUB
- PROPERTY LINES
- DEVELOPED/DISTURBED
- REMNANT COASTAL SAGE SCRUB

SAMPLE

KEY MAP

NO.	DATE	REVISIONS	BY	CHK

DRAWN:	SDG
ENGINEER:	
CHECKED:	
PROJECT NO:	15.0272
SCALE:	AS SHOWN
INSPECTOR(S):	E. ZERNIK
INSPECTION DATE:	

EORM
2401 East Gonzales Road,Suite 180
Oxnard, CA 93036

CASTLE OAK AND BROWN PROPERTY

Figure 3. VIEWPOINT SCHOOL
CALABASAS, CA



0 230′ 460′

LEGEND

- COAST LIVE OAK WOODLAND
- SOUTHERN WILLOW SCRUB
- PROPERTY LINES
- DEVELOPED/DISTURBED

SAMPLE

KEY MAP

NO.	DATE	REVISIONS	BY	CHK

DRAWN: SDG	PROJECT NO: 15.0272
ENGINEER:	SCALE: AS SHOWN
CHECKED:	INSPECTOR(S): E. ZERNIK
	INSPECTION DATE:

EORM
2401 East Gonzales Road,Suite 180
Oxnard, CA 93036

PETERS PROPERTY

Figure 4. VIEWPOINT SCHOOL
CALABASAS, CA

Attachment 2

Reports

PRELIMINARY OAK TREE REPORT

SUBJECT

Viewpoint School
Peters Property and Castle Oaks/Brown Property

PREPARED FOR

Viewpoint School
23620 Mulholland Hwy
Calabasas, CA 91302

PREPARED BY

L. NEWMAN DESIGN GROUP, INC.
ASLA, California State License #2464
Certified Arborist WE-6820A
31300 Via Colinas, Suite 104
Westlake Village, CA 91362-3992
E-Mail: *lndg@lndg.net*
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Date: December 1, 2014
Revised Date: March 17, 2015
LNDG Project No.: 2086-21/23/24

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OBJECTIVES

The objective of this report is to qualify the present condition of the site's existing oak trees and to discuss the potential encroachments to them and the effect on the health of the trees. This involved the following:

1. Determining the condition of the protected trees (see **SUMMARY OF FIELD OBSERVATION** sheets);
2. Ascertaining the impacts that will occur due to the proposed grading and construction of the buildings and retaining walls (**OAK TREE LOCATION MAP)**;
3. Providing guidance to minimize any encroachments of the saved trees.

METHODS of STUDY

Qualifications of the oak trees were accomplished by the use of our standard visual survey, as completed by L. NEWMAN DESIGN GROUP, INC. (**LNDG**) in June of 2014 and November 14, 2014. In the course of the fieldwork, we performed the following tasks:

1. Live tree trunks were measured at 4½' above mean natural grade. Trees that measured 2 inches or larger were included. The trees were assessed for plant quality. Trees included were within or near the limit of work;
2. The trees were tagged with numbered, metal tags. These tags are affixed to the sides of the trees and correspond to those numbers on the **OAK TREE LOCATION MAP**;
3. Drip lines (the outermost edge of the tree's canopy) were field measured at eight compass directions equidistant around the circumference of the tree. The minimum clearance from the present grade to the bottom of the canopy at each of the points was estimated.

The critical trees were precisely surveyed. Other trees were given estimated locations based on the topographic survey. Refer to the **OAK TREE LOCATION MAP** included herein for the tree locations.

PROJECT LOCATION

The proposed project sites are located at 23238 Mulholland Hwy, 23602 and 23604 Dry Canyon Cold Creek Road in the City of Calabasas.

OAK SPECIES

All of the oak trees addressed in this phase of the project are *Quercus agrifolia* (coast live oak).

OAK TREE ORDINANCE

The City lies in a unique area of Los Angeles County, the beauty of which is greatly enhanced by the presence of large numbers of majestic Oak trees. Development of the area has resulted in the removal of a great number of these trees. Further uncontrolled and indiscriminate destruction of Oak trees would detrimentally affect the safety and welfare of the citizens of Calabasas. This preservation program outlined in this Ordinance contributes to the welfare and aesthetics of the community and retains the great historical and environmental value of these trees.

This ordinance sets forth the policy of the City to require the preservation of all healthy Oak trees unless reasonable and conforming use of the property justifies the removal, cutting, pruning and/or encroachment into the

Protected Zone of an Oak tree. The Protected Zone shall mean that area within the dripline of an Oak tree and extending therefrom to a point at least 5' outside the dripline, or 15' from the trunk(s) of a tree, whichever distance is greater.

The major thrust of the Oak Tree Policy was established to recognize Oak trees as significant, historical, aesthetic and valuable ecological resources, and as one of the most picturesque trees in Los Angeles County, lending beauty and charm to the natural and man-made landscape, enhancing the value of property, and the character of the communities in which they exist. In addition, the Oak Tree Policy intends to create favorable conditions for the preservation and propagation of this unique, threatened plant heritage, particularly those trees which may be classified as `Heritage Oak Trees', for the benefit of current and future residents of Calabasas. It is the intent of the Oak Tree Policy to maintain and enhance the general health, safety, and welfare by assisting in counteracting air pollution, and in minimizing soil erosion and other related environmental damages. The Oak Tree Policy is also intended to preserve and enhance property values by conserving and adding to the distinctive and unique aesthetic character of many areas of Calabasas in which Oak trees are indigenous.

RESULTS of STUDY

1. Physiological Condition of the Oaks

The physiological condition of the oak trees was detailed in the **SUMMARY of FIELD OBSERVATIONS** included in this report. All recommendations made in this report are based on the condition of the trees as of the date of the field work.

2. Summary of Data/Plan Review

A. **There are over 156 oak trees on the Peters property. There are 2 proposed removals due to the construction of the proposed tennis court facility. They are trees 643 and 644. In addition, there are 41 proposed encroachments due to the improved parking lot area and proposed tennis courts. They are trees 227, 228, 230, 231, 237, 238, 240, 243, 244, 245, 268, 269, 270 - 274, 534, 535, 645, 646, 648 - 651, 653, 673, 675, 689, 709 - 711, 751, 768 - 773, 777, and 778**.

B. **There are 49 oak trees on the Castle Oaks and Brown property. There is 1 proposed removal, oak tree 10, due to construction of the Fire Department turnaround location. In Addition, there are 19 proposed encroachments. They are trees 1 – 9, and 12 – 22**.

C. Drip lines on the **OAK TREE LOCATION MAP** graphically represent the canopies based on field measurements and estimates. See the **DRIPLINE MEASUREMENTS** section for dripline data.

D. Some pruning of large limbs may be required to provide clearance for the tennis court construction and parking lot.

3. Tree Replacement Program

A. Oak Tree Planting Plan

1. Oak trees shall be replaced on an inch for inch basis.
2. The landscape architect for this project shall design into the landscape the replacement trees.
3. The irrigation system (i.e., drip system or comparable) to water these newly planted replacement trees shall be compatible with the watering requirement of the project's indigenous oak trees.
4. The irrigation system maintenance program should water these replacement trees for the first 3 years at least to establish the trees. Thereafter, watering should be done only in the winter months during periods of severe drought as deemed necessary by the **LNDG**.

4. **Mitigation Recommendations**

A. Any City approved work within the protected zones of the saved oak trees, including branch removals, shall be under the direct inspection/observation of **LNDG**.

B. Copies of the oak tree report and the City of Calabasas' approved oak tree permit shall be kept on-site during all construction.

OAK TREE PRESERVATION PROGRAM

1. **General Oak Tree Protection**

A. Trees that are to be preserved on the site during construction shall be fenced at the location of their protected zones or at the limit of grading with a temporary fence of a material approved by the City of Calabasas prior to commencement of grading.

B. No activity, such as equipment or building materials storage, deposit of debris and trash, or parking shall be allowed within the protected zones of any oak tree at any time.

2. **Pruning**

A. Any pruning approved by the City of Calabasas prior to commencement of work shall be executed only after notification of the landscape architect / tree consultant and the City of Calabasas.
B. Pruning required, but not previously approved by the City of Calabasas, shall not be performed until a written request for pruning has been submitted and approved by the City of Calabasas unless the branches are less than 2" in diameter and is deemed necessary by **LNDG**.
C. All pruning shall be performed to the standards set forth by the International Society of Arboriculture (ISA).
D. Pruning wounds shall not be sealed. Approved pruning shall be performed by an ISA certified arborist under the direct supervision of the landscape architect / oak tree consultant.

3. **Grading within the Protected Zones of Oak Trees**

A. The construction of the retaining walls will avoid encroaching into the drip lines of the oak trees by construction activity beyond the limit of grading. Within the protected zones of oak trees to be preserved in place, hand trenching shall be done at the limit of the proposed grading to uncover roots, allowing them to be properly and cleanly pruned prior to grade work. This shall be done under the observation of **LNDG**.
B. The City requirement to hand-dig any approved excavation within the drip line of oak trees is designed to avoid irreparable root damage. The purpose is to locate and expose roots that must be excised and to carefully prune them, thereby avoiding the ripping and tearing caused with the use of backhoe excavation equipment. Due to the scope of improvements to construct the Viewpoint School Cornerstone Project, the standard city requirement for hand digging any approved excavation within the drip line of oak trees is impractical. Therefore, a **WORK PROCEDURES PROGRAM** is proposed to execute the work with precise and controlled methodology that avoids indiscriminant damage. The program is as follows:

WORK PROCEDURES PROGRAM SPECIFICS

1. Preparation Phase

During the pre-construction, on-site survey and staking, to provide layout control for the proposed improvements, the precise location of any improvement directly affecting any oak tree that is to be preserved in place shall be identified with monument stakes. The following information will be provided by this survey:

A. The verified location of affected oak trees that will remain along with the precise location of improvements that are encroaching within the protected zone of the individual trees.
B. For ease of identification, stakes with information concerning oak trees shall be marked.

2. Execution Phase

A. Protective Fencing:

i. See "General Oak Tree Protection" above. The oak trees that are to be preserved on the site shall be kept fenced during the construction operation, per the approved fencing plan, with a 5-foot high, temporary, chain-link fence. Orange safety fence may be used (as shown on the fencing plan) for protection during preconstruction activities but the chain-link fence must be in place prior to the commencement of grading. A three foot wide pass-through opening in the fence enclosure with a closable gate shall be provided for maintenance access. The fence shall remain during all phases of construction. Damaged fencing shall be immediately replaced or repaired.

ii. In some cases, fencing may be placed at the limit of grading or excavation in order to allow approved work to be done inside the protected zones. Refer to the fencing plan for these situations. No fencing shall be removed or moved without notifying the oak tree consultant and without approval from the City of Calabasas Community Development Department.

B. Pruning:

i. Pruning, as permitted for the use of the proposed facility shall be performed before grading to avoid conflict between oak trees and excavation equipment. This action should eliminate the potential for broken branches resulting from equipment.
ii. See pruning chart in this report for anticipated pruning impacts to the trees.

C. Excavation:

The greatest potential for consequential damage to oak trees is from excavation for footings, utilities, driveway base elevations and from grading.

It is not possible to develop this site without some conflict between the trees and the proposed improvements. The conflict relates to both the aerial canopy and the root structure of oak trees. The goal is to minimize and to control such damage. This can be accomplished as follows:

i. Define the area of excavation and the direction of the pioneering for the excavation that occurs within the drip line of an oak tree.
ii. After pruning roots as described in Section 3A above, it may be necessary to utilize small equipment to remove the overburden (insitu soil) above the primary root structure under the immediate direction of the Landscape Architect / Tree Consultant. Stop this effort upon encountering roots of significant size.

iii. Excise roots to the required depth using standard, sterile, mechanical root pruning equipment accompanied by hand work. In the case of a roadbed, excise the roots on each side of the road as close to the improvements as possible. In the case of the storm sewer Improvements, cut the roots on each side of the proposed trench in a similar way to the required depth. Follow excavation by hand pruning (with sterilized equipment) the exposed roots.

iv. This methodology will minimize root damage from excavation equipment pulling on roots in a lateral direction from their path of travel. Excised roots shall be hand sawn, using sterilized equipment, with a clean cut, at a 45 degree angle facing downward and shall not be sealed.

v. Place all excavation spoils outside of the protected zone of the tree.

D. Other protective measures:

i. Protect oak trees by not wounding them. Nailing of any thing such as grade stakes must be avoided.

ii. The potential for breaking of branches by mechanical equipment should be anticipated. Notify the landscape architect / tree consultant with a request for an evaluation and recommendation.

iii. It is important to leave the natural leaf litter that exists beneath an oak tree.

iv. No chemicals such as herbicides shall be used upstream and within one hundred feet of any oak tree protected zone.

v. Oak trees do not require supplemental watering. Although the increase in water and nutrients may improve tree vigor and appearance initially, most often disease problems increase over time. Decay, root, and crown rots are favored by high moisture conditions. To avoid disease infestation irrigation water system must not ever be applied any closer to the tree trunk than fifteen feet. In other words, the ground must remain totally dry for at least fifteen feet in all directions in and around the trunk of an oak tree. Of note, oak root fungus *(Armillaria mellea)* has been previously identified as present within the Viewpoint School site.

vi. If grading is completed other than during the rainy season, dust deposited on the foliage of oaks must be hosed off so that the growth processes of the tree are not disrupted.

NOTICE OF DISCLAIMER:

This report represents the independent opinion of the signatory consultant (L. NEWMAN DESIGN GROUP, INC.). The tree(s) discussed herein was/were generally reviewed for physical, biological function and aesthetic conditions. This examination was conducted in accordance with presently accepted industry procedures, which are a ground-plane macro-visual observation only. No extensive micro-biological, soil-root excavations, upper crown examination nor internal tree investigations were conducted and therefore, the reporting herein reflects the overall visual appearance of the tree(s) on the date reviewed and no warranty is implied as to the potential failure, health or demise of any part or of whole of any tree described in the report. Records may not remain accurate after our inspection due to unknown causes of changeable deterioration of the reviewed site.

Sincerely,

L. NEWMAN DESIGN GROUP, INC.
ASLA, California State License #2464



John Oblinger
ISA Certified Arborist WE-6820A
ISA Tree Risk Assessor Qualified

SUMMARY of FIELD OBSERVATIONS

PETERS PROPERTY

INSPECTION NOTICE

The following information was observed on the date(s) indicated herein, and should only be considered true at the time of field inspection.

LNDG Job No.: 2086-21 Date: 6-28-14

SUMMARY OF FIELD OBSERVATIONS

	TREE NUMBER	227	228	229	230	231	232	233	234	235	236
SPECIES	*Quercus agrifolia*	X	X	X	X	X	X	X	X	X	X
	Quercus lobata										
	Quercus berberidifolia										
FORM	TREE HT. (ESTIMATED)	50'	55'	35'	20'	35'	30'	30'	30'	20'	25'
	LEAN (ANGLE)			NW	NE				NW	W	
	TRUNK DIAMETERS	38"	45"	18"	12"	25"	13"	9"	10"	9"	10"
		10				18"	9"	9"	6"	7"	9"
		9					4"	8"			8"
PHYSICAL CONDITION	TRUNK CAVITY									X	X
	TRUNK EXUDATION										
	TRUNK DAMAGE										
	BURIED ROOT COLLAR	X				X	X	X	X	X	X
	EXPOSED ROOTS		X								
	WEAK CROTCH(ES)										
	FUNGAL DISEASE										
	INSECT/MITE DAMAGE	X	X	X	X	X	X	X	X	X	X
	NEW/OLD FIRE DAMAGE										
	BRANCH CAVITIES	X	X	X	X	X	X	X	X	X	X
	MAINSTEM DIEBACK										
	TWIG/BRANCH DIEBACK	X	X	X		X	X	X	X	X	X
	EPICORMIC GROWTH				X					X	
	THIN FOLIAGE										
	VIGOR (GOOD/MOD/POOR)	G	G	G	G	G	G	G	G	M	G
	TERRAIN - SLOPED/LEVEL	S	S	S	L	L	S	S	S	S	S
RATING	HERITAGE	X	X								
	HEALTH	B	B	B	D	B	B	B	B	C	B
	AESTHETICS/COMFORMITY	B	B	C	L	L	C	C	C	C	C
TREAT-MENT	REMOVE DEADWOOD					X	X	X	X		
	INSECT/DISEASE TREAT										
	REMARKS:										

LNDG Job No.: _____ Date: 6.23.14

SUMMARY OF FIELD OBSERVATIONS

	TREE NUMBER	237	238	239	240	241	242	243	244	245	268
SPECIES	*Quercus agrifolia*	X	X	X	X	X	X	X	X	X	X
	Quercus lobata										
	Quercus berberidifolia										
FORM	TREE HT. (ESTIMATED)	20'	30'	30'	35'	35'	35'	50'	50'	25	25'
	LEAN (ANGLE)	E									
	TRUNK DIAMETERS	12"	14"	12"	16"	14"	23"	30'	28'	12"	19"
		4"	13"	12"	19"			28"			18"
				10"	15"						15"
				8"							15"
											8"
											6"
PHYSICAL CONDITION	TRUNK CAVITY								X		
	TRUNK EXUDATION										
	TRUNK DAMAGE										
	BURIED ROOT COLLAR		X	X	X	X	X	X	X	X	X
	EXPOSED ROOTS								X	X	
	WEAK CROTCH(ES)										
	FUNGAL DISEASE	X	X		X	X	X	X			X
	INSECT/MITE DAMAGE	X	X	X	X	X	X	X	X	X	X
	NEW/OLD FIRE DAMAGE										
	BRANCH CAVITIES	X	X	X				X	X		X
	MAINSTEM DIEBACK										
	TWIG/BRANCH DIEBACK	X	X	X	X	X	X	X	X	X	X
	EPICORMIC GROWTH										
	THIN FOLIAGE				X						
	VIGOR (GOOD/MOD/POOR)	G	G	G	M	G	G	G	G	G	G
	TERRAIN - SLOPED/LEVEL	S	S	S	S	S	S	S	S	S	S
RATING	HERITAGE										
	HEALTH	B	B	B	C	B	B	B	B	B	B
	AESTHETICS/COMFORMITY	C	B	C	C	B	B	B	B	C	B
TREAT-MENT	REMOVE DEADWOOD	X	X	X	X	X	X	X	X		X
	INSECT/DISEASE TREAT										
	REMARKS:										

LNDG Job No.: _____ Date: 6-28-14

SUMMARY OF FIELD OBSERVATIONS

	TREE NUMBER	269	270	271	272	273	274	531	532	533	534
SPECIES	*Quercus agrifolia*	X	X	X	X	X	X	X	X	X	X
	Quercus lobata										
	Quercus berberidifolia										
FORM	TREE HT. (ESTIMATED)	35'	25'	30'	50'	55'	40'	25'	10'	6'	25'
	LEAN (ANGLE)								W	E	E
	TRUNK DIAMETERS	14"	9"	6"	32", 16	41", 28, 23"	22", 17"	13", 10"	5"	2"	15"
PHYSICAL CONDITION	TRUNK CAVITY					X					
	TRUNK EXUDATION										
	TRUNK DAMAGE										
	BURIED ROOT COLLAR	X	X	X	X	X	X	X			X
	EXPOSED ROOTS				X						
	WEAK CROTCH(ES)										
	FUNGAL DISEASE										
	INSECT/MITE DAMAGE	X	X	X	X	X	X	X			X
	NEW/OLD FIRE DAMAGE					X	X				
	BRANCH CAVITIES				X	X	X				
	MAINSTEM DIEBACK			X							
	TWIG/BRANCH DIEBACK	X	X	X		X	X	X	X	X	X
	EPICORMIC GROWTH										
	THIN FOLIAGE			X			X	X	X	X	
	VIGOR (GOOD/MOD/POOR)	G	G	M	G	G	G	M	M	M	G
	TERRAIN - SLOPED/LEVEL	S	S	S	S	L	S		S	S	S
RATING	HERITAGE					X					
	HEALTH	B	B	C	B	B	C	C	C	C	B
	AESTHETICS/COMFORMITY	B	C	C	B	A	C	C	C	C	C
TREAT-MENT	REMOVE DEADWOOD	X		X		X	X	X	X	X	X
	INSECT/DISEASE TREAT										
	REMARKS:										

LNDG Job No.:_____ Date: 6·2814

SUMMARY OF FIELD OBSERVATIONS

	TREE NUMBER	535	536	548												
SPECIES	*Quercus agrifolia*	X	X													
	Quercus lobata															
	Quercus berberidifolia															
FORM	TREE HT. (ESTIMATED)	20'	20'													
	LEAN (ANGLE)	E	E													
	TRUNK DIAMETERS	9"	8"													
PHYSICAL CONDITION	TRUNK CAVITY															
	TRUNK EXUDATION															
	TRUNK DAMAGE															
	BURIED ROOT COLLAR	X	X													
	EXPOSED ROOTS															
	WEAK CROTCH(ES)															
	FUNGAL DISEASE															
	INSECT/MITE DAMAGE	X	X													
	NEW/OLD FIRE DAMAGE															
	BRANCH CAVITIES															
	MAINSTEM DIEBACK															
	TWIG/BRANCH DIEBACK	X	X													
	EPICORMIC GROWTH															
	THIN FOLIAGE															
	VIGOR (GOOD/MOD/POOR)	G	G													
	TERRAIN - SLOPED/LEVEL	S	S													
RATING	HERITAGE															
	HEALTH	B	B													
	AESTHETICS/COMFORMITY	C	B													
TREAT-MENT	REMOVE DEADWOOD	X	X													
	INSECT/DISEASE TREAT															
	REMARKS:			THIS IS TREE 689												

LNDG Job No.: _____ Date: 6.28.14

SUMMARY OF FIELD OBSERVATIONS

	TREE NUMBER	631	632	633	634	635	636	637	638	639	640
SPECIES	*Quercus agrifolia*		X	X	X	X	X	X	X	X	X
	Quercus lobata										
	Quercus berberidifolia										
FORM	TREE HT. (ESTIMATED)		20'	20'	15'	15'	12'	22'	8'	8	15'
	LEAN (ANGLE)										
	TRUNK DIAMETERS		8"	9"	3x5	4	2x3	12	2	2	6
				9	4	3					
				2	3	2					
PHYSICAL CONDITION	TRUNK CAVITY										
	TRUNK EXUDATION										
	TRUNK DAMAGE										
	BURIED ROOT COLLAR										
	EXPOSED ROOTS										
	WEAK CROTCH(ES)										
	FUNGAL DISEASE										
	INSECT/MITE DAMAGE		X	X	X	X	X	X	X	X	X
	NEW/OLD FIRE DAMAGE										
	BRANCH CAVITIES										
	MAINSTEM DIEBACK										
	TWIG/BRANCH DIEBACK		X	X	X	X	X				
	EPICORMIC GROWTH										
	THIN FOLIAGE										
	VIGOR (GOOD/MOD/POOR)		G	G	G	G	G	M	G	G	G
	TERRAIN - SLOPED/LEVEL										
RATING	HERITAGE										
	HEALTH		B	B	B	B	B	C	B	A	A
	AESTHETICS/COMFORMITY		B	B	B	B	B	C	B	B	B
TREAT-MENT	REMOVE DEADWOOD							X			
	INSECT/DISEASE TREAT										
	REMARKS:										

LNDG Job No.: _____ Date: 7-1-14

SUMMARY OF FIELD OBSERVATIONS

	TREE NUMBER	641	642	643	644	645	646	647	648	649	650
SPECIES	*Quercus agrifolia*	X	X	X	X	X	X	X	X	X	X
	Quercus lobata										
	Quercus berberidifolia										
FORM	TREE HT. (ESTIMATED)	10'	15'	10'	35'	20'	10'	8'	25'	30'	20'
	LEAN (ANGLE)		N	NE					N	NE	N
	TRUNK DIAMETERS	4"	6"	3"	19"	7"	3"	2"	10"	13"	10"
		2"	2"				3"				
		2"					1"				
PHYSICAL CONDITION	TRUNK CAVITY										
	TRUNK EXUDATION										X
	TRUNK DAMAGE										
	BURIED ROOT COLLAR		X	X					X	X	X
	EXPOSED ROOTS				X						
	WEAK CROTCH(ES)										
	FUNGAL DISEASE										X
	INSECT/MITE DAMAGE	X	X	X	X	X	X	X	X	X	X
	NEW/OLD FIRE DAMAGE										
	BRANCH CAVITIES				X						
	MAINSTEM DIEBACK										
	TWIG/BRANCH DIEBACK				X						
	EPICORMIC GROWTH										
	THIN FOLIAGE										
	VIGOR (GOOD/MOD/POOR)	G	G	G	G	G	G	G	G	G	G
	TERRAIN - SLOPED/LEVEL	S	S	S	S	L	L	S	S	S	S
RATING	HERITAGE										
	HEALTH	A	B	A	B	A	A	B	B	B	B
	AESTHETICS/COMFORMITY	B	B	B	B	A	B	B	B	B	C
TREAT-MENT	REMOVE DEADWOOD										
	INSECT/DISEASE TREAT										
	REMARKS:										

LNDG Job No.: _____ Date: 7.1.14

SUMMARY OF FIELD OBSERVATIONS

	TREE NUMBER	651	652	653	654	655	656	657	658	659	660
SPECIES	*Quercus agrifolia*	X	X	X	X	X	X	X		X	X
	Quercus lobata								X		
	Quercus berberidifolia										
FORM	TREE HT. (ESTIMATED)	55'	12'	55'	10'	15'	50'	45'	15'	25'	12'
	LEAN (ANGLE)	N	SE	N		NE	NE	SE	S		S
	TRUNK DIAMETERS	33"	12"		2"	15"	33"	29"	9"	12"	3"
		15"	4"	29"		12"				11"	
			2"	10"						10"	
										6"	
PHYSICAL CONDITION	TRUNK CAVITY		X	X						X	
	TRUNK EXUDATION										
	TRUNK DAMAGE			X		X					
	BURIED ROOT COLLAR	X	X	X		X	X	X	X	X	X
	EXPOSED ROOTS										
	WEAK CROTCH(ES)										
	FUNGAL DISEASE										
	INSECT/MITE DAMAGE	X	X	X	X	X	X	X	X	X	X
	NEW/OLD FIRE DAMAGE			X			X			X	
	BRANCH CAVITIES	X		X		X	✓	X	X	X	
	MAINSTEM DIEBACK										
	TWIG/BRANCH DIEBACK		X	X		X	X	X	X	X	X
	EPICORMIC GROWTH										
	THIN FOLIAGE									X	X
	VIGOR (GOOD/MOD/POOR)	G	G	G	G	G	G	G	G	M	M
	TERRAIN - SLOPED/LEVEL	S	S	S	S	S	S	S	S	S	S
RATING	HERITAGE										
	HEALTH	B	B	B	A	B	B	B	B	C	C
	AESTHETICS/COMFORMITY	B	C	B	A	C	C	B	C	C	C
TREAT-MENT	REMOVE DEADWOOD	X	X	X		X	V	✓	X	X	X
	INSECT/DISEASE TREAT										
	REMARKS:										

LNDG Job No.: _____ Date: 7·1·14

SUMMARY OF FIELD OBSERVATIONS

	TREE NUMBER	661	662	663	664	665	666	667	668	669	670
SPECIES	*Quercus agrifolia*	X	X	X	X	X	X	X	X	X	X
	Quercus lobata										
	Quercus berberidifolia										
FORM	TREE HT. (ESTIMATED)	10'	12'	15'	15'	35'	25'	10'	35'	55'	30'
	LEAN (ANGLE)	E	N		S		E		NE		NE
	TRUNK DIAMETERS	5"	8"	13"	15"	15"	25'	2"	15"	25'	8"
		5"	~~8~~	9"			14"	1"	3"	21"	
		5"					3"		2"	16"	
		3'									
		3"									
		3"									
PHYSICAL CONDITION	TRUNK CAVITY	X	X	X							
	TRUNK EXUDATION										
	TRUNK DAMAGE		X	X							
	BURIED ROOT COLLAR	X	X	X	X	X	X		X		
	EXPOSED ROOTS									X	
	WEAK CROTCH(ES)										
	FUNGAL DISEASE										
	INSECT/MITE DAMAGE	X	X	X	X	X	X	X	V	X	X
	NEW/OLD FIRE DAMAGE	X	X	X							
	BRANCH CAVITIES			X					X	X	
	MAINSTEM DIEBACK										
	TWIG/BRANCH DIEBACK	X	X		X	X	X	X	V	X	X
	EPICORMIC GROWTH										
	THIN FOLIAGE										
	VIGOR (GOOD/MOD/POOR)	M	M	G	G	G	M	M	M	G	G
	TERRAIN - SLOPED/LEVEL	S	S	S	S	S	S	S	S	S	S
RATING	HERITAGE										
	HEALTH	C	C	B	B	B	C	B	B	B	B
	AESTHETICS/COMFORMITY	C	C	C	C	B	C	B	B	B	C
TREAT-MENT	REMOVE DEADWOOD	X	X	X	X	X	X		X	X	
	INSECT/DISEASE TREAT										
REMARKS:		MAIN TRUNK ON GRADE									

LNDG Job No.: _____ Date: 7.1.14

SUMMARY OF FIELD OBSERVATIONS

	TREE NUMBER	671	672	673	674	675	676	677	678	679	680
SPECIES	*Quercus agrifolia*	X	X	X	X	X	X	X	X	X	X
	Quercus lobata										
	Quercus berberidifolia										
FORM	TREE HT. (ESTIMATED)	15'	20'	35'	15'	25'	15'	15'	55'	35'	40'
	LEAN (ANGLE)	SE	NE	NE	NE	NE				N	E
	TRUNK DIAMETERS	16'	14"	26"	12"	21"	4"	4"	46"	11"	28"
									27"		
PHYSICAL CONDITION	TRUNK CAVITY								X		
	TRUNK EXUDATION										
	TRUNK DAMAGE										
	BURIED ROOT COLLAR									X	X
	EXPOSED ROOTS								X		
	WEAK CROTCH(ES)										
	FUNGAL DISEASE										
	INSECT/MITE DAMAGE	X	X	X	X	X	X	X	X	X	X
	NEW/OLD FIRE DAMAGE								X		
	BRANCH CAVITIES	X	X	X	X	X			X	X	X
	MAINSTEM DIEBACK										
	TWIG/BRANCH DIEBACK	X	X	X	X	X	X	X	X	X	X
	EPICORMIC GROWTH										
	THIN FOLIAGE				X		X	X	X	X	X
	VIGOR (GOOD/MOD/POOR)	G	G	G	M	G	M	M	M	M	M
	TERRAIN - SLOPED/LEVEL										
RATING	HERITAGE								X		
	HEALTH	B	B	B	C	B	C	C	C	C	C
	AESTHETICS/COMFORMITY	C	C	C	C	C	C	C	B	C	C
TREAT-MENT	REMOVE DEADWOOD	X	X	X	X	X			X	X	X
	INSECT/DISEASE TREAT										
	REMARKS:										

LNDG Job No.: _____ Date: 7/1/14

SUMMARY OF FIELD OBSERVATIONS

	TREE NUMBER	681	682	683	684	685	686	687	688	689	690
SPECIES	*Quercus agrifolia*	X	X	X	X	X	X	X	X	X	X
	Quercus lobata										
	Quercus berberidifolia										
FORM	TREE HT. (ESTIMATED)	18	15'	35'	20'	10'	8'	30'	35'	10'	25'
	LEAN (ANGLE)	S	NW		W	S	S				
	TRUNK DIAMETERS	12"	12"	17"	11"	18"	8"	17"	16"	3"	12"
		8"	8"	13"				15"	9"		15
											10"
PHYSICAL CONDITION	TRUNK CAVITY										
	TRUNK EXUDATION										
	TRUNK DAMAGE										
	BURIED ROOT COLLAR	X	X	X	X	X	I	X	X		
	EXPOSED ROOTS										
	WEAK CROTCH(ES)										
	FUNGAL DISEASE										
	INSECT/MITE DAMAGE	X	X	X	X	X	X	X	X	X	
	NEW/OLD FIRE DAMAGE										
	BRANCH CAVITIES										
	MAINSTEM DIEBACK										
	TWIG/BRANCH DIEBACK	X	X	X	X	X	X	X	I		
	EPICORMIC GROWTH		2*								
	THIN FOLIAGE		X	X					X		
	VIGOR (GOOD/MOD/POOR)	G	M	M	G	M	M	G	G	G	G
	TERRAIN - SLOPED/LEVEL	S	S	S	S	S	S	S	S	S	S
RATING	HERITAGE									-	
	HEALTH	B	C	C	B	C	C	B	B	B	B
	AESTHETICS/COMFORMITY	C	C	C	C	C	C	C	B	B	B
TREAT-MENT	REMOVE DEADWOOD	X	X			X					
	INSECT/DISEASE TREAT										
REMARKS:			MAIN TRUNK 2 GROUND								

LNDG Job No.: _____ Date: 7-2-14

SUMMARY OF FIELD OBSERVATIONS

	TREE NUMBER	691	692	693	694	695	696	697	698	699	700
SPECIES	*Quercus agrifolia*	X	X	X	X	X	X	X	X	X	X
	Quercus lobata										
	Quercus berberidifolia										
FORM	TREE HT. (ESTIMATED)	20'	25'	25'	20'	35'	35'	10'	12'	10'	8'
	LEAN (ANGLE)										
	TRUNK DIAMETERS	9"	14"	29"	14"	15"	18"	4"	6"	3"	2"
			13"		14"	14"		2"	2"		
			13"		8"			1"			
			10"								
PHYSICAL CONDITION	TRUNK CAVITY				X						
	TRUNK EXUDATION										*
	TRUNK DAMAGE				X						
	BURIED ROOT COLLAR	X	X	X	X	X	X	X	X	X	X
	EXPOSED ROOTS										
	WEAK CROTCH(ES)										
	FUNGAL DISEASE				X						
	INSECT/MITE DAMAGE	X	X	X	X	X	X	X	X	X	X
	NEW/OLD FIRE DAMAGE				X						
	BRANCH CAVITIES	X	X	X	X						
	MAINSTEM DIEBACK	X	X		X						
	TWIG/BRANCH DIEBACK	X	X	X	X	X	X	X	X	X	X
	EPICORMIC GROWTH										
	THIN FOLIAGE	X									
	VIGOR (GOOD/MOD/POOR)	M	M	G	M	G	G	G	G	G	G
	TERRAIN - SLOPED/LEVEL	S	S	S	S	S	S	S	S	S	S
RATING	HERITAGE										
	HEALTH	C	C	B	C	B	B	B	B	B	B
	AESTHETICS/COMFORMITY	D	C	B	C	B	B	B	B	B	B
TREAT-MENT	REMOVE DEADWOOD	X	X	X	X	X	X				
	INSECT/DISEASE TREAT										
	REMARKS:										

LNDG Job No.:_____ Date: 7.2.14

SUMMARY OF FIELD OBSERVATIONS

	TREE NUMBER	701	702	703	704	705	706	707	708	709	710
SPECIES	*Quercus agrifolia*	X		X	X		X	X	X	X	X
	Quercus lobata		X								
	Quercus berberidifolia										
FORM	TREE HT. (ESTIMATED)	12'	60'	60'	8'	35'	20'	10'	7	15'	30'
	LEAN (ANGLE)		W	CE			S				
	TRUNK DIAMETERS	4"	35"	30"	2x2"	25"	9"	3"	2"	7"	12"
						17"			2"		
									1"		
PHYSICAL CONDITION	TRUNK CAVITY										
	TRUNK EXUDATION	X									
	TRUNK DAMAGE										
	BURIED ROOT COLLAR		X			X	X				
	EXPOSED ROOTS										
	WEAK CROTCH(ES)										
	FUNGAL DISEASE		X	X							
	INSECT/MITE DAMAGE	X	X	X	X	X	X	X	X	X	X
	NEW/OLD FIRE DAMAGE										
	BRANCH CAVITIES			X		X					
	MAINSTEM DIEBACK										
	TWIG/BRANCH DIEBACK	X	X	X	X	X	X	X	X	X	X
	EPICORMIC GROWTH					X					
	THIN FOLIAGE										
	VIGOR (GOOD/MOD/POOR)	G	G	G	G	G	G	G	G	G	G
	TERRAIN - SLOPED/LEVEL	S	S	S	S	S	S	S	S	S	S
RATING	HERITAGE		X								
	HEALTH	B	B	B	B	C	B	A	A	A	B
	AESTHETICS/COMFORMITY	A	A	B	B	B	C	A	A	A	B
TREAT-MENT	REMOVE DEADWOOD		X	T		T					
	INSECT/DISEASE TREAT										
	REMARKS:										

LNDG Job No.:_____ Date: 7·2·14

SUMMARY OF FIELD OBSERVATIONS

	TREE NUMBER	711	712	713	714	715	716	717	718	719	720
SPECIES	*Quercus agrifolia*	X	X	X	X	X	X	X	X	X	X
	Quercus lobata										
	Quercus berberidifolia										
FORM	TREE HT. (ESTIMATED)	10'	8'	25'	30'	30'	15'	15'	7'	25'	25'
	LEAN (ANGLE)	NE									
	TRUNK DIAMETERS	4"	3'	18"	17"	16"	5"	11"	2'	13"	18"
					13"			10"		11"	
								10"			
PHYSICAL CONDITION	TRUNK CAVITY										
	TRUNK EXUDATION										
	TRUNK DAMAGE										
	BURIED ROOT COLLAR				X	X	X	X	X	X	X
	EXPOSED ROOTS										
	WEAK CROTCH(ES)										
	FUNGAL DISEASE										
	INSECT/MITE DAMAGE	X	X	X	X	X	X	X	X	X	X
	NEW/OLD FIRE DAMAGE										
	BRANCH CAVITIES				X	X	X	X			
	MAINSTEM DIEBACK										
	TWIG/BRANCH DIEBACK	X	X	X	X	X	X	X		X	X
	EPICORMIC GROWTH										
	THIN FOLIAGE							X			
	VIGOR (GOOD/MOD/POOR)	G	G	G	G	G	G	G	G	G	G
	TERRAIN - SLOPED/LEVEL	S	S	S	S	S	S	S	S	S	S
RATING	HERITAGE										
	HEALTH	B	B	B	B	B	B	C	B	B	B
	AESTHETICS/COMFORMITY	C	B	B	B	B	B	C	A	B	B
TREAT-MENT	REMOVE DEADWOOD					X		X		X	X
	INSECT/DISEASE TREAT										
	REMARKS:										

LNDG Job No.:_____ Date: 7.2.14

SUMMARY OF FIELD OBSERVATIONS

SPECIES	TREE NUMBER	721	722	723	724	725	726	727	728	729	730
	Quercus agrifolia	X	X	X	X	X	X	X	X	X	X
	Quercus lobata										
	Quercus berberidifolia										
FORM	TREE HT. (ESTIMATED)	7'	12"	35'	8'	8'	8'	6'	6'	11'	7'
	LEAN (ANGLE)										
	TRUNK DIAMETERS	2"	5'	21"	2"	3' 1"	3'	2"	2"	2"	2"
PHYSICAL CONDITION	TRUNK CAVITY										
	TRUNK EXUDATION										
	TRUNK DAMAGE										
	BURIED ROOT COLLAR	X		X		X	X	X	X		
	EXPOSED ROOTS										
	WEAK CROTCH(ES)										
	FUNGAL DISEASE										
	INSECT/MITE DAMAGE	X	X	X	X	X	X	X	X		
	NEW/OLD FIRE DAMAGE										
	BRANCH CAVITIES										
	MAINSTEM DIEBACK										
	TWIG/BRANCH DIEBACK	X	X	X	X	X	X	X	X	X	X
	EPICORMIC GROWTH										
	THIN FOLIAGE										
	VIGOR (GOOD/MOD/POOR)	G	G	G	G	G	G	G	G	G	G
	TERRAIN - SLOPED/LEVEL	S	S	S	S	S	S	S	S	S	S
RATING	HERITAGE										
	HEALTH	A	A	B	A	A	A	A	A	A	A
	AESTHETICS/COMFORMITY	A	X	B	B	B	B	A	A	A	A
TREAT-MENT	REMOVE DEADWOOD										
	INSECT/DISEASE TREAT										
	REMARKS:										

LNDG Job No.:_____ Date: 7.8.14

SUMMARY OF FIELD OBSERVATIONS

SPECIES	TREE NUMBER	731	732	733	734	735	736	737	738	739	740
	Quercus agrifolia	X	X	X	X	X	X	X	X	X	X
	Quercus lobata										
	Platanus racemosa										
FORM	TREE HT. (ESTIMATED)	8	8	10	15	15	15	15	10	10	12
	LEAN										
	TRUNK DIAMETERS	2	2	4 4	3	3	3 3	3 3	2	2	5 2
PHYSICAL CONDITION	TRUNK CAVITY										
	TRUNK EXUDATION										
	TRUNK DAMAGE										
	BURIED ROOT COLLAR										
	EXPOSED ROOTS										
	WEAK CROTCH(ES)										
	FUNGAL DISEASE										
	INSECT/MITE DAMAGE	X	X	X	X	X	X	X	X	X	X
	NEW/OLD FIRE DAMAGE										
	BRANCH CAVITIES										
	MAINSTEM DIEBACK										
	TWIG/BRANCH DIEBACK										
	EPICORMIC GROWTH										
	THIN FOLIAGE										
	VIGOR (GOOD/MOD/POOR)	G	G	G	G	G	G	G	G	G	G
	TERRAIN - SLOPED/LEVEL	S	S	S	S	S	S	S	S	S	S
RATING	HERITAGE	1		1		1	1	1	1		
	HEALTH	B	B	B	B	B	B	B	B	B	B
	AESTHETICS/COMFORMITY	B	B	B	B	B	B	B	B	B	B
TREAT-MENT	REMOVE DEADWOOD										
	INSECT/DISEASE TREAT										
	REMARKS:										

LNDG Job No.:_____ Date: 7.8.14

SUMMARY OF FIELD OBSERVATIONS

	TREE NUMBER	741	742	743	744	745	746	747	748	749	750
SPECIES	*Quercus agrifolia*	X	X	X	X	X	X	X	X	X	X
	Quercus lobata										
	Platanus racemosa										
FORM	TREE HT. (ESTIMATED)	8	6	12	10	10	12	12	15	10	25
	LEAN	~~E~~	N								
	TRUNK DIAMETERS	2	2	3	3	2	3	3	7	4	5
		1					3	2			5
											3
											2
PHYSICAL CONDITION	TRUNK CAVITY										
	TRUNK EXUDATION										
	TRUNK DAMAGE										
	BURIED ROOT COLLAR										
	EXPOSED ROOTS										
	WEAK CROTCH(ES)										
	FUNGAL DISEASE										
	INSECT/MITE DAMAGE	X	X	X	X	X	X	X	X	X	X
	NEW/OLD FIRE DAMAGE										
	BRANCH CAVITIES										
	MAINSTEM DIEBACK										
	TWIG/BRANCH DIEBACK	X	X	X	X	X	X	X	X	X	X
	EPICORMIC GROWTH										
	THIN FOLIAGE										
	VIGOR (GOOD/MOD/POOR)	G	G	G	G	G	G	G	G	G	G
	TERRAIN - SLOPED/LEVEL	S	S	S	S	S	S	S	S	S	S
RATING	HERITAGE										
	HEALTH	B	B	B	B	B	B	B	B	B	B
	AESTHETICS/COMFORMITY	B	B	B	B	B	B	B	B	B	B
TREAT-MENT	REMOVE DEADWOOD										
	INSECT/DISEASE TREAT										
	REMARKS:										

LNDG Job No.:_____ Date: 7/8/14

SUMMARY OF FIELD OBSERVATIONS

	TREE NUMBER	751	752	753	754	755	756	757	758	759	760
SPECIES	*Quercus agrifolia*	X	X	X	X	X	X	X	X	X	X
	Quercus lobata										
	Platanus racemosa										
FORM	TREE HT. (ESTIMATED)	20	12	8	10	15	25	25	~~25~~ 30	~~30~~ 20	
	LEAN						W	N	N	N	
	TRUNK DIAMETERS	3	2	3	4	7	10	7	5	13	3
									5	2	
										2	
PHYSICAL CONDITION	TRUNK CAVITY										
	TRUNK EXUDATION										
	TRUNK DAMAGE										
	BURIED ROOT COLLAR										
	EXPOSED ROOTS										
	WEAK CROTCH(ES)										
	FUNGAL DISEASE										
	INSECT/MITE DAMAGE	X	X	X	X	X	X	X	X	X	X
	NEW/OLD FIRE DAMAGE										
	BRANCH CAVITIES										
	MAINSTEM DIEBACK										
	TWIG/BRANCH DIEBACK	X	X	X	X	X	X	X	X	X	X
	EPICORMIC GROWTH										
	THIN FOLIAGE										
	VIGOR (GOOD/MOD/POOR)	G	G	G	G	G	G	G	G	G	G
	TERRAIN - SLOPED/LEVEL	S	S	S	S	S	S	S	S	S	S
RATING	HERITAGE										
	HEALTH	B	B	B	B	B	B	B	B	B	B
	AESTHETICS/COMFORMITY	B	B	B	B	B	B	C	C	C	B
TREAT-MENT	REMOVE DEADWOOD										
	INSECT/DISEASE TREAT										
	REMARKS:										

LNDG Job No.:_____ Date: 7/13

SUMMARY OF FIELD OBSERVATIONS

	TREE NUMBER	761	762	763	764	765	766	767	768	769	770
SPECIES	*Quercus agrifolia*	X	X	X	X	X	X	X	X	X	X
	Quercus lobata										
	Platanus racemosa										
FORM	TREE HT. (ESTIMATED)	25	10	10	15	20	15	25	9	30	12
	LEAN										
	TRUNK DIAMETERS	11	3	3	9	12	4	16 8	3	10	2
PHYSICAL CONDITION	TRUNK CAVITY										
	TRUNK EXUDATION										
	TRUNK DAMAGE										
	BURIED ROOT COLLAR										
	EXPOSED ROOTS										
	WEAK CROTCH(ES)										
	FUNGAL DISEASE										
	INSECT/MITE DAMAGE	X	X	X	X	X	X	X	X	X	X
	NEW/OLD FIRE DAMAGE										
	BRANCH CAVITIES										
	MAINSTEM DIEBACK										
	TWIG/BRANCH DIEBACK	X	X	X	X	X	X	X	X	X	X
	EPICORMIC GROWTH										
	THIN FOLIAGE										
	VIGOR (GOOD/MOD/POOR)	G	G	G	G	G	G	G	G	G	G
	TERRAIN - SLOPED/LEVEL	S	S	S	S	S	S	S	S	S	S
RATING	HERITAGE										
	HEALTH	B	B	B	B	B	B	B	B	B	B
	AESTHETICS/COMFORMITY	C	C	B	B	B	B	B	B	B	B
TREAT-MENT	REMOVE DEADWOOD										
	INSECT/DISEASE TREAT										
	REMARKS:										

LNDG Job No.:_____ Date: 7/13

SUMMARY OF FIELD OBSERVATIONS

	TREE NUMBER	771	772	773	774	775	776	777	778	779	780
SPECIES	*Quercus agrifolia*	X	X	X	X	X	X	X	X	X	X
	Quercus lobata										
	Platanus racemosa										
FORM	TREE HT. (ESTIMATED)	8	8	8	10	8	6	8	8	8	8
	LEAN										
	TRUNK DIAMETERS	2	2	2	2	3	3	2	2	2	2
PHYSICAL CONDITION	TRUNK CAVITY										
	TRUNK EXUDATION										
	TRUNK DAMAGE										
	BURIED ROOT COLLAR										
	EXPOSED ROOTS										
	WEAK CROTCH(ES)										
	FUNGAL DISEASE										
	INSECT/MITE DAMAGE	X	X	X	X	X	X	X	X	X	X
	NEW/OLD FIRE DAMAGE										
	BRANCH CAVITIES										
	MAINSTEM DIEBACK										
	TWIG/BRANCH DIEBACK	X	X	X	X	X	X	X	X	X	X
	EPICORMIC GROWTH										
	THIN FOLIAGE										
	VIGOR (GOOD/MOD/POOR)	G	G	G	G	G	G	G	G	G	G
	TERRAIN - SLOPED/LEVEL	S	S	S	S	S	S	S	S	S	S
RATING	HERITAGE										
	HEALTH	B	B	B	B	B	B	B	B	B	B
	AESTHETICS/COMFORMITY	B	B	B	B	C	B	B	B	B	B
TREAT-MENT	REMOVE DEADWOOD										
	INSECT/DISEASE TREAT										
	REMARKS:										

LNDG Job No.:_____

Date: 7/13

SUMMARY OF FIELD OBSERVATIONS

| | | |

DRIP LINE MEASUREMENTS

INSPECTION NOTICE

The following information was observed on the date(s) indicated herein, and should only be considered true at the time of field inspection.

LNDG Job No.:_____ Date 6.28.14

DRIPLINE MEASUREMENTS

TREE NO.	DRIPLINE	N	NE	E	SE	S	SW	W	NW
227	HORIZ.	35'	40'	30'	35'	40'	35'	35'	39'
	VERT.	10'	10'	12'	15'	40'	25'	25'	10'
228	HORIZ.	30'	48	42'	35'	48'	47	45'	35'
	VERT.	25'	10'	10'	10'	10'	12'	15'	35'
229	HORIZ.	0	0	0	0	0	22'	25'	37'
	VERT.	0	0	0	0	0	7'	7'	0'
230	HORIZ.	3'	32'	8'	0'	0	0	0	0
	VERT.	15'	10'	7'	12'	0	0	0	0
231	HORIZ.	33'	33'	25'	22'	15'	15'	15'	20'
	VERT.	6'	9'	7'	18'	20'	20'	20'	6'
232	HORIZ.	15'	0	15'	0	0	0	15'	24
	VERT.	20'	0	15'	0	0	0	18'	30'
233	HORIZ.	15'	15'	5'	10'	10'	23'	18'	16'
	VERT.	25'	40'	20'	20'	25'	10'	15'	20'
234	HORIZ.	25'	10'	5'	0	0	0	0	12'
	VERT.	35'	20'	25'	0	0	0	0	25'
235	HORIZ.	0	0	0	0	0	9'	20'	23'
	VERT.	0	0	0	0	0	4'	6'	10'
236	HORIZ.	15'	14'	15'	15'	15'	13'	13'	15'
	VERT.	20'	20'	20'	20'	8'	6'	6'	15'

LNDG Job No.:_____ Date: 6.28.14

DRIPLINE MEASUREMENTS

TREE NO.	DRIPLINE	N	NE	E	SE	S	SW	W	NW
237	HORIZ.	13'	12'	15'	0	0	0	0	13'
	VERT.	10'	10'	10'	0	0	0	0	10'
238	HORIZ.	12'	15'	25'	20'	15'	14'	13'	8'
	VERT.	18'	20'	30'	25'	30'	25'	20'	20'
239	HORIZ.	15'	10'	20'	18'	15'	10'	7'	9'
	VERT.	25'	25'	15'	13'	10'	15'	25'	25'
240	HORIZ.	15'	9'	7'	10'	25'	20'	15'	18'
	VERT.	24'	25'	20'	6'	2'	6'	25'	25'
241	HORIZ.	12'	10'	9'	9'	9'	10'	10'	10'
	VERT.	25'	25'	4'	4'	4'	7'	7'	8'
242	HORIZ.	15'	15'	15'	15'	32'	3'	10'	10'
	VERT.	30'	30'	40'	18'	18'	8'	5'	35'
243	HORIZ.	10'	15'	19'	26'	32'	33'	10'	10'
	VERT.	30'	35'	45'	15'	15'	18'	45'	35'
244	HORIZ.	33'	15'	20'	25'	33'	9'	10'	30'
	VERT.	15'	9'	10'	10'	5'	4'	12'	15'
245	HORIZ.	0	0	8'	12'	22'	8'	5'	0
	VERT.	0	0	10'	10'	8'	8'	8'	0
268	HORIZ.	20'	25'	20'	10'	5'	25'	25'	25'
	VERT.	0	0	0	15'	15'	0	0	0

LNDG Job No.:_____ Date: 6.28.14

DRIPLINE MEASUREMENTS

TREE NO.	DRIPLINE	N	NE	E	SE	S	SW	W	NW
269	HORIZ.	10'	10'	10'	10'	10'	13'	10'	12'
	VERT.	15'	30'	35'	35'	35'	39'	10'	18'
270	HORIZ.	5'	5'	5'	5'	5'	5'	5'	5'
	VERT.	25'	25'	25'	25'	25'	25'	25'	25'
271	HORIZ.	0	0	0	0	0	10'	0	0
	VERT.	0	0	0	0	0	15'	0	0
272	HORIZ.	36'	40	20	22	25	35	35	40
	VERT.	5'	45	45	35	30	25	35	25
273	HORIZ.	45'	40	40'	30	35	30	35	35
	VERT.	5	5	5'	5	10	15	5	15
274	HORIZ.	45'	0	0	0	0	0	35'	40'
	VERT.	20'	0	0	0	0	0	30'	25'
531	HORIZ.	13'	9'	5'	7'	9'	12'	15'	12'
	VERT.	10'	12'	25'	12'	5'	10	15'	10'
532	HORIZ.	10'	3'	0	0	0	3'	10'	10'
	VERT.	5'	5'	0	0	0	6'	7	5'
533	HORIZ.	0	0	0	0	9'	0'	0	0
	VERT.	0	0	0	0	5'	0	0	0
534	HORIZ.	0	15'	15'	25'	0	0	0	0
	VERT.	0	20'	35'	30'	0	0	0	0

LNDG Job No.:_____

Date: 6-28-14

DRIPLINE MEASUREMENTS

TREE NO.	DRIPLINE	N	NE	E	SE	S	SW	W	NW
535	HORIZ.	0	20'	25'	20'	0	0	0	0
	VERT.	0	15'	20	20'	0	0	0	0
536	HORIZ.	13'	6'	0	0	0	5'	12'	9'
	VERT.	2'	10'	0	0	0	0'	3'	3'
548	HORIZ.	THIS IS TREE C89							
	VERT.								
	HORIZ.								
	VERT.								
	HORIZ.								
	VERT.								
	HORIZ.								
	VERT.								
	HORIZ.								
	VERT.								
	HORIZ.								
	VERT.								
	HORIZ.								
	VERT.								
	HORIZ.								
	VERT.								

LNDG Job No.:_____ Date: 6.28.19

DRIPLINE MEASUREMENTS

TREE NO.	DRIPLINE	N	NE	E	SE	S	SW	W	NW
631	HORIZ.								
	VERT.								
632	HORIZ.	8'	8'	8'	8'	8'	8'	8'	8'
	VERT.	5'	5'	5'	5'	5'	5'	5'	5'
633	HORIZ.	12'	12'	10'	10'	10'	10'	10'	10'
	VERT.	7'	7'	7'	7'	7'	7'	7'	7'
634	HORIZ.	0'	5'	8'	8'	4'	5'	0'	0'
	VERT.	0'	5'	10'	4'	7	7'	0'	0'
635	HORIZ.	5'	5'	10'	3'	4'	0'	0'	0'
	VERT.	6'	6'	4'	0'	6'	0'	0'	0'
636	HORIZ.	4'	7'	7'	0'	0'	0'	0'	0'
	VERT.	5'	10'	12'	0'	0'	0'	0'	0'
637	HORIZ.	6'	0'	0'	8'	8'	16'	10'	10
	VERT.	2'	0'	0'	2'	4'	4'	4'	15'
638	HORIZ.	0'	0	2'	4'	2'	0	0	0
	VERT.	0'	0	6'	6'	6'	0	0	0
639	HORIZ.	8'	0	2'	4'	2'	0	0	0
	VERT.	0'	0'	0'	6'	6'	0	0	0
640	HORIZ.	4'	4'	4'	6'	9'	6'	4'	4'
	VERT.	6'	5'	5'	5'	7'	5'	5'	5'

LNDG Job No.:_____ Date: 6-28-14

DRIPLINE MEASUREMENTS

TREE NO.	DRIPLINE	N	NE	E	SE	S	SW	W	NW
641	HORIZ.	5'	5'	5'	5'	5'	5'	5'	5'
	VERT.	4'	4'	4'	4'	4'	4'	4'	4'
642	HORIZ.	9'	8'	0'	0	0	0	0	8'
	VERT.	3'	3'	0	0	0	0	0	3'
643	HORIZ.	4'	6'	6'	6'	6'	6'	6'	6'
	VERT.	2'	2'	2'	2'	2'	2'	2'	2'
644	HORIZ.	18'	15'	~~18~~'	14'	13'	13'	15'	10'
	VERT.	15'	7'	15'	12'	10'	14'	9'	10'
645	HORIZ.	6'	8'	6'	6'	6'	8'	6'	6'
	VERT.	8'	8'	8'	8'	8'	8'	8'	8'
646	HORIZ.	3'	3'	3'	6'	8'	6'	3'	3'
	VERT.	5'	5'	5'	5'	5'	5'	5'	5'
647	HORIZ.	6'	5'	2'	2'	2'	2'	5'	5'
	VERT.	3'	3'	4'	4'	4'	4	4'	4'
648	HORIZ.	20'	0'	0'	0'	0'	0'	0'	0'
	VERT.	15'	0'	0'	0'	0'	0'	0'	0'
649	HORIZ.	20'	30'	6'	0'	0'	0'	0'	0'
	VERT.	12'	15'	7'	0'	0'	0'	0'	0'
650	HORIZ.	30'	7'	0'	0'	0'	0'	0'	12'
	VERT.	9'	10'	0'	0'	0'	0'	0'	4'

LNDG Job No.:_____ Date: 7-1-14

DRIPLINE MEASUREMENTS

TREE NO.	DRIPLINE	N	NE	E	SE	S	SW	W	NW
651	HORIZ.	45'	45'	40'	30'	20'	20'	25'	30'
	VERT.	40'	40'	35'	10'	25'	35'	35'	40'
652	HORIZ.	6'	6'	6'	10'	10'	0'	0'	0'
	VERT.	3'	2'	1'	5'	5'	0'	0'	0'
653	HORIZ.	38'	35'	15'	13'	0'	0'	30'	35'
	VERT.	12'	15'	6'	8'	0'	0'	30'	35'
654	HORIZ.	5'	5'	5'	5'	5'	5'	5'	5'
	VERT.	3'	3'	3'	3'	3'	3'	3'	3'
655	HORIZ.	30'	15'	20'	12'	0'	0'	0'	5'
	VERT.	12'	10'	10'	7'	0'	0'	0'	7
656	HORIZ.	30'	40'	20'	30'	0'	0'	12'	25'
	VERT.	30'	45'	20'	6'	0'	0'	18'	35'
657	HORIZ.	15'	25'	35'	35'	35'	7'	7'	7'
	VERT.	35'	35'	35'	1'	10'	30'	30'	35'
658	HORIZ.	0'	0'	0'	0'	20'	0'	0'	0'
	VERT.	0'	0'	0'	0'	6'	0'	0'	0'
659	HORIZ.	20'	20'	16'	10'	0'	0'	0'	8'
	VERT.	25'	30'	25'	15'	0'	0'	0'	18'
660	HORIZ.	6'	6'	6'	6'	6'	6'	6'	6'
	VERT.	7	7'	7'	7'	7'	7'	7'	7'

LNDG Job No.:_____ Date: 7·1·14

DRIPLINE MEASUREMENTS

TREE NO.	DRIPLINE	N	NE	E	SE	S	SW	W	NW
661	HORIZ.	0'	20'	20'	0'	0'	0'	0'	0'
	VERT.	0'	4'	2'	0'	0'	0'	0'	0'
662	HORIZ.	12'	12'	10'	0'	0'	0'	0'	0'
	VERT.	15'	15'	8'	0'	0'	0'	0'	0'
663	HORIZ.	0'	0'	15'	18'	12'	9'	8'	5'
	VERT.	0'	0	12'	4'	6'	6'	6'	7'
664	HORIZ.	0'	0'	0'	0'	20'	25'	0'	0'
	VERT.	0'	0'	0'	0'	7	7	0'	0'
665	HORIZ.	5'	14'	18'	12'	9'	9'	6'	5'
	VERT.	0'	25'	25'	15'	15'	15'	12'	8'
666	HORIZ.	0'	0'	22'	0'	0'	0'	0'	0'
	VERT.	0'	0'	15'	0'	0'	0'	0'	0'
667	HORIZ.	5'	5'	5'	5'	5'	5'	5'	5'
	VERT.	4'	4'	4'	4'	4'	4'	4'	4'
668	HORIZ.	0'	0'	35'	0'	0'	0'	0'	0'
	VERT.	0'	0'	35'	0'	0'	0'	0'	0'
669	HORIZ.	15'	37'	40'	40'	0'	0'	0'	0'
	VERT.	35	35'	35'	20'	0'	0'	0'	0'
670	HORIZ.	12'	7'	0'	0'	0	5'	7'	10'
	VERT.	10'	10'	0'	0'	0'	7'	7'	10'

LNDG Job No.:_____ Date: 7.1.14

DRIPLINE MEASUREMENTS

TREE NO.	DRIPLINE	N	NE	E	SE	S	SW	W	NW
671	HORIZ.	0'	0'	0'	35'	0'	0'	0'	0'
	VERT.	0'	0'	0'	4'	0'	0'	0'	0'
672	HORIZ.	23'	35'	5'	0'	0'	0'	0'	0'
	VERT.	15'	15'	8'	0'	0'	0'	0'	0'
673	HORIZ.	0'	30'	37'	0'	0'	0'	0'	0'
	VERT.	0'	15'	10'	0'	0'	0'	0'	0'
674	HORIZ.	0'	18'	0'	0'	0'	0'	0'	0'
	VERT.	0'	10'	0'	0'	0'	0'	0'	0'
675	HORIZ.	0'	25'	32'	0'	0'	0'	0'	0'
	VERT.	0'	1'	10'	0'	0'	0'	0'	0'
676	HORIZ.	6'	6'	6'	6'	6'	6'	6'	6'
	VERT.	6'	7'	7'	7	7	7'	7'	7'
677	HORIZ.	0	0	0'	0'	0'	5'	7'	7'
	VERT.	0'	0	0'	0'	0'	6'	6'	6'
678	HORIZ.	40'	40'	35'	28'	20'	25	25'	35'
	VERT.	25'	25	20'	25'	25'	10'	15'	20'
679	HORIZ.	25'	0'	0'	0'	0'	0'	0'	0'
	VERT.	35'	0'	0'	0'	0'	0'	0'	0'
680	HORIZ.	12'	35'	35'	30	25'	0	0'	0'
	VERT.	15'	20'	20'	10	10'	0	0'	0'

LNDG Job No.:_____ Date: 7.1.14

DRIPLINE MEASUREMENTS

TREE NO.	DRIPLINE	N	NE	E	SE	S	SW	W	NW
681	HORIZ.	0'	0'	0'	0'	25'	15'	4'	0'
	VERT.	0'	0'	0'	0'	0'	4'	15'	0'
682	HORIZ.	30'	25'	0'	0'	0'	0'	0'	12'
	VERT.	35'	35'	0'	0'	0'	0'	0'	15'
683	HORIZ.	0'	0'	0'	0'	15'	25'	22'	10'
	VERT.	0'	0	0'	0'	8'	6'	10'	20'
684	HORIZ.	0	0'	0'	0'	0'	0'	17'	0
	VERT.	0'	0'	0'	0'	0'	0'	0'	0'
685	HORIZ.	10'	10'	10'	6'	0	0	8'	0
	VERT.	10'	10'	10'	12'	0'	0'	0'	8'
686	HORIZ.	0'	0'	0'	0	8'	0	0'	0'
	VERT.	0'	0'	0'	0'	4'	0'	0'	0'
687	HORIZ.	0'	0'	0'	0'	12'	18'	25'	18
	VERT.	0'	0'	0'	0'	15'	5'	2'	15'
688	HORIZ.	15'	12'	7'	7'	5'	7	11'	15'
	VERT.	20'	10'	10'	15'	15'	15'	15'	20'
689	HORIZ.	5'	5'	5'	5'	5'	5'	5'	5'
	VERT.	7'	7'	7'	7'	7'	7'	7'	7'
690	HORIZ.	0'	0'	8'	12'	20'	23'	18'	0'
	VERT.	0'	0'	8'	15'	14'	10'	15'	0'

LNDG Job No.:_____

Date: 7.2.14

DRIPLINE MEASUREMENTS

TREE NO.	DRIPLINE	N	NE	E	SE	S	SW	W	NW
691	HORIZ.	5'	10'	10'	5'	0'	0'	0'	0'
	VERT.	15'	15'	25'	10'	0'	0'	0'	0'
692	HORIZ.	12'	~~10'~~	~~10'~~	~~10'~~	~~5'~~	~~5'~~	10'	10'
	VERT.	~~30'~~	30'	~~10'~~	20'	~~10'~~	10'	~~15'~~	10'
693	HORIZ.	12'	30'	25'	25'	20'	22'	15'	12'
	VERT.	15'	30'	25'	0'	8'	10'	20'	15'
694	HORIZ.	0'	8'	12'	8'	7'	7'	~~15'~~	12'
	VERT.	0'	8'	2'	6'	6'	6'	10'	8'
695	HORIZ.	6'	20'	35'	0'	0'	0'	0'	0'
	VERT.	30'	25'	20'	0'	0'	0'	0'	0'
696	HORIZ.	10'	20'	15'	10'	15'	15'	10'	5'
	VERT.	25'	~~35'~~	25'	15'	20'	20'	30'	15'
697	HORIZ.	8'	8'	8'	8'	8'	8'	8'	8'
	VERT.	1'	1'	1'	1'	1'	1'	1'	1'
698	HORIZ.	7'	7'	7'	7'	7'	7'	7'	7'
	VERT.	4'	4'	4'	4'	4'	4'	4'	4'
699	HORIZ.	5'	5'	5'	5'	5'	5'	5'	5'
	VERT.	5'	5'	5'	5'	5'	5'	5'	5'
700	HORIZ.	0'	0'	4'	0'	0'	0'	0'	0'
	VERT.	0'	0'	3'	0'	0'	0'	0'	0'

LNDG Job No.: 2372-02

Date: ~~May 5, 2014~~ 7-2-14

DRIPLINE MEASUREMENTS

TREE NO.	DRIPLINE	N	NE	E	SE	S	SW	W	NW
701	HORIZ.	7'	7'	7'	7'	7'	7'	7'	7'
	VERT.	7'	7'	7'	7'	7'	7'	7'	7'
702	HORIZ.	8'	6'	6'	35'	35'	35'	40'	50'
	VERT.	30'	30'	35'	25'	25'	20'	25'	35'
703	HORIZ.	25'	40'	35'	20'	0'	0'	0'	0'
	VERT.	15'	25'	25'	25'	0'	0'	0'	0'
704	HORIZ.	7'	7'	7'	7'	7'	7'	7'	7'
	VERT.	1'	1'	1'	1'	1'	1'	1'	1'
705	HORIZ.	15'	15'	25'	20'	25'	15'	35'	15'
	VERT.	35'	30'	10'	5'	5'	5'	5'	10'
706	HORIZ.	0'	0'	0'	0'	10'	5'	0'	0'
	VERT.	0'	0'	0'	0'	20'	10'	0'	0'
707	HORIZ.	2'	2'	2'	3'	4'	3'	3'	2'
	VERT.	4'	4'	4'	4'	4'	4'	4'	4'
708	HORIZ.	3'	3'	3'	3'	3'	3'	3'	3'
	VERT.	1'	1'	1'	1'	1'	1'	1'	1
709	HORIZ.	7'	7'	7'	7'	7'	7'	7'	7'
	VERT.	10'	10'	7'	0'	0'	0'	0'	0'
710	HORIZ.	10'	10'	10'	10'	10'	10'	10'	10'
	VERT.	5'	5'	5'	5'	5'	5'	5'	5'

LNDG Job No.: 2372-02

Date: ~~May 5, 2014~~ 7.2.14

DRIPLINE MEASUREMENTS

TREE NO.	DRIPLINE	N	NE	E	SE	S	SW	W	NW
711	HORIZ.	0'	10'	0'	0'	0'	0'	0'	0'
	VERT.	0'	8'	0'	0'	0'	0'	0'	0'
712	HORIZ.	5'	5'	3'	3'	3'	3'	3'	3'
	VERT.	1'	1'	1'	1'	1'	1'	1'	1'
713	HORIZ.	15'	16'	18'	23'	20'	22'	18'	16'
	VERT.	9'	9'	7'	1'	1'	1'	4'	9'
714	HORIZ.	~~10~~'	24'	30'	10'	5 5	~~5~~	5 ~~5~~	5
	VERT.	~~35~~'	~~15~~'	30'	~~24~~'	~~25~~'	~~20~~'	~~25~~'	~~25~~
715	HORIZ.	9'	14'	15'	18'	15'	14'	18'	18'
	VERT.	8'	8'	10'	10'	4'	4'	10'	15'
716	HORIZ.	5'	9'	9'	5'	5'	5'	5'	5'
	VERT.	7'	6'	5'	7'	7	7	7'	7'
717	HORIZ.	0'	10'	12'	12'	10'	12'	4'	0
	VERT.	0'	8'	0'	8'	8'	8'	2'	0'
718	HORIZ.	5'	5'	5'	5'	5'	5'	5'	5'
	VERT.	2'	2'	2'	2'	2'	2'	2'	2'
719	HORIZ.	16'	20'	13'	6'	0'	8'	13'	13'
	VERT.	10'	10'	12'	15'	0'	4'	1'	8'
720	HORIZ.	13'	20'	15'	15'	15'	15'	15'	12'
	VERT.	1'	20'	5'	10'	6'	15'	20'	20'

LNDG Job No.: 2372-02

Date: ~~May 5, 2014~~ 7-2-14

DRIPLINE MEASUREMENTS

TREE NO.	DRIPLINE	N	NE	E	SE	S	SW	W	NW
721	HORIZ.	4'	4'	4'	4'	4'	4'	4'	4'
	VERT.	1'	1'	1'	1'	1'	1'	1'	1'
722	HORIZ.	7'	6'	6'	7'	6'	6'	6'	6'
	VERT.	5'	5'	5'	5'	5'	5'	5'	5'
723	HORIZ.	25'	30'	22'	20'	20'	22'	28'	25'
	VERT.	15'	15'	35'	20'	25'	4'	4'	5'
724	HORIZ.	4'	4'	4'	4'	4'	4'	4'	4'
	VERT.	3'	3'	3'	3'	3'	3'	3'	3'
725	HORIZ.	5'	5'	5'	5'	5'	5'	5'	5'
	VERT.	3'	3'	3'	3'	3'	3'	3'	3'
726	HORIZ.	4'	4'	4'	4'	4'	4'	4'	4'
	VERT.	1'	1'	1'	1'	1'	1'	1'	1'
727	HORIZ.	6'	4'	3'	3'	3'	3'	3'	4'
	VERT.	4'	4	1	1'	1'	1'	1'	4'
728	HORIZ.	6'	4'	3'	3'	3'	3'	3'	4'
	VERT.	4'	4'	1'	1'	1'	1'	1'	4'
729	HORIZ.	4'	4'	4'	4'	4'	4'	4'	4'
	VERT.	7'	7'	7'	7'	7'	7'	7'	7'
730	HORIZ.	7'	7'	7'	7'	7'	7'	7'	7'
	VERT.	2'	2'	2'	2'	2'	2'	2'	2

LNDG Job No.: 2372-02

Date: ~~May 5, 2014~~ 7.8.14

DRIPLINE MEASUREMENTS

TREE NO.	DRIPLINE	N	NE	E	SE	S	SW	W	NW
731	HORIZ.	5	5	5	5	5	5	5	5
	VERT.	1	1	1	1	1	1	1	1
732	HORIZ.	5	4	4	4	4	4	4	4
	VERT.	1	0	0	0	0	0	0	0
733	HORIZ.	5	4	4	4	4	4	4	4
	VERT.	1	0	0	0	0	0	0	0
734	HORIZ.	5	5	5	5	5	5	5	5
	VERT.	1	1	1	1	1	1	1	1
735	HORIZ.	5	5	5	5	5	5	5	5
	VERT.	1	1	1	1	1	1	1	1
736	HORIZ.	5	4	4	4	4	4	4	4
	VERT.	1	1	1	1	1	1	1	1
737	HORIZ.	5	3	3	3	3	3	3	3
	VERT.	3	1	1	1	1	1	1	1
738	HORIZ.	6'	3	3	3	3	3	3	3
	VERT.	3	1	1	1	1	1	1	1
739	HORIZ.	6'	5	5	5	5	5	5	5
	VERT.	4	3	3	3	3	3	3	3
740	HORIZ.	8'	3	0	0	0	0	3	5
	VERT.	2	2	0	0	0	0	2	2

DRIPLINE MEASUREMENTS

TREE No.	N	NE	E	SE	S	SW	W	NW
744	8'	5'	0'	0'	0'			5'
HEIGHT TO CANOPY	3'	3	0	0	0	0	0	3
742	5'	4	4	4	4	4	4	4
HEIGHT TO CANOPY	1	1	1	1	1	1	1	1
742	4'	3	3	2	2	2	4	4
HEIGHT TO CANOPY	2	2	2	2	2	2	2	2
749	5'	5	5	5	5	5	5	5
HEIGHT TO CANOPY	6	6	5	6	5	5	5	6
745	0	0	5	0	0	0	0	0
HEIGHT TO CANOPY	0	0	4	0	0	0	6	6
746	3	4	4	4	4	4	4	4
HEIGHT TO CANOPY	3	3	3	3	3	3	3	3
747	3'	0	0	0	0	0	6	6
HEIGHT TO CANOPY	3'	0	0	0	0	0	6	6
748	6	7	5	5	5	5	5	7
HEIGHT TO CANOPY	4'	3	3	3	3	3	3	3
748	5	7	5	3	3	3	3	3
HEIGHT TO CANOPY	6	6	6	6	6	6	6	6
750	7	7	0	0	0	0	0	0
HEIGHT TO CANOPY	3	3	0	0	0	0	0	0

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DRIPLINE MEASUREMENTS

TREE No.	N	NE	E	SE	S	SW	W	NW
751	8	8	8	8	8	8	8	8
HEIGHT TO CANOPY	8	8	8	8	8	8	8	8
752	5	5	5	5	5	5	5	5
HEIGHT TO CANOPY	6	6	6	6	6	6	6	6
753	5	5	5	5	5	8	8	5
HEIGHT TO CANOPY	5	5	6	6	5	5	5	5
754	0	0	0	0	0	0	0	10
HEIGHT TO CANOPY	6	6	6	0	6	0	0	1
755	7	7	7	7	7	7	7	7
HEIGHT TO CANOPY	7	7	7	7	7	7	7	7
756	10	10	10	10	10	10	10	10
HEIGHT TO CANOPY	8	8	8	8	8	8	6	8
757	12	0	0	0	0	6	6	6
HEIGHT TO CANOPY	10	0	0	6	0	0	0	0
758	10	0	0	0	0	0	0	10
HEIGHT TO CANOPY	7	7	6	6	6	6	6	7
759	15	15	15	15	15	13	13	13
HEIGHT TO CANOPY	15	15	15	15	15	15	15	15
760	0	6	12	6	0	0	0	0
HEIGHT TO CANOPY	0	1	1	1	0	0	0	0

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DRIPLINE MEASUREMENTS

TREE No.	N	NE	E	SE	S	SW	W	NW
761	10	12	5	5	5	5	5	8
HEIGHT TO CANOPY	7	7	6	6	6	6	6	6
762	0	0	0	0	0	0	0	11
HEIGHT TO CANOPY	0	0	0	0	0	0	0	5
763	0	0	0	0	9	9	9	0
HEIGHT TO CANOPY	0	0	0	0	0	0	0	0
764	12	8	8	0	0	0	0	6
HEIGHT TO CANOPY	0	0	0	0	0	0	0	0
765	12	13	13	12	8	8	8	8
HEIGHT TO CANOPY	15	4	4	20	15	15	15	15
766	7	7	7	4	4	4	4	8
HEIGHT TO CANOPY	4	4	4	8	8	8	8	8
767	15	15	15	15	15	15	15	15
HEIGHT TO CANOPY	15	15	15	15	15	11	15	15
768	4	4	4	4	4	4	4	4
HEIGHT TO CANOPY	3	3	3	3	3	3	3	3
769	8	8	8	8	8	8	8	8
HEIGHT TO CANOPY	4	4	4	4	4	4	4	4
770	5	5	5	8	5	5	5	5
HEIGHT TO CANOPY	4	4	4	4	4	4	6	4

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B:DRIP8-10.XLS

DRIPLINE MEASUREMENTS

TREE No.	N	NE	E	SE	S	SW	W	NW
771	5	5	5	5	5	5	5	5
HEIGHT TO CANOPY	2	2	2	2	2	2	2	2
772	4	4	4	4	4	4	4	4
HEIGHT TO CANOPY	2	2	3	2	2	2	2	2
773	4	4	4	4	4	4	4	4
HEIGHT TO CANOPY	2	2	2	2	2	2	2	2
774	5	2	2	2	2	2	3	4
HEIGHT TO CANOPY	3	3	3	3	3	3	3	3
775	7	5	5	5	5	5	5	5
HEIGHT TO CANOPY	3	3	3	3	3	3	3	3
776	3	3	3	3	3	3	3	3
HEIGHT TO CANOPY	1	1	1	1	1	1	1	1
777	5	5	5	5	5	5	5	5
HEIGHT TO CANOPY	1	1	1	1	1	1	1	1
778	3	3	3	3	3	3	3	3
HEIGHT TO CANOPY	1	1	1	1	1	1	1	1
779	4	4	4	4	4	4	4	4
HEIGHT TO CANOPY	1	1	1	1	1	1	1	1
780	0	0	0	0	0	0	0	0
HEIGHT TO CANOPY	0	0	0	0	0	0	0	0

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DATE: 7/13/14

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B:DRIP8-10.XLS

DRIPLINE MEASUREMENTS

TREE No.	N	NE	E	SE	S	SW	W	NW
781	0	0	0	0	0	6	0	0
HEIGHT TO CANOPY	0	0	0	0	0	4	0	0
782	3	3	3	3	3	3	3	3
HEIGHT TO CANOPY	4	4	4	4	4	4	4	4
783	0	0	0	0	0	0	5	6
HEIGHT TO CANOPY	0	0	0	0	0	0	2	0
784	8	4	4	4	8	8	10	10
HEIGHT TO CANOPY	4	4	4	4	4	4	4	4
HEIGHT TO CANOPY								
HEIGHT TO CANOPY								
HEIGHT TO CANOPY								
HEIGHT TO CANOPY								
HEIGHT TO CANOPY								
HEIGHT TO CANOPY								
HEIGHT TO CANOPY								

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SUMMARY of FIELD OBSERVATIONS

CASTLE OAKS/BROWN PROPERTIES

INSPECTION NOTICE

The following information was observed on the date(s) indicated herein, and should only be considered true at the time of field inspection.

LNDG Job No.: 2086 - 24 Date: 11/14/14

SUMMARY OF FIELD OBSERVATIONS

SPECIES	**TREE NUMBER**	1	2	3	4	5	6	7	8	9	10	
	Quercus agrifolia	X	X	X	X	X	X	X	X	X	X	
	Quercus lobata											
	Quercus berberidifolia											
FORM	TREE HT. (ESTIMATED)	30'	20'	30'	35'	25'	30'	25'	35'	40'	12'	
	LEAN (ANGLE)											
	TRUNK DIAMETERS	14"	6"	19"	24"	11"	22"	21"	26"	36"	2"	
				11"			12"				2"	
				4"								
PHYSICAL CONDITION	TRUNK CAVITY									X		
	TRUNK EXUDATION	X										
	TRUNK DAMAGE				X							
	BURIED ROOT COLLAR	X		X	X		X	X	X	X		
	EXPOSED ROOTS						X	X		X		
	WEAK CROTCH(ES)	X	X		X	X			X	X		
	FUNGAL DISEASE											
	INSECT/MITE DAMAGE	X			X					X		
	NEW/OLD FIRE DAMAGE	X					X	X	X	X		
	BRANCH CAVITIES	X	X	X	X				X			
	MAINSTEM DIEBACK											
	TWIG/BRANCH DIEBACK											
	EPICORMIC GROWTH											
	THIN FOLIAGE											
	VIGOR (GOOD/MOD/POOR)	M	M	M	M	M	M	M	M	M	M	
	TERRAIN - SLOPED/LEVEL	S	S	S	S	S	S	S	S	S	L	
RATING	HERITAGE											
	HEALTH	C	C	C	C	C	C	C	C	D	C	
	AESTHETICS/COMFORMITY	C	C	C	C	C	C	C	C	D	C	
TREAT-MENT	REMOVE DEADWOOD											
	INSECT/DISEASE TREAT											
	REMARKS:											

LNDG Job No.: 2086-24 Date: 11/14/14

SUMMARY OF FIELD OBSERVATIONS

SPECIES	**TREE NUMBER**	11		12		13		14		15		16		17		18		19		20	
	Quercus agrifolia	X				X		X		X		X		X		X		X		X	
	Quercus lobata																				
	Quercus berberidifolia			X																	
FORM	TREE HT. (ESTIMATED)	20'		15'		20'		20'		9"		25'		15'		20'		20'		15'	
	LEAN (ANGLE)											~~E~~									
	TRUNK DIAMETERS	7"		6"		4.5"		5.5"		2"		6"		5.5"		5"		10"		5.5"	
				4"								6"									
				4"								2.5									
				4"																	
				3"																	
PHYSICAL CONDITION	TRUNK CAVITY																				
	TRUNK EXUDATION																				
	TRUNK DAMAGE																				
	BURIED ROOT COLLAR			X		X		X		X											
	EXPOSED ROOTS																				
	WEAK CROTCH(ES)											X									
	FUNGAL DISEASE																				
	INSECT/MITE DAMAGE			X																	
	NEW/OLD FIRE DAMAGE																				
	BRANCH CAVITIES																				
	MAINSTEM DIEBACK																				
	TWIG/BRANCH DIEBACK																				
	EPICORMIC GROWTH			X																	
	THIN FOLIAGE			X																	
	VIGOR (GOOD/MOD/POOR)	M		P		M		M		M		M		M		M		M		M	
	TERRAIN - SLOPED/LEVEL	S		S		S		S		S		S		S		S		S		S	
RATING	HERITAGE																				
	HEALTH	C		C		C		C		C		C		C		C		C		C	
	AESTHETICS/COMFORMITY	C		C		C		C		C		C		C		C		C		C	
TREAT-MENT	REMOVE DEADWOOD		REMARKS:		REMARKS:		REMARKS:		REMARKS:		REMARKS:		REMARKS:		REMARKS:		REMARKS:		REMARKS:		REMARKS:
	INSECT/DISEASE TREAT																				

LNDG Job No.: 2086-24 Date: 11/14/14

SUMMARY OF FIELD OBSERVATIONS

	TREE NUMBER	21	22	23	24	25	26	27	28	29	30
SPECIES	*Quercus agrifolia*	X	X	X	X	X	X	X	X	X	X
	Quercus lobata										
	Quercus berberidifolia										
FORM	TREE HT. (ESTIMATED)	12'	20'	50'	5'	40'	40'	40'	35'	50'	40'
	LEAN (ANGLE)										
	TRUNK DIAMETERS	2"	6"	33"	2"	25"	16"	20"	15"	23"	26"
		2"	4"				17"	18"			
		1"									
PHYSICAL CONDITION	TRUNK CAVITY										
	TRUNK EXUDATION										
	TRUNK DAMAGE										
	BURIED ROOT COLLAR	X	X	X		X	X				
	EXPOSED ROOTS										
	WEAK CROTCH(ES)		X	X		X	X	X	X		X
	FUNGAL DISEASE										
	INSECT/MITE DAMAGE		X	X		X	X	X	X		X
	NEW/OLD FIRE DAMAGE			X						X	X
	BRANCH CAVITIES			X		X	X	X	X	X	X
	MAINSTEM DIEBACK										
	TWIG/BRANCH DIEBACK										
	EPICORMIC GROWTH			X		X	X				
	THIN FOLIAGE			X		X	X	X		X	
	VIGOR (GOOD/MOD/POOR)	M	M	M	M	M	M	M	M	M	M
	TERRAIN - SLOPED/LEVEL	S	S	S	S	S	S	S	S	S	S
RATING	HERITAGE										
	HEALTH	C	C	C	C	C	C	C	C	C	C
	AESTHETICS/COMFORMITY	C	C	B	C	B	B	C	C	C	C
TREAT-MENT	REMOVE DEADWOOD										
	INSECT/DISEASE TREAT										
	REMARKS:										

LNDG Job No.: 2086-24 Date: 11/17/14

SUMMARY OF FIELD OBSERVATIONS

SPECIES	TREE NUMBER	31	32	33	34	35	36	37	38	39	40
	Quercus agrifolia	X	X	X	X	X	X	X	X	X	X
	Quercus lobata										
	Quercus berberidifolia										
FORM	TREE HT. (ESTIMATED)	50'	40'	9'	50'	50'	35'	50'	15'	50'	50'
	LEAN (ANGLE)										
	TRUNK DIAMETERS	15"	16.5"	2"	22"	21"	9"	18"	4"	19"	13"
		15"		2"					4"		4"
		8"		2"					4"		3"
				1.5"					1.5"		
				1"					1"		
PHYSICAL CONDITION	TRUNK CAVITY										
	TRUNK EXUDATION										
	TRUNK DAMAGE										
	BURIED ROOT COLLAR				X	X					
	EXPOSED ROOTS	X									
	WEAK CROTCH(ES)	X	X	X	X	X			X		X
	FUNGAL DISEASE										
	INSECT/MITE DAMAGE				X						
	NEW/OLD FIRE DAMAGE										
	BRANCH CAVITIES				X	X		X		X	X
	MAINSTEM DIEBACK										
	TWIG/BRANCH DIEBACK										
	EPICORMIC GROWTH		X						X		X
	THIN FOLIAGE	X	X	X					X		X
	VIGOR (GOOD/MOD/POOR)	M	M	M	M	M	M	M	M	M	M
	TERRAIN - SLOPED/LEVEL	S	S	S	S	S	S	S	S	S	S
RATING	HERITAGE										
	HEALTH	C	C	C	C	C	C	C	C	C	C
	AESTHETICS/COMFORMITY	C	C	C	C	C	C	C	C	C	C
TREAT-MENT	REMOVE DEADWOOD										
	INSECT/DISEASE TREAT										
	REMARKS:										

LNDG Job No.: 2086 -24 Date: 11/17/14

SUMMARY OF FIELD OBSERVATIONS

| | | |

DRIP LINE MEASUREMENTS

INSPECTION NOTICE

The following information was observed on the date(s) indicated herein, and should only be considered true at the time of field inspection.

LNDG Job No.: 2086 - 24

Date: 11/14/14

DRIPLINE MEASUREMENTS

TREE NO.	DRIPLINE	N	NE	E	SE	S	SW	W	NW
1	HORIZ.	20	22	18	15	15	16	11	18
	VERT.	15	15	4	20	15	12	15	15
2	HORIZ.	12	10	14	10	10	17	10	17
	VERT.	6	10	10	8	5	10	6	6
3	HORIZ.	2	15	21	32	28	31	29	0
	VERT.	4	1	8	2	30	15	15	0
4	HORIZ.	32	30	23	25	32	26	27	26
	VERT.	20	15	15	15	12	25	15	15
5	HORIZ.	25	22	0	0	0	0	5	15
	VERT.	20	10	0	0	0	0	8	15
6	HORIZ.	12	34	30	33	17	25	19	15
	VERT.	30	12	15	3	1	15	20	30
7	HORIZ.	19	18	12	0	5	4	15	18
	VERT.	20	20	10	0	8	20	20	15
8	HORIZ.	15	19	24	16	20	20	20	23
	VERT.	30	2	14	20	25	20	20	20
9	HORIZ.	35	26	30	21	30	21	23	26
	VERT.	15	25	15	25	12	20	5	15
10	HORIZ.	3	0	0	2	2	8	8	4
	VERT.	10	0	0	10	10	15	15	12

LNDG Job No.: 2086 - 24

Date: 11/14/14

DRIPLINE MEASUREMENTS

TREE NO.	DRIPLINE	N	NE	E	SE	S	SW	W	NW
11	HORIZ.	5	6	8	7	7	7	8	7
	VERT.	15	15	10	10	12	6	7	6
12	HORIZ.	11	8	8	15	10	5	12	14
	VERT.	6	8	7	4	7	10	3	5
13	HORIZ.	5	6	5	6	7	2	9	7
	VERT.	8	10	15	15	15	15	15	15
14	HORIZ.	7	4	6	10	9	8	7	7
	VERT.	15	6	15	15	10	15	15	15
15	HORIZ.	3	3	3	3	3	4	3	3
	VERT.	5	8	7	3	4	2	5	7
16	HORIZ.	15	12	12	7	4	10	10	10
	VERT.	20	10	12	12	8	15	15	20
17	HORIZ.	0	15	10	15	4	0	0	0
	VERT.	0	15	15	6	12	0	0	0
18	HORIZ.	0	0	0	3	10	10	12	10
	VERT.	0	0	0	7	2	15	7	0
19	HORIZ.	12	15	15	10	10	6	10	10
	VERT.	15	15	15	15	15	12	15	15
20	HORIZ.	7	4	0	0	10	10	15	10
	VERT.	15	15	0	0	15	2	15	8

LNDG Job No.: 2086 - 24 Date: 11/14/14

DRIPLINE MEASUREMENTS

TREE NO.	DRIPLINE	N	NE	E	SE	S	SW	W	NW
21	HORIZ.	0	0	7	7	6	5	7	5
	VERT.	0	0	8	5	8	12	8	12
22	HORIZ.	0	0	7	15	15	12	5	0
	VERT.	0	0	8	10	10	15	6	0
23	HORIZ.	44	21	40	40	40	25	38	35
	VERT.	25	12	25	25	15	25	25	15
24	HORIZ.	0	0	3	3	5	5	5	3
	VERT.	0	0	0	0	0	0	0	0
25	HORIZ.	26	25	11	15	20	21	18	27
	VERT.	12	15	15	15	5	6	20	20
26	HORIZ.	17	25	27	24	18	32	15	25
	VERT.	25	12	6	3	12	8	0	0
27	HORIZ.	12	19	21	30	28	22	25	15
	VERT.	30	20	25	20	15	6	30	30
28	HORIZ.	16	16	18	7	7	6	4	17
	VERT.	20	30	30	20	20	20	15	20
29	HORIZ.	38	23	28	32	35	30	28	25
	VERT.	40	40	40	15	0	0	40	40
30	HORIZ.	16	24	5	12	20	23	15	21
	VERT.	20	8	20	6	15	2	20	18

LNDG Job No.: 2086-24

Date: 11/14/17

DRIPLINE MEASUREMENTS

TREE NO.	DRIPLINE	N	NE	E	SE	S	SW	W	NW
31	HORIZ.	34	17	8	0	8	16	20	32
	VERT.	30	20	40	0	8	15	20	25
32	HORIZ.	23	18	22	28	25	20	0	5
	VERT.	20	20	20	15	15	25	0	12
33	HORIZ.	6	7	5	10	11	9	9	3
	VERT.	1	7	6	2	2	2	4	4
34	HORIZ.	9	31	23	15	28	27	30	39
	VERT.	25	35	25	30	20	25	20	8
35	HORIZ.	36	22	10	15	15	15	35	22
	VERT.	15	20	15	15	15	30	20	20
36	HORIZ.	17	17	10	5	5	10	7	9
	VERT.	25	25	25	3	2	6	4	7
37	HORIZ.	18	37	15	12	25	19	12	20
	VERT.	35	15	25	20	8	20	7	30
38	HORIZ.	8	9	12	5	8	10	10	7
	VERT.	10	4	3	8	8	1	2	8
39	HORIZ.	32	22	0	0	11	20	22	23
	VERT.	25	30	0	0	35	30	35	30
40	HORIZ.	2	10	24	19	8	4	6	8
	VERT.	40	15	30	30	40	40	40	40

LNDG Job No.: 2086-24 Date: 11/17/14

DRIPLINE MEASUREMENTS

TREE NO.	DRIPLINE	N	NE	E	SE	S	SW	W	NW
41	HORIZ.	8	2	2	0	2	3	2	6
	VERT.	4	8	6	0	4	7	8	8
42	HORIZ.	2	7	5	0	0	0	2	1
	VERT.	5	0	0	0	0	0	5	5
43	HORIZ.	8	11	13	2	2	0	0	0
	VERT.	2	2	2	1	3	0	0	0
44	HORIZ.	6	7	12	15	14	9	10	6
	VERT.	12	15	3	7	15	3	7	12
45	HORIZ.	14	22	35	32	30	31	28	15
	VERT.	40	30	4	8	15	20	30	40
46	HORIZ.	20	21	10	0	25	30	35	25
	VERT.	30	40	40	0	35	20	20	35
47	HORIZ.	1	0	0	0	2	3	0	0
	VERT.	10	0	0	0	10	10	0	0
48	HORIZ.	7	2	4	0	4	4	1	12
	VERT.	4	5	8	0	4	5	2	2
	HORIZ.								
	VERT.								
	HORIZ.								
	VERT.								

DEFINITIONS

SUMMARY of FIELD OBSERVATIONS DEFINITIONS

INTRODUCTION

Familiarity with the following definitions is necessary to the basic understanding of the tree ordinance, this tree report, and of the procedures used to evaluate the trees and the site conditions. There are numerous diseases and insects that frequently attack trees. A long discourse in plant pathology or entomology is not a prerequisite to develop a basic understanding of the effects of disease and insects upon living plant tissue but a basic knowledge of disease and insects should include an understanding of the following definitions:

FORM

1. **Tree Number** - each protected tree in the field has been assigned a number that corresponds to a tree location on the "Tree Location Map".

2. **Species** - is the type of tree that is being evaluated.

3. **Number of Trunks** - as measured in accordance to the ordinance existing at the time of evaluation.

4. **Diameter of Trunks** - as measured at 4½' above mean natural grade.

5. **Tree Height** - is the approximate height of each numbered, evaluated tree.

6. **Leaning** - is the direction the tree is inclined from the natural vertical position.

PHYSICAL CONDITION

1. **Trunk Cavity/Damage** - A **Cavity** is a hollow area in the trunk, usually due to wood decay. **Damage** is a damaged area on the trunk, usually due to an external force onto the tree.

2. **Exposed Roots** - roots exposed near tree; e.g. in creek bed.

3. **Exfoliating Bark** - the flaking off of bark from trunk, branches and/or twigs.

4. **Water Pocket** - pockets formed at branch crotches that can hold water and possibly weaken the tree's structure (possible hazard).

5. **Exudation** - the issuance or expelling of liquid, usually from wounds.

6. **Fruiting Bodies** - are the external signs (i.e. mushrooms, conks) of internal wood decay.

7. **Insect/Mite Damage** - is some form of damage to the parts of the tree caused by insects or mites (i.e. scale, caterpillars, weevils, borers, mites, etc.).

8. **Galls/Oak Pit Scale** - **Galls** are abnormal growth (tumors) on the tree, which may be caused by insects, mites, bacteria, etc. **Oak Pit Scale** has a severe weakening effect on the twigs, sometimes resulting in their death. When the scale settles on the twig, a swelling of the twig tissue occurs so that the insect, in effect, is in a pit, hence, the name.

9. **Fire Damage** - each tree is rated on the amount of burn it has received. These are:

Category	Percent of Tree Burned
Slight (S)	0% - 25%
Moderate (M)	26% - 75%
Heavy (H)	76% - 100%
Complete (C)	Burned to the ground

A. A check mark only, indicates a sign of past fire damage;
B. The trees with slight damage have an excellent chance of recovering to their original form. Trees with moderate damage have a good chance of recovery with alterations in form. Heavy percentage of burn on trees will significantly alter their form and lower their probability of survival to half;
C. The "complete" category is for those trees that burned to the ground.

10. **Mainstem Dieback** - death of healthy mainstems from the growing tip back.

11. **Branch Cavities** - hollow areas in the trunk or limbs in the upper tree, usually due to the decay of wood.

12. **Weak Crotches** - poorly formed branch attachments.

13. **Twig/Branch Dieback** - death of unhealthy twigs from the growing tip back.

14. **Exocormic Growth** - excessive growth along main limbs, rather than on twigs.

15. **Thin Foliage** - defoliation and twig dieback throughout the canopy.

16. **Vigor** - is the capacity of a tree for growth and survival. Below are the ratings:

Good (G) - New tip growth; good leaf color; relatively smooth bark free from cracks/decay;
Moderate (M) - Some new tip growth; medium leaf color; some dead wood; thinning crown;
Poor (P) - No new tip growth; poor leaf color; abnormal bark; much dead wood; heavily thinned crown.
A vigorous tree will more easily ward off disease and/or insect attacks, and should recover from impacts more quickly than a weak tree.

17. **Terrain** - refers to the topography of the land where the tree is found.

18. **Potential Hazard** - any tree may be more or less a hazard to people depending on its location and/or health.

RATINGS

1. The **Health** of the trees was visually determined from a macroscopic inspection of signs and symptoms of disease. The following describes our system:

A. **Outstanding** - A healthy and vigorous tree characteristic of its species and free of any visible signs of disease or pest infestation;
B. **Above Average** - A healthy and vigorous tree. However, there are minor visible signs of disease and pest infestation;
C. **Average** - Although healthy in overall appearance, there is a normal amount of disease and/or pest infestation;
D. **Below Average/Poor*** - This tree is characterized by exhibiting a greater degree of disease and/or pest infestation or structural instability than normal and appears to be in a state of decline. This tree also exhibits extensive signs of dieback;
E. **Dead*** - This tree exhibits no signs of life whatsoever at the time of field evaluation.
*A tree rating of "D" and lower is in a low stage of vigor and naturally a meaningful level of recovery is doubtful. Removal should be considered if it is within the proposed project development.

2. The **Aesthetic/Conformity** quality of the trees was visually determined from an overall inspection of appearance. The following describes our system:

A. **Outstanding** - The tree is visually symmetrical, having the ideal form & appearance for the species;
B. **Average** - The tree, though non-symmetrical, has an appealing form for the species with very little dieback of foliage or twigs/branches;
C. **Below Average** - The tree is non-symmetrical for the species with an unappealing form and/or has much dieback of foliage and twigs/branches;

D. **Poor** - The tree has few positive characteristics and may detract from the beauty of the landscape.

TREATMENT

1. **Remove Dead Wood** - if noticeable dead wood in the canopy makes tree unattractive, it can be removed.

2. **Remove Wire, etc.** - if anything has been physically attached to the tree, it should be removed.

3. **Insect/Disease Treatment** - see TREE PRESERVATION PROGRAM within this report for explanation.

4. **Cable/Brace** - can extend the time the tree remains healthy, attractive and hazard free.

5. **None** - no treatment is recommended.

6. **Remove Tree** - if the tree can't be saved through any type of treatment, it should be removed.

REMARKS (Some other terms that may be used)

1. **Basal Growth** - is leaf growth generating from around base of trunk.

2. **Exposed Buttress Roots** - when soil is absent at the base of the tree.

3. **Heart Rot** - is decomposition of heartwood (the central portion of a twig/branch/trunk).

4. **Powdery Mildew** - are leaves that are covered by a white powdery growth generally when new growth becomes wet for long periods of time; leaves may be distorted, stunted and drop prematurely.

5. **Cankers** - are rough swellings with depressed centers resulting in death of tissue that later cracks open and exposes the wood underneath in twigs, branches, and/or trunks.

6. **Chlorotic Leaves** - leaf veins remain normally green, but the tissue between veins becomes yellow, which is usually caused by nutrient deficiencies.

7. **Mottling** - are leaves that have a variegated pattern of green and yellow.

8. **Defoliation** - is a premature leaf drop.

9. **Bark Beetle Frass** - are wood fragments mixed in the insect's excrement.

10. **Witches Broom** - is an abnormal growth cluster of twigs that may be caused by pruning, insects, mites, fungus, etc.

11. **Mistletoe** - is a leafy evergreen perennial parasite with dark green leathery leaves.

12. **Crowded** - is a tree within the canopy of an adjacent tree or canopy.

13. **Shading Out** - is the defoliation and twig dieback inside the canopy due to the lack of sunlight.

OAK TREE
LOCATION MAP

Attachment 3

Species List

Vascular Plants Observed

* Species not native to northern Santa Monica Mountains

EUDICOTS

Aizoaceae - Fig-Marigold Family
* *Mesembryanthemum* sp.
Ice Plant

Anacardiaceae - Sumac Family
Malosma laurina
Laurel Sumac
Rhus ovata
Sugar Sumac
* *Schinus molle*
Peruvian Pepper Tree
Toxicodendron diversilobum
Poison Oak

Apiaceae - Carrot Family
* *Conium maculatum*
Poison Hemlock
Sanicula crassicaulis
Pacific Sanicle

Araliaceae - Ginseng Family
* *Hedera helix*
English Ivy

Asteraceae - Sunflower Family
Ambrosia psilostachya
Western Ragweed
* *Argyranthemum frutescens*
Marguerite Daisy
Artemisia californica
California Sagebrush
Artemisia douglasiana
California Mugwort
Baccharis pilularis
Coyote Brush
Baccharis salicifolia
Mule Fat
* *Carduus pycnocephalus*
Italian Thistle
* *Centaurea melitensis*
Tocalote
* *Cirsium vulgare*
Bull Thistle
Corethrogyne filaginifolia
California-aster
Hazardia squarrosa
Saw-toothed Goldenbush
* *Helminthotheca echioides*
Bristly Ox-tongue
Heterotheca grandiflora
Telegraph Weed
Isocoma menziesii
Menzies' Goldenbush
Osteospermum fruticosum
* *Highway Daisy*
* *Sonchus asper*
Prickly Sow Thistle

Brassicaceae - Mustard Family
* *Brassica nigra*
Black Mustard
* *Hirschfeldia incana*
Short-podded Mustard
* *Raphanus sativus*
Radish
* *Sisymbrium irio*
London Rocket

Caprifoliaceae - Honeysuckle Family
* *Lonicera japonica*
Japanese Honeysuckle
Lonicera subspicata
Southern Honeysuckle
Sambucus mexicana
Blue Elderberry

Caryophyllaceae - Pink Family
*+ *Stellaria media*
Common Chickweed

Chenopodiaceae - Goosefoot Family
* *Chenopodium album*
Lamb's-quarters

Cucurbitaceae - Gourd Family
Marah macrocarpus
Cucamonga Man-root

Euphorbiaceae - Spurge Family
* *Euphorbia esula*
Leafy Spurge
* *Ricinus communis*
Castor-bean

Fabaceae - Pea Family
* *Medicago lupulina*
Black Medick
* *Melilotus albus*
White Sweetclover

Fagaceae - Beech Family
Quercus agrifolia
Coast Live Oak
* *Quercus engelmannii*
Engelmann's Oak (planted)

Geraniaceae - Geranium Family
* *Erodium cicutarium*
Red-stemmed Filaree

Hydrophyllaceae - Waterleaf Family
Emmenanthe penduliflora
Whispering Bells
Phacelia cicutaria
Caterpillar Phacelia

Juglandaceae - Walnut Family
Juglans californica
Southern California Black Walnut

Malvaceae - Mallow Family
* *Malva parviflora*

Myrtaceae - Myrtle Family
* *Callistemon citrinus*
Crimson Bottlebrush

Nyctaginaceae - Four-o'clock Family
* *Bougainvillea glabra* × *B. spectabilis*
Paper Flower

Oleaceae - Olive Family
* *Fraxinus uhdei*
Evergreen Ash
* *Fraxinus velutina*
Velvet Ash
* *Olea europaea*
European Olive

Onagraceae - Evening-primrose Family
Oenothera elata
Hooker's Evening-primrose

Oxalidaceae - Wood-sorrel Family
* *Oxalis pes-caprae*
Bermuda-buttercup Oxalis

Passifloraceae - Passionflower Family
* *Passiflora caerulea*
Blue Passionflower

Platanaceae - Sycamore Family
* *Platanus* ×*acerifolia*
London Plane Tree
Platanus racemosa
California Sycamore

Polygonaceae - Buckwheat Family
* *Rumex crispus*
Curly Dock
Rumex salicifolius
Willow Dock

Portulacaceae - Purslane Family
Claytonia perfoliata
Miner's-lettuce

Rubiaceae - Madder Family
Galium angustifolium
Narrow-leaved Bedstraw

Salicaceae - Willow Family
Salix laevigata
Red Willow
Salix lasiolepis
Arroyo Willow

Solanaceae - Nightshade Family
* *Nicotiana glauca*
Tree Tobacco
Solanum xanti
Chaparral Nightshade

Verbenaceae - Vervain Family
Verbena lasiostachys
Western Vervain

Vitaceae - Grape Family
* *Vitis vinifera*
Cultivated Grape

SECTION: MONOCOTS

Araceae - Arum Family
* *Zantedeschia aethiopica*
Calla Lily

Arecaceae - Palm Family
* *Phoenix* sp.
Date Palm
* *Washingtonia* sp.
Fan Palm

Iridaceae - Iris Family
Sisyrinchium bellum
Western Blue-eyed-grass

Liliaceae - Lily Family
* *Asparagus officinalis*
Garden Asparagus

Poaceae - Grass Family
Agrostis exarata
Spike Bentgrass
* *Avena barbata*
Slender Oat
* *Avena fatua*
Wild Oat
* *Bromus diandrus*
Ripgut Brome
* *Bromus hordeaceus*
Soft Brome
* *Bromus madritensis*
Spanish Brome
* *Cynodon dactylon*
Bermuda Grass

* *Lamarckia aurea*
  Goldentop Grass
* *Lolium perenne*
  Perennial Ryegrass
* *Polypogon monspeliensis*
  Annual Beard Grass

Vertebrate Wildlife Observed

CLASS AMPHIBIA – FROGS & SALAMANDERS

Hylidae - Treefrog Family
Pseudacris hypochondriaca
Baja California Treefrog

CLASS REPTILIA – REPTILES

Phrynosomatidae - Spiny Lizard Family
Sceloporus occidentalis
Western Fence Lizard

CLASS AVES – BIRDS

Anatidae - Swan, Goose, and Duck Family
Anas platyrhynchos
Mallard

Cathartidae - New World Vulture Family
Cathartes aura
Turkey Vulture

Accipitridae - Hawk Family
Buteo lineatus
Red-shouldered Hawk
Buteo jamaicensis
Red-tailed Hawk

Columbidae - Pigeon and Dove Family
* *Columba livia*
Rock Pigeon
Patagioenas fasciata
Band-tailed Pigeon
Zenaida macroura
Mourning Dove

Trochilidae - Hummingbird Family
Archilochus alexandri
Black-chinned Hummingbird
Calypte anna
Anna's Hummingbird
Selasphorus sasin
Allen's Hummingbird

Picidae - Woodpecker Family
Melanerpes formicivorus
Acorn Woodpecker
Picoides nuttallii
Nuttall's Woodpecker
Picoides pubescens
Downy Woodpecker

Tyrannidae - Tyrant Flycatcher Family
Empidonax difficilis
Pacific-slope Flycatcher
Sayornis nigricans
Black Phoebe

Corvidae - Jay and Crow Family
Aphelocoma californica
Western Scrub-Jay
Corvus brachyrhynchos
American Crow

Paridae - Titmouse Family
Baeolophus inornatus
Oak Titmouse

Aegithalidae - Bushtit Family
Psaltriparus minimus
Bushtit

Troglodytidae - Wren Family
Thryomanes bewickii
Bewick's Wren
Troglodytes aedon
House Wren

Regulidae - Kinglet Family
Regulus calendula
Ruby-crowned Kinglet

Sylviidae - Old-World Warbler Family
Chamaea fasciata
Wrentit

Turdidae – Thrush Family
Catharus guttatus
Hermit Thrush
Turdus migratorius
American Robin

Mimidae - Thrasher Family
Mimus polyglottos
Northern Mockingbird

Sturnidae - Starling Family
*+ *Sturnus vulgaris*
European Starling

Bombycillidae - Waxwing Family
Bombycilla cedrorum
Cedar Waxwing

Parulidae - Wood-Warbler Family
Oreothlypis celata
Orange-crowned Warbler
Setophaga coronata
Yellow-rumped Warbler
Setophaga townsendi
Townsend's Warbler

Emberizidae - Sparrow Family
Pipilo maculatus
Spotted Towhee
Melozone crissalis
California Towhee
Melospiza melodia
Song Sparrow
Zonotrichia leucophrys
White-crowned Sparrow
Zonotrichia atricapilla
Golden-crowned Sparrow
Junco hyemalis
Dark-eyed Junco

Fringillidae - Finch Family
Carpodacus mexicanus
House Finch
Spinus psaltria
Lesser Goldfinch

Passeridae - Old World Sparrow Family
**- Passer domesticus*
House Sparrow

CLASS MAMMALIA – MAMMALS

Leporidae - Hare and Rabbit Family
Sylvilagus audubonii
Desert Cottontail

Sciuridae - Squirrel Family
** Sciurus niger*
Eastern Fox Squirrel

Geomyidae - Pocket Gopher Family
Thomomys bottae
Botta's Pocket Gopher

APPENDIX C

Jurisdictional Delineation

DRAFT

Preliminary Delineation of Jurisdictional Waters and Wetlands
Peters, Castle Oaks & Brown Project
City of Calabasas, Los Angeles County, California

Calabasas USGS 7.5-minute Topographic Quadrangle
Sections 26 and 27 of Township 1 North, Range 17 West
APNs: 207-200-3024, 207-200-3025, 207-200-1018, 207-200-1019, and 207-203-4003

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SECTION 1: SUMMARY

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1.1 - Introduction

At the request of Viewpoint School, FirstCarbon Solutions (FCS) conducted a jurisdictional delineation for the approximate 7-acre Peters, Castle Oaks & Brown Project site (hereafter referred to as the "project site" or "site") located in the City of Calabasas in Los Angeles County, California. The Preliminary Jurisdictional Delineation (PJD) was conducted to determine the location and extent of waters and/or wetlands within the project site potentially subject to the jurisdiction of the United States Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and/or the California Department of Fish and Wildlife[1] (CDFW).

Pursuant to USACE, Regulatory Guidance Letter No. 08-02 (RGL 08-02) this PJD examines whether there "may be" waters of the United States (U.S.) on the project site, and identifies all aquatic features on the site that could be affected by the proposed activity based on the information provided herein.

For purposes of processing future permit applications, computation of impacts, compensatory mitigation requirements, and other resource protection measures, the Applicant understands that the PJD will treat all waters and wetlands that would be affected in any way by the permitted activity on the site as if they are jurisdictional waters of the U.S. These features will be treated as jurisdictional even though some of these features may in fact not be jurisdictional (see RGL 08-02 at 3).

Furthermore, in electing to process a PJD the Applicant has made an informed and voluntarily decision that processing a PJD is in their best interest. A PJD form has been prepared and signed by the Applicant; see Appendix E.

1.2 - Project Location

The project site is generally located north of State Route 1 (SR-1), south of U.S. Highway 101, east of SR-23, and west of SR-27 (Exhibit 1).

[1] Effective January 1, 2013 the California Department of Fish and Game was renamed to the California Department of Fish and Wildlife.

The site occurs on Assessor's Parcel Numbers (APNs) 207-200-3024, 207-200-3025, 207-200-1018, 207-200-1019, and 207-203-4003. These APNs are within Sections 26 and 27 of Township 1 North, Range 17 West of the Calabasas, California U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle (Exhibit 2).

The project site is specifically located south of Mulholland Highway between Old Topanga Canyon Road and Dry Canyon Cold Creek Road in the City of Calabasas, Los Angeles County, California. The site borders undeveloped open hillsides in all directions with isolated pockets of residential development (Exhibit 3).

1.3 - Project Description

The Proposed Project consists of two areas—Student Parking and Tennis Courts on an approximately 5-acre area on the southeast end of the Viewpoint School Campus, as well as Supplemental Campus Parking on an approximately 2-acre area on the southwest side of Dry Canyon Cold Creek Road, across from the entrance to the Viewpoint School Campus.

The proposed project will include approximately 70 parking spaces and six tennis courts on two areas covering approximately 24,000 square feet each, as well approximately 40 parking spaces in two additional parking areas. Lighting is not included in the proposal. Two sets of retaining walls are proposed to configure the tennis court areas. The footbridges are proposed for potential modification to allow access to the southeasterly tennis courts. Additional project details follow.

1.4 - Driving Directions

From the downtown Los Angeles area, travel northwest on U.S. Highway 101 for 10 miles, then continue west on U.S. Highway 101 for 15 miles. Take the Mulholland Drive exit and head to the south for 0.60 mile. Turn right onto Valmar Road and head south. Valmar Road turns into Old Topanga Canyon Road. After 1 mile, turn right onto Mulholland Highway and head west. Santa Barbara Road dead-ends at the access gate for the project site. The project site is located on the left side of the road, less than 0.50 mile from the intersection of Old Topanga Canyon Road and Mulholland Highway.

1.5 - Summary of Jurisdictional Findings

The project site contains two drainage features, an unnamed tributary, and Dry Canyon Creek, with ephemeral or intermittent flows (non-relatively permanent waters [non-RPW]). Though non-navigable and non-relatively permanent waters (non-RPW), the drainages have downstream connectivity to Arroyo Calabasas (RPW) approximately 2.6 river miles from the project site. Arroyo Calabasas flows into the Los Angeles River (RPW), which ultimately discharges to the Pacific Ocean, a traditional navigable water (TNW), approximately 60 river miles southwest of the confluence with Arroyo Calabasas.



Source: Census 2000 Data, The CaSIL.

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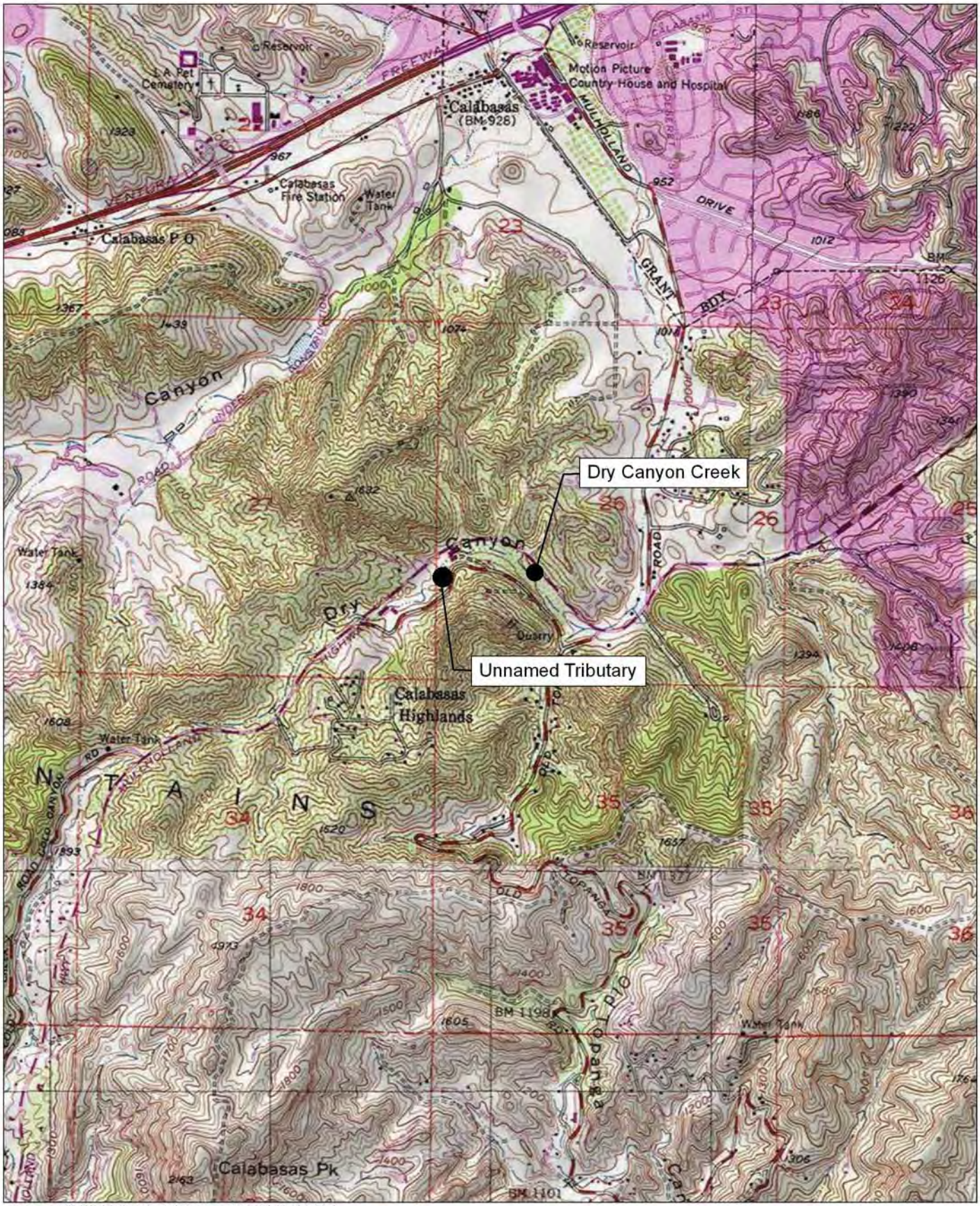
5 2.5 0 5 Miles

Exhibit 1
Regional Location Map

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EORM CONSULTING • PETERS, CASTLE OAKS & BROWN PROJECT
JURISDICTIONAL DELINEATION OF WETLANDS AND WATERS

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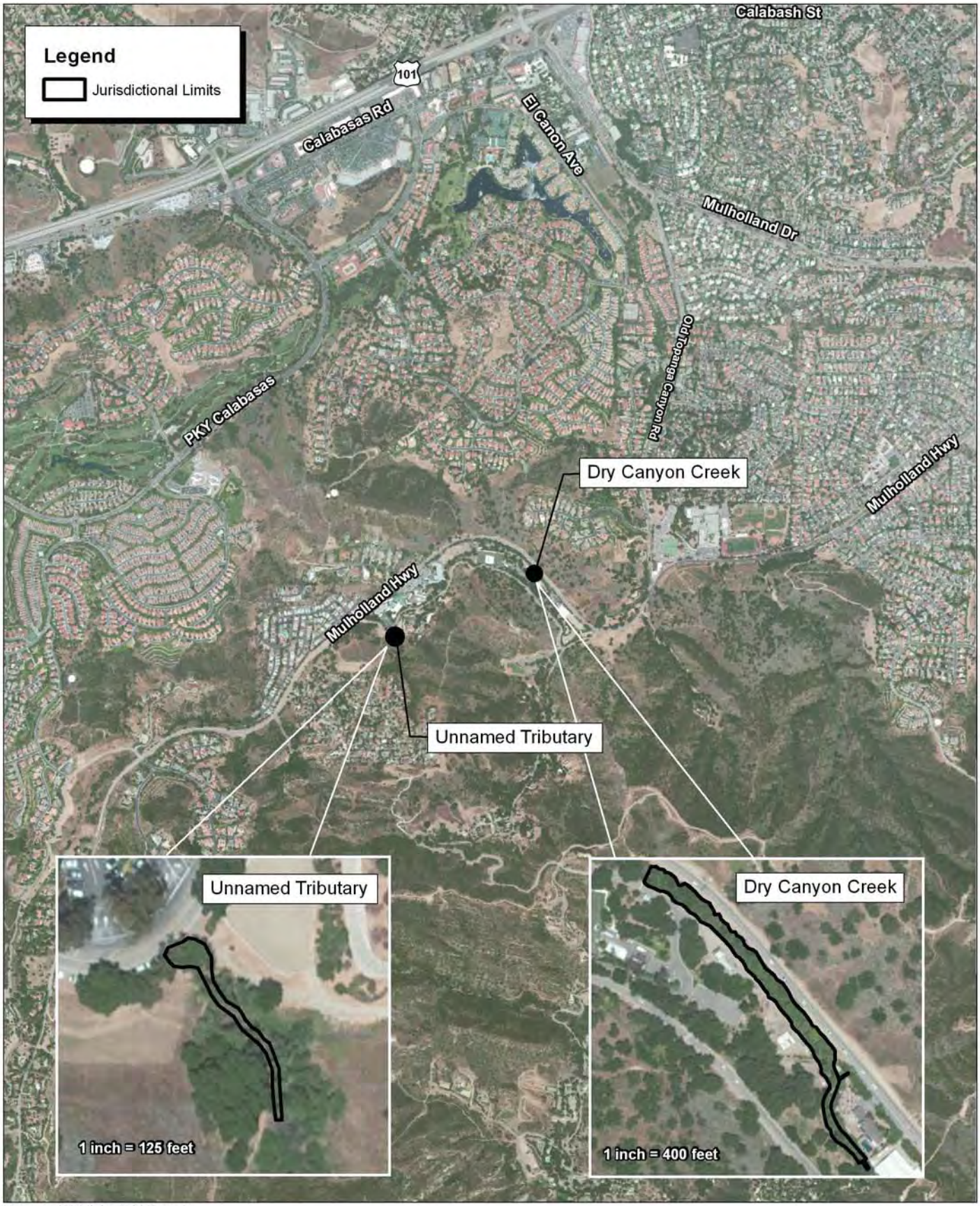
Source: TOPO! USGS Calabasas (1967) 7.5' DRG.

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Exhibit 2
Local Vicinity Map
Topographic Base

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Source: ESRI Aerial Imagery.

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Exhibit 3
Local Vicinity Map
Aerial Base

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As provided under the terms of RGL 08-02, the unnamed tributary and Dry Canyon Creek are assumed potentially jurisdictional and will be treated as such for mitigation purposes. USACE jurisdiction within the project area of the two drainages totals approximately 0.47 acre (1,234 linear feet) of waters of the U.S. The active drainage within the unnamed tributary contains non-native grassland. The portion of Dry Canyon Creek within the project site is relatively unvegetated. The adjacent side slopes and upper terrace contain riparian vegetation dominated by willows and sycamore trees.

No portion of the project site met USACE criteria for wetlands. No in-stream or adjacent wetlands were present onsite. As mentioned above, the active stream channel is unvegetated and contains large boulders and cobbles. There are isolated portions of the drainage that contain silted areas, but do not indicate wetland soils. The drainages support adjacent southern willow scrub habitat located along the margins of the active channel. This area is supported by stormwater runoff that enters the channel from the west, as well as roadside runoff along Mulholland Highway that enters the channel from the north.

CDFW Jurisdiction within the project area includes 1.15 acres measured from top-of-bank to top-of-bank and includes the adjacent riparian habitat.

This feature exhibits a distinct bed and bank and an ordinary high water mark (OHWM) within all portions of the drainage within the project footprint. Some portions of the drainage are concrete-lined or have reinforced sidewalls to prevent erosion.

Based on the findings of FCS's Preliminary Jurisdictional Delineation, the drainage connects to the Los Angeles River. Therefore, 0.47 acre (1,234 linear feet), may be subject to USACE and RWQCB jurisdictions and 1.15 acres may be subject to CDFW jurisdiction.

This document is prepared as a PJD and its findings require agency concurrence. The resource agencies make the ultimate determination of jurisdiction.

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SECTION 2: JURISDICTIONAL METHODOLOGY

2.1 - Methodology Statement

This PJD was conducted in accordance with regulations set forth in 33 Code of Federal Regulations (CFR) part 328 and the USACE guidance documents referenced below:

- USACE Wetlands Research Program Technical Report Y-87-1 (on-line edition), Wetlands Delineation Manual, Environmental Laboratory, 1987 (Wetland Manual).
- USACE Guidelines for Jurisdictional Determinations for Waters of the United States in the Arid Southwest, 2001 (Arid Southwest Guidelines).
- USACE Minimum Standards for Acceptance of Preliminary Wetlands Delineations, November 30, 2001 (Minimum Standards).
- USACE Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, December 2006 (Arid West Supplement).
- USACE Jurisdictional Determination Form Instructional Guidebook, May 30, 2007 (JD Form Guidebook).
- USACE A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States, August 2008 (Delineation Manual).
- USACE Regulatory Guidance Letter 08-02 (RGL 08-02), Preliminary Jurisdictional Determinations, August 2008.

2.2 - Pre-Survey Investigation

Prior to the field visit, a 200-scale (1 inch = 200 feet) aerial photograph of the site was procured and compared with the Calabasas, California, USGS 7.5-minute topographic quadrangle map to identify drainage features within the survey area as indicated from topographic changes or visible drainage patterns. Historical aerial imagery was also examined to gain an understanding of the impact of land-use on natural drainage patterns in the area. Where possible, surface drainage systems were traced using aerial imagery to downstream receiving waters. The National Wetland Inventory was also reviewed to determine whether any wetland areas had been documented within the vicinity of the site. Similarly, the United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) soil maps for Los Angeles County were used to identify the soil series in the area and to check these soils to determine whether they are regionally identified as hydric soils.

2.3 - Field Investigation

A field investigation was performed by FCS biologist Scott Crawford on the dates and in the conditions indicated in Table 1 below.

Table 1: Jurisdictional Field Survey Dates and Conditions

Date of Survey	Name(s)	Field Conditions	Palmer Drought Conditions
November 13, 2014	Scott Crawford	Clear Skies, with a temperature of 66 °F and winds ranging from 0–2 mph	D3 – Extreme Drought

Materials used included a 100-meter tape measure, shovel, and Munsell color chart. Data was collected using a Trimble GeoXH GPS.

Wetland data information was collected in a field notebook during the survey and transferred to data sheets by the delineator. However, no areas of potential adjacent wetlands were observed outside the OHWM. Similarly, no isolated wetlands were observed above/beyond the activity portion of the flood plain. Little to no soil occurs within the active channel. The channel consisted of rocks ranging from cobble size to boulders. As such, no soil pits or wetland data sheets were needed or prepared for the project.

Potential wetland areas were assessed to the outer reach of the adjacent riparian vegetative community. Depression/ponded areas where water appears likely to collect were evaluated. Ponded features were assessed to the natural topographical rim of the depressional feature or to the outer drip mark of vegetative layer (whichever was greater). Features previously indicated on aerial photographs (dark/saturated areas, associated riparian vegetation, etc.) were field verified during the site visit. Similarly, USDA/NRCS soils records for Los Angeles County were also field confirmed. Plant species for each vegetative community were identified and given an indicator status as prescribed in the National List of Vascular Plant Species that Occur in Wetlands (1996). As needed, data collected was recorded within a field notebook and then transferred to wetland data forms and evaluated using the supplemental wetland delineation guidance manual for the Arid West Region (USACE 2008).

The survey was conducted on foot. The potential jurisdictional feature was systematically inspected to record existing conditions and to determine the jurisdictional limits. The site was carefully assessed for indicators of active surface flow (presence of hydrophytic vegetation, staining, cracked soil, ponding, etc.). All apparent flow regimes and corresponding hydrogeomorphic features were subsequently identified. Width measurements for potential USACE and RWQCB jurisdiction are taken from bank to bank within the active floodplain of the channel.

Potential CDFW jurisdiction is based on the presence of a bed and bank, and the presence of riparian vegetation and/or wildlife resources. The lateral extent of potential CDFW jurisdiction was measured from bank to bank at the top of the channel, or to the drip-line of the riparian vegetation rooted within the banks, where it extended beyond the bank of the channel. Associated riparian vegetation coverage previously indicated on aerial photographs was verified during the visit.

Measurements were entered into Geographical Information System (GIS) Arcview software to identify the location and dimensions of jurisdictional areas. The Arcview application was then used to compute federal and state jurisdiction in acres. Acreage computations were verified using a 200-scale aerial photograph and field data.

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SECTION 3: ENVIRONMENTAL SETTING

The project site consists of the existing Viewpoint School property. The proposed project involves the removal of several buildings and existing infrastructure and the development of new Viewpoint Campus amenities, including a series of tennis courts and parking spaces. Currently, the unnamed tributary and Dry Canyon Creek flow immediately adjacent to the area of potential effect. Dry Canyon Creek will be crossed at a minimum of two locations for the installation of pedestrian bridges.

The project site is located at the bottom of Dry Canyon and the elevation within the site ranges from 1,080 to 1,200 feet above mean sea level. A blue-line stream occurs within the site as shown on the Calabasas, California USGS 7.5-minute topographic quadrangle map. The unnamed tributary flows from south to north and discharges into Dry Canyon Creek, which flows generally from west to east through the site.

The study area is located within the Los Angeles River watershed. The Los Angeles River, identified by the USGS cataloging unit number 18070105, drains approximately 2,880 square miles. More specifically, the study area receives flows from the Dry Canyon Creek drainage system, which comprises a small drainage area of approximately 100 acres extending southwest from the project site to the Santa Monica Mountains. The Dry Canyon Creek Drainage area includes the Bull Canyon Hydrologic Sub Area (HSA 412.21). This subarea is located in the southwestern corner of the Los Angeles River watershed.

3.1 - Land Uses

The project site consists of a steep canyon that has been developed into a private school facility with sparse rural residence scattered within the canyon. Dense residential development exists to the north and west, and undeveloped open space exists to the south and west.

3.1.1 - Activities Relating to Interstate or Foreign Commerce

The potentially jurisdictional features that were investigated onsite are not used for recreation or other use by interstate or foreign travelers or used in relation to interstate or foreign commerce. The drainages collect stormwater and convey it off-site. Onsite resources are not used for sale of fish or shellfish. Similarly, the land is not currently used for industry or other activities operating in interstate or foreign commerce. At present, no nexus to commerce is evident.

3.2 - Topography

The project site is located in the northern foothills of the Santa Monica Mountains, an area containing steep to gently rolling hills. The majority of the project site consists of previously disturbed drainage feature adjacent to a private school facility and rural residences. The project site is located in a relatively steep canyon area in the foothills. The site contains two drainage features,

an unnamed tributary associated with nuisance flows that originate from Calabasas Highlands Community, and Dry Canyon Creek that originates from an area west of Calabasas Peak. The project site is located at the bottom of Dry Canyon and the elevation within the site ranges from 1,080 to 1,200 feet above mean sea level (Exhibit 2).

3.3 - Hydrology

3.3.1 - Watershed Description

The study area is located within the Los Angeles River watershed. The Los Angeles River, identified by the USGS cataloging unit number 18070105, drains approximately 2,880 square miles. More specifically, the study area receives flows from the Dry Canyon Creek drainage system, which comprises a small drainage area of approximately 100 acres extending southwest from the project site to the Santa Monica Mountains. The Dry Canyon Creek Drainage area includes the Bull Canyon Hydrologic Sub Area (HSA 412.21). This subarea is located in the southwestern corner of the Los Angeles River watershed (Exhibit 4). The project site is not within an active flood zone (Exhibit 5).

3.4 - Seasonal Climate Variation

The City of Calabasas is subject to both seasonal and annual variations in temperature and precipitation. Average annual maximum temperature is 70 degrees Fahrenheit (°F), and annual minimum temperature is 50°F. Average annual precipitation is greatest in January, February, and March and least in June, July, and August, with the annual precipitation averaging 24 inches.

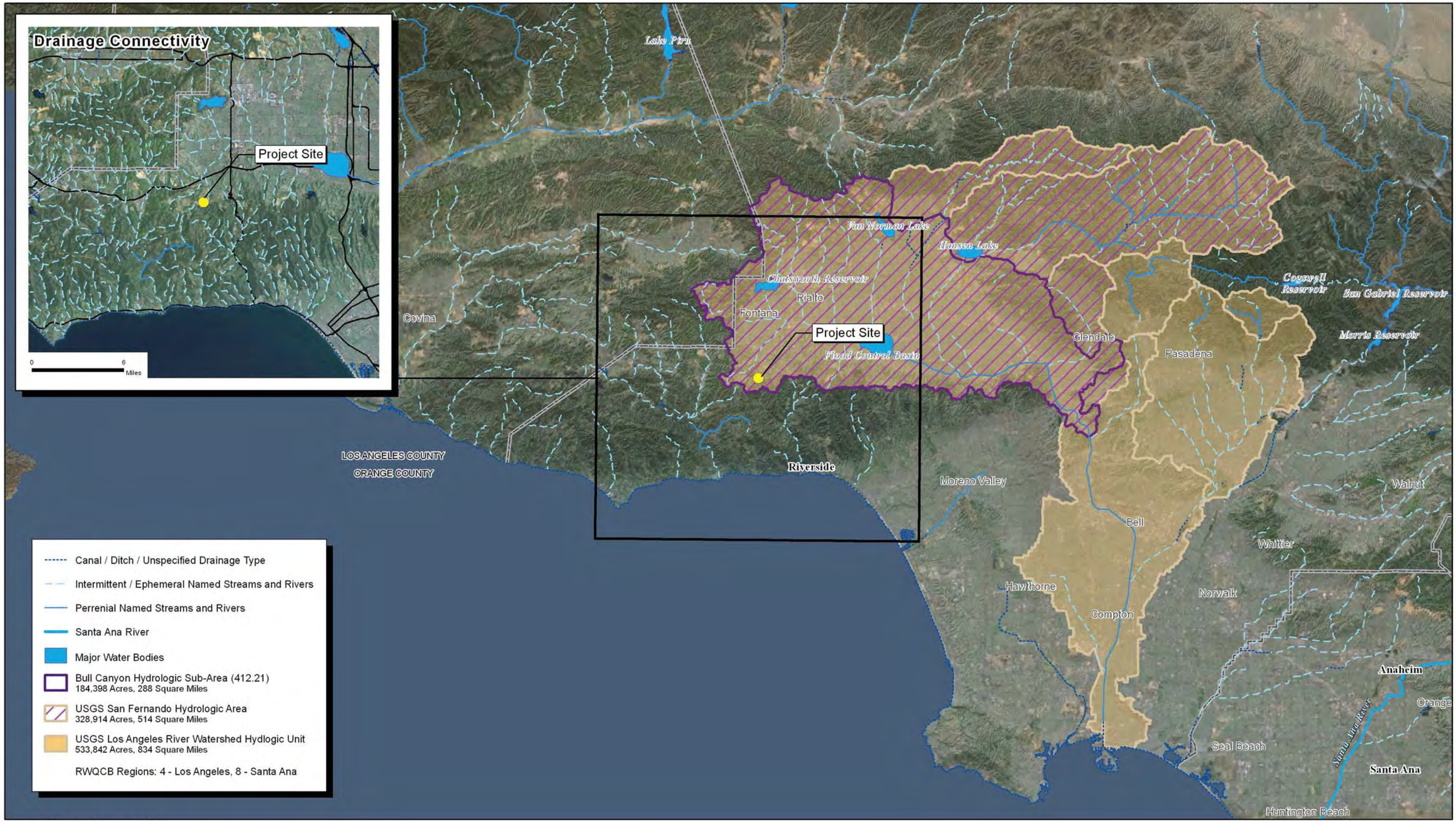
3.5 - Soils

Based on the USDA (2009), the surveyed portion of the drainage contains two soils series, Cumulic Haploxerolls, and Urban land-Xerorthents, landscaped, complex. The portion of the drainage feature likely impacted by project improvements occurs in the Cumulic Haploxerolls and Sumiwawa-Hipuk-Rock outcrop complex soil series (Exhibit 6).

The Cumulic Haploxerolls mapping unit consists of alluvium derived from volcanic and sedimentary rock, with moderately slow permeability. Vegetation is mainly arroyo willow and California sycamore. These soils are subject to frequent flooding.

The Sumiwawa-Hipuk-Rock outcrop complex soil series is typically found in hills and mountains and is derived from sandstone and/or residuum derived from sandstone. Vegetation is mainly chamise. Surface runoff is high and natural drainage is somewhat excessively drained. Permeability is rapid above the bedrock.

According to the Natural Resources Conservation District inventory, Cumulic Haploxerolls is listed as a hydric soil.



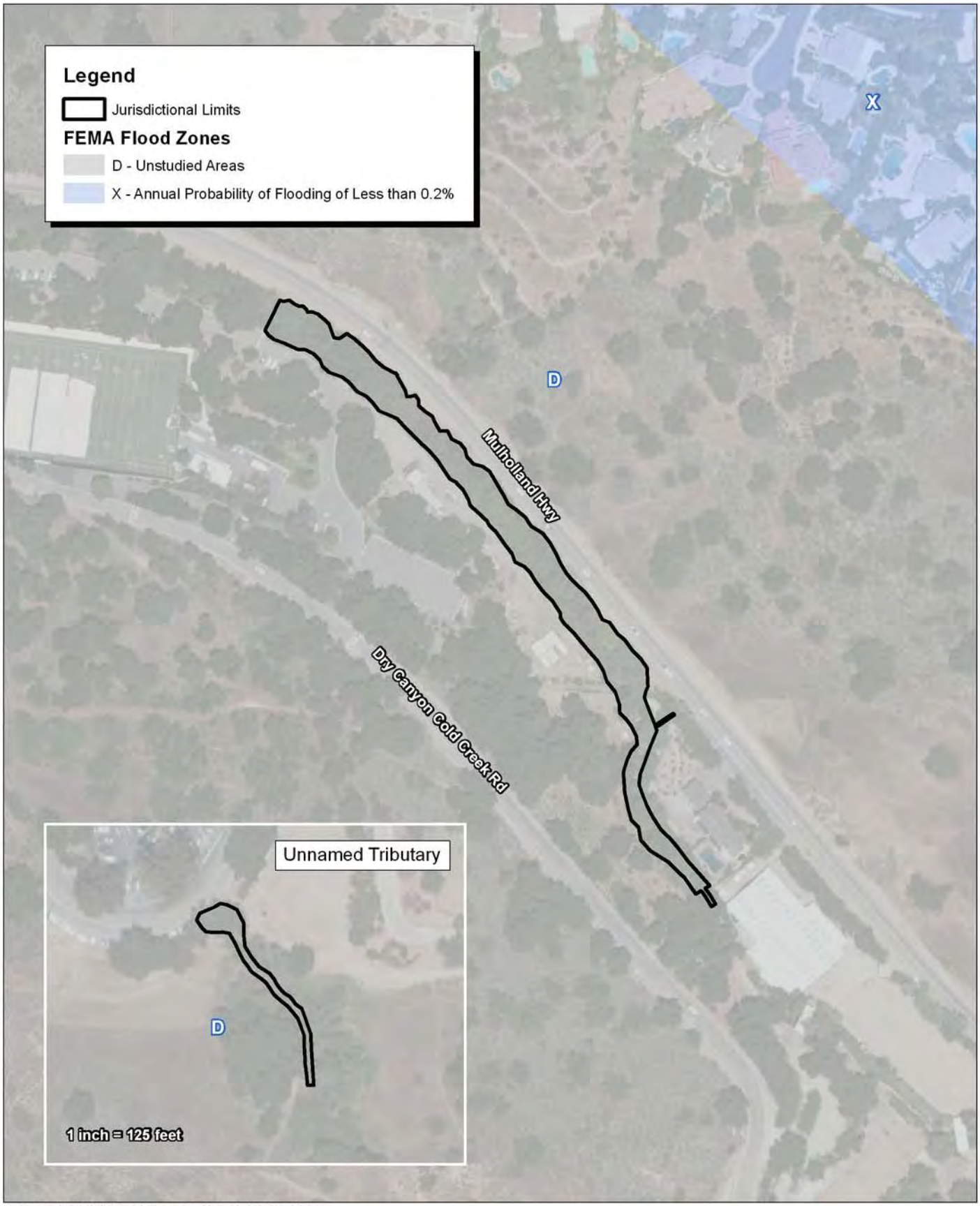
Source: ESRI World Imagery, ESRI

NORTH

6.5 3.25 0 6.5
Miles

Exhibit 4
Watershed / Drainage Map

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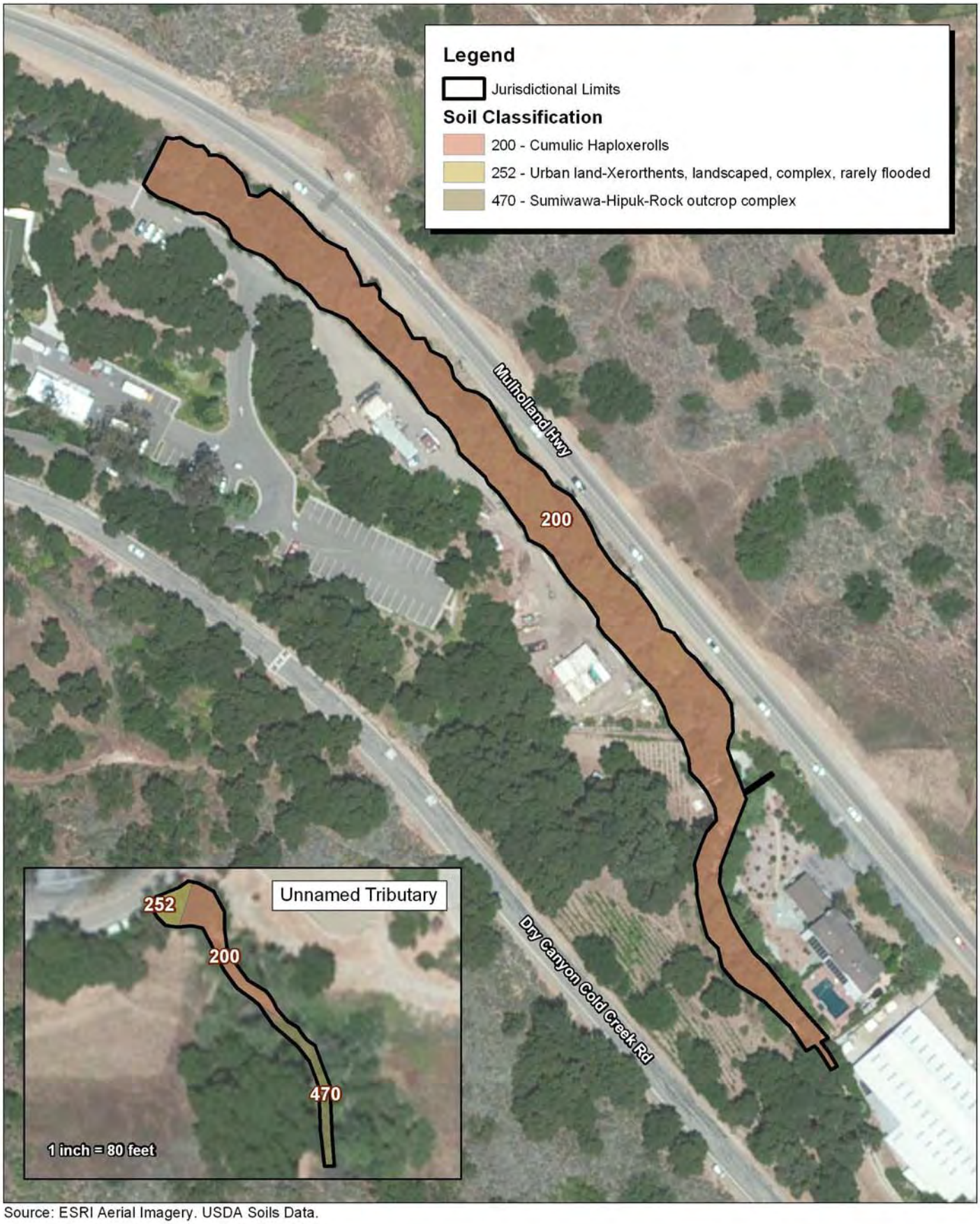
Source: ESRI Aerial Imagery. FEMA NFHL Data.

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Exhibit 5
FEMA Flood Map

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Source: ESRI Aerial Imagery. USDA Soils Data.

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Exhibit 6
USDA Soils Map

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3.6 - Vegetation

The drainage features are described as having relatively unvegetated active channels. These features are dominated by disturbed areas, with cobble to boulder size rocks with the bed of the features. Riparian vegetation occurs along the upper bench of the drainages in upland areas. Dominant vegetation associated with the unnamed tributary includes mugwort (*Artemisia douglasii*) and coyote bush (*Baccharis pilularis*) in the downstream section and black willow and coast live oak in the upstream portion. Dominant vegetation associated with Dry Canyon Creek includes arroyo willow (*Salix lasiolepis*) and black willow (*Salix goodingii*).

3.7 - Coastal Zone Evaluation

As defined in Section 30103 of the Public Resources Code (California Coastal Act), "Coastal Zone" is defined as that land and water area of the State of California extending seaward to the state's outer limit of jurisdiction and extending inland generally 1,000 yards from the mean high tide line of the sea. In significant coastal estuarine habitat and recreational areas, it extends inland to the first major ridgeline paralleling the sea or five miles from the mean high tide line of the seas, whichever is less, and in developed urban areas the zone generally extends inland less than 1,000 yards.

The project site is located approximately 7 miles from the Pacific Ocean and is 2-miles from the northern edge of the Coastal Zone; therefore, the project site is not located within the Coastal Zone.

3.8 - Critical Habitat and Listed Species

No federally designated Critical Habitat is located within the project area. No species listed as threatened or endangered under the Federal Endangered Species Act (FESA) or the California Endangered Species Act (CESA) are present on site.

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SECTION 4: JURISDICTIONAL DELINEATION RESULTS

The following section provides a detailed discussion of potential jurisdictional resources on the property, incorporating findings related to vegetative communities, topography, soils, hydrology, and wetlands for each of the geomorphic features.

4.1 - Summary of Jurisdictional Areas

Table 2: Summary of Jurisdictional Areas

Drainage	USACE/RWQCB Jurisdiction		CDFW Jurisdiction		Length (feet)
	USACE (Acre)	Wetlands (Acre)	Un-vegetated Streambed (Acre)	Vegetated Streambed (Acre)	
Unnamed Tributary	0.04	0.00	0.04	0.01	192
Dry Canyon Creek	0.43	0.00	0.43	0.58	1,160
Total	**0.47**	**0.00**	**0.47**	**0.59**	**1,352**

USACE jurisdiction is mapped and shown in Exhibit 7. CDFW jurisdiction is shown in Exhibit 8.

4.2 - Jurisdictional Determination - Rationale

A detailed discussion of the rationale for supporting the jurisdictional determination is provided below.

4.2.1 - Preliminary Jurisdictional Determinations

Non-navigable waters (tributaries) are regulated by the USACE as set forth in 33 CFR 328.3(a)(5). Typically, non-navigable tributary waters must have surface connectivity to downstream navigable waters to be considered jurisdictional. Generally, tributaries, which are isolated from downstream navigable waters, are not subject to Clean Water Act (CWA) jurisdiction.[2] Similarly, tributaries classified as non-relatively permanent waters (flows less than three continuous months out of the year) are not subject to federal jurisdiction unless they maintain a significant physical, chemical, and ecological nexus to downstream navigable waters.[3] In absence of connectivity, surface water resources must exhibit a nexus to interstate or foreign commerce.[4]

In an approved jurisdiction, significant nexus evaluation is reviewed by the USACE, with oversight by USACE headquarters and by the Environmental Protection Agency (EPA).

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[2] Generally see: *Solid Waste Agency of Northern Cook County (SWANCC) v. Army Corps of Engineers* (99-1178) 531 U.S. 159 (2001), 191 F.3d 845

[3] Generally see: *Rapanos v. United States*, 547 U.S. 715 (2006),

[4] 33 CFR 328.3(a)(3): As established in Section 3.2.1, Activities Relating to Interstate or Foreign Commerce, no nexus to interstate or foreign commerce is evident on site.

When a PJD federal jurisdiction over potential waters of the U.S. is assumed for processing purposes, the PJD obviates the need to perform a significant nexus evaluation and bypasses review and oversight by USACE headquarters and the EPA.

4.2.2 - Unnamed Tributary

The unnamed tributary is located on the westernmost side of the project site. The segment of the tributary that occurs within the project site is approximately 192 linear feet with an average OHWM approximately 6 to 8 feet wide. It originates in a hillside area south of the project site associated with the adjacent community of Calabasas Highlands. This feature enters the project site as an undisturbed open drainage and flows in a northerly direction. From the site, runoff in the unnamed tributary flows north for a few hundred feet before it converges with Dry Canyon Creek and flows to Arroyo Calabasas (RPW) approximately 2.6 river miles from the project site. Arroyo Calabasas flows into the Los Angeles River (RPW), which ultimately discharges to the Pacific Ocean, a traditional navigable water (TNW), approximately 60 river miles southwest of the confluence with Arroyo Calabasas.

The unnamed tributary is an ephemeral riverine, (non-RPW) that exhibits an intermittent OHWM evidenced by a noticeable change in soil grain size. The channel has a soft bottom with earthen banks that only conveys flows during and immediately following large storm events. The creek supports a combination of non-native weedy plants characterized by mugwort, coyote bush, Italian thistle (*Carduus pycnocephalus*), short-podded mustard (Hirschfeldia incana), Russian thistle (*Salsola tragus*), and bristly ox-tongue (*Picris echioides*).

Wetland Determination

The drainage feature does not exhibit all three wetland indicators (hydrophytic vegetation, hydric soil, and wetland hydrology). Based on the observed conditions on the site, there are no wetland areas within the unnamed tributary.

Hydrophytic Vegetation

The majority of the drainage contains little to no vegetation within the OHWM. Vegetation in the drainage was dominated by short-podded mustard, Russian thistle, and bristly ox-tongue. All of these species are considered upland species. Mugwort (an FACW plant) and coyote bush (upland) were observed on the upper-terrace portion of the drainage feature and are commonly associated within the understory of woodland habitats.

The majority of vegetation cover within the drainage consists of upland plants; therefore, the drainage feature does not support a prevalence of hydrophytic vegetation.

Hydric Soils

The soil within the drainage feature is sandy and cobbly. These soils are well drained with moderately rapid permeability and moderate runoff potential. During the site visit, no water was present within the drainage. There are no indications that water ponds in the channel for prolonged periods sufficient to create anaerobic soil conditions. Similarly, beneath the soil surface there are no indications of organic streaking, sulfidic odor, or other indications of hydric soil conditions.

The onsite portion of the drainage does not have any indicators of hydric soils.

Wetland Hydrology

Portions of the drainage feature contain drift deposits, which is a primary indicator of riverine wetland hydrology. The drift deposit debris is found in approximately four areas scattered throughout the drainage feature along the margins of the drainage feature. This portion of the drainage feature exhibits wetland hydrology.

Jurisdictional Determination

USACE Jurisdiction

Under the terms of RGL-0802, the USACE will assume jurisdiction over all potential waters of the U.S. The on-site portion of the unnamed drainage is an ephemeral non-RPW that exhibits hydrologic connectivity to waters of the United States; therefore, 0.04 acre (192 linear feet) of non-wetland waters on site may be subject to USACE jurisdiction (Exhibit 7).

RWQCB Jurisdiction

The drainage feature may support groundwater recharge as a beneficial use within the region; therefore, 0.04 acre of non-wetland waters appears to be subject to RWQCB jurisdiction (Exhibit 7).

CDFW Jurisdiction

The drainage feature on site exhibits a defined bed and bank; therefore, the same 0.04 acre of streambed appears to be subject to CDFW jurisdiction. In addition, the downstream portion of the drainage contains adjacent riparian vegetation. The overall CDFW jurisdiction is extended to include the adjacent riparian habitat (0.01 acre), and, therefore, CDFW covers a total of 0.05 acre (Exhibit 8).

Dry Canyon Creek

Dry Canyon Creek is located on the eastern boundary of the project site. The segment of Dry Canyon Creek that occurs within the project site is approximately 1,160 linear feet with an average OHWM approximately 15 feet wide. It originates in a hillside area southwest of the project site associated with Dry Canyon. This feature enters the project site as an undisturbed open drainage and flows in an easterly direction. This drainage is much larger than the unnamed tributary. Dry Canyon Creek is wider, deeper, and contains evidence of artificial reinforcement for bank stabilization.

From the site, flows from Dry Canyon Creek enter Arroyo Calabasas (RPW) approximately 2.6 river miles from the project site. Arroyo Calabasas flows into the Los Angeles River (RPW), which ultimately discharges to the Pacific Ocean, a traditional navigable water (TNW), approximately 60 river miles southwest of the confluence with Arroyo Calabasas. Dry Canyon Creek is an ephemeral riverine (non-RPW) that exhibits clearly defined OHWM evidenced by an incised bed and bank feature. The channel bottom is dominated by small boulders and cobbles with earthen banks that only convey flows during and immediately following large storm events. The active channel supports little to no vegetation. The adjacent terrace supports willow scrub habitat characterized by sparse to dense stands of arroyo willow (FACW) with scattered sycamores and smilo grass (*Piptatherum miliaceum*). The majority of the drainage contains little to no vegetation within the OHWM. The

vegetation in this section of the drainage feature is highly disturbed and the drainage appears to be scoured often during large storms. Vegetation within in this feature of the drainage feature is not considered hydrophytic.

Hydric Soils

The drainage bottom consists of little to no soil. The drainage is dominated by small boulders and cobbles. Small patches of accumulated silt occur sporadically within the drainage feature, but they are only a few inches deep and do not contain any hydric soil indicators. These soils are well drained with moderately rapid permeability and moderate runoff potential. During the site visit, a few ponded areas were present within the drainage. There are no indications that water ponds in the channel for prolonged periods sufficient to create anaerobic soil conditions. Similarly, beneath the soil surface there are no indications of organic streaking, sulfidic odor, or other indications of hydric soil conditions.

The onsite portion of the drainage does not have any indicators of hydric soils.

Wetland Hydrology

The drainage feature contains drift deposits, which is a primary indicator of riverine wetland hydrology. The drift deposits are found throughout the entire drainage feature. The drainage feature meets the requirements for wetland hydrology.

Jurisdictional Determination

USACE Jurisdiction

Under the terms of RGL-0802, the USACE will assume jurisdiction over all potential waters of the U.S. The on-site portion of Dry Canyon Creek is an ephemeral, non-RPW that exhibits hydrologic connectivity to waters of the U.S.; therefore, 0.43 acre (1,160 linear feet) of non-wetland waters on site may be subject to USACE jurisdiction (Exhibit 7).

RWQCB Jurisdiction

The drainage feature may support groundwater recharge as a beneficial use within the region; therefore,0.43 acre of non-wetland waters appears to be subject to RWQCB jurisdiction (Exhibit 7).

CDFW Jurisdiction

The drainage feature on site exhibits a defined bed and bank; therefore, the same 0.43 acre of streambed appears to be subject to CDFW jurisdiction. In addition, the drainage contains adjacent riparian vegetation. The overall CDFW jurisdiction is extended to include the adjacent riparian habitat (0.58 acre), and, therefore, CDFW covers a total of 1.01 acres (Exhibit 8).



Source: ESRI Aerial Imagery. FCS Field Survey and GIS Data, 2014.

FirstCarbon® SOLUTIONS

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Exhibit 7
Jurisdictional Assessment Map

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Source: ESRI Aerial Imagery. FCS Field Survey and GIS Data, 2014.

FirstCarbon® SOLUTIONS

130 65 0 130 Feet

Exhibit 8
CDFW Jurisdictional Areas

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SECTION 5: CONCLUSION

Potentially jurisdictional features within the project site total 0.47 acre (1,160 linear feet) of non-wetland waters of the U.S. subject to the jurisdiction of the USACE and RWQCB, and 1.01 acres of streambed features subject to the jurisdiction of the CDFW. The project is currently being designed to avoid these jurisdictional areas to the extent feasible. In the event that these features cannot be avoided or the project as developed will impact waters of the U.S. or waters of the State, authorization must be obtained from the appropriate agencies for these impacts. In addition, this preliminary jurisdictional delineation must be verified by the authorizing agencies.

5.1 - Compliance with Section 404 of the Clean Water Act (Nationwide Permit)

The proposed project may qualify for a USACE Nationwide Permit (NWP) 39 for Commercial, and Institutional Development under the 2012 NWPs, since it will cause discharges that result in permanent fill of less than 0.5 acre of waters of the U.S.; a pre-construction notification must be submitted for this project. A waiver to the 300 linear-foot limit may be requested for impacts to intermittent or ephemeral streams. Compensatory mitigation is required to offset permanent loss of waters of the U.S. and wetlands.

5.2 - Compliance with the Migratory Bird Treaty Act

All NWPs require compliance with the Migratory Bird Treaty Act because tree removal, or other ground disturbance conducted in breeding areas for migratory birds must be avoided to the maximum extent practicable. The breeding season for most migratory birds extends from February 15 through August 31. If work that could disturb breeding birds must be conducted during this period, a pre-construction nest monitoring survey is recommended to flag any active nests. In addition, all active nests must be protected by an appropriate buffer established by the monitoring biologist until the nests are no longer active.

Every NWP also requires that Best Management Practices (BMPs) be used throughout the construction process. BMPs include the following:

- Maintaining the preconstruction course, condition, capacity, and location of streams to the maximum extent practicable, unless such changes will benefit the aquatic environment through restoration, etc. Streams must be allowed to withstand expected high flows and the activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows.
- The activity must comply with applicable Federal Emergency Management Agency-approved state or local floodplain management requirements.

- Soil disturbance by equipment must be minimized and soil erosion and sediment controls must be used during all construction activities. All exposed soil and fills must be permanently stabilized as early as practicable.
- Work within the wetted portion of the channel should occur during low flow periods, if possible.

5.3 - Compliance with the Endangered Species Act

In administering the Section 404 permitting program, the USACE is required to abide by Section 7(a)(2) of the Federal Endangered Species Act, which requires federal agencies to consult with the United States Fish and Wildlife Service (USFWS) "to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat." As a result, the presence of sensitive plant or animal species must be determined prior to submittal of the Section 404 application. This requirement is outlined in General Condition No. 11 - Endangered Species of the NWP Program.

5.4 - Compliance with the Historic Preservation Act

The USACE, in administering the Section 404 permitting program, requires that any archaeological sites potentially affected by the proposed Project be reported with the permit application, pursuant to the federal National Historic Preservation Act. Therefore, the presence of significant cultural resources must be determined prior to submittal of the Section 404 application.

5.5 - Compliance with Section 401 of the Clean Water Act

In connection with notification to the USACE under Section 404 of the CWA, pursuant to 33 CFR Part 330, Appendix A, a written request for Section 401 water quality certification must be submitted to the RWQCB to ensure that no degradation of water quality will result from the proposed project. RWQCB Section 401 certification must be issued prior to commencement of any activity that might affect water quality.

Urban runoff has been shown to contain potentially high levels of heavy metals, oil, and grease, as well as silt and organic loads, plastics and other general trash, and bacterial populations. Additionally, improper use of chemicals for landscape maintenance may have a detrimental effect on water quality.

5.6 - CDFW 1600 Streambed Alteration Agreement

If any of the 0.43 acre of streambed subject to the jurisdiction of the CDFW is permanently impacted by project implementation, a CDFW Streambed Alteration Agreement (SAA) will be required. A CDFW SAA is required whenever a streambed or its banks along with associated vegetation will be impacted by a project, regardless of the size of the impact.

5.7 - Compensatory Mitigation for Impacts to USACE, RWQCB, and CDFW Jurisdictions

Compensatory mitigation for impacts to drainage features will most likely be mitigated at a minimum 1:1 ratio for all losses of waters of the U.S., wetland waters, waters of the State, and/or streambed. Generally, mitigation plans must include a requirement for the establishment, maintenance, and legal protection in perpetuity such as a conservation easement or deed restriction. In addition, temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations.

To avoid and minimize impacts to water quality during the construction phase, the project will comply with Section 402 (Stormwater Pollution Prevention Plan) regulations as administered by the RWQCB. Water pollution control measures incorporated into Project design, construction, and operations will establish compliance with current National Pollutant Discharge Elimination System (NPDES) regulations and reduce cumulative impacts to the watershed to less than significant.

To avoid and minimize impacts to water quality during the operation phase, the project must pre-treat all first-flush stormwater flows originating on the project site prior to discharge into the unnamed tributary and Dry Canyon Creek.

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Appendix A:
Site Photographs

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Photograph 1: Looking south at the upstream portion of the unnamed drainage feature. Evidence of flows was present at this location.



Photograph 2: Looking north at unnamed tributary from the downstream portion of the drain is as it leaves the project site within an underground culvert.

Source: FirstCarbon Solutions, 2014.

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Appendix A
Site Photographs 1 and 2

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Photograph 3: Looking West at the upstream extent of the project boundary within Dry Canyon Creek. There is a clearly defined ordinary high water mark along the southern side of the drainage feature.



Photograph 4: Looking north at an existing road-side drainage culvert that conveys nuisance flows from Mulholland Highway north of the project site into Dry Canyon Creek.

Source: FirstCarbon Solutions, 2014.

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Appendix A
Site Photographs 3 and 4

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Photograph 5: Looking southeast at the northern extent of Dry Canyon Creek within the project site. The south side of the creek is lined with stacked slabs of concrete several feet thick and is used to provide structural support to the highly eroded bank feature.



Photograph 6: Looking east at a road-side ditch toward the southern portion of the project site. This ditch conveys nuisance flow from Mulholland Highway into Dry Canyon Creek. The drainage feature has been concrete lined to prevent erosion.

Source: FirstCarbon Solutions, 2014.

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Appendix A
Site Photographs 5 and 6

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Photograph 7: Looking northwest from the southeastern extent of the project site. This is an example of the stream bed that occurs throughout the project site. The drainage feature is relatively unvegetated in the active channel.



Photograph 8: Looking east at the southern project site boundary, which is at this existing footbridge. The downstream portion of the drainage feature is concrete-lined with reinforced banks.

Source: FirstCarbon Solutions, 2014.

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Appendix A
Site Photographs 7 and 8

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Appendix B:
Glossary of Terms

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Term	Source	Page	Definition
Abutting	6	69	Wetlands that are not separated from the tributary by an upland feature such as a berm or dike.
Adjacent	7	N/A	Bordering, contiguous, or neighboring. Wetlands separated from other waters of the United States by man-made dikes or barriers, natural river berms, beach dunes and the like are "adjacent wetlands."
Aerial Miles	6	53	The straight-line (linear) distance between water bodies.
Aggradation	10	69	An increase in the channel bed elevation through deposition of sediment.
Arroyo	10	69	Entrenched ephemeral streams with vertical walls that form in desert environments.
Assemblage	10	69	A collection of individual plant species.
Avulsion	10	69	The rapid diversion of flow from one channel into another due to blockage of the channel by sediment or debris.
Base flow	10		In hydrologic terms, stream flow which results from precipitation that infiltrates into the soil and eventually moves through the soil to the stream channel. This is also referred to as ground water flow, or dry-weather flow.
Best Management Practices (BMPs)	4	11196	Policies, practices, procedures, or structures implemented to mitigate the adverse environmental effects on surface water quality resulting from development. BMPs are categorized as structural or non-structural.
Calcrete	10	69	Conglomerate consisting of surficial sand and gravel cemented into a hard mass by calcium carbonate.
Caliche rubble	10	69	Fragments of a sedimentary rock formed by evaporation and precipitation of calcite (CaCO3) in soil, sediments, or preexisting rock.
Clean Water Act (CWA) of 1972	NA	NA	Also known as the Federal Water Pollution Control Act (FWPCA) 33U.S.C.A Section 1251 to 1387 (alternatively cited as Sections 101 – 607). The primary goal as defined in Section 1251(a) is "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." Jurisdiction to regulate "waters of the United States," vested under this Act include Section 303 (Water Quality Standards and implementation Plans), Section 311 (Spill Program and Oil Pollution Act), Section 401 (State Water Quality Certification), Section 402 (National Pollutant Discharge Elimination System – NPDES), Section 404 (Permits for dredge or fill material).

Term	Source	Page	Definition
Clean Water Act (CWA) Section 303	NA	NA	Section 303 Water Quality Standards Program: Under this program, State and authorized Indian Tribes establish water quality standards for navigable waters to "protect the public health or welfare" and "enhance the quality of water," "taking into consideration their use and value for public water supplies, propagation of fish and wildlife, recreational purposes, and agriculture, industrial, and other purposes, and also taking into consideration their use and value for navigation."
Clean Water Act (CWA) Section 311	NA	NA	Section 311 Spill Program and the Oil Production Act (OPA): Under this program, the CWA addresses pollution from both oil and hazardous substance releases. Together with the Oil Pollution Act, it provides EPA and the US Coast Guard with the authority to establish a program for preventing, preparing for, and responding to, spills that occur in navigable waters of the US.
Clean Water Act (CWA) Section 401	NA	NA	Section 401 State Water-Quality Certification: Provides that no Federal permit or license for activities that might result in a discharge to navigable waters may be issued unless a CWA Section 401 water quality certification is obtained from or waived by States or authorized Tribes.
Clean Water Act (CWA) Section 402	NA	NA	Section 402 National Pollutant Discharge Elimination Program (NPDES): This program established a permitting system to regulate point source discharges of pollutants (other than dredged or fill material) into waters of the United States.
Clean Water Act (CWA) Section 404	NA	NA	Section 404 Dredged and Fill Material Permit Program: This program established a permitting system to regulate discharges of dredged or fill material into waters of the US.
Clonal Species	10	69	A group of genetically identical individuals growing in a given location, all originating vegetatively (not sexually) from a single ancestor
Compensatory Mitigation	4	11196	The restoration, establishment (creation), enhancement, or reservation of aquatic resources for the purpose of compensating for unavoidable adverse impacts that remain after all appropriate and practicable avoidance and minimization has been achieved.
Currently Serviceable	4	11196	Useable as is or with some maintenance, but not so degraded as to essentially require reconstruction.
Debris Flow	10	69	A moving mass of rock fragments, soil, and mud where more than 50 percent of the particles are larger than sand-sized.
Desert pavement	10	69	Tightly interlocking gravel at the surface formed after years of surface exposure in the absence of active stream-flow over the surface

Term	Source	Page	Definition
Desert varnish	10	69	A thin, dark, shiny film, composed of iron oxide with traces of manganese oxide and silica, formed on the surface of pebbles, boulders, and rock outcrops in desert regions after long exposure.
Discharge	4	11196	The term "discharge'' means any discharge of dredged or fill material and any activity that causes or results in such a discharge.
Diurnal Tide Level	9	NA	The arithmetic mean of mean higher high water and mean lower low water.
Divide	10	69	High ground that forms the boundary of a watershed.
Drift	10	70	Organic debris oriented to flow direction(s) (larger than small twigs).
Effective discharge	10	70	Discharge that is capable of carrying a large proportion of sediment over time.
Enhancement	4	11196	The manipulation of the physical, chemical, or biological characteristics of an aquatic resource to heighten, intensify, or improve a specific aquatic resource function(s). Enhancement results in the gain of selected aquatic resource function(s), but may also lead to a decline in other aquatic resource function(s). Enhancement does not result in a gain in aquatic resource area.
Ephemeral Stream	4	11196	An ephemeral stream has flowing water only during, and for a short duration after, precipitation events in a typical year. Ephemeral streambeds are located above the water table year-round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow.
Establishment (Creation)	4	11196	The manipulation of the physical, chemical, or biological characteristics present to develop an aquatic resource that did not previously exist at an upland site. Establishment results in a gain in aquatic resource area.
Facultative Plants (FAC)	1	14	Plants with a similar likelihood (estimated probability of 33 percent to 67 percent) of occurring in both wetlands and non-wetlands.
Facultative Wetland Plants (FACW)	1	14	Plants that occur usually (estimated probability >67 percent to 99 percent) in wetlands, but also occur (estimated probability 1 percent to 33 percent) in non-wetlands.
Facultative Upland Plants (FACU)	1	14	Plants that occur sometimes (estimated probability 1 percent to <33 percent) in wetlands, but occur more often (estimated probability >67 percent to 99 percent) in non-wetlands.
Flashy discharge pattern	10	70	Periods of no flow or low-magnitude, high-frequency events separated by short-duration, high-magnitude, low-frequency events.

Term	Source	Page	Definition
Floodplain	10	70	That portion of a drainage basin (see watershed), adjacent to the channel, that is covered by sediments deposited during overbank flood flow.
Great Diurnal Range (GT)	9	NA	The difference in height between mean higher high water and mean lower low water.
Greenwich High Water Interval (HWI)	9	NA	The average interval (in hours) between the moon's transit over the Greenwich meridian and the following high water at a location.
Greenwich Low Water Interval (LWI)	9	NA	The average interval (in hours) between the moon's transit over the Greenwich meridian and the following low water at a location.
Headcut	10	70	An abrupt vertical drop in the bed of a stream channel that is an active erosion feature.
Herbaceous	10	70	Pertaining to plants with little or no woody tissue.
High tide line (HTL)	7	N/A	The term "high tide line" means the line of intersection of the land with the water's surface at the maximum height reached by a rising tide. The high tide line may be determined, in the absence of actual data, by a line of oil or scum along shore objects, a more or less continuous deposit of fine shell or debris on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gages, or other suitable means that delineate the general height reached by a rising tide. The line encompasses spring high tides and other high tides that occur with periodic frequency but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of water against a coast by strong winds such as those accompanying a hurricane or other intense storm.
Historic Property	4	11196	Any prehistoric or historic district, site (including archaeological site), building, structure, or other object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization, which meet the National Register criteria (36 CFR part 60).
Hydraulic parameters	10	70	Slope, roughness, channel geometry, discharge, velocity, turbulence, fluid properties, sediment size, etc.
Hydraulic roughness	10	70	Channel boundary characteristic contributing to energy losses, commonly described by Manning's roughness coefficient (n).
Hydric soil	10	70	A soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part.

Term	Source	Page	Definition
Hydrological Units	8	1-3	As prescribed by the USGS, refers to the four levels of subdivisions, used for the collection and organization of hydrological data. The hierarchy of hydrological units include: 1) Regions, 2) Subregions, 3) Accounting Units, and 4) Cataloging Units. The identifying codes associated with these units are "hydrological unit codes.
Hydrological Units – "Regions"	8	3	The first level of USGS hydrological classification, which divides the Nation into 21 Major geographic areas. These geographic areas (hydrologic areas based on surface topography) contain either the drainage area of a major river, or the combined drainage areas of a series of rivers. Most of California is located within region "18." Notable exceptions include the Tahoe basin ("Great Basin Region 16") and the Colorado River ("Lower Colorado Region 15"). All smaller hydrological units with the region begin with the region number (18).
Hydrological Units – "Subregions"	8	3	The second level of USGS hydrological classification, divides the 21 regions into 222 subregions (nationally). A subregion includes the area drained by a river system a reach of a river and its tributaries in that reach, a closed basin(s), or a group of streams forming a coastal drainage area. Within Region 18, the state of California includes 10 sub-regions.
Hydrological Units – "Accounting Units"	8	3	The third level of USGS hydrological classification, subdivides many of the subregions in accounting units. These 352 hydrologic accounting units nest within, or are equivalent to, the subregions. The accounting units are used by the Geological Survey for designing and managing the National Water Data Network. Within Region 18, the state of California includes 16 Accounting Units.
Hydrological Units – "Cataloging Units"	8	3	The fourth level of USGS hydrological classification is the cataloging unit, the smallest element in the hierarchy of hydrologic units. A cataloging unit is a geographic area representing part of all of a surface drainage basin, a combination of drainage basins, or a distinct hydrological feature. There are 2,150 cataloging units in the United States. Within Region 18, the state of California includes 135 cataloging units.
Hydrologic regime	10	70	Characteristic pattern of precipitation, runoff, infiltration, and evaporation affecting a water body.
Hydromesic	10	70	Physiographic class; soil retains water for long periods of time, will drain.
Hyper-concentrated flow	10	71	Suspension flow with large suspended sediment concentrations (i.e., greater than 1 to 3 percent).

Term	Source	Page	Definition
Independent utility	4	11196	A test to determine what constitutes a single and complete project in the USACE regulatory program. A project is considered to have independent utility if it would be constructed absent the construction of other projects in the project area. Portions of a multi-phase project that depend upon other phases of the project do not have independent utility. Phases of a project that would be constructed even if the other phases were not built can be considered as separate single and complete projects with independent utility.
Intermittent stream	4	11196	An intermittent stream has flowing water during certain times of the year, when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow.
Litter	10	71	Organic debris oriented to flow direction(s) (small twigs and leaves).
Loss of Waters of the United States	4	11196	Waters of the United States that are permanently adversely affected by filling, flooding, excavation, or drainage because of the regulated activity. Permanent adverse effects include permanent discharges of dredged or fill material that change an aquatic area to dry land, increase the bottom elevation of a water body, or change the use of a water body. The acreage of loss of waters of the United States is a threshold measurement of the impact to jurisdictional waters for determining whether a project may qualify for a Nationwide Permit (NWP); it is not a net threshold that is calculated after considering compensatory mitigation that may be used to offset losses of aquatic functions and services. The loss of streambed includes the linear feet of streambed that is filled or excavated. Waters of the United States temporarily filled, flooded, excavated, or drained, but restored to pre-construction contours and elevations after construction, are not included in the measurement of loss of waters of the United States. Impacts resulting from activities eligible for exemptions under Section 404(f) of the Clean Water Act are not considered when calculating the loss of waters of the United States.
Mean Diurnal High Water Inequality (DLQ)	9	NA	The difference in height of the two low waters of each tidal day for a mixed or semidiurnal tide.
Mean Diurnal High Water Inequality (DHQ)	9	NA	The difference in height of the two high waters of each tidal day for a mixed or semidiurnal tide.

Term	Source	Page	Definition
Mean Lower Low Water (MLLW)	9	NA	The average of the lower low water height of each tidal day observed over the National Tidal Datum Epoch. For stations with shorter series, comparison of simultaneous observations with a control tide station is made in order to derive the equivalent datum of the National Tidal Datum Epoch.
Mean Low Water (MLW)	9	NA	The average of all the low water heights observed over the National Tidal Datum Epoch. For stations with shorter series, comparison of simultaneous observations with a control tide station is made in order to derive the equivalent data of the National Tidal Datum Epoch.
Mean Higher High Water (MHHW)	9	NA	The average of the higher high water height of each tidal day observed over the National Tidal Datum Epoch. For stations with shorter series, comparison of simultaneous observations with a control tide station is made in order to derive the equivalent data of the National Tidal Datum Epoch.
Mean High Water (MHW)	9	NA	The average of all the high water heights observed over the National Tidal Datum Epoch. For stations with shorter series, comparison of simultaneous observations with a control tide station is made in order to derive the equivalent data of the National Tidal Datum Epoch.
Mean Range of Tide (MN)	9	NA	The difference in height between mean high water and mean low water.
Mean Sea Level (MSL)	9	NA	The arithmetic mean of hourly heights observed over the National Tidal Datum Epoch. Shorter series are specified in the name; e.g. monthly mean sea level and yearly mean sea level.
Mean Tide Level (MTL)	9	NA	The arithmetic mean of mean high water and mean low water.
Non-tidal wetland	4	11196	A non-tidal wetland is a wetland that is not subject to the ebb and flow of tidal waters. The definition of a wetland can be found at 33 CFR 328.3(b). Non-tidal wetlands contiguous to tidal waters are located landward of the high tide line (i.e., spring high tide line).
National Tidal Datum Epoch	9	NA	The specific 19-year period adopted by the National Ocean Service as the official time segment over which tide observations are taken and reduced to obtain mean values (e.g., mean lower low water, etc.) for tidal data. It is necessary for standardization because of periodic and apparent secular trends in sea level. The present NTDE is 1983 through 2001 and is actively considered for revision every 20-25 years. Tidal data in certain regions with anomalous sea level changes (Alaska, Gulf of Mexico) are calculated on a Modified 5-Year Epoch.
Obligate Wetland Plants (OBL)	1	14	Plants that occur almost always (estimated probability >99 percent) in wetlands under natural conditions, but which may also occur rarely (estimated probability <1 percent) in non-wetlands.

Term	Source	Page	Definition
Obligate Upland Plants (UPL)	1	14	Plants that occur rarely (estimated probability <1 percent) in wetlands, but occur almost always (estimated probability >99 percent) in non-wetlands under natural conditions.
Open Water	4	11196	For purposes of the NWPs, an open water is any area that in a year with normal patterns of precipitation has water flowing or standing above ground to the extent that an ordinary high water mark can be determined. Aquatic vegetation within the area of standing or flowing water is either non-emergent, sparse, or absent. Vegetated shallows are considered to be open waters. Examples of ``open waters'' include rivers, streams, lakes, and ponds.
Ordinary High Water Mark	7	N/A	The term "ordinary high water mark" means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.
Ordinary High Water Mark	4	11196	An ordinary high water mark is a line on the shore established by the fluctuations of water and indicated by physical characteristics, or by other appropriate means that consider the characteristics of the surrounding areas (see 33 CFR 328.3(e)).
Perennial Stream	4	11197	A perennial stream has flowing water year-round during a typical year. The water table is located above the streambed for most of the year. Groundwater is the primary source of water for stream flow. Runoff from rainfall is a supplemental source of water for stream flow.
Pioneer Species	10	71	A species that colonizes a previously uncolonized area.
Practicable	4	11197	Available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.
Pre-construction notification	4	11197	A request submitted by the project proponent to the USACE for confirmation that a particular activity is authorized by a NWP. The request may be a permit application, letter, or similar document that includes information about the proposed work and its anticipated environmental effects. Pre-construction notification may be required by the terms and conditions of a NWP, or by regional conditions. A pre-construction notification may be voluntarily submitted in cases where pre-construction notification is not required and the project proponent wants confirmation that the activity is authorized by a NWP.

Term	Source	Page	Definition
Preservation	4	11197	The removal of a threat to, or preventing the decline of, aquatic resources by an action in or near those aquatic resources. This term includes activities commonly associated with the protection and maintenance of aquatic resources through the implementation of appropriate legal and physical mechanisms. Preservation does not result in a gain of aquatic resource area or functions.
Rating curve	10	71	A curve that illustrates the relationship between depth (stage) and the amount of flow (discharge) in a channel.
Reach	10	71	Segment of a stream channel.
Re-establishment	4	11197	The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former aquatic resource. Re-establishment results in rebuilding a former aquatic resource and results in a gain in aquatic resource area.
Rehabilitation	4	11197	The manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/historic functions to a degraded aquatic resource. Rehabilitation results in a gain in aquatic resource function, but does not result in a gain in aquatic resource area.
Relatively Permanent Water (RPW)	5,	5,69	In the context of CWA jurisdiction post-Rapanos, a water body is “relatively permanent” if it flows year-round or its flow is continuous at least “seasonally,” (typically 3 months). Wetlands adjacent to a “relatively permanent” tributary are also jurisdictional if those wetlands directly abut such a tributary.
Relevant Reach	6	40	With respect to “significant nexus determinations,” the “relevant reach” will include all tributary waters of the same order. Typically this will include the tributary and all adjacent wetlands reaching downstream from the project site to the confluence with the next tributary or upstream to a similar confluence.
Restoration	4	11197	The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource. For the purpose of tracking net gains in aquatic resource area, restoration is divided into two categories: re-establishment and rehabilitation.
Riffle and pool complex	4	11197	Riffle and pool complexes are special aquatic sites under CWA Section 404(b)(1) Guidelines. Riffle and pool complexes sometimes characterize steep gradient sections of streams. Such stream sections are recognizable by their hydraulic characteristics. The rapid movement of water over a course substrate in riffles results in a rough flow, a turbulent surface, and high dissolved oxygen levels in the water. Pools are deeper areas associated with riffles. Pools are characterized by a

Term	Source	Page	Definition
			slower stream velocity, a streaming flow, a smooth surface, and a finer substrate.
Riparian area	4	11197	Riparian areas are lands adjacent to streams, lakes, and estuarine-marine shorelines. Riparian areas are transitional between terrestrial and aquatic ecosystems, through which surface and subsurface hydrology connects water bodies with their adjacent uplands. Riparian areas provide a variety of ecological functions and services and help improve or maintain local water quality. (See general condition 20, in the NWP.)
River Miles	6	53	The flowing distance between the water bodies in question. Typically not a straight line; rather, the measurement is based on how far the water will travel from water body A to water body B. For example, the water in a meandering tributary will flow further than water flowing in a channelized tributary provided the two water bodies are the same distance apart in the landscape.
Ruderals	10	71	Disturbance-adapted herbaceous plant.
Scour	10	71	Soil and debris movement.
Sheetflood	10	71	Sheet of unconfined floodwater moving down a slope; a relatively low-frequency, high-magnitude event.
Sheetflow	10	71	Overland flow occurring in a continuous sheet; a relatively high-frequency, low-magnitude event.
Shellfish seeding	4	11197	The placement of shellfish seed and/or suitable substrate to increase shellfish production. Shellfish seed consists of immature individual shellfish or individual shellfish attached to shells or shell fragments (i.e., spat on shell). Suitable substrate may consist of shellfish shells, shell fragments, or other appropriate materials placed into waters for shellfish habitat.
Shift-adjusted rating curve	10	71	A curve that reflects changes (shifts) in the rating for a gage. Ratings may change due to erosion or deposition within the streambed or growth of riparian vegetation.
Significant Nexus	5	40	In the context of CWA jurisdiction post-Rapanos, a water body is considered to have a “significant nexus” with a traditional navigable water if its flow characteristics and functions in combination with the ecological and hydrological functions performed by all wetlands adjacent to such a tributary, affect the chemical, physical, and biological integrity of a downstream traditional navigable water.
Single and complete project	4	11197	The term “single and complete project” is defined at 33 CFR 330.2(i) as the total project proposed or accomplished by one owner/developer or partnership or other association of owners/developers. A single and complete project must have independent utility (see definition). For linear projects, a “single and complete project” is all crossings of a single water

Term	Source	Page	Definition
			of the United States (i.e., a single water body) at a specific location. For linear projects crossing a single water body several times at separate and distant locations, each crossing is considered a single and complete project. However, individual channels in a braided stream or river, or individual arms of a large, irregularly shaped wetland or lake, etc., are not separate water bodies, and crossings of such features cannot be considered separately.
Station Datum	9	NA	A fixed base elevation at a tide station to which all water level measurements are referred. The datum is unique to each station and is established at a lower elevation than the water is ever expected to reach. It is referenced to the primary benchmark at the station and is held constant regardless of changes to the water level gauge or tide staff. The datum of tabulation is most often at the zero of the first tide staff installed.
Stormwater management	4	11197	Stormwater management is the mechanism for controlling stormwater runoff for the purposes of reducing downstream erosion, water quality degradation, and flooding and mitigating the adverse effects of changes in land use on the aquatic environment.
Stormwater management facilities	4	11197	Stormwater management facilities are those facilities, including but not limited to, stormwater retention and detention ponds and best management practices, which retain water for a period of time to control runoff and/or improve the quality (i.e., by reducing the concentration of nutrients, sediments, hazardous substances and other pollutants) of stormwater runoff.
Stream bed	4	11197	The substrate of the stream channel between the ordinary high water marks. The substrate may be bedrock or inorganic particles that range in size from clay to boulders. Wetlands contiguous to the streambed, but outside of the ordinary high water marks, are not considered part of the streambed.
Stream channelization	4	11197	The manipulation of a stream's course, condition, capacity, or location that causes more than minimal interruption of normal stream processes. A channelized stream remains a water of the United States.
Stream Order	NA	NA	A method of numbering streams as part of a drainage basin network. The smallest unbranched mapped tributary is called first order; the stream receiving the tributary is called second order, and so on.
Stream power	10	71	The rate of doing work, or a measure of the energy available for moving rock, sediment, or woody or other debris in a stream channel, as determined by discharge, water surface slope, and the specific weight of water.

Term	Source	Page	Definition
Structure	4	11197	An object that is arranged in a definite pattern of organization. Examples of structures include, without limitation, any pier, boat dock, boat ramp, wharf, dolphin, weir, boom, breakwater, bulkhead, revetment, riprap, jetty, artificial island, artificial reef, permanent mooring structure, power transmission line, permanently moored floating vessel, piling, aid to navigation, or any other manmade obstacle or obstruction.
Succession	10	41	Changes in the composition or structure of an ecological community.
Tidal waters	7	N/A	The term "tidal waters" means those waters that rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. Tidal waters end where the rise and fall of the water surface can no longer be practically measured in a predictable rhythm due to masking by hydrologic, wind, or other effects.
Tidal wetland	7	N/A	A tidal wetland is a wetland (i.e., water of the United States) that is inundated by tidal waters. The definitions of a wetland and tidal waters can be found at 33 CFR 328.3(b) and 33 CFR 328.3(f), respectively. Tidal waters rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. Tidal waters end where the rise and fall of the water surface can no longer be practically measured in a predictable rhythm due to masking by other waters, wind, or other effects. Tidal wetlands are located channel-ward of the high tide line, which is defined at 33 CFR 328.3(d).
Traditional Navigable Waters (TNW)	6	68	A "traditional navigable water" includes all the "navigable waters of the United States," defines in 33 CFR Section 329, and by numerous decisions of the Federal courts, plus all other waters that are navigable-in-fact. Pursuant to 33 CFR Section 329: Navigable waters of the United States are those waters that are subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. A determination of navigability, once made, applies laterally over the entire surface of the waterbody, and is not extinguished by later actions or events that impede or destroy navigable capacity. The USACE is currently drafting new regulations defining TNWs.
Transmission loss	10	72	Loss of discharge due to infiltration of flow into the channel bed and banks.
Tributary	6	69	A "tributary," as defined in the Rapanos guidance document, means a natural, man-altered, or man-made water body that carries directly or indirectly into a traditional navigable water. For the purposes of determining significant nexus with a traditional navigable water, a "tributary" is the entire reach of the stream that is of the same order (i.e., from the point of

Term	Source	Page	Definition
			confluence, where two lower order streams meet to form the tributary, downstream to the point such tributary enters a higher order stream).
Upland Plants (UPL)	1	14	Plants that occur rarely (estimated probability <1 percent) in wetlands, but occur almost always (estimated probability >99 percent) in non-wetlands under natural conditions.
Vegetated shallows	4	11197	Vegetated shallows are special aquatic sites under CWA Section 404(b)(1) Guidelines. They are areas that are permanently inundated and under normal circumstances have rooted aquatic vegetation, such as sea grasses in marine and estuarine systems and a variety of vascular rooted plants in freshwater systems.
Wash	10	72	Broad gravelly dry bed of an intermittent stream.
Waterbody	4	11197	For purposes of the NWPs, a waterbody is a jurisdictional water of the United States that, during a year with normal patterns of precipitation, has water flowing or standing above ground to the extent that an ordinary high water mark (OHWM) or other indicators of jurisdiction can be determined, as well as any wetland area (see 33 CFR 328.3(b)). If a jurisdictional wetland is adjacent—meaning bordering, contiguous, or neighboring—to a jurisdictional waterbody displaying an OHWM or other indicators of jurisdiction, that waterbody and its adjacent wetlands are considered together as a single aquatic unit (see 33 CFR 328.4(c)(2)). Examples of "waterbodies" include streams, rivers, lakes, ponds, and wetlands.
Watershed (Drainage basin)	10	72	An area of land that drains to a single outlet and is separated from other watersheds by a divide.
Waters of The United States	7	N/A	The term "waters of the United States" means: (1) All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; (2) All interstate waters including interstate wetlands; (3) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters: (i) Which are or could be used by interstate or foreign travelers for recreational or other purposes; or (ii) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or (iii) Which are used or could be used for industrial purpose by industries in interstate commerce; (4) All impoundments of waters otherwise defined as waters of the United States under the definition;

Term	Source	Page	Definition
			(5) Tributaries of waters identified in paragraphs (a)(1)-(4) of this section; (6) The territorial seas; (7) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a)(1)-(6) of this section, (Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA [other than cooling ponds as defined in 40 CFR 123.11(m) which also meet the criteria of this definition] are not waters of the United States.) and (8) Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the CWA, the final authority regarding CWA jurisdiction remains with the EPA.
Wetlands	1,2,7	N/A	The term "wetlands" means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. The criteria for determining wetlands is set forth in the USACE Wetlands Delineation Manual (1987) and relevant Regional Supplements (Arid West, December 2006)
Xeric	10	72	Relating or adapted to an extremely dry habitat.

Sources:

1. USACE Wetlands Delineation Manual, January 1987.
2. USACE Guidelines for Jurisdictional Determinations for Waters of the United States in the Arid Southwest, June 2001.
3. USACE Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, December 2006.
4. FEDERAL REGISTER: Department of Defense; Department of the Army, Corps of Engineers, Re-issuance of Nationwide Permits; Notice, March 12, 2007.
5. EPA/USACE Joint Memorandum: Clean Water Act Jurisdiction Following the US Supreme Court's Decision in *Rapanos v. United States and Carabell v. United States*, (June 5, 2007).
6. USACE Jurisdictional Delineation Form Instructional Guidebook, May 30, 2007.
7. Code of Federal Regulations (CFR): 33 CFR 328.3 Definitions of Waters of the United States and/or 33 CPR 329 Definitions of Navigable Waters of the United States.
8. USGS Hydrologic Unit Maps, US Geological Survey Water-Supply Paper 2294 (1994), by Paul R. Seaber, F. Paul Kapinos, and George L Knapp.
9. Center for Operational Oceanographic Products and Services.
10. USACE, A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the United States, August 2008.

Appendix C:
Regulatory Compliance

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REGULATORY COMPLIANCE

Regulatory permitting for dredge and fill activities involves a compliance framework requiring interaction with federal, state and local agencies, often involving a diverse number of statutes and regulations.

Federal Statutes and Regulations - USACE

Clean Water Act Section 404

Pursuant to Section 404 of the Clean Water Act, the USACE regulates the discharge of dredged or fill material into waters of the US. Regulated activities include but are not limited to, grading, placing of riprap for erosion control, pouring concrete, laying sod, and stockpiling excavated material. In general, any activity, which proposes to carry out an activity, which will temporarily or permanently affect areas delineated as waters of the US, including wetlands, typically requires prior authorization from the USACE, pursuant to Section 404 of the Clean Water Act (CWA). Successful applications will put forth projects with a valid purpose, which generally comply with the avoidance, minimization, and mitigation (no net loss) goals of the USACE.

Nationwide Permits v. Individual Permits

Nationwide permits (NWPs) are a type of general permit issued by the Chief of Engineers and are designed to expedite the regulatory process for those types of projects/activities expected to have minimal impacts on jurisdictional areas.

The nationwide permitting program is reauthorized every five years. The current NWP program became effective on March 19, 2007 and includes 49 different nationwide permit categories including “Linear Transportation Projects” (NWP 14), “Residential Developments” (NWP 29), “Commercial and Institutional Developments” (NWP 39) and “Stormwater Management Facilities” (NWP 43) among others. Each NWP establishes thresholds, which trigger the need for submitting a pre-construction notification (PCN) to the USACE and which set upper limits to accepted impacts based on the total acreage and/or linear feet of impacts, which result from project. Exceeding these limits will require processing an Individual Permit (IP), which may involve a significantly longer processing time.

Federal Jurisdiction over Waters and Wetlands

The USACE will assert jurisdiction over waters that are presently used or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. The definition of “Waters of the U.S.,” are set forth in the Code of Federal Regulations (CFR) 328.3. The term “waters of the United States” means:

(1) All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters, which are subject to the ebb and flow of the tide;

(2) All interstate waters including interstate wetlands;
(3) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters:
    (i) Which are or could be used by interstate or foreign travelers for recreational or other purposes;
    (ii) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; and
    (iii) Which are used or could be used for industrial purpose by industries in interstate commerce.
(4) All impoundments of waters otherwise defined as waters of the United States under the definition;
(5) Tributaries of waters identified in paragraphs (a) (1)-(4) of this section;
(6) The territorial seas;
(7) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) (1)-(6) of this section. (Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 123.11(m) which also meet the criteria of this definition) are not waters of the United States), and
(8) Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with the EPA.

Subsequent to the US Supreme Court decision in *Rapanos, et al v. United States* (2006) the Environmental Protection Agency (EPA) and the USACE (the agencies) issued a joint memorandum (Clean Water Act Jurisdiction Following *Rapanos v. United States*, [June 5, 2007]), which integrates the Rapanos standards with the process presented in 33 CFR 328.3(a).

Pursuant to the memorandum, federal jurisdiction will be asserted over the following categories of water bodies:

- (TNWs): TNW, including territorial seas;
- Wetlands adjacent to TNWs;
- (RPWS): Non- navigable tributaries of TNWs with relatively permanent water flow that are flow directly or indirectly to TNWs. "Relatively permanent" means water flowing for at least three months of the year. (Usually, perennial streams and some intermittent streams); and
- Wetlands directly abutting RPWs that flow directly or indirectly into TNWs.

In addition, the agencies will assert jurisdiction over the following categories of water bodies only if, based on fact-specific analysis, the water body is determined to have a significant nexus with a TNW:

- (Non-RPWs): Non-navigable tributaries that do not have relatively permanent water flow that flow directly or indirectly into TNWs (Usually ephemeral and some intermittent streams);
- Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs; and
- Wetlands adjacent to, but not directly abutting RPWs that flow directly or indirectly into TNWs.

"A significant nexus exists if the tributary, in combination with all of its adjacent wetlands has more than a speculative or an insubstantial effect on the chemical, physical, and/or biological integrity of a TNW."

The agencies will not assert jurisdiction over the following geomorphic features:

> "Swales or erosional features (e.g., gullies small washes characterized by low volume, infrequent or short duration flows)," and
>
> "Ditches (including roadsides ditches) excavated wholly in and draining only uplands that do not carry relatively permanent water flows."

The agencies now require that all determinations for non-navigable waters, isolated-waters and/or wetlands be evaluated by the USACE and EPA before making a final jurisdictional determination.

In the absence of wetlands, the lateral extent of federal jurisdiction over non-tidal waters of the US is defined by the ordinary high water mark (OHWM). The OHWM is defined in 33 CFR 328.3, as "*that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas*."

In June 2001, the USACE South *Pacific* Division issued *Guidelines for Jurisdictional Delineations for Waters of the United States in the Arid Southwest*. The purpose of this document was to aid delineators in assessing the physical characteristics of dry land drainage systems in the Arid West. With respect to jurisdictional determinations, the factors for determining waters of the US include *evaluating* the flow regime geomorphic feature, and general indicators of flow. These methods are consistent with the criteria set forth in 328.3(a) and 328.3(e), but are also subject to guidance set forth in the *Rapanos* guidance, including "significant nexus determinations," as appropriate.

Subject to *Rapanos* limitations, Federal Jurisdiction will extend to "adjacent" wetlands. "Adjacent" means "bordering *contiguous* or neighboring." According to the USACE *Wetlands Delineation Manual, Technical Report*, (1987) three criteria must be satisfied to classify an area as a jurisdictional wetland:

1. A predominance of plant life that is adapted to life in wet conditions (hydrophytic vegetation);
2. Soils that saturate, flood, or pond long enough during the growing season to develop anaerobic conditions in the upper part (hydric soils); and

3. Permanent or periodic inundation or soils saturation, at least seasonally (wetland hydrology).

The USACE has established regional guidance to address specific regional variations in wetlands determinations. These regional guidance documents supplement the 1987 manual. The Interim Regional *Supplement* for the Arid West was published in December 2006. Similarly Draft guidance for Western Mountains, Valleys and Coast Regions" was published in April 2007. In performing its delineations, FCS applies these supplemental guidance as appropriate.

Resulting from the 2001 US Supreme Court in *Solid Waste Agency of North Cook County v. USACE* (SWANCC) case, federal jurisdiction will not reach wholly intra-state wetlands, which are not "adjacent" to a *jurisdictional* stream course. Similarly, as previously established, the *Rapanos* decision may further limit jurisdiction, on a case-specific basis, where a significant nexus determination is required.

Significant Nexus Determination:

A significant nexus determination is required when the following water bodies are present: (1) Non-navigable tributaries that do not have relatively permanent water flow that flow directly or indirectly into TNWs (usually ephemeral and some intermittent streams); (2) Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs; or (3) Wetlands adjacent to, but not directly abutting RPWs that flow directly or indirectly into TNWs.

The determination begins by first identifying the relative reach of the applicable tributary. With respect to "significant nexus determinations," the "relevant reach" will include all tributary waters of the same order. Typically this will include the tributary and all adjacent wetlands reaching downstream from the project site to the confluence with the next tributary, and upstream to any a similar confluence.

To have a significant nexus a tributary and its adjacent wetlands must have more than a speculative or insubstantial effect on the chemical, physical, and/or biological integrity of a TNW. A significant nexus determination requires evaluation of hydrological and ecological factors, which may contribute to the maintenance of water quality, aquatic life, commerce, navigation, recreation, and public health in the TNW.

Hydrological Factors:

- Volume, duration, and frequency of flow: including consideration of certain characteristics of the tributary, including historic records of flow, flood predictions, gauge data and personal observations (OHWM, Shelving, water staining, sediment sorting and scouring);
- Proximity to the TNW: If a tributary is too far from the TNW it's remoteness is more likely to make the impact on the TNW speculative;
- Contextual hydrological factors: including (1) size of the watershed, (2) average annual rainfall, and (3) average annual snow pack, and

- The presence of tributary or wetland within the flood plain: However, a significant nexus determination cannot be based solely on presence of the water body within or outside the flood plain.

Ecological Factors:

- The ability of the tributary and its adjacent wetlands (if any) to carry pollutants and flood waters to TNW;
- The Ability of the tributary and its adjacent wetlands (if any) to provide aquatic habitat that supports biota of a TNW;
- The ability of adjacent wetlands to trap and filter pollutants or store flood water, and
- The ability to maintain water quality.

Primary General Conditions (GC) of 404 Permits

GC # 4: Compliance with the Migratory Bird Treaty Act

The MBTA protects all common wild birds found in the US except the house sparrow, starling, feral pigeon, and resident game birds such as pheasant, grouse, quail, and wild turkey. Resident game birds are managed separately by each state. The MBTA makes it unlawful for anyone to kill, capture, collect, possess, buy, sell, trade, ship, import, or export any migratory bird including feathers, parts, nests, or eggs.

> The primary responsibility for complying with the Migratory Bird Treaty Act (MBTA) is that of the project proponent (permittee) and is independent of Department of the Army permitting processes (404). However, that the nationwide permitting program (General Condition 4) does require that breeding areas for migratory birds in waters of the United States must be avoided to the maximum extent practicable.

GC # 17: Compliance with Federal Endangered Species Act

In administering the Section 404 permitting program, the USACE is required to abide by Section 7(a)(2) of the Federal Endangered Species Act (ESA), which requires federal agencies to consult with the United States Fish and Wildlife Service (USFWS) "to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat." As a result, the presence of federally listed species must be determined prior to submittal of the Section 404 application. In the nationwide permitting program, compliance with the ESA is set forth in general condition (GC 17)

The USFWS *administers* the Federal Endangered Species Act. The ESA provides a process for listing species as either threatened or endangered, and methods of protecting listed species. The ESA defines as "endangered" any plant or animal species that is in danger of extinction throughout all or a significant portion of its known geographic range. A "threatened" species is a species that is likely to become *endangered*. A "proposed" species is one that has been officially proposed by the USFWS for addition to the federal threatened and endangered species list.

Section 9 of the ESA prohibits "take" of threatened or endangered species. The term "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in

such conduct. Take can include disturbance to habitats used by a threatened or endangered species during any portion of its life history. The presence of any federally threatened or endangered species in a project area generally imposes severe constraints on development, particularly if development would result in take of the species or its habitat. Under the regulations of the ESA, the USFWS may authorize take when it is incidental to, but not the purpose of, an otherwise lawful act.

GC # 18: Compliance with National Historic Preservation Act

In processing a Section 404 permit, the USACE is required to comply with section 106 of the National Historic Preservation Act (NHPA). Section 106 consultation is triggered when historic or archaeological *sites* are potentially affected by the proposed project. In the nationwide permitting program, compliance with the NHPA is set forth in general condition (GC 18). The USACE will initiate section 106 consultation with the appropriate state agency (SHPO in California) with federal oversight (ACHP). The process usually requires one month from the date the USACE triggers consultation with the state agency.

GC # 21: Compliance with Section 401 of the Clean Water Act

In connection with notification to the USACE under Section 404 of the Clean Water Act (CWA), pursuant to 33 CFR Part 330, a written request for Section 401 water quality certification must be submitted to the RWQCB to ensure that no degradation of water quality will result from the proposed project. Subject to CWA section 401(a)(1), the USACE cannot issue a section 404 dredge/fill permit until such time as a CWA section 401 Water Quality Certification (WQC) has been approved by the applicable RWQCB. In the nationwide permitting program, compliance with the Section 401 is set forth in general condition (GC 21).

In order to meet the requirements of the RWQCB for issuance of a 401-water quality certification, the project proponent must provide assurances that the project will not adversely affect the water quality of receiving water bodies. A written request for 401 water quality certification must be prepared and submitted to the RWQCB for review. The request will include a detailed project description, a description of proposed impacts, identification and discussion of beneficial uses of affected receiving waters (as described within the appropriate Basin Plan), a water quality plan identifying project-specific Best Management practices (BMPs), discussion of other approvals and certifications being obtained, a conceptual restoration plan, and a completed notification form.

CEQA Compliance: Pursuant to Title 23, Section 3856(f) of the California Code of Regulations (CCR), the Regional Water Quality Control Board (RWQCB) may not issue a Clean Water Act (Section 401) Water Quality Certification (WQC) for a project before being provided with (and having had ample time to review) a copy of the final CEQA documentation prepared for the project. Upon formal request for certification, water quality certification should be forthcoming within 90-120 days of completion of the CEQA process.

Fee Structure: Subject to California Code of Regulations (CCR), Title 23, Section 3833, a section 401 *application* must be accompanied by an initial deposit of not less than $500.00. If the initial deposit does not cover the agency's application review costs, the RWQCB may require an additional (one-

time) amount using the calculus set forth in section 2200(e), Title 23, of the California Code of Regulations.

GC # 22: Compliance with the Coastal Zone Management Act

In administering the Section 404 permitting program, the USACE is required to abide by Section 307(c)(1) of the Coastal Zone Management Act (CZMA). This requirement is set forth in General Condition No. 22 of *the* NWP (2007) program and detailed in 33 CFR 330.4(d). This condition requires the USACE to provide a consistency determination and receive state agreement prior to the authorization of activities affecting land, water, or natural resources within the coastal zone.

The California "Coastal zone" means that land and water area within the State extending seaward to the state's outer limit of jurisdiction, including all offshore islands, and extending inland generally 1,000 yards from the mean high tide line of the sea. In significant coastal estuarine, habitat, and recreational areas it *extends* inland to the first major ridgeline paralleling the sea or five miles from the mean high tide line of the sea, whichever is less, and in developed urban areas the zone generally extends inland less than 1,000 yards. The coastal zone does not include the area of jurisdiction of the San Francisco Bay Conservation and Development Commission, established pursuant to Title 7.2 (commencing with Section 66600) of the Government Code, nor any area contiguous thereto, *including* any river, stream, tributary, creek, or flood control or drainage channel flowing into such area.

State Statutes and Regulations – RWQCB

The State of California has concurrent jurisdiction with the Federal government over Section 401 Water Quality Certification over jurisdictional waters and wetlands of the United States. Where isolated waters and wetlands (not subject to federal jurisdiction) are involved, the State will exert independent jurisdiction via the Porter Cologne Water Quality Act.

Porter-Cologne Water Quality Act

Section 13260(a) of the California Water Code ("Water Code" or "Porter Cologne") requires that any person discharging waste or proposing to discharge waste within any region, other than to a community sewer system, which could affect the quality of the waters of the State, file a report of waste discharge (ROWD). The discharge of dredged or fill material may constitute a discharge of waste that could affect the quality of waters of the State (Defined in Water Code Section 13050(e)).

Typically, the State of California relies upon its authority under section 401 of the Federal Clean Water Act (CWA (33 U.S.C. Section 1341) to regulate discharges of dredged or fill material to California waters that are also within the jurisdiction of the USACE. Given the water quality certification (WQC) process employed under section 401, waste discharge requirements under Porter Cologne are typically waived for those projects requiring a water quality certification. In 2001, the United States Supreme decision in *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers*, 531 U.S. 159 (2001) (*SWANCC*) invalidated the USACE's use of the "Migratory Bird Rule" to establish federal jurisdiction over isolated waters. Since 2001, the State of

California has reasserted its authority under state law to assert jurisdiction over isolated waters for water quality purposes by requiring a ROWD.

Regulation of Isolated Waters

Dredging, filling, or excavation of "isolated" waters constitutes a discharge of waste to waters of the State, and prospective dischargers are required to submit a report of waste discharge to the RWQCB and comply with other requirements of the State Porter Cologne Water Quality Act (Water Code).

Scope of Regulation: With respect to isolated waters, discharges and/or dredging of wetlands, active channels or beds of waterbodies are regulated. Discharges to riparian or areas in proximity to a waterbody are regulated when such activity will directly or indirectly result a change to water quality. Such changes may include discharge of stormwater pollutants and runoff; change in the nature of vegetation that could affect water quality (e.g., affecting pollutant removal, stream shading or bank stability); or change to the hydrological or geomorphic characteristics of the waterbody.

Application of Regulation: Whenever the USACE issues a jurisdictional disclaimer (concurs with a finding of no federal jurisdiction), the respective RWQCB is notified of the disclaimer. Typically, the RWQCB will issue a letter notifying the project proponent that a ROWD must be filed. A ROWD must be submitted in one of two forms, depending on the anticipated impacts.

(1) General Waste Discharge Requirement (GWDR):

The GWDR program is substantively set forth in SWRCB Water Quality Order No. 2004-0004-DWQ. GWDRs are generally prescribed for a category of discharges (either temporary or permanent) involving earth, rock, or similar solid materials if the discharge will not be greater than 0.2 acres and 400 linear feet (for fill or excavation) or 50 cubic yards (for dredging). The type of projects that may be covered under these General WDRs include land development, detention basins, disposal of dredged material, bank stabilization, revetment, channelization, and other similar projects. GWDRs do not apply to discharges that adversely impact, either directly or through habitat modification, any plants or animals identified as candidate, sensitive, or special status species in local or regional plans, or by the CDFW (including NCCPs), or USFWS (including HCPs). Similarly, GWDRs do not apply to discharges impacting significant historical, archaeological or paleontological resources.

Requirements: The GWDR typically requires submittal of the following items: (1) A Notice of Intent (NOI), (2) Any CEQA documents that have been prepared for the project, (3) A fee pursuant to Title 23, section 2200 of the CCR, (4) A Mitigation Plan demonstrating that the discharger will sequentially avoid, minimize, and compensate for the adverse impacts to the affected water bodies, and beneficial uses (as set forth in the applicable Basin Plan), and (5) Any other relevant information requested by the SWRCB or RWQCB. A copy of the application must be submitted to both the applicable RWQCB and to the SWANCC-ROWD, Water Quality Certification Unit in Sacramento.

Timing: Pursuant to the requirements of the California Permit Streamlining Act, RWQCB has 30 days to deem the application complete. Upon receipt of a complete submittal, the RWQCB has 45 days in which to issue a Notice of Applicability (NOA) (authorizing the activity) or a Notice of Exclusion (NOE)

(denying authorization. The discharge activity is operationally authorized if no NOE is issued within the 45-day evaluation period, provided that the proposed activity is not a prohibited activity.

(2) Individual Waste Discharge Requirements (IWDR): Projects not qualifying for the GWDRs will need to satisfy individual waste discharge requirements, typically requiring submittal of 401 Water Quality Certification forms and supporting documentation as set forth by the respective RWQCB. Such submittals are subject to fees as set forth in California Code of Regulations Title 23 Section 2200(a)(2). Pursuant to the Water Code the project proponent is required to file with the appropriate Regional Water Quality Control Board (RWQCB) a Report of Waste Discharge describing the proposed discharge at least 140 days before it occurs (Water Code Sections 13260, 13264).

State Statutes and Regulations - CDFW

Section 1600/1602 of the California Fish and Game Code

In the public interest of protection and conservation of fish and wildlife resources of the state (Section 1600), Fish and Game Code Section 1602 requires any person, state or local governmental agency, or public utility to notify the CDFW before beginning any activity that will do one or more of the following: (1) substantially obstruct or divert the natural flow of a river, stream, or lake; (2) substantially change or use any material from the bed, channel, or bank of a river, stream, or lake; or (3) deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into a river, stream, or lake. CDFW's jurisdiction includes ephemeral, intermittent, and perennial watercourses, including dry washes, characterized by:

1. The presence of hydrophytic vegetation.
2. The location of definable bed and banks.
3. The presence of existing fish or wildlife resources.

Furthermore, CDFW jurisdiction is often extended to habitats adjacent to watercourses, such as oak woodlands in canyon bottoms or willow woodlands that function as part of the riparian system. Historic court cases have further extended CDFW jurisdiction to include watercourses that seemingly disappear, but re-emerge elsewhere. Under the CDFW definition, a watercourse need not exhibit evidence of an OHWM to be claimed as jurisdictional. However, CDFW does not regulate isolated wetlands; that is, those that are not associated with a river, stream, or lake.

CDFW Regulated Activities

The CDFW regulates activities that involve diversions, obstruction, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake that supports fish or wildlife resources. When a project requires such activities, a Section 1602 Streambed Alteration Notification will be prepared and submitted to the CDFW for review. The request will include a detailed project description, a description of proposed impacts, a conceptual mitigation plan, and completed notification forms. Typically, CDFW will be able to complete the agreement within 60-90 days of the completion of the CEQA process.

CEQA Compliance: CDFW must also comply with the California Environmental Quality Act (CEQA) (Pub. Resources Code, Section 21000, et seq.) before it may issue a Final Lake or Streambed Alteration Agreement. Issuance of a final Lake or Streambed Alteration Agreement occurs after the Department receives a Draft Lake or Streambed Alteration Agreement from the applicant and the Department signs it. In many instances, the Department will receive a signed draft Lake or Streambed Alteration Agreement from an applicant before the lead agency has fully complied with CEQA. In those instances, the Department must wait for the lead agency to comply fully with CEQA before it may sign the Draft Lake or Streambed Alteration Agreement, thereby making it final.

Fee Structure: Pursuant to California Code of Regulations (CCR), Title 14 Section 699.3, CDFW assesses a fee to cover the cost of reviewing Section 1602 applications. The fee calculus is based on the sum cost of the proposed activities within the streambed or riparian community.

Sensitive Plant and Wildlife Species

Sensitive species are native species that have been accorded special legal or management protection because of concern for their continued existence. There are several categories of protection at both federal and state levels, depending on the magnitude of threat to continued existence and existing knowledge of population levels.

California Endangered Species Act

The CDFW administers the California Endangered Species Act (CESA). The State of California considers an "endangered" species one whose prospects of survival and reproduction are in immediate jeopardy. A "threatened" species is one present in such small numbers throughout its range that it is likely to become an endangered species in the near future in the absence of special protection or management. A "rare" species is one present in such small numbers throughout its portion of its known geographic range that it may become endangered if its present environment worsens. The rare species designation applies to California native plants. State threatened and endangered species are fully protected against take, as defined above. The term "species of special concern" is an informal designation used by CDFW for some declining wildlife species that are not state candidates for listing. This designation does not provide legal protection under CESA, but signifies that these species are recognized as sensitive by CDFW.

California Native Plant Society

The CNPS is a California resource conservation organization that has developed and inventory of California's sensitive plant species (Tibor 2001). This inventory summarizes information on the distribution, rarity, and endangerment of California's vascular plants. The inventory is divided into four lists based on the rarity of the species. In addition, the CNPS provides an inventory of plant communities that are considered sensitive by the state and federal resource agencies, academic institutions, and various conservation groups. Determination of the level of sensitivity is based on the number and size of remaining occurrences as well as recognized threats.

Section 3503 and 3511 of the California Fish and Game Code

The CDFW administers the California Fish and Game Code. Code 3503 makes it illegal to destroy any birds' nest or any birds' eggs that are protected under the MBTA. Code 3503.5 further protects all birds in the orders *Falconiformes* and *Strigiformes* (birds of prey, such as hawks and owls) and their eggs and nests from any form of take. Section 3511 of the Code lists fully protected bird species, where the CDFW is unable to authorize the issuance of permits or licenses to take these species.

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Appendix D:
Criteria for Wetland Determinations

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CRITERIA FOR WETLAND DETERMINATIONS

USACE

As defined in 33 CFR part 328.3(a)(7) and as established by current case law, the USACE will currently assert jurisdiction over wetlands adjacent to waters of the US, except for those wetlands adjacent to other wetlands.

The term "wetlands" means those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support a prevalence or vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas (33 CFR part 328.3(b)).

Typically, the term "adjacent" means bordering, contiguous, or neighboring. Wetlands separated from other waters of the US by man-made dikes or barriers, natural river berms, beach dunes, and the like are also adjacent (33 CFR part 328.3(c)). Similarly, the wetland must be adjacent to either a navigable in-fact water way or tributary thereof. Where "adjacency" cannot be established, the wetlands will be determined to be an "isolated" non-jurisdictional feature unless an independent nexus to interstate or foreign commerce can be established pursuant to 33 CFR part 328.3(a)(3). (Also, see SWANCC v. US, 2001).

Based on the standards established in *Rapanos v. US*, the USACE will not assert jurisdiction over wetlands where: (1) the wetlands are adjacent to non-navigable tributaries that lack relatively permanent flows, or (2) wetlands are adjacent to but not abutting non-navigable tributaries with relatively permanent water, unless in both cases the relevant portion (reach) of the drainage, together with all of its wetlands, have a significant nexus to a TNW.

According to the USACE Wetlands Delineation Manual, Technical Report (1987), three criteria must be satisfied to classify an area as a jurisdictional wetland:

1. **Hydrophytic Vegetation:** A predominance of plant life that is adapted to life in wet conditions (hydrophytic vegetation);
2. **Hydric Soils:** Soils that saturate, flood, or pond long enough during the growing season to develop anaerobic conditions in the upper part (hydric soils), and
3. **Wetland Hydrology:** Permanent or periodic inundation or soils saturation, at least seasonally (wetland hydrology).

The USACE has established regional guidance to address specific regional variations in wetlands determinations. These regional guidance documents supplement the 1987 manual, The Interim Regional Supplement for the Arid West, which was published in December 2006. Similarly, Draft guidance for Western Mountains, Valleys and Coast Regions" was published in April 2007. In performing its delineations, FCS applies this supplemental guidance as appropriate.

As established in both the USACE 87 Manual and the "Arid West" regional guidance, the following criteria apply.

Hydrophytic Vegetation

Hydrophytic vegetation is defined as plant life growing in water, soil, or substrate that is at least periodically deficient in oxygen because of excessive water content. The USFWS has published the National List of Vascular Plant Species That Occur in Wetlands, (1996 National Summary, hereafter NLVPS) and divided plants into 5 groups based on their "wetland indicator status:"

1. Obligate wetland plants (OBL) that occur almost always in wetlands under natural conditions;
2. Facultative wetland plants (FACW) that usually occur in wetlands but occasionally are found in upland areas;
3. Facultative plants (FAC) that are equally likely to occur in wetlands as well as upland;
4. Facultative upland plants (FACU) that usually occur in upland areas but occasionally are found in wetlands; and
5. Upland plants (UPL) that occur almost always in upland areas under natural conditions.

Plus (+) and minus (-) values, used in identifying indicator status in the NLVPS are not applied when evaluating plants in the arid west region. In the arid west, an area is deemed to have hydrophytic vegetation when it (1) passes the dominance test; (2) has a prevalence index ≤ 3; (3) morphological adaptations are present; or (4) the area is a "problem area." (See Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, December 2006.)

Dominance Test: An area has hydrophytic vegetation when, under normal circumstances, more than 50 percent of the composition of dominant plant species (using the 50/20 rule) from all strata are obligate wetland (OBL), facultative wetland (FACW) and/or facultative species (FAC). If the plant community passes the dominance test, then the vegetation is hydrophytic and no further vegetation analysis is required. If the plant community fails the dominance test, and indicators of hydric soil and/or wetland are absent then hydrophytic vegetation is absent unless the site meets requirements for a problematic wetland situation.

Prevalence Test: In areas failing the dominance test yet having indicators of hydric soil and wetland hydrology, the vegetation must be re-evaluated using the "prevalence index" (PI). The prevalence index takes into account all plant species in the community, not just a few dominants. The index is a weighted-average wetland indicator status of all plant species in the sampling plot, where each indicator status category is a given a numeric code (OBL =1, FACW =2, FAC = 3, FACU = 4, and UPL = 5) and weighting is by abundance (percent cover). The sum of the weighted indicator values are then divided by the sum of the percent cover values for each indicator type. Where the PI value is ≤3, the area is considered positive for hydrophytic vegetation. Generally, the index is a more comprehensive analysis of the hydrophytic status of the community than one based on just a few dominant species. The index is particularly useful: (1) in communities only one or two dominants;

(2) in highly diverse communities where many species may be present at roughly equal coverage; and (3) when strata differ greatly in total plant cover. The prevalence index is used on sites where indicators of hydric soil and wetland hydrology are present but the vegetation initially fails the dominance test.

Morphological Adaptations: In areas failing both the dominance test and prevalence test, yet having indicators of hydric soil and wetland hydrology, hydrophytic vegetation will still be deemed present when the morphological adaptations are present. In the arid west, the most common morphological adaptations are adventitious roots and shallow root systems developed on or near the soil surface on FACU species. If more than 50 percent of the FACU species have morphological adaptations, then these species are classified as FAC species and the dominance test and/or prevalence index are recalculated. The vegetation is hydrophytic if either test is positive.

Hydric Soils

Hydric soils are defined as soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part. "Long enough" generally means 1 week during the growing season and soils that are saturated for this period usually support hydrophytic vegetation. The criteria for establishing the presence of hydric soils vary among different types of soils and between normal circumstances, disturbed areas, and problem areas. Due to their wetness during the growing season, hydric soils usually develop certain morphological properties that can be readily observed in the field. Prolonged anaerobic soil conditions typically lower the soil redox potential, causing a chemical reduction of some soil components, mainly iron oxides and manganese oxides. This reduction is typically reflected by the presence of iron or manganese concretions, gleying, or mottling. Other field indicators of hydric soils include the presence of sulfidic material, an aquic or peraquic moisture regime, or a spodic horizon. (All organic soils, with the exception of Folists, are classified as hydric soils.)

Wetland Hydrology

Wetland hydrology is permanent or periodic inundation, or soil saturation for a significant period during the growing season. Numerous factors influence the wetness of an area, including precipitation, stratigraphy, topography, soil permeability, and plant cover. At certain times of the year in most wetlands, and in certain types of wetlands at most times, wetland hydrology is quite evident, since surface water or saturated soils may be observed. Yet, in many instances, especially along the uppermost boundary of wetlands, hydrology is not readily apparent. Despite this limitation, hydrologic indicators can be useful for confirming that a site with hydrophytic vegetation and hydric soils still exhibits wetland hydrology. While hydrologic indicators are sometimes diagnostic of the presence of wetlands, they are generally either operationally impracticable (e.g., in the case of recorded data) or technically inaccurate (e.g., in the case of some field indicators) for delineating wetland boundaries.

The following hydrologic indicators, while not necessarily indicative of hydrologic events during the growing season or in wetlands alone, do provide evidence that inundation or soil saturation has occurred at some time: visual observation of inundation, visual observation of soil saturation,

oxidized channels (rhizospheres) associated with living roots and rhizomes, water marks, drift lines, waterborne sediment deposits, water-stained leaves, surface scoured areas, morphological plant adaptations, and hydric soil characteristics.

Problem Areas and Atypical Situations

In the arid west, some wetlands may periodically lack indicators of hydrophytic vegetation, hydric soils or wetland hydrology due to normal (natural) seasonal or annual variability. Similarly, indicators in some areas may be affected by atypical situations brought about by recent human activities or unusual natural events. The Arid West Regional Guidance sets forth a number of procedures to identify and analyze problems areas. Examples of problem areas and atypical situations may include:

Problematic Vegetation:

- Temporal Shifts in Vegetation: plant communities in playas, vernal pools, seeps, and springs change in response to seasonal climatic fluctuations. These changes may result from:
  - Seasonal shifts in plant communities between normal wet/dry season
  - Drought Conditions lasting more than one growing season.
- Sparse and Patchy Vegetation: A seasonal pond must have at least 5 percent plant cover to be considered vegetated. To be considered jurisdictional, unvegetated areas may be considered as other waters of the US if they exhibit Ordinary High Water (OHW) indicators as set forth in 33 CFR 328.3
- Riparian Areas: Where there is high variability in wetland vegetation indicator status between the different strata. (Usually the tree stratum has wetter indicator status than other strata.)
- Areas Affected by Grazing:
- Managed Plant Communities: horticulture, tilling/disking.
- Areas Affected by Fires, Floods and Other Natural Disturbances:
- Vigor and Stress Response to Wetland Conditions: horticulture is either robust or impeded by hydric soils, and/or wetland hydrology.

Problematic Hydric Soils:

Moderately to Very Strong Alkaline Soils: Redox concentrations and depletions are not always evident in soils with pH of 7.9 or higher.

- **Volcanic Ash:** Soils of volcanic origin are high in silica content and low in redoximorphic minerals such as iron, manganese, and sulfur.
- **Vegetated Sand and Gravel Bars within Flood Plains:** Flood plains may lack hydric soil indicators because seasonal flooding deposits new layers of soil material or the deposited material may lack redoximorphic minerals.
- **Recently Developed Wetlands:** may include mitigation sites, wetland management areas, unintentionally produced wetlands (flood irrigation, leaking water pipes, etc.).

- **Seasonally Ponded Soils:** depressional wetlands, usually with perched systems above a restrictive soil layer (hardpan or clay) where the saturation depth or saline conditions prohibit hydric soil indicators.
- **Soils with Relict or Induced hydric Soil Indicators:** in some areas redoximorphic features in hydric soils were formed in the recent or distant past when conditions were substantially wetter than at present. Hydric soil indicators may persist in low land areas which were historically flooded (such as in California's Central Valley) even though the area has been drained for agricultural purposes. Alternatively, hydric soils indicators in upland areas may have formed historically from flood irrigation or like agricultural activities that no longer persist.

Problematic Wetland Hydrology:

- **Site Visits During the Dry Season:** Hydrophytic vegetation may be absent or diminished during the dry-season (when evapotranspiration exceeds precipitation). When possible the site should be visited (or re-visited) during the normal wet season.
- **Periods with Below Normal Rainfall:** Rainfall in the 3-month period prior to the site visit should be compared to historical averages from the Natural Resources Conservation Service's (NRCS) National Water and Climate Center. Rainfall should be between the high and low 30 percent probability values.
- **Drought Years:** Areas subject to drought conditions particularly lasting several years may affect wetland hydrology indicators. The Palmer Drought Severity Index (PDSI)—known operationally as the Palmer Drought Index (PDI)—attempts to measure the duration and intensity of the long-term drought-inducing circulation patterns. Long-term drought is cumulative, so the intensity of drought during the current month is dependent on the current weather patterns plus the cumulative patterns of previous months. Since weather patterns can change almost literally overnight from a long-term drought pattern to a long-term wet pattern, the PDSI (PDI) can respond fairly rapidly. PDSI values range between -6 and +6 with negative values indicating dry periods and positive values indicating wet periods:
  - (-4 to -6) - Extreme Drought;
  - (-3) - Severe Drought;
  - (-2) - Moderate Drought; and
  - (-1) - Mild Drought.
- **Years with Unusually Low Winter Snowpack:** the hydrology of areas with water-sheds in adjacent mountain regions may be affected by annual variability in the liquid equivalent of the snow pack.
- **Reference Sites:** If indicators of hydric soil and hydrophytic vegetation are present on a site that lacks wetland hydrology indicators, the site may be considered to be a wetland if the landscape setting, topography, soils, and vegetation are substantially the same as those on nearby reference areas.

- **Hydrology Tools:** A collection of methods can be used to determine whether wetland hydrology is present on a potential wetland site that lacks indicators due to disturbances or other reasons (particularly in agricultural areas).
- **Long-term Hydrological Monitoring:** Areas may be monitored over long periods of time.

California Department of Fish & Game: Wetlands

The California Wildlife Protection Act as codified in the Fish & Game code defines "wetlands" as "lands which may be covered periodically or permanently with shallow water and which include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, fens, and vernal pools." (Fish & Game Code Section 2785(g))

Coastal Zone: Wetlands

Jurisdictional assessments in the California coastal zone must also evaluate potential wetland areas using the criteria established in the California Coastal Act and set forth in the California Code of Regulations.

The California "Coastal zone" means that land and water area within the State extending seaward to the state's outer limit of jurisdiction, including all offshore islands, and extending inland generally 1,000 yards from the mean high tide line of the sea. In significant coastal estuarine, habitat, and recreational areas it extends inland to the first major ridgeline paralleling the sea or five miles from the mean high tide line of the sea, whichever is less, and in developed urban areas the zone generally extends inland less than 1,000 yards. The coastal zone does not include the area of jurisdiction of the San Francisco Bay Conservation and Development Commission, established pursuant to Title 7.2 (commencing with Section 66600) of the Government Code, nor any area contiguous thereto, including any river, stream, tributary, creek, or flood control or drainage channel flowing into such area.

The California Coast Act section 30121 defines the term "wetland" as, "Lands within the coastal zone which be covered periodically or permanently with shallow water and includes saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mud flats, and fens."

The Coastal Act is administered in the State by the California Coastal Commission (CCC). Coastal Commission regulations (California Code of Regulations Title 14 (14CCR)) establish a "one parameter definition" that only requires evidence of a single parameter to establish wetland conditions:

> Wetland shall be defined as land where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes, and shall also include types of wetlands where vegetation is lacking and soil is poorly developed or absent as a result of frequent drastic fluctuations of surface water levels, wave action, water flow, turbidity or high concentration of salts or other substances in the substrate. Such wetlands can be

> recognized by the presence of surface water or saturated substrate at some during each year and their location within, or adjacent to vegetated wetland or deepwater habitats. (14 CCR 13577)

The Commission's one parameter definition is similar to the USFWS wetlands classification system, which states that wetlands must have one or more of the following three attributes: (1) at least periodically the land supports predominantly hydrophytes; (2) the substrate is predominantly un drained hydric soil; and (3) the substrate is non-soil and is saturated with water or covered by shallow water at some time during the growing season of each year.

San Francisco Bay Conservation and Development Commission Jurisdiction Wetlands

Within the area of San Francisco Bay Conservation and Development Commission (BCDC) CCC jurisdictional criteria does not apply, however USACE wetland determination criteria will apply.

The primary State law governing the BCDC, the McAteer-Petris Act, does not define wetlands but does outline the BCDC's jurisdiction respective of wetlands.

> Managed wetlands consisting of all areas which have been diked off from the bay and have been maintained during the three years immediately preceding the effective date of the amendment of this section during the 1969 Regular Session of the Legislature as a duck hunting preserve, game refuge or for agriculture. (Gov. Code Section 66610(b))

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Appendix E:
Preliminary Jurisdictional Determination Forms

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PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there *"may be"* waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

District Office: Los Angeles District | File/ORM #: | PJD Date: Nov 26, 2014

State: CA | City/County: City of Calabasas

Nearest Waterbody: Los Angeles River - Pacific Ocean

Location: TRS, LatLong or UTM: Section 26 & 27, T1N, R17W
34°08' 12.60"N 118°38' 09.92"W

Name/ Address of Person Requesting PJD: Victor Pesiri
23620 Mulholland Highway
Calabasas, California 91302

Identify (Estimate) Amount of Waters in the Review Area:

Non-Wetland Waters: 1,352 linear ft | 15 width | 0.47 acres | Stream Flow: Per. (seasonal)

Wetlands: 0.00 acre(s) | Cowardin Class: Riverine

Name of Any Water Bodies on the Site Identified as Section 10 Waters: Tidal: N/A | Non-Tidal: N/A

☐ Office (Desk) Determination
☑ Field Determination: | Date of Field Trip: Nov 12, 2014

SUPPORTING DATA: Data reviewed for preliminary JD (check all that apply - checked items should be included in case file and, where checked and requested, appropriately reference sources below):

- ☑ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:
- ☑ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - ☐ Office concurs with data sheets/delineation report.
  - ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps
- ☐ Corps navigable waters' study:
- ☐ U.S. Geological Survey Hydrologic Atlas:
  - ☐ USGS NHD data.
  - ☐ USGS 8 and 12 digit HUC maps.
- ☑ U.S. Geological Survey map(s). Cite quad name: Calabasas
- ☑ USDA Natural Resources Conservation Service Soil Survey. Citation: Santa Monica Mountains, 2009 data, web-site
- ☐ National wetlands inventory map(s). Cite name:
- ☐ State/Local wetland inventory map(s):
- ☑ FEMA/FIRM maps: No data for this area
- ☐ 100-year Floodplain Elevation is:
- ☐ Photographs: ☑ Aerial (Name & Date): 2005 & 2007
  - ☐ Other (Name & Date):
- ☐ Previous determination(s). File no. and date of response letter:
- ☐ Other information (please specify):

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

Signature and Date of Regulatory Project Manager (REQUIRED)

Signature and Date of Person Requesting Preliminary JD (REQUIRED, unless obtaining the signature is impracticable)

EXPLANATION OF PRELIMINARY AND APPROVED JURISDICTIONAL DETERMINATIONS:

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "preconstruction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable.

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there *"may be"* waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

Appendix A - Sites

District Office	Los Angeles District	File/ORM #		PJD Date:	Nov 26, 2014
State	CA	City/County	City of Calabasas	Person Requestinq PJD	Victor Pesiri

Site Number	Latitude	Longitude	Cowardin Class	Est. Amount of Aquatic Resource in Review Area	Class of Aquatic Resource
1	334°08′ 12.60″	118°38′ 09.92″	Riverine	0.43 acres	Non-Section 10 non-wetlanc
2	334°08′ 03.96″	118°38′ 35.31″	Riverine	0.04	Non-Section 10 non-wetlanc

Notes:

The project site has two drainage features. One is a small unnamed tributary to Dry Canyon Creek and is located in the western portion of the project site. The proposed project has been designed to avoid this feature, and therefore is not likely to be impacted by project development. The second drainage is a moderate size drainage known as Dry Canyon Creek. This drainage feature contains a rock and boulder drainage bottom within no evidence of wetlands. Both features eventually drain into Arroyo Calabasas, which flows into the Los Angeles River, which then flows to the Pacific Ocean.

Project: Peters, Castle Oaks & Brown Project | **Date:** 11/12/2014 | **Time:** 0700

Project Number: 3448.0019 | **Town:** Calabasas | **State:** California

Stream: Unnamed Tributary | **Photo begin file#:** Photo 1 | **Photo end file#:** Photo 2

Investigator(s): Scott Crawford

Y ☒ N ☐ Do normal circumstances exist on the site?

Y ☐ N ☒ Is the site significantly disturbed?

Type: N/A

Location Details: City of Calabasas

Projection: N/A **Datum:** N/A

Coordinates: 34°08' 03.96"N / 118°38' 35.31"W

Notes: Site has been slightly altered by human disturbance including an underground culvert at the road crossing. This entire drainage feature contains a soft-bottom channel. A small portion of the downstream section of the drainage has an OHWM, but the upstream portion of the drainage, where it transitions into an oak woodland area, the OHWM is no longer visible and the tributary is considered an upland swale.

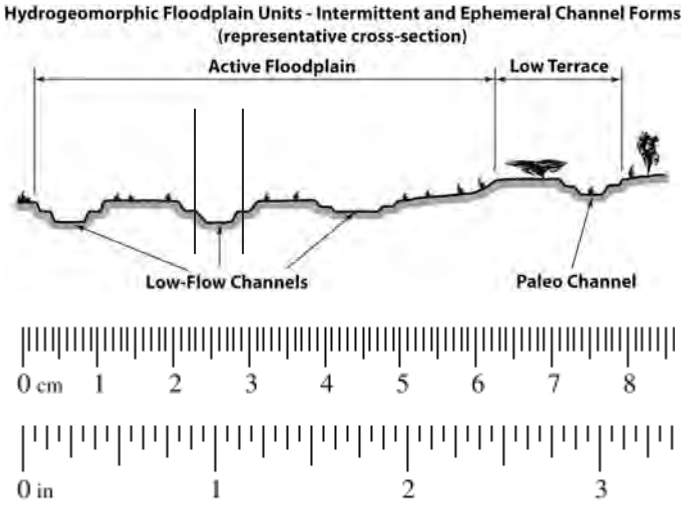
Brief site description: Mule fat scrub/non-native grassland habitat with woodland understory shrubs and herbs along the drainage margin.

Checklist of resources (if available):

- ☒ Aerial Photography: (Dates: 2012)
- ☒ Topographic maps: (Scale: 2,400)
- ☐ Geologic Maps
- ☐ Vegetation maps
- ☒ Soil Maps
- ☐ Rainfall/precipitation maps
- ☐ Existing Delineation(s) for site
- ☒ Global positioning system (GPS)
- ☐ Other Studies
- ☐ Stream gage data
  - Gage number:
  - Period of record:
- ☐ Clinometer / level
- ☐ History of recent effective discharges
- ☐ Results of flood frequency analysis
- ☐ Most recent shift-adjusted rating
- ☐ Gage heights for 2- ,5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

The dominant Wentworth size class that imparts a characteristic texture to each of a channel cross-section is recorded in the average sediment texture filed under the characteristics section for the zone of interest.

Inches (in)	Millimeters (mm)	Wentworth size class	
10.08	256	Boulder	Gravel
2.56	64	Cobble	Gravel
0.157	4	Pebble	Gravel
0.079	2.00	Granule	Gravel
0.039	1.00	Very coarse sand	Sand
0.020	0.50	Coarse sand	Sand
1/2 0.0098	0.25	Medium sand	Sand
1/4 0.005	0.125	Fine sand	Sand
1/8 0.0025	0.0625	Very fine sand	Sand
1/16 0.0012	0.031	Coarse silt	Silt
1/32 0.00061	0.0156	Medium silt	Silt
1/64 0.00031	0.0078	Fine silt	Silt
1/128 0.00015	0.0039	Very fine silt	Silt
		Clay	Mud



☒	**Walk the channel and floodplain within the study area to get an impression of the vegetation and geomorphology present at the site. Record any potential anthropogenic influences on the channel system in "Notes" above.**
☒	**Locate the low-flow channel (lowest part of the channel). Record observations.** Characteristics of the low-flow channel: Average sediment texture: Sandy Loam Total veg cover: 100 % Tree:0 % Shrub: 50% Herb: 50 % Community successional stage: ☐ NA ☒ Mid (herbaceous, shrubs, saplings) ☐ Early (herbaceous & seedlings) ☐ Late (herbaceous, shrubs, mature trees) Dominant species present: short-podded mustard Other: ☐ coyote bush ☐ mule fat ☐ bristly ox-tongue ☐ _____
☒	**Walk away from the low-flow channel along cross-section. Record characteristics of the low flow/ active floodplain boundary.** Characteristics used to delineate the low-flow/active floodplain boundary: ☐ Change in total veg cover ☐ Tree ☐ Shrub ☐ Herb ☐ Change in overall vegetation maturity ☒ Change in dominant species present ☒ Other ☒ Presence of bed and bank ☒ Drift and/or debris ☐ Other: _____ ☐ Other: _____
☒	**Continue walking the channel cross-section. Record observations below.** Characteristics of the active floodplain: Average sediment texture: Sandy Loam Total veg cover: 0 % Tree: 0 % Shrub: 30% Herb: 70% Community successional stage: ☐ NA ☒ Mid (herbaceous, shrubs, saplings) ☐ Early (herbaceous & seedlings) ☐ Late (herbaceous, shrubs, mature trees) Dominant species present: Mugwort Other: ☐ arroyo willow ☐ Russian thistle ☐ mugwort ☐ bristly ox-tongue

☒ **Continue walking the channel cross-section. Record indicators of the active floodplain/low terrace boundary.**

Characteristics used to delineate the active floodplain/ low terrace boundary:

- ☐ Change in average sediment texture
- ☐ Change in total veg cover ☐ Tree ☐ Shrub ☐ Herb
- ☐ Change in overall vegetation maturity
- ☒ Change in dominant species present
- ☐ Other ☐ Presence of bed and bank
  - ☐ Drift and/or debris
  - ☐ Other: _____
  - ☐ Other: _____

☐ **Walk the active floodplain/low terrace boundary both upstream and downstream of the crosssection to verify that the indicators used to identify the transition are consistently associated the transition in both directions.**

Consistency of indicators used to delineate the active floodplain/low terrace boundary:

- Y ☒ N ☐ Change in average sediment texture
- Y ☒ N ☐ Change in total veg cover ☐ Tree ☐ Shrub ☐ Herb
- Y ☐ N ☒ Change in overall vegetation maturity
- Y ☐ N ☒ Change in dominant species present
- Y ☐ N ☐ Other: Y ☐ N ☐ Presence of bed and bank
  - Y ☐ N ☐ Drift and/or debris
  - Y ☐ N ☐ Other: _____
  - Y ☐ N ☐ Other: _____

☐ **If the characteristics used to delineate the active floodplain/low terrace boundary were NOT consistently associated with the transition in both the upstream and downstream directions, repeat all steps above.**

☐ **Continue walking the channel cross-section. Record characteristics of the low terrace.**

Characteristics of the low terrace:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____ % Shrub: _____% Herb: _____%

Community successional stage:

- ☐ NA ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Early (herbaceous & seedlings) ☐ Late (herbaceous, shrubs, mature trees)

Dominant species present: _____

Other:

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

☐ **If characteristics used to delineate the active floodplain/low terrace boundary were deemed reliable, acquire boundary.**

Active floodplain/low terrace boundary acquired via:

- ☐ Mapping on aerial photograph ☐ GPS
- ☐ Digitized on computer ☐ Other: _____

Project: Peters, Castle Oaks & Brown Project	**Date:** 11/12/2014	**Time:** 0800
Project Number: 3448.0019	**Town:** Calabasas	**State:** California
Stream: Dry Canyon Creek	**Photo begin file#:** Photo 3	**Photo end file#:** Photo 8
Investigator(s): Scott Crawford		

Y ☒ N ☐ Do normal circumstances exist on the site?	**Location Details:** City of Calabasas
Y ☐ N ☒ Is the site significantly disturbed?	**Projection:** N/A **Datum:** N/A
Type: N/A	**Coordinates:** 34°08' 12.60"N / 118°38' 09.92"W

Notes: Site has been slightly altered by human disturbance including four outlet pipes, two existing footbridges, concrete lining of a portion of the channel and concrete bank features along other portions. Some areas do contain a soft-bottom (10%), but the remaining portion of the drainage contains rocks and boulders.

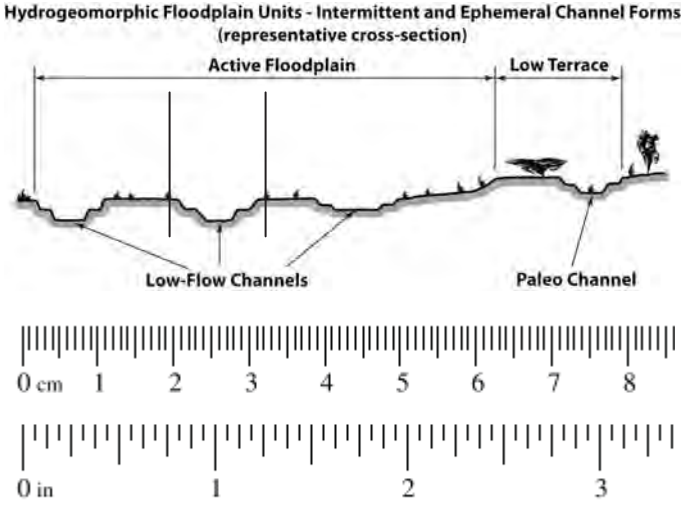
Brief site description: Southern willow scrub habitat with numerous culverts and drain pipes conveying nuisance flow into the drainage.

Checklist of resources (if available):

☒ Aerial Photography: (Dates: 2012)	☐ Stream gage data
☒ Topographic maps: (Scale: 2,400)	Gage number:
☐ Geologic Maps	Period of record:
☐ Vegetation maps	☐ Clinometer / level
☒ Soil Maps	☐ History of recent effective discharges
☐ Rainfall/precipitation maps	☐ Results of flood frequency analysis
☐ Existing Delineation(s) for site	☐ Most recent shift-adjusted rating
☒ Global positioning system (GPS)	☐ Gage heights for 2- ,5-, 10-, and 25-year events and the
☐ Other Studies	most recent event exceeding a 5-year event

The dominant Wentworth size class that imparts a characteristic texture to each of a channel cross-section is recorded in the average sediment texture filed under the characteristics section for the zone of interest.

Inches (in)	Millimeters (mm)	Wentworth size class	
10.08	256	Boulder	
		Cobble	Gravel
2.56	64		
0.157	4	Pebble	
		Granule	
0.079	2.00		
0.039	1.00	Very coarse sand	
		Coarse sand	
0.020	0.50		
1/2 0.0098	0.25	Medium sand	Sand
		Fine sand	
1/4 0.005	0.125		
1/8 0.0025	0.0625	Very fine sand	
		Coarse silt	
1/16 0.0012	0.031		
		Medium silt	
1/32 0.00061	0.0156		Silt
		Fine silt	
1/64 0.00031	0.0078		
		Very fine silt	
1/128 0.00015	0.0039		
		Clay	Mud



☒	**Walk the channel and floodplain within the study area to get an impression of the vegetation and geomorphology present at the site. Record any potential anthropogenic influences on the channel system in "Notes" above.**
☒	**Locate the low-flow channel (lowest part of the channel). Record observations.** Characteristics of the low-flow channel: Average sediment texture: cobbles and boulders Total veg cover: 100 % Tree:100 % Shrub: 0 % Herb: 0 % Community successional stage: ☐ NA ☐ Mid (herbaceous, shrubs, saplings) ☐ Early (herbaceous & seedlings) ☒ Late (herbaceous, shrubs, mature trees) Dominant species present: arroyo willow Other: ☐ Western Sycamore ☐ Oregon Ash ☐ Black Willow ☐ _____
☒	**Walk away from the low-flow channel along cross-section. Record characteristics of the low flow/ active floodplain boundary.** Characteristics used to delineate the low-flow/active floodplain boundary: ☒ Change in total veg cover ☒ Tree ☒ Shrub ☐ Herb ☒ Change in overall vegetation maturity ☐ Change in dominant species present ☒ Other ☒ Presence of bed and bank ☒ Drift and/or debris ☐ Other: _____ ☐ Other: _____
☒	**Continue walking the channel cross-section. Record observations below.** Characteristics of the active floodplain: Average sediment texture: Sandy Loam Total veg cover: 100 % Tree: 80 % Shrub: 10% Herb: 10% Community successional stage: ☐ NA ☐ Mid (herbaceous, shrubs, saplings) ☐ Early (herbaceous & seedlings) ☒ Late (herbaceous, shrubs, mature trees) Dominant species present: Salix lasiolepis Other: ☐ Coyote Bush ☐ Mule fat ☐ Mugwort ☐ Bristly ox-tongue

☒ **Continue walking the channel cross-section. Record indicators of the active floodplain/low terrace boundary.**

Characteristics used to delineate the active floodplain/ low terrace boundary:

- ☐ Change in average sediment texture
- ☐ Change in total veg cover ☐ Tree ☐ Shrub ☐ Herb
- ☐ Change in overall vegetation maturity
- ☒ Change in dominant species present
- ☐ Other ☐ Presence of bed and bank
  - ☐ Drift and/or debris
  - ☐ Other: _____
  - ☐ Other: _____

☐ **Walk the active floodplain/low terrace boundary both upstream and downstream of the crosssection to verify that the indicators used to identify the transition are consistently associated the transition in both directions.**

Consistency of indicators used to delineate the active floodplain/low terrace boundary:

- Y ☒ N ☐ Change in average sediment texture
- Y ☒ N ☐ Change in total veg cover ☐ Tree ☐ Shrub ☐ Herb
- Y ☐ N ☒ Change in overall vegetation maturity
- Y ☐ N ☒ Change in dominant species present
- Y ☐ N ☐ Other: Y ☐ N ☐ Presence of bed and bank
  - Y ☐ N ☐ Drift and/or debris
  - Y ☐ N ☐ Other: _____
  - Y ☐ N ☐ Other: _____

☐ **If the characteristics used to delineate the active floodplain/low terrace boundary were NOT consistently associated with the transition in both the upstream and downstream directions, repeat all steps above.**

☐ **Continue walking the channel cross-section. Record characteristics of the low terrace.**

Characteristics of the low terrace:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____ % Shrub: _____% Herb: _____%

Community successional stage:

- ☐ NA ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Early (herbaceous & seedlings) ☐ Late (herbaceous, shrubs, mature trees)

Dominant species present: _____

Other:

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

☐ **If characteristics used to delineate the active floodplain/low terrace boundary were deemed reliable, acquire boundary.**

Active floodplain/low terrace boundary acquired via:

- ☐ Mapping on aerial photograph ☐ GPS
- ☐ Digitized on computer ☐ Other: _____

APPENDIX D

Oak Tree Report

PRELIMINARY OAK TREE REPORT

SUBJECT

Viewpoint School
Peters Property and Castle Oaks/Brown Property

PREPARED FOR

Viewpoint School
23620 Mulholland Hwy
Calabasas, CA 91302

PREPARED BY

L. NEWMAN DESIGN GROUP, INC.
ASLA, California State License #2464
Certified Arborist WE-6820A
31300 Via Colinas, Suite 104
Westlake Village, CA 91362-3992
E-Mail: *lndg@lndg.net*
Ph.: (818) 991-5056
Fx.: (818) 991-3478



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Date: December 1, 2014
Revised Date: March 17, 2015, June 11, 2015
LNDG Project No.: 2086-21/23/24

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This Document is Owned by and is the Sole and Exclusive Property of L. NEWMAN DESIGN GROUP, INC. All Information Contained in the Document is for Use on the Specified Project and shall not be Used/Copied without the Expressed Written Permission of L. NEWMAN DESIGN GROUP, INC.

OBJECTIVES

The objective of this report is to qualify the present condition of the site's existing oak trees and to discuss the potential encroachments to them and the effect on the health of the trees. This involved the following:

1. Determining the condition of the protected trees (see **SUMMARY OF FIELD OBSERVATION** sheets);
2. Ascertaining the impacts that will occur due to the proposed grading and construction of the buildings and retaining walls (**OAK TREE LOCATION MAP)**;
3. Providing guidance to minimize any encroachments of the saved trees.

METHODS of STUDY

Qualifications of the oak trees were accomplished by the use of our standard visual survey, as completed by L. NEWMAN DESIGN GROUP, INC. (**LNDG**) in June of 2014 and November 14, 2014. In the course of the fieldwork, we performed the following tasks:

1. Live tree trunks were measured at 4½' above mean natural grade. Trees that measured 2 inches or larger were included. The trees were assessed for plant quality. Trees included were within or near the limit of work;
2. The trees were tagged with numbered, metal tags. These tags are affixed to the sides of the trees and correspond to those numbers on the **OAK TREE LOCATION MAP**;
3. Drip lines (the outermost edge of the tree's canopy) were field measured at eight compass directions equidistant around the circumference of the tree. The minimum clearance from the present grade to the bottom of the canopy at each of the points was estimated.

The critical trees were precisely surveyed. Other trees were given estimated locations based on the topographic survey. Refer to the **OAK TREE LOCATION MAP** included herein for the tree locations.

PROJECT LOCATION

The proposed project sites are located at 23238 Mulholland Hwy, 23602 and 23604 Dry Canyon Cold Creek Road in the City of Calabasas.

OAK SPECIES

All of the oak trees addressed in this phase of the project are *Quercus agrifolia* (coast live oak) other than trees 658 and 702 which are *Quercus lobata* (valley oaks) and 12 which is *Quercus berberidiflia* (scrub oak).

OAK TREE ORDINANCE

The City lies in a unique area of Los Angeles County, the beauty of which is greatly enhanced by the presence of large numbers of majestic Oak trees. Development of the area has resulted in the removal of a great number of these trees. Further uncontrolled and indiscriminate destruction of Oak trees would detrimentally affect the safety and welfare of the citizens of Calabasas. This preservation program outlined in this Ordinance contributes to the welfare and aesthetics of the community and retains the great historical and environmental value of these trees.

This ordinance sets forth the policy of the City to require the preservation of all healthy Oak trees unless reasonable and conforming use of the property justifies the removal, cutting, pruning and/or encroachment into the

Protected Zone of an Oak tree. The Protected Zone shall mean that area within the dripline of an Oak tree and extending therefrom to a point at least 5' outside the dripline, or 15' from the trunk(s) of a tree, whichever distance is greater.

The major thrust of the Oak Tree Policy was established to recognize Oak trees as significant, historical, aesthetic and valuable ecological resources, and as one of the most picturesque trees in Los Angeles County, lending beauty and charm to the natural and man-made landscape, enhancing the value of property, and the character of the communities in which they exist. In addition, the Oak Tree Policy intends to create favorable conditions for the preservation and propagation of this unique, threatened plant heritage, particularly those trees which may be classified as `Heritage Oak Trees', for the benefit of current and future residents of Calabasas. It is the intent of the Oak Tree Policy to maintain and enhance the general health, safety, and welfare by assisting in counteracting air pollution, and in minimizing soil erosion and other related environmental damages. The Oak Tree Policy is also intended to preserve and enhance property values by conserving and adding to the distinctive and unique aesthetic character of many areas of Calabasas in which Oak trees are indigenous.

RESULTS of STUDY

1. Physiological Condition of the Oaks

The physiological condition of the oak trees was detailed in the **SUMMARY of FIELD OBSERVATIONS** included in this report. All recommendations made in this report are based on the condition of the trees as of the date of the field work.

2. Summary of Data/Plan Review

A. **There are over 156 oak trees on the Peters property. There are 2 proposed removals due to the construction of the proposed tennis court facility. They are trees 643 and 644. In addition, there are 41 proposed encroachments due to the improved parking lot area and proposed tennis courts. They are trees 227, 228, 230, 231, 237, 238, 240, 243, 244, 245, 268, 269, 270 - 274, 534, 535, 645, 646, 648 - 651, 653, 673, 675, 689, 709 - 711, 751, 768 - 773, 777, and 778**.

B. **There are 64 oak trees on the Castle Oaks and Brown property that were addressed for this project. There is 1 proposed removal, oak tree 10, due to construction of the Fire Department turnaround location. In addition, there are 18 proposed encroachments to trees 1 – 9, 12 – 17, 15, 56, and 57**.

C. Drip lines on the **OAK TREE LOCATION MAP** graphically represent the canopies based on field measurements and estimates. See the **DRIPLINE MEASUREMENTS** section for dripline data.

D. Some pruning of large limbs may be required to provide clearance for the tennis court construction and parking lot.

3. Tree Replacement Program

A. Oak Tree Planting Plan

1. Oak trees shall be replaced on an inch for inch basis.
2. The landscape architect for this project shall design into the landscape the replacement trees.
3. The irrigation system (i.e., drip system or comparable) to water these newly planted replacement trees shall be compatible with the watering requirement of the project's indigenous oak trees.
4. The irrigation system maintenance program should water these replacement trees for the first 3 years at least to establish the trees. Thereafter, watering should be done only in the winter months during periods of severe drought as deemed necessary by the **LNDG**.

4. **Mitigation Recommendations**

A. Any City approved work within the protected zones of the saved oak trees, including branch removals, shall be under the direct inspection/observation of **LNDG**.

B. Copies of the oak tree report and the City of Calabasas' approved oak tree permit shall be kept on-site during all construction.

OAK TREE PRESERVATION PROGRAM

1. **General Oak Tree Protection**

A. Trees that are to be preserved on the site during construction shall be fenced at the location of their protected zones or at the limit of grading with a temporary fence of a material approved by the City of Calabasas prior to commencement of grading.

B. No activity, such as equipment or building materials storage, deposit of debris and trash, or parking shall be allowed within the protected zones of any oak tree at any time.

2. **Pruning**

A. Any pruning approved by the City of Calabasas prior to commencement of work shall be executed only after notification of the landscape architect / tree consultant and the City of Calabasas.
B. Pruning required, but not previously approved by the City of Calabasas, shall not be performed until a written request for pruning has been submitted and approved by the City of Calabasas unless the branches are less than 2" in diameter and is deemed necessary by **LNDG**.
C. All pruning shall be performed to the standards set forth by the International Society of Arboriculture (ISA).
D. Pruning wounds shall not be sealed. Approved pruning shall be performed by an ISA certified arborist under the direct supervision of the landscape architect / oak tree consultant.

3. **Grading within the Protected Zones of Oak Trees**

A. The construction of the retaining walls will avoid encroaching into the drip lines of the oak trees by construction activity beyond the limit of grading. Within the protected zones of oak trees to be preserved in place, hand trenching shall be done at the limit of the proposed grading to uncover roots, allowing them to be properly and cleanly pruned prior to grade work. This shall be done under the observation of **LNDG**.
B. The City requirement to hand-dig any approved excavation within the drip line of oak trees is designed to avoid irreparable root damage. The purpose is to locate and expose roots that must be excised and to carefully prune them, thereby avoiding the ripping and tearing caused with the use of backhoe excavation equipment. Due to the scope of improvements to construct the Viewpoint School Cornerstone Project, the standard city requirement for hand digging any approved excavation within the drip line of oak trees is impractical. Therefore, a **WORK PROCEDURES PROGRAM** is proposed to execute the work with precise and controlled methodology that avoids indiscriminant damage. The program is as follows:

WORK PROCEDURES PROGRAM SPECIFICS

1. Preparation Phase

During the pre-construction, on-site survey and staking, to provide layout control for the proposed improvements, the precise location of any improvement directly affecting any oak tree that is to be preserved in place shall be identified with monument stakes. The following information will be provided by this survey:

A. The verified location of affected oak trees that will remain along with the precise location of improvements that are encroaching within the protected zone of the individual trees.
B. For ease of identification, stakes with information concerning oak trees shall be marked.

2. Execution Phase

A. Protective Fencing:

i. See "General Oak Tree Protection" above. The oak trees that are to be preserved on the site shall be kept fenced during the construction operation, per the approved fencing plan, with a 5-foot high, temporary, chain-link fence. Orange safety fence may be used (as shown on the fencing plan) for protection during preconstruction activities but the chain-link fence must be in place prior to the commencement of grading. A three foot wide pass-through opening in the fence enclosure with a closable gate shall be provided for maintenance access. The fence shall remain during all phases of construction. Damaged fencing shall be immediately replaced or repaired.

ii. In some cases, fencing may be placed at the limit of grading or excavation in order to allow approved work to be done inside the protected zones. Refer to the fencing plan for these situations. No fencing shall be removed or moved without notifying the oak tree consultant and without approval from the City of Calabasas Community Development Department.

B. Pruning:

i. Pruning, as permitted for the use of the proposed facility shall be performed before grading to avoid conflict between oak trees and excavation equipment. This action should eliminate the potential for broken branches resulting from equipment.
ii. See pruning chart in this report for anticipated pruning impacts to the trees.

C. Excavation:

The greatest potential for consequential damage to oak trees is from excavation for footings, utilities, driveway base elevations and from grading.

It is not possible to develop this site without some conflict between the trees and the proposed improvements. The conflict relates to both the aerial canopy and the root structure of oak trees. The goal is to minimize and to control such damage. This can be accomplished as follows:

i. Define the area of excavation and the direction of the pioneering for the excavation that occurs within the drip line of an oak tree.
ii. After pruning roots as described in Section 3A above, it may be necessary to utilize small equipment to remove the overburden (insitu soil) above the primary root structure under the immediate direction of the Landscape Architect / Tree Consultant. Stop this effort upon encountering roots of significant size.

iii. Excise roots to the required depth using standard, sterile, mechanical root pruning equipment accompanied by hand work. In the case of a roadbed, excise the roots on each side of the road as close to the improvements as possible. In the case of the storm sewer Improvements, cut the roots on each side of the proposed trench in a similar way to the required depth. Follow excavation by hand pruning (with sterilized equipment) the exposed roots.

iv. This methodology will minimize root damage from excavation equipment pulling on roots in a lateral direction from their path of travel. Excised roots shall be hand sawn, using sterilized equipment, with a clean cut, at a 45 degree angle facing downward and shall not be sealed.

v. Place all excavation spoils outside of the protected zone of the tree.

D. Other protective measures:

i. Protect oak trees by not wounding them. Nailing of any thing such as grade stakes must be avoided.

ii. The potential for breaking of branches by mechanical equipment should be anticipated. Notify the landscape architect / tree consultant with a request for an evaluation and recommendation.

iii. It is important to leave the natural leaf litter that exists beneath an oak tree.

iv. No chemicals such as herbicides shall be used upstream and within one hundred feet of any oak tree protected zone.

v. Oak trees do not require supplemental watering. Although the increase in water and nutrients may improve tree vigor and appearance initially, most often disease problems increase over time. Decay, root, and crown rots are favored by high moisture conditions. To avoid disease infestation irrigation water system must not ever be applied any closer to the tree trunk than fifteen feet. In other words, the ground must remain totally dry for at least fifteen feet in all directions in and around the trunk of an oak tree. Of note, oak root fungus *(Armillaria mellea)* has been previously identified as present within the Viewpoint School site.

vi. If grading is completed other than during the rainy season, dust deposited on the foliage of oaks must be hosed off so that the growth processes of the tree are not disrupted.

NOTICE OF DISCLAIMER:

This report represents the independent opinion of the signatory consultant (L. NEWMAN DESIGN GROUP, INC.). The tree(s) discussed herein was/were generally reviewed for physical, biological function and aesthetic conditions. This examination was conducted in accordance with presently accepted industry procedures, which are a ground-plane macro-visual observation only. No extensive micro-biological, soil-root excavations, upper crown examination nor internal tree investigations were conducted and therefore, the reporting herein reflects the overall visual appearance of the tree(s) on the date reviewed and no warranty is implied as to the potential failure, health or demise of any part or of whole of any tree described in the report. Records may not remain accurate after our inspection due to unknown causes of changeable deterioration of the reviewed site.

Sincerely,

L. NEWMAN DESIGN GROUP, INC.
ASLA, California State License #2464

John Oblinger
ISA Certified Arborist WE-6820A
ISA Tree Risk Assessor Qualified

SUMMARY of FIELD OBSERVATIONS

PETERS PROPERTY

INSPECTION NOTICE

The following information was observed on the date(s) indicated herein, and should only be considered true at the time of field inspection.

LNDG Job No.: 2086-21/23/24 Date: July 1, 2014

SUMMARY OF FIELD OBSERVATIONS

		1	2	3	4	5	6	7	8	9	10
SPECIES	**TREE NUMBER**	227	228	229	230	231	232	233	234	235	236
	Quercus agrifolia	X	X	X	X	X	X	X	X	X	X
	Quercus lobata										
	Quercus berberidifolia										
FORM	TREE HT. (ESTIMATED)	50'	55'	35'	20'	35'	30'	30'	30'	20'	25'
	LEAN (ANGLE)			NW	NE				NW	W	
	TRUNK DIAMETERS (inches)	38	48	18	12	25	13	9	10	9	10
		10				18	9	9	6	7	9
		9					4	8			8
PHYSICAL CONDITION	TRUNK CAVITY									X	X
	TRUNK EXUDATION										
	TRUNK DAMAGE										
	BURIED ROOT COLLAR	X				X	X	X	X	X	X
	EXPOSED ROOTS										
	WEAK CROTCH(ES)										
	FUNGAL DISEASE										
	INSECT/MITE DAMAGE	X	X	X	X	X	X	X	X		X
	NEW/OLD FIRE DAMAGE										
	BRANCH CAVITIES	X	X	X	X	X	X	X	X		X
	MAINSTEM DIEBACK										
	TWIG/BRANCH DIEBACK	X	X	X		X	X	X	X		X
	EPICORMIC GROWTH				X						
	THIN FOLIAGE										
	VIGOR (GOOD/MOD/POOR)	G	G	G	G	G	G	G	G	M	G
	TERRAIN - SLOPED/LEVEL	S	S	S	L	S	S	S	S	S	S
RATING	HERITAGE	X	X								
	HEALTH	B	B	B	B	B	B	B	B	C	B
	AESTHETICS/COMFORMITY	B	B	C	C	C	C	C	C	C	C
TREAT-MENT	REMOVE DEADWOOD					X	X	X	X		
	INSECT/DISEASE TREAT										
	REMARKS:										

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SUMMARY OF FIELD OBSERVATIONS

		11		12		13		14		15		16		17		18		19		20	
SPECIES	**TREE NUMBER**	237		238		239		240		241		242		243		244		245		268	
	Quercus agrifolia	X		X		X		X		X		X		X		X		X		X	
	Quercus lobata																				
	Quercus berberidifolia																				
FORM	TREE HT. (ESTIMATED)	20'		30'		30'		35'		35'		35'		50'		50'		25'		25'	
	LEAN (ANGLE)	E																			
	TRUNK DIAMETERS (inches)	12		14		12		16		14		23		30		28		12		19	
		4		13		12		15						28						18	
						10		15												15	
						8														15	
																				8 & 6	
PHYSICAL CONDITION	TRUNK CAVITY															X					
	TRUNK EXUDATION																				
	TRUNK DAMAGE																				
	BURIED ROOT COLLAR			X		X		X		X		X		X						X	
	EXPOSED ROOTS															X		X			
	WEAK CROTCH(ES)																				
	FUNGAL DISEASE	X		X				X		X		X		X						X	
	INSECT/MITE DAMAGE	X		X		X		X		X		X		X		X		X		X	
	NEW/OLD FIRE DAMAGE																				
	BRANCH CAVITIES	X		X		X								X		X				X	
	MAINSTEM DIEBACK																				
	TWIG/BRANCH DIEBACK	X		X		X		X		X		X		X		X		X		X	
	EPICORMIC GROWTH																				
	THIN FOLIAGE							X													
	VIGOR (GOOD/MOD/POOR)	G		G		G		M		G		G		G		G		G		G	
	TERRAIN - SLOPED/LEVEL	S		S		S		S		S		S		S		S		S		S	
RATING	HERITAGE																				
	HEALTH	B		B		B		C		B		B		B		B		B		B	
	AESTHETICS/COMFORMITY	C		B		C		C		B		B		B		B		C		B	
TREAT-MENT	REMOVE DEADWOOD	X	REMARKS:	X	REMARKS:	X	REMARKS:	X	REMARKS:	X	REMARKS:	X	REMARKS:	X	REMARKS:	X	REMARKS:		REMARKS:	X	REMARKS:
	INSECT/DISEASE TREAT																				

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SUMMARY OF FIELD OBSERVATIONS

		21		22		23		24		25		26		27		28		29		30	
SPECIES	**TREE NUMBER**	269		270		271		272		273		274		531		532		533		534	
	Quercus agrifolia	X		X		X		X		X		X		X		X		X		X	
	Quercus lobata																				
	Quercus berberidifolia																				
FORM	TREE HT. (ESTIMATED)	35'		25'		20'		50'		55'		40'		25'		10'		6'		25'	
	LEAN (ANGLE)															W		E		E	
	TRUNK DIAMETERS (inches)	14		9		6		32		41		22		13		5		2		10	
								16		28		17		10							
										22											
PHYSICAL CONDITION	TRUNK CAVITY									X											
	TRUNK EXUDATION																				
	TRUNK DAMAGE																				
	BURIED ROOT COLLAR	X		X		X				X		X		X						X	
	EXPOSED ROOTS							X													
	WEAK CROTCH(ES)																				
	FUNGAL DISEASE																				
	INSECT/MITE DAMAGE	X		X		X		X		X		X		X						X	
	NEW/OLD FIRE DAMAGE									X		X									
	BRANCH CAVITIES							X		X		X									
	MAINSTEM DIEBACK					X															
	TWIG/BRANCH DIEBACK	X		X		X				X		X		X		X		X		X	
	EPICORMIC GROWTH																				
	THIN FOLIAGE					X						X		X		X		X			
	VIGOR (GOOD/MOD/POOR)	G		G		M		G		G		G		M		M		M		G	
	TERRAIN - SLOPED/LEVEL	S		S		S		S		L		S				S		S		S	
RATING	HERITAGE											X									
	HEALTH	B		B		C		B		B		C		C		C		C		B	
	AESTHETICS/COMFORMITY																				
TREAT-MENT	REMOVE DEADWOOD	X	REMARKS:		REMARKS:	X	REMARKS:		REMARKS:	X	REMARKS:	X	REMARKS:	X	REMARKS:	X	REMARKS:	X	REMARKS:	X	REMARKS:
	INSECT/DISEASE TREAT																				

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SUMMARY OF FIELD OBSERVATIONS

		31		32		33		34		35		36		37		38		39		40	
SPECIES	**TREE NUMBER**	535		536		548		632		633		634		635		636		637		638	
	Quercus agrifolia	X		X		X		X		X		X		X		X		X		X	
	Quercus lobata																				
	Quercus berberidifolia																				
FORM	TREE HT. (ESTIMATED)	20'		20'		10'		20'		20'		15'		15'		12'		22'		8'	
	LEAN (ANGLE)	E		E																	
	TRUNK DIAMETERS (inches)	9		8		3		8		9		5		4		3		12		2	
												5		3		3					
												5		2							
												4									
												3									
PHYSICAL CONDITION	TRUNK CAVITY																				
	TRUNK EXUDATION																				
	TRUNK DAMAGE																				
	BURIED ROOT COLLAR	X		X																	
	EXPOSED ROOTS																				
	WEAK CROTCH(ES)																				
	FUNGAL DISEASE																				
	INSECT/MITE DAMAGE	X		X		X		X		X		X		X		X		X		X	
	NEW/OLD FIRE DAMAGE																				
	BRANCH CAVITIES																				
	MAINSTEM DIEBACK																				
	TWIG/BRANCH DIEBACK	X		X				X		X		X		X		X					
	EPICORMIC GROWTH																				
	THIN FOLIAGE																				
	VIGOR (GOOD/MOD/POOR)	G		G		G		G		G		G		G		G		M		G	
	TERRAIN - SLOPED/LEVEL	S		S		S															
RATING	HERITAGE																				
	HEALTH	B		B		B		B		B		B		B		B		C		B	
	AESTHETICS/COMFORMITY	C		B		B		B		B		B		B		B		C		B	
TREAT-MENT	REMOVE DEADWOOD	X	REMARKS:	X	REMARKS:		REMARKS:		REMARKS:		REMARKS:		REMARKS:		REMARKS:		REMARKS:	X	REMARKS:		REMARKS:
	INSECT/DISEASE TREAT																				

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SUMMARY OF FIELD OBSERVATIONS

		41		42		43		44		45		46		47		48		49		50	
SPECIES	**TREE NUMBER**	639		640		641		642		643		644		645		646		647		648	
	Quercus agrifolia	X		X		X		X		X		X		X		X		X		X	
	Quercus lobata																				
	Quercus berberidifolia																				
FORM	TREE HT. (ESTIMATED)	8'		15'		10'		15'		10'		35'		20'		10'		8'		25'	
	LEAN (ANGLE)			N		NE														N	
	TRUNK DIAMETERS (inches)	2		6		4		6		3		19		7		3		2		10	
						2				3											
						2				1											
PHYSICAL CONDITION	TRUNK CAVITY																				
	TRUNK EXUDATION																				
	TRUNK DAMAGE																				
	BURIED ROOT COLLAR							X		X										X	
	EXPOSED ROOTS																				
	WEAK CROTCH(ES)																				
	FUNGAL DISEASE																				
	INSECT/MITE DAMAGE	X		X		X		X		X		X		X		X		X		X	
	NEW/OLD FIRE DAMAGE																				
	BRANCH CAVITIES											X									
	MAINSTEM DIEBACK																				
	TWIG/BRANCH DIEBACK											X									
	EPICORMIC GROWTH																				
	THIN FOLIAGE																				
	VIGOR (GOOD/MOD/POOR)	G		G		G		G		G		G		G		G		G		G	
	TERRAIN - SLOPED/LEVEL	S		S		S		S		L		L		L		L		S		S	
RATING	HERITAGE																				
	HEALTH	A		A		A		B		A		B		A		A		B		B	
	AESTHETICS/COMFORMITY	B		B		B		B		B		B		A		B		B		B	
TREAT-MENT	REMOVE DEADWOOD		REMARKS:		REMARKS:		REMARKS:		REMARKS:		REMARKS:		REMARKS:		REMARKS:		REMARKS:		REMARKS:		REMARKS:
	INSECT/DISEASE TREAT																				

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SUMMARY OF FIELD OBSERVATIONS

		51		52		53		54		55		56		57		58		59		60	
SPECIES	**TREE NUMBER**	649		650		651		652		653		654		655		656		657		658	
	Quercus agrifolia	X		X		X		X		X				X		X		X			
	Quercus lobata																			X	
	Quercus berberidifolia																				
FORM	TREE HT. (ESTIMATED)	30'		20'		55'		12'		55'		10'		15'		50'		45'		15'	
	LEAN (ANGLE)	NE		N		N		SE		N				NE		NE		SE		S	
	TRUNK DIAMETERS (inches)	13		10		33		12				2		15		33		29		9	
						15		4		29				12							
								2		10											
PHYSICAL CONDITION	TRUNK CAVITY																				
	TRUNK EXUDATION			X																	
	TRUNK DAMAGE																				
	BURIED ROOT COLLAR	X		X		X		X		X				X		X		X		X	
	EXPOSED ROOTS																				
	WEAK CROTCH(ES)																				
	FUNGAL DISEASE			X																	
	INSECT/MITE DAMAGE	X		X		X		X		X		X		X		X		X		X	
	NEW/OLD FIRE DAMAGE									X						X					
	BRANCH CAVITIES					X				X				X		X		X		X	
	MAINSTEM DIEBACK																				
	TWIG/BRANCH DIEBACK							X		X				X		X		X		X	
	EPICORMIC GROWTH																				
	THIN FOLIAGE																				
	VIGOR (GOOD/MOD/POOR)	G		G		G		G		G		G		G		G		G		G	
	TERRAIN - SLOPED/LEVEL	S		S		S		S		S		S		S		S		S		S	
RATING	HERITAGE																				
	HEALTH	B		B		B		B		B		A		B		B		B		B	
	AESTHETICS/COMFORMITY	B		C		B		C		B		A		C		C		B		C	
TREAT-MENT	REMOVE DEADWOOD		REMARKS:		REMARKS:	X	REMARKS:	X	REMARKS:	X	REMARKS:		REMARKS:	X	REMARKS:	X	REMARKS:	X	REMARKS:	X	REMARKS:
	INSECT/DISEASE TREAT																				

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SUMMARY OF FIELD OBSERVATIONS

		61		62		63		64		65		66		67		68		69		70	
SPECIES	**TREE NUMBER**	659		660		661		662		663		664		665		666		667		668	
	Quercus agrifolia	X		X		X		X		X		X		X		X		X		X	
	Quercus lobata																				
	Quercus berberidifolia																				
FORM	TREE HT. (ESTIMATED)	25'		12'		10'		12'		15'		15'		35'		25'		10'		35'	
	LEAN (ANGLE)			S		E		N				S				E				NE	
	TRUNK DIAMETERS (inches)	12		3		5		8		13		15		15		25		2		15	
		11				5				9						13				3	
		10				5										3				2	
		6				3															
						3 3															
PHYSICAL CONDITION	TRUNK CAVITY	X				X		X		X											
	TRUNK EXUDATION																				
	TRUNK DAMAGE							X													
	BURIED ROOT COLLAR	X		X		X		X		X		X		X		X				X	
	EXPOSED ROOTS																				
	WEAK CROTCH(ES)																				
	FUNGAL DISEASE																				
	INSECT/MITE DAMAGE	X		X		X		X		X		X		X		X		X			
	NEW/OLD FIRE DAMAGE	X				X		X		X											
	BRANCH CAVITIES	X								X										X	
	MAINSTEM DIEBACK																				
	TWIG/BRANCH DIEBACK	X		X		X		X				X		X		X		X		X	
	EPICORMIC GROWTH																				
	THIN FOLIAGE	X		X																	
	VIGOR (GOOD/MOD/POOR)	M		M		M		M		G		G		G		M		M		M	
	TERRAIN - SLOPED/LEVEL	S		S		S		S		S		S		S		S		S		S	
RATING	HERITAGE																				
	HEALTH	C		C		B		B		B		C		B		B		B		B	
	AESTHETICS/COMFORMITY	C		C		C		C		B		C		B		B		B		B	
TREAT-MENT	REMOVE DEADWOOD	X	REMARKS:	X	REMARKS:	X	REMARKS:	X	REMARKS:	X	REMARKS:	X	REMARKS:	X	REMARKS:	X	REMARKS:	X	REMARKS:	X	REMARKS:
	INSECT/DISEASE TREAT																				

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SUMMARY OF FIELD OBSERVATIONS

		71		72		73		74		75		76		77		78		79		80	
SPECIES	**TREE NUMBER**	669		670		671		672		673		674		675		676		677		678	
	Quercus agrifolia	X		X		X		X		X		X		X		X		X		X	
	Quercus lobata																				
	Quercus berberidifolia																				
FORM	TREE HT. (ESTIMATED)	55'		20'		15'		20'		35'		15'		25'		15'		15'		55'	
	LEAN (ANGLE)			NE		SE		NE		NE		NE		NE							
	TRUNK DIAMETERS (inches)	25		8		16		14		26		12		21		4		4		46	
		21																		27	
		16																			
PHYSICAL CONDITION	TRUNK CAVITY																			X	
	TRUNK EXUDATION																				
	TRUNK DAMAGE																				
	BURIED ROOT COLLAR																				
	EXPOSED ROOTS	X																		X	
	WEAK CROTCH(ES)																				
	FUNGAL DISEASE																				
	INSECT/MITE DAMAGE	X		X		X		X		X		X		X		X		X		X	
	NEW/OLD FIRE DAMAGE																			X	
	BRANCH CAVITIES	X		X		X		X		X		X		X						X	
	MAINSTEM DIEBACK																				
	TWIG/BRANCH DIEBACK	X		X		X		X		X		X		X		X		X		X	
	EPICORMIC GROWTH																				
	THIN FOLIAGE											X				X		X		X	
	VIGOR (GOOD/MOD/POOR)	G		G		G		G		G		M		G		M		M		M	
	TERRAIN - SLOPED/LEVEL	S		S																	
RATING	HERITAGE																			X	
	HEALTH	B		B		B		B		B		C		B		C		C		C	
	AESTHETICS/COMFORMITY	B		C																	
TREAT-MENT	REMOVE DEADWOOD	X	REMARKS:		REMARKS:	X	REMARKS:	X	REMARKS:	X	REMARKS:	X	REMARKS:	X	REMARKS:		REMARKS:		REMARKS:	X	REMARKS:
	INSECT/DISEASE TREAT																				

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SUMMARY OF FIELD OBSERVATIONS

		81		82		83		84		85		86		87		88		89		90	
SPECIES	**TREE NUMBER**	679		680		681		682		683		684		685		686		687		688	
	Quercus agrifolia	X		X		X		X		X		X		X		X		X		X	
	Quercus lobata																				
	Quercus berberidifolia																				
FORM	TREE HT. (ESTIMATED)	35'		40'		18'		15'		35'		20'		10'		8'		20'		35'	
	LEAN (ANGLE)	N				S		NW				W		S		S					
	TRUNK DIAMETERS (inches)	11		20		12		12		17		11		8		8		17		18	
						8		8		13								15		9	
PHYSICAL CONDITION	TRUNK CAVITY																				
	TRUNK EXUDATION																				
	TRUNK DAMAGE																				
	BURIED ROOT COLLAR	X		X		X		X		X		X		X		X		X		X	
	EXPOSED ROOTS																				
	WEAK CROTCH(ES)																				
	FUNGAL DISEASE																				
	INSECT/MITE DAMAGE	X		X		X		X		X		X		X		X		X		X	
	NEW/OLD FIRE DAMAGE																				
	BRANCH CAVITIES	X		X																	
	MAINSTEM DIEBACK																				
	TWIG/BRANCH DIEBACK	X		X		X		X		X		X		X		X		X		X	
	EPICORMIC GROWTH																				
	THIN FOLIAGE	X		X				X		X											
	VIGOR (GOOD/MOD/POOR)	M		M		G		M		M		G		M		M		G		G	
	TERRAIN - SLOPED/LEVEL					S		S		S		S		S		S		S		S	
RATING	HERITAGE																				
	HEALTH	C		C		B		C		C		B		C		C		B		B	
	AESTHETICS/COMFORMITY	C		C		C		C		C		C		C		C		B			
TREAT-MENT	REMOVE DEADWOOD	X	REMARKS:	X	REMARKS:	X	REMARKS:	X	REMARKS:		REMARKS:		REMARKS:	X	REMARKS:		REMARKS:		REMARKS:		REMARKS:
	INSECT/DISEASE TREAT																				

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SUMMARY OF FIELD OBSERVATIONS

		91		92		93		94		95		96		97		98		99		100	
SPECIES	**TREE NUMBER**	689		690		691		692		693		694		695		696		697		698	
	Quercus agrifolia			X		X		X		X		X		X		X		X		X	
	Quercus lobata	X																			
	Quercus berberidifolia																				
FORM	TREE HT. (ESTIMATED)	15'		25'		20'		25'		25'		20'		35'		35'		10'		12'	
	LEAN (ANGLE)	NW																			
	TRUNK DIAMETERS (inches)	4		12		9		14		29		14		15		18		4		6	
				10				13				14		14				2		2	
				10				13				8						1			
								10													
PHYSICAL CONDITION	TRUNK CAVITY											X									
	TRUNK EXUDATION																				
	TRUNK DAMAGE											X									
	BURIED ROOT COLLAR					X		X		X		X		X		X				X	
	EXPOSED ROOTS																				
	WEAK CROTCH(ES)																				
	FUNGAL DISEASE											X									
	INSECT/MITE DAMAGE	X				X		X		X		X		X		X		X		X	
	NEW/OLD FIRE DAMAGE											X									
	BRANCH CAVITIES					X		X		X		X									
	MAINSTEM DIEBACK					X		X				X									
	TWIG/BRANCH DIEBACK					X		X		X		X		X		X		X		X	
	EPICORMIC GROWTH																				
	THIN FOLIAGE					X															
	VIGOR (GOOD/MOD/POOR)	G		G		M		M		G		M		G		G		G		G	
	TERRAIN - SLOPED/LEVEL	S		S		S		S		S		S		S		S		S		S	
RATING	HERITAGE																				
	HEALTH	B		B		C		C		B		C		B		B		B		B	
	AESTHETICS/COMFORMITY	B		B		D		C		B		C		B		B		B		B	
TREAT-MENT	REMOVE DEADWOOD		REMARKS:		REMARKS:	X	REMARKS:	X	REMARKS:	X	REMARKS:	X	REMARKS:	X	REMARKS:		REMARKS:		REMARKS:		REMARKS:
	INSECT/DISEASE TREAT																				

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SUMMARY OF FIELD OBSERVATIONS

		101		102		103		104		105		106		107		108		109		110	
	TREE NUMBER	699		700		701		702		703		704		705		706		707		708	
SPECIES	*Quercus agrifolia*	X		X		X				X		X				X		X		X	
	Quercus lobata							X													
	Quercus berberidifolia																				
FORM	TREE HT. (ESTIMATED)	10'		8'		12'		60'		50'		8'		35'		20'		10'		7'	
	LEAN (ANGLE)							W		SE						S					
	TRUNK DIAMETERS (inches)	3		2		4		30		30		2		20		9		3		2	
												2		17						2	
																				1	
PHYSICAL CONDITION	TRUNK CAVITY																				
	TRUNK EXUDATION																				
	TRUNK DAMAGE																				
	BURIED ROOT COLLAR	X		X		X						X		X							
	EXPOSED ROOTS																				
	WEAK CROTCH(ES)																				
	FUNGAL DISEASE							X		X											
	INSECT/MITE DAMAGE	X		X		X		X		X		X		X		X		X		X	
	NEW/OLD FIRE DAMAGE																				
	BRANCH CAVITIES									X				X							
	MAINSTEM DIEBACK																				
	TWIG/BRANCH DIEBACK	X		X		X		X		X		X		X		X		X		X	
	EPICORMIC GROWTH													X							
	THIN FOLIAGE																				
	VIGOR (GOOD/MOD/POOR)	G		G		G		G		G		G		G		G		G		G	
	TERRAIN - SLOPED/LEVEL	S		S		S		S		S		S		S		S		S		S	
RATING	HERITAGE																				
	HEALTH	B		B		B		B		B		B		C		B		A		A	
	AESTHETICS/COMFORMITY	B		B		A		A		B		B		B		C		A		A	
TREAT-MENT	REMOVE DEADWOOD		REMARKS:		REMARKS:		REMARKS:	X	REMARKS:	X	REMARKS:		REMARKS:	X	REMARKS:		REMARKS:		REMARKS:		REMARKS:
	INSECT/DISEASE TREAT																				

LNDG Job No.: 2086-21/23/24 Date: July 1, 2014

SUMMARY OF FIELD OBSERVATIONS

		111		112		113		114		115		116		117		118		119		120	
SPECIES	**TREE NUMBER**	709		710		711		712		713		714		715		716		717		718	
	Quercus agrifolia	X		X		X		X		X		X		X		X				X	
	Quercus lobata																				
	Quercus berberidifolia																				
FORM	TREE HT. (ESTIMATED)	15'		30'		10'		8'		25'		30'		30'		15'		15'		7'	
	LEAN (ANGLE)					NE															
	TRUNK DIAMETERS (inches)	7		12		4		3		18		17		16		5		11		2	
												13						10			
																		10			
PHYSICAL CONDITION	TRUNK CAVITY																				
	TRUNK EXUDATION																				
	TRUNK DAMAGE																				
	BURIED ROOT COLLAR											X		X		X		X		X	
	EXPOSED ROOTS																				
	WEAK CROTCH(ES)																				
	FUNGAL DISEASE																				
	INSECT/MITE DAMAGE	X		X		X		X		X		X		X		X		X		X	
	NEW/OLD FIRE DAMAGE																				
	BRANCH CAVITIES											X		X		X		X			
	MAINSTEM DIEBACK																				
	TWIG/BRANCH DIEBACK	X				X		X		X		X		X		X		X			
	EPICORMIC GROWTH																				
	THIN FOLIAGE																				
	VIGOR (GOOD/MOD/POOR)	G		G		G		G		G		G		G		G		G		G	
	TERRAIN - SLOPED/LEVEL	S		S		S		S		S		S		S		S		S		S	
RATING	HERITAGE																				
	HEALTH	A		B		B		B		B		B		B		B		C		B	
	AESTHETICS/COMFORMITY	A		B		C		B		B		B		B		B		C		A	
TREAT-MENT	REMOVE DEADWOOD		REMARKS:		REMARKS:		REMARKS:		REMARKS:	X	REMARKS:	X	REMARKS:		REMARKS:		REMARKS:	X	REMARKS:		REMARKS:
	INSECT/DISEASE TREAT																				

LNDG Job No.: 2086-21/23/24 Date: July 1, 2014

SUMMARY OF FIELD OBSERVATIONS

		121		122		123		124		125		126		127		128		129		130	
	TREE NUMBER	719		720		721		722		723		724		725		726		727		728	
SPECIES	*Quercus agrifolia*	X		X		X		X		X		X		X		X		X		X	
	Quercus lobata																				
	Quercus berberidifolia																				
FORM	TREE HT. (ESTIMATED)	25'		25'		7'		12'		35'		8'		8'		8'		6'		6'	
	LEAN (ANGLE)																				
	TRUNK DIAMETERS (inches)	13		18		2		5		21		2		3		2		2		2	
		``												1							
														1							
PHYSICAL CONDITION	TRUNK CAVITY																				
	TRUNK EXUDATION																				
	TRUNK DAMAGE																				
	BURIED ROOT COLLAR	X		X		X				X				X		X		X		X	
	EXPOSED ROOTS																				
	WEAK CROTCH(ES)																				
	FUNGAL DISEASE																				
	INSECT/MITE DAMAGE	X		X		X		X		X		X		X		X		X		X	
	NEW/OLD FIRE DAMAGE																				
	BRANCH CAVITIES																				
	MAINSTEM DIEBACK																				
	TWIG/BRANCH DIEBACK	X		X		X		X		X		X		X		X		X		X	
	EPICORMIC GROWTH																				
	THIN FOLIAGE																				
	VIGOR (GOOD/MOD/POOR)	G		G		G		G		G		G		G		G		G		G	
	TERRAIN - SLOPED/LEVEL	S		S		S		S		S		S		S		S		S		S	
RATING	HERITAGE																				
	HEALTH	B		B		A		A		B		A		A		A		A		A	
	AESTHETICS/COMFORMITY	B		B		A		A		B		B		B		B		A		A	
TREAT-MENT	REMOVE DEADWOOD	X	REMARKS:	X	REMARKS:		REMARKS:		REMARKS:	X	REMARKS:		REMARKS:		REMARKS:		REMARKS:		REMARKS:		REMARKS:
	INSECT/DISEASE TREAT																				

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SUMMARY OF FIELD OBSERVATIONS

		131		132		133		134		135		136		137		138		139		140	
	TREE NUMBER	729		730		731		732		733		734		735		736		737		738	
SPECIES	*Quercus agrifolia*	X		X		X		X		X		X		X		X		X		X	
	Quercus lobata																				
	Quercus berberidifolia																				
FORM	TREE HT. (ESTIMATED)	11'		7'		8'		8'		10'		15'		15'		15'		15'		10'	
	LEAN (ANGLE)																				
	TRUNK DIAMETERS (inches)	2		2		2		2		4		3		3		3		3		2	
										4											
PHYSICAL CONDITION	TRUNK CAVITY																				
	TRUNK EXUDATION																				
	TRUNK DAMAGE																				
	BURIED ROOT COLLAR																				
	EXPOSED ROOTS																				
	WEAK CROTCH(ES)																				
	FUNGAL DISEASE																				
	INSECT/MITE DAMAGE					X		X		X		X		X		X		X		X	
	NEW/OLD FIRE DAMAGE																				
	BRANCH CAVITIES																				
	MAINSTEM DIEBACK																				
	TWIG/BRANCH DIEBACK	X		X																	
	EPICORMIC GROWTH																				
	THIN FOLIAGE																				
	VIGOR (GOOD/MOD/POOR)	G		G		G		G		G		G		G		G		G		G	
	TERRAIN - SLOPED/LEVEL	S		S		S		S		S		S		S		S		S		S	
RATING	HERITAGE																				
	HEALTH	A		A		B		B		B		B		B		B		B		B	
	AESTHETICS/COMFORMITY	A		A		B		B		B		B		B		B		B		B	
TREAT-MENT	REMOVE DEADWOOD		REMARKS:		REMARKS:		REMARKS:		REMARKS:		REMARKS:		REMARKS:		REMARKS:		REMARKS:		REMARKS:		REMARKS:
	INSECT/DISEASE TREAT																				

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SUMMARY OF FIELD OBSERVATIONS

		141		142		143		144		145		146		147		148		149		150	
	TREE NUMBER	739		740		741		742		743		744		745		746		747		748	
SPECIES	*Quercus agrifolia*	X		X		X		X		X		X		X		X		X		X	
	Quercus lobata																				
	Quercus berberidifolia																				
FORM	TREE HT. (ESTIMATED)	10'		12'		8'		8'		12'		10'		10'		12'		12'		15'	
	LEAN (ANGLE)																				
	TRUNK DIAMETERS (inches)	2		5		2		2		3		3		2		3		3		7	
				2		1				3		2									
PHYSICAL CONDITION	TRUNK CAVITY																				
	TRUNK EXUDATION																				
	TRUNK DAMAGE																				
	BURIED ROOT COLLAR																				
	EXPOSED ROOTS																				
	WEAK CROTCH(ES)																				
	FUNGAL DISEASE																				
	INSECT/MITE DAMAGE	X		X		X		X		X		X		X		X				X	
	NEW/OLD FIRE DAMAGE																				
	BRANCH CAVITIES																				
	MAINSTEM DIEBACK																				
	TWIG/BRANCH DIEBACK					X		X		X		X		X		X		X		X	
	EPICORMIC GROWTH																				
	THIN FOLIAGE																				
	VIGOR (GOOD/MOD/POOR)	G		G		G		G		G		G		G		G		G		G	
	TERRAIN - SLOPED/LEVEL	S		S		S		S		S		S		S		S		S		S	
RATING	HERITAGE																				
	HEALTH	B		B		B		B		B		B		B		B		B		B	
	AESTHETICS/COMFORMITY	B		B		B		B		B		B		B		B		B		B	
TREAT-MENT	REMOVE DEADWOOD		REMARKS:		REMARKS:		REMARKS:		REMARKS:		REMARKS:		REMARKS:		REMARKS:		REMARKS:		REMARKS:		REMARKS:
	INSECT/DISEASE TREAT																				

LNDG Job No.: 2086-21/23/24 Date: July 1, 2014

SUMMARY OF FIELD OBSERVATIONS

		151		152		153		154		155		156		157		158		159		160	
	TREE NUMBER	749		750		751		752		753		754		755		756		757		758	
SPECIES	*Quercus agrifolia*	X		X		X		X		X		X		X		X		X		X	
	Quercus lobata																				
	Quercus berberidifolia																				
FORM	TREE HT. (ESTIMATED)	10'		15'		20'		12'		8'		10'		15'		25'		25'		25'	
	LEAN (ANGLE)															W		N		N	
	TRUNK DIAMETERS (inches)	4		5		3		2		3		4		7		10		7		5	
				5																5	
				3																	
				2																	
PHYSICAL CONDITION	TRUNK CAVITY																				
	TRUNK EXUDATION																				
	TRUNK DAMAGE																				
	BURIED ROOT COLLAR																				
	EXPOSED ROOTS																				
	WEAK CROTCH(ES)																				
	FUNGAL DISEASE																				
	INSECT/MITE DAMAGE	X		X		X		X		X		X		X		X		X		X	
	NEW/OLD FIRE DAMAGE																				
	BRANCH CAVITIES																				
	MAINSTEM DIEBACK																				
	TWIG/BRANCH DIEBACK	X		X		X		X		X		X		X		X		X		X	
	EPICORMIC GROWTH																				
	THIN FOLIAGE																				
	VIGOR (GOOD/MOD/POOR)	G		G		G		G		G		G		G		G		G		G	
	TERRAIN - SLOPED/LEVEL	S		S		S		S		S		S		S		S		S		S	
RATING	HERITAGE																				
	HEALTH	B		B		B		B		B		B		B		B		B		B	
	AESTHETICS/COMFORMITY	B		B		B		B		B		B		B		B		C		C	
TREAT-MENT	REMOVE DEADWOOD		REMARKS:		REMARKS:		REMARKS:		REMARKS:		REMARKS:		REMARKS:		REMARKS:		REMARKS:		REMARKS:		REMARKS:
	INSECT/DISEASE TREAT																				

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SUMMARY OF FIELD OBSERVATIONS

		161		162		163		164		165		166		167		168		169		170	
SPECIES	**TREE NUMBER**	759		760		761		762		763		764		765		766		767		768	
	Quercus agrifolia	X		X		X		X		X		X		X		X		X			
	Quercus lobata																				
	Quercus berberidifolia																				
FORM	TREE HT. (ESTIMATED)	30'		10'		25'		10'		10'		15'		20'		15'		35'		8'	
	LEAN (ANGLE)	N																			
	TRUNK DIAMETERS (inches)	13		3		10		3		3		9		12		4		16		3	
		2																8			
		2																			
PHYSICAL CONDITION	TRUNK CAVITY																				
	TRUNK EXUDATION																				
	TRUNK DAMAGE																				
	BURIED ROOT COLLAR																				
	EXPOSED ROOTS																				
	WEAK CROTCH(ES)																				
	FUNGAL DISEASE																				
	INSECT/MITE DAMAGE	X		X		X		X		X		X		X		X		X		X	
	NEW/OLD FIRE DAMAGE																				
	BRANCH CAVITIES																				
	MAINSTEM DIEBACK																				
	TWIG/BRANCH DIEBACK	X		X		X		X		X		X		X		X		X		X	
	EPICORMIC GROWTH																				
	THIN FOLIAGE																				
	VIGOR (GOOD/MOD/POOR)	G		G		G		G		G		G		G		G		G		G	
	TERRAIN - SLOPED/LEVEL	S		S		S		S		S		S		S		L		S			
RATING	HERITAGE																				
	HEALTH	B		B		B		B		B		B		B		B		B		B	
	AESTHETICS/COMFORMITY	C		B		C		C		B		B		B		B		B		B	
TREAT-MENT	REMOVE DEADWOOD		REMARKS:		REMARKS:		REMARKS:		REMARKS:		REMARKS:		REMARKS:		REMARKS:		REMARKS:		REMARKS:		REMARKS:
	INSECT/DISEASE TREAT																				

LNDG Job No.: 2086-21/23/24 Date: July 1, 2014

SUMMARY OF FIELD OBSERVATIONS

		171		172		173		174		175		176		177		178		179		180	
SPECIES	**TREE NUMBER**	769		770		771		772		773		774		775		776		777		778	
	Quercus agrifolia	X		X		X		X		X		X		X		X		X		X	
	Quercus lobata																				
	Quercus berberidifolia																				
FORM	TREE HT. (ESTIMATED)	30'		12'		8'		8'		8'		10'		8'		6'		8'		8'	
	LEAN (ANGLE)																				
	TRUNK DIAMETERS (inches)	7		2		2		2		2		2		3		2		2		2	
PHYSICAL CONDITION	TRUNK CAVITY																				
	TRUNK EXUDATION																				
	TRUNK DAMAGE																				
	BURIED ROOT COLLAR																				
	EXPOSED ROOTS																				
	WEAK CROTCH(ES)																				
	FUNGAL DISEASE																				
	INSECT/MITE DAMAGE	X		X		X		X		X		X		X		X		X		X	
	NEW/OLD FIRE DAMAGE																				
	BRANCH CAVITIES																				
	MAINSTEM DIEBACK																				
	TWIG/BRANCH DIEBACK	X		X		X		X		X		X		X		X		X		X	
	EPICORMIC GROWTH																				
	THIN FOLIAGE																				
	VIGOR (GOOD/MOD/POOR)	G		G		G		G		G		G		G		G		G		G	
	TERRAIN - SLOPED/LEVEL	S		S		S		S		S		S		S		S		S		S	
RATING	HERITAGE																				
	HEALTH	B		B		B		B		B		B		B		B		B		B	
	AESTHETICS/COMFORMITY	C	REMARKS:	B	REMARKS:	B	REMARKS:	B	REMARKS:	B	REMARKS:	B	REMARKS:	C	REMARKS:	B	REMARKS:	B	REMARKS:	B	REMARKS:
TREAT-MENT	REMOVE DEADWOOD																				
	INSECT/DISEASE TREAT																				

LNDG Job No.: 2086-21/23/24 Date: July 1, 2014

SUMMARY OF FIELD OBSERVATIONS

		181		182		183		184		185		186											
	TREE NUMBER	779		780		781		782		783		784											
SPECIES	*Quercus agrifolia*	X		X		X		X		X		X											
	Quercus lobata																						
	Quercus berberidifolia																						
FORM	TREE HT. (ESTIMATED)	8'		8'		8'		8'		8'		20'											
	LEAN (ANGLE)																						
	TRUNK DIAMETERS (inches)	2		2		4		2		2		8											
												4											
PHYSICAL CONDITION	TRUNK CAVITY																						
	TRUNK EXUDATION																						
	TRUNK DAMAGE																						
	BURIED ROOT COLLAR																						
	EXPOSED ROOTS																						
	WEAK CROTCH(ES)																						
	FUNGAL DISEASE																						
	INSECT/MITE DAMAGE	X		X		X		X		X		X											
	NEW/OLD FIRE DAMAGE																						
	BRANCH CAVITIES																						
	MAINSTEM DIEBACK																						
	TWIG/BRANCH DIEBACK	X		X		X		X		X		X											
	EPICORMIC GROWTH																						
	THIN FOLIAGE																						
	VIGOR (GOOD/MOD/POOR)	G		G		G		G		G		G											
	TERRAIN - SLOPED/LEVEL	S		S		S		S		S		S											
RATING	HERITAGE																						
	HEALTH	B		B		B		B		B		B											
	AESTHETICS/COMFORMITY	B		B		B		B		B		B											
TREAT-MENT	REMOVE DEADWOOD		REMARKS:		REMARKS:		REMARKS:		REMARKS:		REMARKS:		REMARKS:		REMARKS:		REMARKS:		REMARKS:		REMARKS:		REMARKS:
	INSECT/DISEASE TREAT																						

DRIP LINE MEASUREMENTS

INSPECTION NOTICE

The following information was observed on the date(s) indicated herein, and should only be considered true at the time of field inspection.

DRIPLINE MEASUREMENTS

TREE NO.	DRIPLINE	N	NE	E	SE	S	SW	W	NW
227	HORIZ.	35'	40'	30'	35'	40'	35'	35'	39'
	VERT.	10'	10'	12'	15'	40'	25'	25'	10'
228	HORIZ.	30'	40'	42'	35'	48'	47'	45'	35'
	VERT.	25'	10'	10'	10'	10'	12'	15'	35'
229	HORIZ.	0	0	0	0	0	22'	25'	37'
	VERT.	0	0	0	0	0	7'	7'	8'
230	HORIZ.	3'	32'	8'	8'	0	0	0	0
	VERT.	15'	10'	7'	12'	0	0	0	0
231	HORIZ.	33'	33'	25'	22'	15'	15'	15'	20'
	VERT.	6'	9'	7'	18'	20'	20'	20'	6'
232	HORIZ.	15'	0	15'	0	0	0	15'	24'
	VERT.	20'	0	15'	0	0	0	18'	30'
233	HORIZ.	15'	15'	5'	10'	10'	23'	18'	16'
	VERT.	25'	40'	20'	20'	25'	10'	15'	20'
234	HORIZ.	25'	10'	5'	10'	10'	23'	18'	16'
	VERT.	35'	20'	25'	0	0	0	0	25'
235	HORIZ.	0	0	0	0	0	9'	20'	23'
	VERT.	0	0	0	0	0	4'	6'	10'
236	HORIZ.	15'	14'	15'	15'	15'	13'	13'	15'
	VERT.	20'	20'	20'	20'	8'	6'	6'	15'

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DRIPLINE MEASUREMENTS

TREE NO.	DRIPLINE	N	NE	E	SE	S	SW	W	NW
237	HORIZ.	13'	12'	15'	0	0	0	0	13'
	VERT.	10'	10'	10'	0	0	0	0	10'
238	HORIZ.	12'	15'	25'	20'	15'	14'	13'	8'
	VERT.	18'	20'	30'	25'	30'	25'	20'	20'
239	HORIZ.	15'	10'	20'	18'	15'	10'	7'	9'
	VERT.	25'	25'	15'	13'	10'	15'	25'	25'
240	HORIZ.	15'	9'	7'	10'	25'	20'	15'	18'
	VERT.	24'	25'	20'	6'	2'	6'	25'	25'
241	HORIZ.	12'	10'	9'	9'	9'	10'	10'	10'
	VERT.	25'	25'	4'	4'	4'	7'	7'	8'
242	HORIZ.	15'	15'	15'	15'	12'	3'	10'	10'
	VERT.	20'	20'	10'	10'	10'	8'	5'	35'
243	HORIZ.	10'	15'	19'	26'	32'	33'	10'	10'
	VERT.	30'	35'	45'	15'	15'	18'	45'	35'
244	HORIZ.	33'	15'	20'	25'	33'	9'	10'	30'
	VERT.	15'	9'	10'	10'	5'	4'	12'	15'
245	HORIZ.	0	0	0	12'	22'	8'	5'	0
	VERT.	0	0	10'	10'	8'	8'	8'	0
268	HORIZ.	20'	25'	20'	10'	5'	25'	20'	25'
	VERT.	0	0	0	15'	15'	0	0	0

DRIPLINE MEASUREMENTS

TREE NO.	DRIPLINE	N	NE	E	SE	S	SW	W	NW
269	HORIZ.	10'	10'	10'	10'	10'	13'	18'	12'
	VERT.	15'	30'	35'	35'	35'	39'	10'	18'
270	HORIZ.	5'	5'	5'	5'	5'	5'	5'	5'
	VERT.	25'	25'	25'	25'	25'	25'	25'	25'
271	HORIZ.	0	0	0	0	0	10'	0	0
	VERT.	0	0	0	0	0	15'	0	0
272	HORIZ.	36'	40'	20'	22'	25'	35'	35'	40'
	VERT.	5'	45'	45'	35'	30'	25'	35'	25'
273	HORIZ.	45'	40'	40'	30'	35'	30'	35'	35'
	VERT.	5'	45'	45'	35'	30'	25'	35'	25'
274	HORIZ.	45'	0	0	0	0	0	35'	40'
	VERT.	20'	0	0	0	0	0	30'	25'
531	HORIZ.	13'	9'	5'	7'	9'	12'	15'	12'
	VERT.	10'	12'	25'	12'	5'	10'	15'	10'
532	HORIZ.	10'	3'	0	0	0	3'	10'	10'
	VERT.	5'	5'	0	0	0	6'	7'	5'
533	HORIZ.	0	0	0	0	9'	0	0	0
	VERT.	0	0	0	0	5'	0	0	0
534	HORIZ.	0	15'	15'	25'	0	0	0	0
	VERT.	0	20'	35'	30'	0	0	0	0

DRIPLINE MEASUREMENTS

TREE NO.	DRIPLINE	N	NE	E	SE	S	SW	W	NW
535	HORIZ.	0	20'	25'	20'	0	0	0	0
	VERT.	0	15'	20'	20'	0	0	0	0
536	HORIZ.	13'	6'	0	0	0	5'	12'	9'
	VERT.	2'	10'	0	0	0	0	3'	3'
548	HORIZ.	5'	0	0	0	0	0	0	0
	VERT.	7'	0	0	0	0	0	0	0
632	HORIZ.	8'	8'	8'	8'	8'	8'	8'	8'
	VERT.	5'	5'	5'	5'	5'	5'	5'	5'
633	HORIZ.	12'	12'	10'	10'	10'	10'	10'	10'
	VERT.	7'	7'	7'	7'	7'	7'	7'	7'
634	HORIZ.	0	5'	8'	8'	4'	5'	0'	0
	VERT.	0	5'	10'	4'	7'	7'	0	0
635	HORIZ.	5'	5'	10'	3'	4'	0	0	0
	VERT.	6'	6'	4'	0	6'	0	0	0
636	HORIZ.	4'	7'	7'	0	0	0	0	0
	VERT.	2'	0	0	2'	4'	4'	4'	15'
637	HORIZ.	6'	0	0	8'	8'	16'	10'	10'
	VERT.	2'	0	0	2'	4'	4'	4'	15'
638	HORIZ.	0	0	2'	4'	2'	0	0	0
	VERT.	0	0	6'	6'	6'	0	0	0

DRIPLINE MEASUREMENTS

TREE NO.	DRIPLINE	N	NE	E	SE	S	SW	W	NW
639	HORIZ.	0	0	2'	4'	2'	0	0	0
	VERT.	0	0	6'	6'	6'	0	0	0
640	HORIZ.	4'	4'	4'	6'	9'	6'	4'	4'
	VERT.	6'	5'	5'	5'	7'	5'	5'	5'
641	HORIZ.	5'	5'	5'	5'	5'	5'	5'	5'
	VERT.	4'	4'	4'	4'	4'	4'	4'	4'
642	HORIZ.	9'	8'	0	0	0	0	0	8'
	VERT.	3'	3'	0	0	0	0	0	3'
643	HORIZ.	6'	6'	6'	6'	6'	6'	6'	6'
	VERT.	2'	2'	2'	2'	2'	2'	2'	2'
644	HORIZ.	18'	15'	18'	14'	13'	13'	15'	16'
	VERT.	15'	7'	15'	12'	10'	14'	9'	10'
645	HORIZ.	6'	8'	6'	6'	6'	8'	6'	6'
	VERT.	8'	8'	8'	8'	8'	8'	8'	8'
646	HORIZ.	3'	3'	3'	6'	8'	6'	3'	3'
	VERT.	5'	5'	5'	5'	5'	5'	5'	5'
647	HORIZ.	6'	5'	2'	2'	2'	3'	5'	5'
	VERT.	3'	3'	4'	4'	4'	4'	4'	4'
648	HORIZ.	20'	0	0	0	0	0	0	0
	VERT.	15'	0	0	0	0	0	0	0

DRIPLINE MEASUREMENTS

TREE NO.	DRIPLINE	N	NE	E	SE	S	SW	W	NW
649	HORIZ.	20'	30'	6'	0	0	0	0	0
	VERT.	12'	15'	7'	0	0	0	0	0
650	HORIZ.	30'	7'	0	0	0	0	0	12'
	VERT.	9'	10'	0	0	0	0	0	4'
651	HORIZ.	45'	45'	40'	30'	20'	20'	25'	30'
	VERT.	40'	40'	35'	10'	25'	35'	35'	40'
652	HORIZ.	6'	6'	6'	10'	10'	0	0	0
	VERT.	3'	2'	1'	5'	5'	0	0	0
653	HORIZ.	35'	35'	15'	13'	0	0	30'	35'
	VERT.	12'	15'	6'	8'	0	0	30'	35'
654	HORIZ.	5'	5'	5'	5'	5'	5'	5'	5'
	VERT.	3'	3'	3'	3'	3'	3'	3'	3'
655	HORIZ.	30'	15'	20'	12'	0	0	0	5'
	VERT.	12'	10'	10'	7'	0	0	0	7'
656	HORIZ.	30'	40'	20'	30'	0	0	12'	25'
	VERT.	30'	45'	20'	6'	0	0	18'	35'
657	HORIZ.	15'	25'	35'	35'	35'	7'	7'	7'
	VERT.	35'	35'	35'	1'	10'	30'	30'	35'
658	HORIZ.	0	0	0	0	28'	0	0	0
	VERT.	0	0	0	0	6'	0	0	0

DRIPLINE MEASUREMENTS

TREE NO.	DRIPLINE	N	NE	E	SE	S	SW	W	NW
659	HORIZ.	20'	20'	16'	10'	0	0	0	8'
	VERT.	25'	30'	25'	15'	0	0	0	18'
660	HORIZ.	6'	6'	6'	6'	6'	6'	6'	6'
	VERT.	7'	7'	7'	7'	7'	7'	7'	7'
661	HORIZ.	0	20'	20'	0	0	0	0	0
	VERT.	0	4'	2'	0	0	0	0	0
662	HORIZ.	12'	2'	10'	0	0	0	0	0
	VERT.	15'	15'	8'	0	0	0	0	0
663	HORIZ.	0	0	15'	18'	12'	9'	8'	5'
	VERT.	0	0	12'	4'	6'	6'	6'	7'
664	HORIZ.	0	0	0	0	20'	25'	0	0
	VERT.	0	0	0	0	7'	7'	0	0
665	HORIZ.	5'	14'	18'	12'	9'	9'	6'	5'
	VERT.	8'	25'	25'	15'	15'	15'	12'	8'
666	HORIZ.	0	0	22'	0	0	0	0	0
	VERT.	0	0	15'	0	0	0	0	0
667	HORIZ.	5'	5'	5'	5'	5'	5'	5'	5'
	VERT.	4'	4'	4'	4'	4'	4'	4'	4'
668	HORIZ.	0	0	35'	0	0	0	0	0
	VERT.	0	0	35'	0	0	0	0	0

DRIPLINE MEASUREMENTS

TREE NO.	DRIPLINE	N	NE	E	SE	S	SW	W	NW
669	HORIZ.	15'	37'	40'	40'	0	0	0	0
	VERT.	35'	35'	35'	20'	0	0	0	0
670	HORIZ.	12'	7'	0	0	0	5'	7'	10'
	VERT.	10'	10'	0	0	0	7'	7'	10'
671	HORIZ.	0	0	0	35'	0	0	0	0
	VERT.	0	0	0	4'	0	0	0	0
672	HORIZ.	23'	35'	5'	0	0	0	0	0
	VERT.	15'	15'	8'	0	0	0	0	0
673	HORIZ.	0	30'	37'	0	0	0	0	0
	VERT.	0	15'	10'	0	0	0	0	0
674	HORIZ.	0	18'	0	0	0	0	0	0
	VERT.	0	10'	0	0	0	0	0	0
675	HORIZ.	0	25'	32'	0	0	0	0	0
	VERT.	0	1'	10'	0	0	0	0	0
676	HORIZ.	6'	6'	6'	6'	6'	6'	6'	6'
	VERT.	6'	7'	7'	7'	7'	7'	7'	7'
677	HORIZ.	0	0	0	0	0	5'	7'	7'
	VERT.	0	0	0	0	0	6'	6'	6'
678	HORIZ.	40'	40'	35'	28'	20'	25'	25'	35'
	VERT.	25'	25'	20'	25'	25'	10'	15'	20'

DRIPLINE MEASUREMENTS

TREE NO.	DRIPLINE	N	NE	E	SE	S	SW	W	NW
679	HORIZ.	25'	0	0	0	0	0	0	0
	VERT.	35'	0	0	0	0	0	0	0
680	HORIZ.	12'	35'	35'	30'	25'	0	0	0
	VERT.	15'	20'	20'	10'	10'	0	0	0
681	HORIZ.	0	0	0	0	25'	15'	6'	0
	VERT.	0	0	0	0	0	4'	15'	0
682	HORIZ.	30'	25'	0	0	0	0	0	12'
	VERT.	35'	35'	0	0	0	0	0	15'
683	HORIZ.	0	0	0	0	15'	25'	22'	10'
	VERT.	0	0	0	0	8'	6'	10'	20'
684	HORIZ.	0	0	0	0	0	0	17'	0
	VERT.	0	0	0	0	0	0	0	0
685	HORIZ.	10'	10'	10'	6'	0	0	0	0
	VERT.	10'	10'	10'	12'	0	0	0	0
686	HORIZ.	0	0	0	0	8'	0	0	0
	VERT.	0	0	0	0	4'	0	0	0
687	HORIZ.	0	0	0	0	12'	18'	25'	18'
	VERT.	0	0	0	0	15'	5'	2'	15'
688	HORIZ.	15'	12'	7'	7'	5'	7'	11'	15'
	VERT.	20'	10'	10'	15'	15'	15'	15'	20'

DRIPLINE MEASUREMENTS

TREE NO.	DRIPLINE	N	NE	E	SE	S	SW	W	NW
689	HORIZ.	0	0	0	0	0	0	10'	10'
	VERT.	0	0	0	0	0	0	10'	10'
690	HORIZ.	0	0	8'	12'	20'	23'	18'	0
	VERT.	0	0	8'	15'	14'	10'	15'	0
691	HORIZ.	5'	10'	10'	5'	0	0	0	0
	VERT.	15'	15'	25'	10'	0	0	0	0
692	HORIZ.	12'	10'	16'	16'	5'	6'	10'	10'
	VERT.	5'	30'	10'	20'	10'	10'	15'	10'
693	HORIZ.	12'	30'	25'	25'	28'	22'	15'	12'
	VERT.	15'	30'	25'	0	8'	10'	20'	15'
694	HORIZ.	0	8'	12'	8'	7'	7'	15'	12'
	VERT.	0	8'	2'	6'	6'	6'	10'	8'
695	HORIZ.	6'	20'	35'	0	0	0	0	0
	VERT.	30'	25'	20'	0	0	0	0	0
696	HORIZ.	10'	20'	15'	10'	15'	15'	10'	5'
	VERT.	25'	35'	25'	15'	20'	20'	30'	15'
697	HORIZ.	8'	8'	8'	8'	8'	8'	8'	8'
	VERT.	1'	1'	1'	1'	1'	1'	1'	1'
698	HORIZ.	7'	7'	7'	7'	7'	7'	7'	7'
	VERT.	4'	4'	4'	4'	4'	4'	4'	4'

DRIPLINE MEASUREMENTS

TREE NO.	DRIPLINE	N	NE	E	SE	S	SW	W	NW
699	HORIZ.	5'	5'	5'	5'	5'	5'	5'	5'
	VERT.	5'	5'	5'	5'	5'	5'	5'	5'
700	HORIZ.	0	0	6'	0	0	0	0	0
	VERT.	0	0	3'	0	0	0	0	0
701	HORIZ.	7'	7'	7'	7'	7'	7'	7'	7'
	VERT.	7'	7'	7'	7'	7'	7'	7'	7'
702	HORIZ.	8'	6'	6'	35'	35'	35'	40'	50'
	VERT.	30'	30'	35'	25'	25'	20'	25'	35'
703	HORIZ.	25'	40'	35'	20'	0	0	0	0
	VERT.	15'	25'	25'	25'	0	0	0	0
704	HORIZ.	7'	7'	7'	7'	7'	7'	7'	7'
	VERT.	1'	1'	1'	1'	1'	1'	1'	1'
705	HORIZ.	15'	15'	25'	20'	25'	15'	35'	15'
	VERT.	35'	30'	10'	5'	5'	5'	5'	10'
706	HORIZ.	0	0	0	0	10'	5'	0	0
	VERT.	0	0	0	0	20'	10'	0	0
707	HORIZ.	2'	2'	2'	3'	4'	3'	3'	2'
	VERT.	4'	4'	4'	4'	4'	4'	4'	4'
708	HORIZ.	10'	10'	10'	10'	10'	10'	10'	10'
	VERT.	1'	1'	1'	1'	1'	1'	1'	1'

DRIPLINE MEASUREMENTS

TREE NO.	DRIPLINE	N	NE	E	SE	S	SW	W	NW
709	HORIZ.	7'	7'	7'	7'	7'	7'	7'	7'
	VERT.	10'	10'	7'	0	0	0	0	8'
710	HORIZ.	10'	10'	10'	10'	10'	10'	10'	10'
	VERT.	5'	5'	5'	5'	5'	5'	5'	5'
711	HORIZ.	0	10'	0	0	0	0	0	0
	VERT.	0	8'	0	0	0	0	0	0
712	HORIZ.	5'	5'	3'	3'	3'	3'	3'	3'
	VERT.	1'	1'	1'	1'	1'	1'	1'	1'
713	HORIZ.	15'	16'	18'	23'	20'	22'	18'	16'
	VERT.	9'	9'	7'	1'	1'	1'	4'	9'
714	HORIZ.	10'	24'	30'	10'	5'	5'	5'	5'
	VERT.	35'	15'	30'	24'	25'	20'	25'	25'
715	HORIZ.	9'	14'	15'	18'	15'	14'	18'	18'
	VERT.	8'	8'	10'	10'	4'	4'	10'	15'
716	HORIZ.	5'	9'	9'	5'	5'	5'	5'	5'
	VERT.	7'	6'	5'	7'	7'	7'	7'	7'
717	HORIZ.	0	10'	12'	12'	10'	12'	4'	0
	VERT.	0	8'	8'	8'	8'	8'	2'	0
718	HORIZ.	5'	5'	5'	5'	5'	5'	5'	5'
	VERT.	2'	2'	2'	2'	2'	2'	2'	2'

DRIPLINE MEASUREMENTS

TREE NO.	DRIPLINE	N	NE	E	SE	S	SW	W	NW
719	HORIZ.	16'	20'	13'	6'	0	8'	13'	13'
	VERT.	10'	10'	12'	15'	0	4'	1'	8'
720	HORIZ.	13'	20'	15'	15'	15'	15'	15'	12'
	VERT.	1'	20'	5'	10'	6'	15'	20'	20'
721	HORIZ.	4'	4'	4'	4'	4'	4'	4'	4'
	VERT.	1'	1'	1'	1'	1'	1'	1'	1'
722	HORIZ.	7'	6'	6'	7'	6'	6'	6'	6'
	VERT.	5'	5'	5'	5'	5'	5'	5'	5'
723	HORIZ.	25'	30'	22'	20'	20'	22'	28'	25'
	VERT.	3'	3'	3'	3'	3'	3'	3'	3'
724	HORIZ.	4'	4'	4'	4'	4'	4'	4'	4'
	VERT.	3'	3'	3'	3'	3'	3'	3'	3'
725	HORIZ.	5'	5'	5'	5'	5'	5'	5'	5'
	VERT.	3'	3'	3'	3'	3'	3'	3'	3'
726	HORIZ.	4'	4'	4'	4'	4'	4'	4'	4'
	VERT.	1'	1'	1'	1'	1'	1'	1'	1'
727	HORIZ.	6'	4'	3'	3'	3'	3'	3'	4'
	VERT.	4'	4'	1'	1'	1'	1'	1'	4'
728	HORIZ.	6'	4'	3'	3'	3'	3'	3'	4'
	VERT.	4'	4'	1'	1'	1'	1'	1'	4'

DRIPLINE MEASUREMENTS

TREE NO.	DRIPLINE	N	NE	E	SE	S	SW	W	NW
729	HORIZ.	4'	4'	4'	4'	4'	4'	4'	4'
	VERT.	7'	7'	7'	7'	7'	7'	7'	7'
730	HORIZ.	7'	7'	7'	7'	7'	7'	7'	7'
	VERT.	2'	2'	2'	2'	2'	2'	2'	2'
731	HORIZ.	5'	5'	5'	5'	5'	5'	5'	5'
	VERT.	1'	1'	1'	1'	1'	1'	1'	1'
732	HORIZ.	5'	4'	4'	4'	4'	4'	4'	4'
	VERT.	1'	0	0	0	0	0	0	0
733	HORIZ.	5'	4'	4'	4'	4'	4'	4'	4'
	VERT.	1'	0	0	0	0	0	0	0
734	HORIZ.	5'	5'	5'	5'	5'	5'	5'	5'
	VERT.	1'	1'	1'	1'	1'	1'	1'	1'
735	HORIZ.	5'	5'	5'	5'	5'	5'	5'	5'
	VERT.	1'	1'	1'	1'	1'	1'	1'	1'
736	HORIZ.	5'	4'	4'	4'	4'	4'	4'	4'
	VERT.	1'	1'	1'	1'	1'	1'	1'	1'
737	HORIZ.	5'	3'	3'	3'	3'	3'	3'	3'
	VERT.	3'	1'	1'	1'	1'	1'	1'	1'
738	HORIZ.	6'	3'	3'	3'	3'	3'	3'	3'
	VERT.	3'	1'	1'	1'	1'	1'	1'	1'

DRIPLINE MEASUREMENTS

TREE NO.	DRIPLINE	N	NE	E	SE	S	SW	W	NW
739	HORIZ.	6'	5'	5'	5'	5'	5'	5'	5'
	VERT.	4'	3'	3'	3'	3'	3'	3'	3'
740	HORIZ.	1'	3'	0	0	0	0	3'	5'
	VERT.	2'	2'	0	0	0	0	2'	2'
741	HORIZ.	8'	5'	0	0	0	0	0	5'
	VERT.	3'	0	0	0	0	0	0	3'
742	HORIZ.	5'	4'	4'	4'	4'	4'	4'	4'
	VERT.	1'	1'	1'	1'	1'	1'	1'	1'
743	HORIZ.	4'	3'	3'	2'	2'	2'	4'	4'
	VERT.	2'	2'	2'	2'	2'	2'	2'	2'
744	HORIZ.	5'	5'	5'	5'	5'	5'	5'	5'
	VERT.	6'	6'	5'	6'	5'	5'	5'	6'
745	HORIZ.	0	0	5'	0	0	0	0	0
	VERT.	0	0	4'	0	0	0	0	0
746	HORIZ.	3'	4'	4	4'	4'	4'	4'	4'
	VERT.	3'	3'	3'	3'	3'	3'	3'	3'
747	HORIZ.	3'	0	0	0	0	0	6'	6'
	VERT.	3'	0	0	0	0	0	0	0
748	HORIZ.	6'	7'	5'	5'	5'	5'	5'	7'
	VERT.	4'	3'	3'	3'	3'	3'	3'	3'

DRIPLINE MEASUREMENTS

TREE NO.	DRIPLINE	N	NE	E	SE	S	SW	W	NW
749	HORIZ.	5'	7'	5'	3'	3'	3'	3'	3'
	VERT.	6'	6'	6'	6'	6'	6'	6'	6'
750	HORIZ.	7'	7'	0	0	0	0	0	0
	VERT.	3'	3'	0	0	0	0	0	0
751	HORIZ.	8'	8'	8'	8'	8'	8'	8'	8'
	VERT.	8'	8'	8'	8'	8'	8'	8'	8'
752	HORIZ.	5'	5'	5'	5'	5'	5'	5'	5'
	VERT.	6'	6'	6'	6'	6'	6'	6'	6'
753	HORIZ.	5'	5'	5'	5'	5'	8'	8'	5'
	VERT.	5'	5'	6'	6'	5'	5'	5'	5'
754	HORIZ.	0	0	0	0	0	0	0	10'
	VERT.	0	0	0	0	0	0	0	1'
755	HORIZ.	7'	7'	7'	7'	7'	7'	7'	7'
	VERT.	7'	7'	7'	7'	7'	7'	7'	7'
756	HORIZ.	10'	10'	10'	10'	10'	10'	10'	10'
	VERT.	8'	8'	8'	8'	8'	8'	8'	8'
757	HORIZ.	12'	0	0	0	0	0	0	0
	VERT.	10'	0	0	0	0	0	0	0
758	HORIZ.	10'	8'	0	0	0	0	0	10'
	VERT.	7'	7'	0	0	0	0	0	7'

DRIPLINE MEASUREMENTS

TREE NO.	DRIPLINE	N	NE	E	SE	S	SW	W	NW
759	HORIZ.	15'	15'	15'	15'	15'	13'	13'	13'
	VERT.	15'	15'	15'	15'	15'	15'	15'	15'
760	HORIZ.	0	6'	12'	6'	0	0	0	0
	VERT.	0	1'	1'	1'	0	0	0	0
761	HORIZ.	10'	12'	5'	5'	5'	5'	5'	8'
	VERT.	7'	7'	6'	6'	0	6'	6'	6'
762	HORIZ.	0	0	0	0	0	0	0	11'
	VERT.	0	0	0	0	0	0	0	5'
763	HORIZ.	0	0	0	0	9'	9'	9'	0
	VERT.	0	0	0	0	0	0	0	0
764	HORIZ.	12'	8'	8'	0	0	0	0	6'
	VERT.	0	0	0	6'	0	0	0	0
765	HORIZ.	12'	13'	13'	12'	8'	8'	8'	8'
	VERT.	15'	4'	4'	20'	15'	15'	15'	15'
766	HORIZ.	7'	7'	7'	4'	4'	4'	4'	8'
	VERT.	4'	4'	4'	8'	8'	8'	8'	8'
767	HORIZ.	15'	15'	15'	15'	15'	15'	15'	15'
	VERT.	15'	15'	15'	15'	15'	15'	15'	15'
768	HORIZ.	4'	4'	4'	4'	4'	4'	4'	4'
	VERT.	3'	3'	3'	3'	3'	3'	3'	3'

DRIPLINE MEASUREMENTS

TREE NO.	DRIPLINE	N	NE	E	SE	S	SW	W	NW
769	HORIZ.	8'	8'	8'	8'	8'	8'	8'	8'
	VERT.	4'	4'	4'	4'	4'	4'	4'	4'
770	HORIZ.	5'	5'	5'	5'	5'	5'	5'	5'
	VERT.	4'	4'	4'	4'	4'	4'	4'	4'
771	HORIZ.	5'	5'	5'	5'	5'	5'	5'	5'
	VERT.	2'	2'	2'	2'	2'	2'	2'	2'
772	HORIZ.	4'	4'	4'	4'	4'	4'	4'	4'
	VERT.	2'	2'	3'	2'	2'	2'	2'	2'
773	HORIZ.	4'	4'	4'	4'	4'	4'	4'	4'
	VERT.	2'	2'	2'	2'	2'	2'	2'	2'
774	HORIZ.	5'	2'	2'	2'	2'	2'	3'	4'
	VERT.	3'	3'	3'	3'	3'	3'	3'	3'
775	HORIZ.	7'	5'	5'	5'	5'	5'	5'	5'
	VERT.	3'	3'	3'	3'	3'	3'	3'	3'
776	HORIZ.	3'	3'	3'	3'	3'	3'	3'	3'
	VERT.	1'	1'	1'	1'	1'	1'	1'	1'
777	HORIZ.	5'	5'	5'	5'	5'	5'	5'	5'
	VERT.	1'	1'	1'	1'	1'	1'	1'	1'
778	HORIZ.	3'	3'	3'	3'	3'	3'	3'	3'
	VERT.	1'	1'	1'	1'	1'	1'	1'	1'

LNDG Job No.: 2086-21/23/24 Date: July 1, 2014

DRIPLINE MEASUREMENTS

TREE NO.	DRIPLINE	N	NE	E	SE	S	SW	W	NW
779	HORIZ.	4'	4'	4'	4'	4'	4'	4'	4'
	VERT.	1'	1'	1'	1'	1'	1'	1'	1'
780	HORIZ.	0	0	0	0	0	0	0	0
	VERT.	0	0	0	0	0	0	0	0
781	HORIZ.	0	0	0	0	0	6'	0	0
	VERT.	0	0	0	0	0	4'	0	0
782	HORIZ.	3'	3'	3'	3'	3'	3'	3'	3'
	VERT.	4'	4'	4'	4'	4'	4'	4'	4'
783	HORIZ.	0	0	0	0	0	0	5'	0
	VERT.	0	0	0	0	0	0	2'	0
784	HORIZ.	8'	4'	4'	4'	8'	8'	10'	10'
	VERT.	4'	4'	4'	4'	4'	4'	4'	4'
	HORIZ.								
	VERT.								
	HORIZ.								
	VERT.								
	HORIZ.								
	VERT.								
	HORIZ.								
	VERT.								

SUMMARY of FIELD OBSERVATIONS

CASTLE OAKS/BROWN PROPERTIES

INSPECTION NOTICE

The following information was observed on the date(s) indicated herein, and should only be considered true at the time of field inspection.

LNDG Job No.: 2301-01

Date: 11/14/14
3/17/15

SUMMARY OF FIELD OBSERVATIONS

SPECIES	TREE NUMBER	1	2	3	4	5	6	7	8	9	10
	Quercus agrifolia	X	X	X	X	X	X	X	X	X	X
	Quercus lobata										
	Quercus berberidifolia										
FORM	TREE HT. (ESTIMATED)	30'	20'	30'	35'	25'	30'	25'	35'	40'	12'
	LEAN (ANGLE)										
	TRUNK DIAMETERS	14"	6"	19"	24"	11"	22"	21"	26"	36"	2"
				11"			12"				2"
				4"							
PHYSICAL CONDITION	TRUNK CAVITY									X	
	TRUNK EXUDATION	X									
	TRUNK DAMAGE				X						
	BURIED ROOT COLLAR	X		X	X		X	X	X		
	EXPOSED ROOTS						X	X		X	
	WEAK CROTCH(ES)	X	X		X	X			X	X	
	FUNGAL DISEASE										
	INSECT/MITE DAMAGE	X			X					X	
	NEW/OLD FIRE DAMAGE	X					X	X	X	X	
	BRANCH CAVITIES	X	X	X	X				X		
	MAINSTEM DIEBACK										
	TWIG/BRANCH DIEBACK										
	EPICORMIC GROWTH										
	THIN FOLIAGE										
	VIGOR (GOOD/MOD/POOR)	G	G	G	G	G	G	G	M	M	G
	TERRAIN - SLOPED/LEVEL	S	S	S	S	S	S	S	S	S	S
RATING	HERITAGE				X		X		X	X	
	HEALTH	B	B	B	B	C	B	C	C	C	B
	AESTHETICS/COMFORMITY	B	A	B	B	C	C	C	C	C	B
TREAT-MENT	REMOVE DEADWOOD										
	INSECT/DISEASE TREAT										

LNDG Job No.: 2301-01

Date: 11/14/14
3/17/15

SUMMARY OF FIELD OBSERVATIONS

SPECIES	**TREE NUMBER**	11	12	13	14	15	16	17	18	19	20
	Quercus agrifolia	X		X	X	X	X	X	X	X	X
	Quercus lobata										
	Quercus berberidifolia		X								
FORM	TREE HT. (ESTIMATED)	20'	15'	20'	20'	9"	20	15'	20'	20'	15'
	LEAN (ANGLE)										
	TRUNK DIAMETERS	7"	6"	4.5"	5.5"	2"	6"	5.5"	5"	10"	5.5"
			4"				6"				
			4"				2.5"				
			4"								
			3"								
PHYSICAL CONDITION	TRUNK CAVITY										
	TRUNK EXUDATION										
	TRUNK DAMAGE										
	BURIED ROOT COLLAR		X	X	X	X					
	EXPOSED ROOTS										
	WEAK CROTCH(ES)						X				
	FUNGAL DISEASE										
	INSECT/MITE DAMAGE		X								
	NEW/OLD FIRE DAMAGE										
	BRANCH CAVITIES										
	MAINSTEM DIEBACK										
	TWIG/BRANCH DIEBACK										
	EPICORMIC GROWTH		X								
	THIN FOLIAGE		X								
	VIGOR (GOOD/MOD/POOR)	M	P	M	M	M	M	M	M	M	M
	TERRAIN - SLOPED/LEVEL	S	S	S	S	S	S	S	S	S	S
RATING	HERITAGE										
	HEALTH	B	C	B	B	B	B	B	B	B	B
	AESTHETICS/COMFORMITY	C	C	B	B	A	C	C	B	B	B
TREAT-MENT	REMOVE DEADWOOD										
	INSECT/DISEASE TREAT										

LNDG Job No.: 7280-01

Date: 11/14/14
3/17/15

SUMMARY OF FIELD OBSERVATIONS

	TREE NUMBER	21	22	23	24	25	26	27	28	29	30
SPECIES	*Quercus agrifolia*	X	X	X	X	X	X	X	X	X	X
	Quercus lobata										
	Quercus berberidifolia										
FORM	TREE HT. (ESTIMATED)	12'	20'	50'	5'	40'	40'	40'	35'	50'	40'
	LEAN (ANGLE)										
	TRUNK DIAMETERS	2"	6"	33"	2"	25"	16"	20"	15"	23"	26"
		2"	4"				17"	18"			
		1"									
PHYSICAL CONDITION	TRUNK CAVITY										
	TRUNK EXUDATION										
	TRUNK DAMAGE										
	BURIED ROOT COLLAR	X	X	X		X	X				
	EXPOSED ROOTS										
	WEAK CROTCH(ES)		X	X		X	X	X	X		X
	FUNGAL DISEASE										
	INSECT/MITE DAMAGE		X	X		X	X	X	X		X
	NEW/OLD FIRE DAMAGE									X	X
	BRANCH CAVITIES			X		X	X	X	X	X	X
	MAINSTEM DIEBACK										
	TWIG/BRANCH DIEBACK										
	EPICORMIC GROWTH			X		X	X				
	THIN FOLIAGE			X		X	X	X		X	
	VIGOR (GOOD/MOD/POOR)	M	M	M	M	M	M	M	M	M	M
	TERRAIN - SLOPED/LEVEL	S	S	S	S	S	S	S	S	S	S
RATING	HERITAGE			X							X
	HEALTH	B	B	C	B	C	C	B	C	C	C
	AESTHETICS/COMFORMITY	B	B	C	C	C	B	B	C	C	C
TREAT-MENT	REMOVE DEADWOOD										
	INSECT/DISEASE TREAT										

LNDG Job No.: 2301-01

Date: 11/17/14
3/17/15

SUMMARY OF FIELD OBSERVATIONS

SPECIES	TREE NUMBER	31	32	33	34	35	36	37	38	39	40
	Quercus agrifolia	X	X	X	X	X	X	X	X	X	X
	Quercus lobata										
	Quercus berberidifolia										
FORM	TREE HT. (ESTIMATED)	50'	40'	9'	50'	50'	35'	50'	15'	50'	50'
	LEAN (ANGLE)										
	TRUNK DIAMETERS	15"	16.5"	2"	22"	21"	9"	18"	4"	19"	13"
		15"		2"					4"		4"
		8"		2"					4"		3"
				1.5"					1.5"		
				1"					1"		
PHYSICAL CONDITION	TRUNK CAVITY										
	TRUNK EXUDATION										
	TRUNK DAMAGE										
	BURIED ROOT COLLAR				X	X					
	EXPOSED ROOTS	X									
	WEAK CROTCH(ES)	X	X	X	X	X			X		X
	FUNGAL DISEASE										
	INSECT/MITE DAMAGE				X						
	NEW/OLD FIRE DAMAGE										
	BRANCH CAVITIES				X	X		X		X	X
	MAINSTEM DIEBACK										
	TWIG/BRANCH DIEBACK										
	EPICORMIC GROWTH		X						X		X
	THIN FOLIAGE	X	X	X					X		X
	VIGOR (GOOD/MOD/POOR)	M	M	M	M	M	M	M	M	M	M
	TERRAIN - SLOPED/LEVEL	S	S	S	S	S	S	S	S	S	S
RATING	HERITAGE										
	HEALTH	C	C	C	C	C	C	C	C	C	C
	AESTHETICS/COMFORMITY	C	C	C	C	C	C	C	C	C	C
TREAT-MENT	REMOVE DEADWOOD										
	INSECT/DISEASE TREAT										
	REMARKS:										

LNDG Job No.: 2201-01

Date: 11/17/14
3/17/15

SUMMARY OF FIELD OBSERVATIONS

| | | |

LNDG Job No.: 2301-01 Date: 3/17/15

SUMMARY OF FIELD OBSERVATIONS

	TREE NUMBER	51	52	53	54	55	56	57	58	59	60
SPECIES	*Quercus agrifolia*	X	X	X	X	X	X	X	X	X	X
	Quercus lobata										
	Quercus berberidifolia										
FORM	TREE HT. (ESTIMATED)	18'	15'	30'	15'	20'	40'	20'	25'	20'	30'
	LEAN (ANGLE)					S					
	TRUNK DIAMETERS	6"	4"	13"	6"	10"	19"	7"	7"	8"	14"
					6"				4"		12"
PHYSICAL CONDITION	TRUNK CAVITY										
	TRUNK EXUDATION										
	TRUNK DAMAGE										
	BURIED ROOT COLLAR										
	EXPOSED ROOTS					X	X	X	X		
	WEAK CROTCH(ES)										
	FUNGAL DISEASE										
	INSECT/MITE DAMAGE										
	NEW/OLD FIRE DAMAGE										
	BRANCH CAVITIES										
	MAINSTEM DIEBACK										
	TWIG/BRANCH DIEBACK										
	EPICORMIC GROWTH										
	THIN FOLIAGE					X				X	
	VIGOR (GOOD/MOD/POOR)	G	G	G	G	M	G	G	G	G	G
	TERRAIN - SLOPED/LEVEL	S	S	S	S	S	S	S	S	S	S
RATING	HERITAGE										
	HEALTH	B	B	B	B	C	B	B	B	B	B
	AESTHETICS/COMFORMITY	C	B	B	B	C	B	C	C	C	B
TREAT-MENT	REMOVE DEADWOOD										
	INSECT/DISEASE TREAT										

LNDG Job No.: 2301-01

Date: 3/17/15

SUMMARY OF FIELD OBSERVATIONS

SPECIES	**TREE NUMBER**	61	62	63	64							
	Quercus agrifolia	X	X	X	X							
	Quercus lobata											
	Quercus berberidifolia											
FORM	TREE HT. (ESTIMATED)	30'	25'	40'	35'							
	LEAN (ANGLE)											
	TRUNK DIAMETERS	9"	8"	24"	17"							
		8"	4"									
PHYSICAL CONDITION	TRUNK CAVITY											
	TRUNK EXUDATION											
	TRUNK DAMAGE											
	BURIED ROOT COLLAR											
	EXPOSED ROOTS			X	X							
	WEAK CROTCH(ES)											
	FUNGAL DISEASE											
	INSECT/MITE DAMAGE											
	NEW/OLD FIRE DAMAGE											
	BRANCH CAVITIES	X										
	MAINSTEM DIEBACK											
	TWIG/BRANCH DIEBACK	X										
	EPICORMIC GROWTH											
	THIN FOLIAGE	X	X									
	VIGOR (GOOD/MOD/POOR)	M	G	G	G							
	TERRAIN - SLOPED/LEVEL	S	S	S	S							
RATING	HERITAGE			X								
	HEALTH	C	B	B	B							
	AESTHETICS/COMFORMITY	C	B	A	C							
TREAT-MENT	REMOVE DEADWOOD											
	INSECT/DISEASE TREAT											

DRIP LINE MEASUREMENTS

INSPECTION NOTICE

The following information was observed on the date(s) indicated herein, and should only be considered true at the time of field inspection.

LNDG Job No.: 2381-01

Date: 11/14/14

DRIPLINE MEASUREMENTS

TREE NO.	DRIPLINE	N	NE	E	SE	S	SW	W	NW
1	HORIZ.	20	22	18	15	15	16	11	18
	VERT.	15	15	4	20	15	12	15	15
2	HORIZ.	12	10	14	10	10	17	10	17
	VERT.	6	10	10	8	5	10	6	6
3	HORIZ.	2	15	21	32	28	31	29	0
	VERT.	4	1	8	2	30	15	15	0
4	HORIZ.	32	30	23	25	32	26	27	26
	VERT.	20	15	15	15	12	25	15	15
5	HORIZ.	25	22	0	0	0	0	5	15
	VERT.	20	10	0	0	0	0	8	15
6	HORIZ.	12	34	30	33	17	25	19	15
	VERT.	30	12	15	3	1	15	20	30
7	HORIZ.	19	18	12	0	5	4	15	18
	VERT.	20	20	10	0	8	20	20	15
8	HORIZ.	15	19	24	16	20	20	20	23
	VERT.	30	2	14	20	25	20	20	20
9	HORIZ.	35	26	30	21	30	21	23	26
	VERT.	15	25	15	25	12	20	5	15
10	HORIZ.	3	0	0	2	2	8	8	4
	VERT.	10	0	0	10	10	15	15	12

LNDG Job No.: 2381-01 Date: 11/14/14

DRIPLINE MEASUREMENTS

TREE NO.	DRIPLINE	N	NE	E	SE	S	SW	W	NW
11	HORIZ.	5	6	8	7	7	7	8	7
	VERT.	15	15	10	10	12	6	7	6
12	HORIZ.	11	8	8	15	10	5	12	14
	VERT.	6	8	7	4	7	10	3	5
13	HORIZ.	5	6	5	6	7	2	9	7
	VERT.	8	10	15	15	15	15	15	15
14	HORIZ.	7	4	6	10	9	8	7	7
	VERT.	15	6	15	15	10	15	15	15
15	HORIZ.	3	3	3	3	3	4	3	3
	VERT.	5	8	7	3	4	2	5	7
16	HORIZ.	15	12	12	7	4	10	10	10
	VERT.	20	10	12	12	8	15	15	20
17	HORIZ.	0	15	10	15	4	0	0	0
	VERT.	0	15	15	6	12	0	0	0
18	HORIZ.	0	0	0	3	10	10	12	10
	VERT.	0	0	0	7	2	15	7	0
19	HORIZ.	12	15	15	10	10	6	10	10
	VERT.	15	15	15	15	15	12	15	15
20	HORIZ.	7	4	0	0	10	10	15	10
	VERT.	15	15	0	0	15	2	15	8

LNDG Job No.: 2381-01 Date: 11/14/14

DRIPLINE MEASUREMENTS

TREE NO.	DRIPLINE	N	NE	E	SE	S	SW	W	NW
21	HORIZ.	0	0	7	7	6	5	7	5
	VERT.	0	0	8	5	8	12	8	12
22	HORIZ.	0	0	7	15	15	12	5	0
	VERT.	0	0	8	10	10	15	6	0
23	HORIZ.	44	21	40	40	40	25	38	35
	VERT.	25	12	25	25	15	25	25	15
24	HORIZ.	0	0	3	3	5	5	5	3
	VERT.	0	0	0	0	0	0	0	0
25	HORIZ.	26	25	11	15	20	21	18	27
	VERT.	12	15	15	15	5	6	20	20
26	HORIZ.	17	25	27	24	18	32	15	25
	VERT.	25	12	6	3	12	8	0	0
27	HORIZ.	12	19	21	30	28	22	25	15
	VERT.	30	20	25	20	15	6	30	30
28	HORIZ.	16	16	18	7	7	6	4	17
	VERT.	20	30	30	20	20	20	15	20
29	HORIZ.	38	23	28	32	35	30	25	25
	VERT.	40	40	40	15	0	0	40	40
30	HORIZ.	16	24	5	12	20	23	15	21
	VERT.	20	8	20	6	15	2	20	18

LNDG Job No.: 2301-01

Date: 11/14/17

DRIPLINE MEASUREMENTS

TREE NO.	DRIPLINE	N	NE	E	SE	S	SW	W	NW
31	HORIZ.	34	17	8	0	8	16	20	32
	VERT.	30	20	40	0	8	15	20	25
32	HORIZ.	23	18	22	28	25	20	0	5
	VERT.	20	20	20	15	15	25	0	12
33	HORIZ.	6	7	5	10	11	9	9	3
	VERT.	1	7	6	2	2	2	4	4
34	HORIZ.	9	31	23	15	28	27	30	39
	VERT.	25	35	25	30	20	25	20	8
35	HORIZ.	36	22	10	15	15	15	35	22
	VERT.	15	20	15	15	15	30	20	20
36	HORIZ.	17	17	10	5	5	10	7	9
	VERT.	25	25	25	3	2	6	4	7
37	HORIZ.	18	37	15	12	25	19	12	20
	VERT.	35	15	25	20	8	20	7	30
38	HORIZ.	8	9	12	5	8	10	10	7
	VERT.	10	4	3	8	8	1	2	8
39	HORIZ.	32	22	0	0	11	20	22	23
	VERT.	25	30	0	0	35	30	35	30
40	HORIZ.	2	10	24	19	8	4	6	8
	VERT.	40	15	30	30	40	40	40	40

LNDG Job No.: 2301-01 Date: 11/17/14

DRIPLINE MEASUREMENTS

TREE NO.	DRIPLINE	N	NE	E	SE	S	SW	W	NW
41	HORIZ.	8	2	2	0	2	3	2	6
	VERT.	4	8	6	0	4	7	8	8
42	HORIZ.	2	7	5	0	0	0	2	1
	VERT.	5	0	0	0	0	0	5	5
43	HORIZ.	8	11	13	2	2	0	0	0
	VERT.	2	2	2	1	3	0	0	0
44	HORIZ.	6	7	12	15	14	9	10	6
	VERT.	12	15	3	7	15	3	7	12
45	HORIZ.	14	22	35	32	30	31	28	15
	VERT.	40	30	4	8	15	20	30	40
46	HORIZ.	20	21	10	0	25	30	35	25
	VERT.	30	40	40	0	35	20	20	35
47	HORIZ.	1	0	0	0	2	3	0	0
	VERT.	10	0	0	0	10	10	0	0
48	HORIZ.	7	2	4	0	4	4	1	12
	VERT.	4	5	8	0	4	5	2	2
49	HORIZ.	21	12	14	10	28	28	28	29
	VERT.	10	→						
50	HORIZ.	20	25	25	20	30	30	30	25
	VERT.	5	6	15	15	12	12	12	12

LNDG Job No.: 2301-01 Date: 3/17/15

DRIPLINE MEASUREMENTS

TREE NO.	DRIPLINE	N	NE	E	SE	S	SW	W	NW
51	HORIZ.	10	10	9	8	5	7	7	7
	VERT.	12	12	12	10	6	8	6	6
52	HORIZ.	4	~~5~~	7	7	4	4	4	4
	VERT.	6	4	4	6	6	10	6	2
53	HORIZ.	17	20	15	15	16	16	16	8
	VERT.	3	3	15	15	15	15	20	5
54	HORIZ.	8	3	2	7	8	16	12	7
	VERT.	8	4	3	7	9	15	6	6
55	HORIZ.	0	0	0	15	20	20	20	0
	VERT.	0	0	0	10	15	18	18	0
56	HORIZ.	26	26	24	20	22	26	~~24~~	~~28~~
	VERT.	15	10	10	10	10	10	20	20
57	HORIZ.	4	4	4	4	5	10	17	17
	VERT.	3	3	3	3	3	4	16	16
58	HORIZ.	3	3	3	5	10	18	24	5
	VERT.	2	2	4	4	8	15	18	8
59	HORIZ.	3	4	6	15	15	15	15	6
	VERT.	4	4	4	10	10	18	18	8
60	HORIZ.	15	25	25	25	~~20~~	20	18	8
	VERT.	15	10	10	10	15	15	16	16

LNDG Job No.: 2016-24 Date: 3/17/15

DRIPLINE MEASUREMENTS

TREE NO.	DRIPLINE	N	NE	E	SE	S	SW	W	NW
61	HORIZ.	10	0	0	0	0	0	22	22
	VERT.	10	0	0	0	0	0	16	16
62	HORIZ.	15	16	16	10	4	4	10	18
	VERT.	8	1	1	3	3	3	6	16
63	HORIZ.	30	20	26	26	24	26	28	30
	VERT.	6	10	8	3	4	15	16	15
64	HORIZ.	20	0	0	0	0	18	18	26
	VERT.	1	0	0	0	0	10	16	15
	HORIZ.								
	VERT.								
	HORIZ.								
	VERT.								
	HORIZ.								
	VERT.								
	HORIZ.								
	VERT.								
	HORIZ.								
	VERT.								
	HORIZ.								
	VERT.								

DEFINITIONS

SUMMARY of FIELD OBSERVATIONS DEFINITIONS

INTRODUCTION

Familiarity with the following definitions is necessary to the basic understanding of the tree ordinance, this tree report, and of the procedures used to evaluate the trees and the site conditions. There are numerous diseases and insects that frequently attack trees. A long discourse in plant pathology or entomology is not a prerequisite to develop a basic understanding of the effects of disease and insects upon living plant tissue but a basic knowledge of disease and insects should include an understanding of the following definitions:

FORM

1. **Tree Number** - each protected tree in the field has been assigned a number that corresponds to a tree location on the "Tree Location Map".

2. **Species** - is the type of tree that is being evaluated.

3. **Number of Trunks** - as measured in accordance to the ordinance existing at the time of evaluation.

4. **Diameter of Trunks** - as measured at 4½' above mean natural grade.

5. **Tree Height** - is the approximate height of each numbered, evaluated tree.

6. **Leaning** - is the direction the tree is inclined from the natural vertical position.

PHYSICAL CONDITION

1. **Trunk Cavity/Damage** - A **Cavity** is a hollow area in the trunk, usually due to wood decay. **Damage** is a damaged area on the trunk, usually due to an external force onto the tree.

2. **Exposed Roots** - roots exposed near tree; e.g. in creek bed.

3. **Exfoliating Bark** - the flaking off of bark from trunk, branches and/or twigs.

4. **Water Pocket** - pockets formed at branch crotches that can hold water and possibly weaken the tree's structure (possible hazard).

5. **Exudation** - the issuance or expelling of liquid, usually from wounds.

6. **Fruiting Bodies** - are the external signs (i.e. mushrooms, conks) of internal wood decay.

7. **Insect/Mite Damage** - is some form of damage to the parts of the tree caused by insects or mites (i.e. scale, caterpillars, weevils, borers, mites, etc.).

8. **Galls/Oak Pit Scale** - **Galls** are abnormal growth (tumors) on the tree, which may be caused by insects, mites, bacteria, etc. **Oak Pit Scale** has a severe weakening effect on the twigs, sometimes resulting in their death. When the scale settles on the twig, a swelling of the twig tissue occurs so that the insect, in effect, is in a pit, hence, the name.

9. **Fire Damage** - each tree is rated on the amount of burn it has received. These are:

Category	Percent of Tree Burned
Slight (S)	0% - 25%
Moderate (M)	26% - 75%
Heavy (H)	76% - 100%
Complete (C)	Burned to the ground

A. A check mark only, indicates a sign of past fire damage;
B. The trees with slight damage have an excellent chance of recovering to their original form. Trees with moderate damage have a good chance of recovery with alterations in form. Heavy percentage of burn on trees will significantly alter their form and lower their probability of survival to half;
C. The "complete" category is for those trees that burned to the ground.

10. **Mainstem Dieback** - death of healthy mainstems from the growing tip back.

11. **Branch Cavities** - hollow areas in the trunk or limbs in the upper tree, usually due to the decay of wood.

12. **Weak Crotches** - poorly formed branch attachments.

13. **Twig/Branch Dieback** - death of unhealthy twigs from the growing tip back.

14. **Exocormic Growth** - excessive growth along main limbs, rather than on twigs.

15. **Thin Foliage** - defoliation and twig dieback throughout the canopy.

16. **Vigor** - is the capacity of a tree for growth and survival. Below are the ratings:

Good (G) - New tip growth; good leaf color; relatively smooth bark free from cracks/decay;
Moderate (M) - Some new tip growth; medium leaf color; some dead wood; thinning crown;
Poor (P) - No new tip growth; poor leaf color; abnormal bark; much dead wood; heavily thinned crown.
A vigorous tree will more easily ward off disease and/or insect attacks, and should recover from impacts more quickly than a weak tree.

17. **Terrain** - refers to the topography of the land where the tree is found.

18. **Potential Hazard** - any tree may be more or less a hazard to people depending on its location and/or health.

RATINGS

1. The **Health** of the trees was visually determined from a macroscopic inspection of signs and symptoms of disease. The following describes our system:

A. **Outstanding** - A healthy and vigorous tree characteristic of its species and free of any visible signs of disease or pest infestation;
B. **Above Average** - A healthy and vigorous tree. However, there are minor visible signs of disease and pest infestation;
C. **Average** - Although healthy in overall appearance, there is a normal amount of disease and/or pest infestation;
D. **Below Average/Poor*** - This tree is characterized by exhibiting a greater degree of disease and/or pest infestation or structural instability than normal and appears to be in a state of decline. This tree also exhibits extensive signs of dieback;
E. **Dead*** - This tree exhibits no signs of life whatsoever at the time of field evaluation.
*A tree rating of "D" and lower is in a low stage of vigor and naturally a meaningful level of recovery is doubtful. Removal should be considered if it is within the proposed project development.

2. The **Aesthetic/Conformity** quality of the trees was visually determined from an overall inspection of appearance. The following describes our system:

A. **Outstanding** - The tree is visually symmetrical, having the ideal form & appearance for the species;
B. **Average** - The tree, though non-symmetrical, has an appealing form for the species with very little dieback of foliage or twigs/branches;
C. **Below Average** - The tree is non-symmetrical for the species with an unappealing form and/or has much dieback of foliage and twigs/branches;

D. **Poor** - The tree has few positive characteristics and may detract from the beauty of the landscape.

TREATMENT

1. **Remove Dead Wood** - if noticeable dead wood in the canopy makes tree unattractive, it can be removed.

2. **Remove Wire, etc.** - if anything has been physically attached to the tree, it should be removed.

3. **Insect/Disease Treatment** - see TREE PRESERVATION PROGRAM within this report for explanation.

4. **Cable/Brace** - can extend the time the tree remains healthy, attractive and hazard free.

5. **None** - no treatment is recommended.

6. **Remove Tree** - if the tree can't be saved through any type of treatment, it should be removed.

REMARKS (Some other terms that may be used)

1. **Basal Growth** - is leaf growth generating from around base of trunk.

2. **Exposed Buttress Roots** - when soil is absent at the base of the tree.

3. **Heart Rot** - is decomposition of heartwood (the central portion of a twig/branch/trunk).

4. **Powdery Mildew** - are leaves that are covered by a white powdery growth generally when new growth becomes wet for long periods of time; leaves may be distorted, stunted and drop prematurely.

5. **Cankers** - are rough swellings with depressed centers resulting in death of tissue that later cracks open and exposes the wood underneath in twigs, branches, and/or trunks.

6. **Chlorotic Leaves** - leaf veins remain normally green, but the tissue between veins becomes yellow, which is usually caused by nutrient deficiencies.

7. **Mottling** - are leaves that have a variegated pattern of green and yellow.

8. **Defoliation** - is a premature leaf drop.

9. **Bark Beetle Frass** - are wood fragments mixed in the insect's excrement.

10. **Witches Broom** - is an abnormal growth cluster of twigs that may be caused by pruning, insects, mites, fungus, etc.

11. **Mistletoe** - is a leafy evergreen perennial parasite with dark green leathery leaves.

12. **Crowded** - is a tree within the canopy of an adjacent tree or canopy.

13. **Shading Out** - is the defoliation and twig dieback inside the canopy due to the lack of sunlight.

OAK TREE
LOCATION MAP

APPENDIX E

Cultural Memo

626 Wilshire Boulevard
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FOR PUBLIC DISTRIBUTION

April 21, 2015

Michael Klein
City of Calabasas, Planning Division
100 Civic Center Way
Calabasas, CA 91302

Subject: Viewpoint School Tennis Courts and Parking Lots Project – Phase I Cultural Resources Study

Dear Mr. Klein:

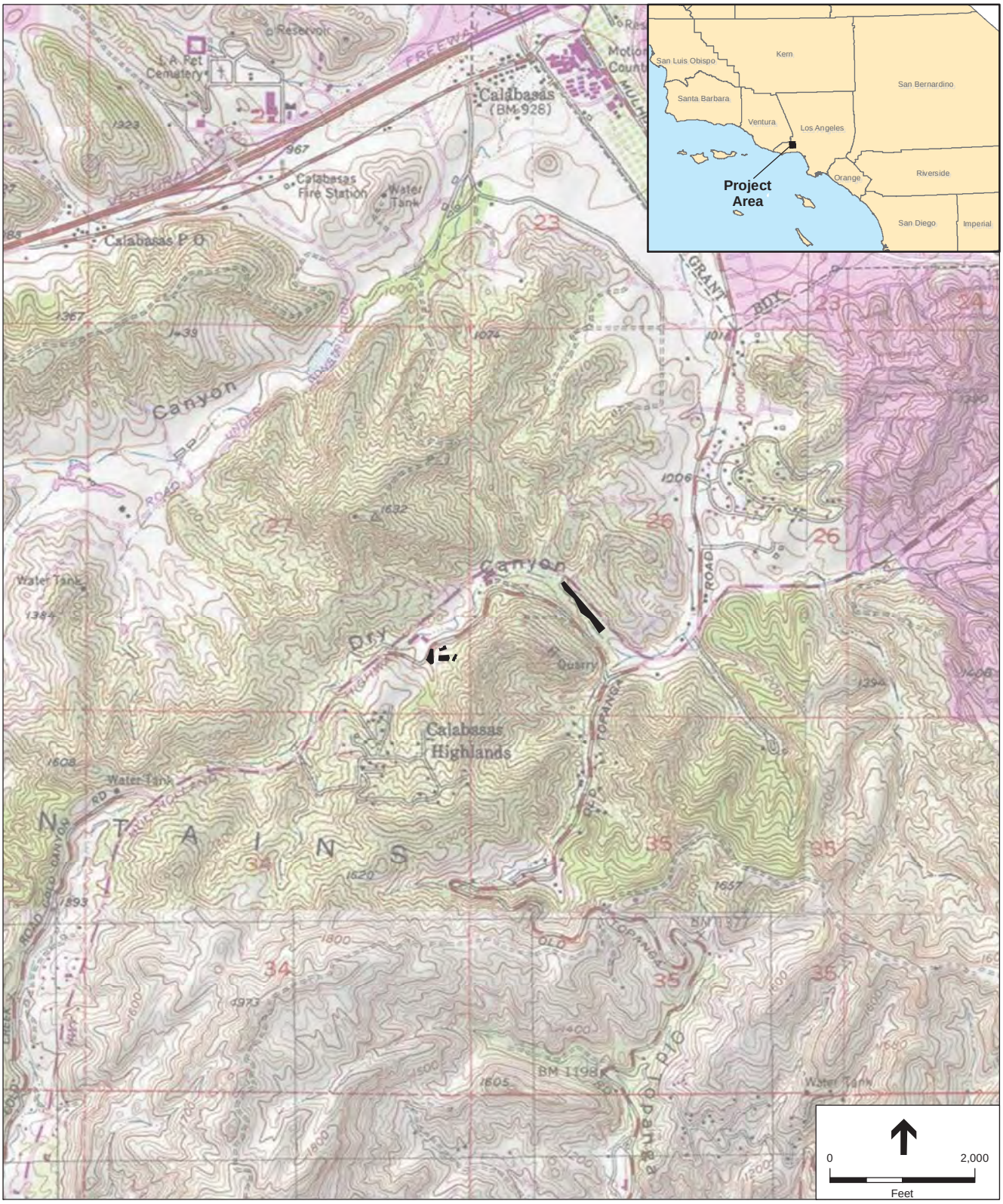
This letter report provides the results of the Phase I Cultural Resources Study completed for the proposed Viewpoint School Tennis Courts and Parking Lots Project (project). The cultural resources study included archival research, Native American scoping, and a pedestrian survey.

Project Understanding

The proposed project includes the development of three sites adjacent to Viewpoint School (Peters site, Brown site, and Castle Oaks site) that would become part of the school campus through a future Lot Merger as required by the City of Calabasas (City). Improvements include the installation of six tennis courts with an accessory building (Peters site), additional campus parking in three areas (Peters site, Brown site, and Castle Oaks site), and the interior renovation of two existing residential structures (Brown site and Castle Oaks site), one to provide primary residence for the school headmaster, and the other to accommodate offices for school administration.

Project Location

The project area is located in the City of Calabasas at the western edge of Los Angeles County. The project area consists of three project sites including the Peters site (23238 Mulholland Highway), Brown site (23604 Dry Canyon Cold Creek Road), and Castle Oaks site (23602 Dry Canyon Cold Creek Road). The three sites are located in Dry Canyon which trends roughly northeast to southwest through the central portion of the Santa Monica Mountains. The project area is located in sections 26 and 27 of the Calabasas USGS 7.5' topographic quadrangle, Township 1 North/Range 17 West (**Figure 1**).



SOURCE: USGS - Topoquad: Calabasas

Viewpoint School Tennis Courts and Parking Lots . 140358.04

Figure 1

Project Location

Project Components

Peters Site

The Peters site is located at 23238 Mulholland Highway and is bounded by Mulholland Highway on the northeast and roughly by Dry Canyon Cold Creek Road on the southwest (**Figure 2a**). Dry Canyon Creek runs along the western edge of the southern portion of the site, bisects the central portion of the site, and then continues along the eastern edge of the northern portion of the site. The Peters site encompasses 5.83 acres and sits on two contiguous parcels, the Peters property (APN 2072-034-003) and a lot immediately to the north on the current Viewpoint School campus (APN 2072-003-025). The Peters property features a two-story single-family residence, a swimming pool, two footbridges, and gardens. The adjacent lot, already part of the Viewpoint School campus, contains a maintenance yard and paved parking lot. The project proposes to demolish the existing residential structure, swimming pool, footbridges, gardens, and existing paved parking lot and develop the site with six tennis courts, a 700-square-foot accessory building, a 50-space parking lot, and landscaping. In addition, a retaining wall would be constructed along the southwestern upslope edge of the site, the existing fencing along portions of the site periphery would be replaced with a new 5-foot-high chain-link fence, and the concrete apron that runs the length of the site between Mulholland Highway and the property line will be removed and replaced with native landscaping. The maximum depth of disturbance proposed for the Peters site is approximately 7.7 feet below ground surface (bgs), but is variable over the horizontal extent of the site.

Brown Site

The Brown site is located at 23604 Dry Canyon Cold Creek Road and consists of four contiguous parcels (APNs 2072-001-019, -020, -022, -024) (**Figure 2b**). The Brown site encompasses 10.50 acres and traverses a steep slope on the southern edge of Dry Canyon Cold Creek Road. Dry Canyon Creek runs to the north of the site. The Brown site is currently developed with a two-story single-family residence, several ancillary structures, a horse corral, and landscaping and hardscaping. The project proposes to convert the interior of the existing residence (APN 2072-001-024) to the primary residence for the school headmaster and add new utilities to the existing building. The project would also convert the horse corral (APN 2072-001-020) to a 25-space parking lot. The existing horse corral fencing would be replaced with chain-link fencing, a retaining wall would be constructed along the eastern upslope portion of the parcel, and a new driveway would be constructed from the main driveway at the entrance to the Castle Oaks site. The maximum depth of disturbance planned for the Brown site is approximately 6.5 feet bgs.

Castle Oaks Site

The Castle Oaks site is located at 23602 Dry Canyon Cold Creek Road. This site consists of a single 1.66-acre parcel (APN 2072-001-015) situated on the south side of Dry Canyon Cold Creek Road (**see Figure 2b**). The Castle Oaks site is currently developed with a two-story single-family residence, swimming pool, horse corral, and landscaping and hardscaping. The project proposes to convert the interior of the existing residence into administrative offices, add new utilities to the existing building, convert the horse corral to a



SOUCE: ESRI

Viewpoint School Tennis Courts and Parking Lots . 140358.04

Figure 2a
Peters Site



SOURCE: ESRI

Viewpoint School Tennis Courts and Parking Lots . 140358.04

Figure 2b

Brown and Castle Oaks Sites

19-space parking lot, and widen the driveway entrance. The existing horse corral fencing would be replaced with chain-link fencing, and a retaining wall would be constructed at the eastern upslope side of the corral. Additional improvements would be made to the T-portion of the front driveway entry where the drive itself would be widened to accommodate access by emergency vehicles. The maximum depth of disturbance planned for the Castle Oaks site is approximately 6.5 feet bgs.

Cultural Context

A Historic Context Statement was prepared for the City of Calabasas by Christopher A. Joseph and Associates in 2009. Section 3 of the Historic Context Statement provides relevant archaeological history pertaining to Calabasas.

Archival Research

SCCIC Records Search

A records search for the project was commissioned on February 23, 2015 through the South Central Coastal Information Center (SCCIC). The records search included a review of all previously recorded cultural resources within a ½-mile radius of the project area, and historic-period built resources within a ¼ -mile radius of the project area, as well as a review of cultural resource reports on file. In addition, the California Register of Historical Resources (California Register), the National Register of Historic Places (National Register), and the California State Historic Resources Inventory (HRI) listings were reviewed. Available historic maps and aerial photographs were also consulted.

Previous Cultural Resources Investigations

The results of the SCCIC records search indicated that 33 cultural resources studies have been previously conducted within ½-mile of the project area (**Table 1**), covering approximately 60 percent of the ½-mile archaeological search radius (Noyes, 2015). Of these, two studies (LA 1394 and LA 7877) included part of the project area, covering approximately 45 percent of the project area (Noyes, 2015). According to the records search results, the Peters site has never been subject to survey, and the Brown and Castle Oaks sites were surveyed in 1980, with the Brown horse corral (APN 2072-001-020) having been re-surveyed in 2006.

TABLE 1
PREVIOUS CULTURAL RESOURCES INVESTIGATIONS CONDUCTED WITHIN 1/2- MILE OF THE PROJECT AREA

Author	SCCIC# (LA-)	Title	Date
Ancient Enterprises, Inc.	00717	*Archaeological Resource Assessment Tentative Tract 10762*	1980
Bernor, Raymond L.	00580	*Archaeological Resource and Impact Evaluation for Tentative Tract 35794, Los Angeles County, California*	1979

Author	SCCIC# (LA-)	Title	Date
Bonner, Wayne H.	09248	*Cultural Resources Records Search and Site Visit Results for T-Mobile Candidate SV11190C (Calabasas High), 22855 Mulholland Highway, Calabasas, Los Angeles County, California*	2007
Boxt, Matthew A. and Robert B. Rechtman	00980	*Archaeological Investigations at LAN-711*	1988
Desautels, Roger J.	02514	*Proposal to Conduct Final Salvage Archaeological Excavations on LAN-711 and 712 Located Within the Property Boundaries of TT 35008 in the Calabasas Area of the County of Los Angeles*	1979
Dillon, Brian D.	00979	*An Archaeological Resource Survey and Impact Assessment of Tentative Minor Land Division Map Number 13553, on Mulholland Highway in Calabasas*	1981
Duke, Curt	04602	*Cultural Resource Assessment for Pacific Bell Mobile Services Facility La 870-02, in the County of Los Angeles, California*	1999
Duke, Curt	06136	*Proposed AT& T Wireless Telecommunication Equipment Installation C947.1-calabasas High School 22855 West Mulholland Highway, Calabasas, California 91302*	2001
Duke, Curt	08241	*Cultural Resource Assessment for AT&T Wireless Services Facility Number C947.1, County of Los Angeles, California*	2000
Girod, Catherine	07877*	*Phase I Archaeological Investigation at 23604 Dry Canyon Cold Creek Road, Calabasas, County of Los Angeles, California, APN 2072-001-004*	2006
Horne, Stephen	04170	*Report of Archaeological Investigation Proposed Calmont School Site Calabasas, California*	1998
Jacobs, David	00332	*An Archaeological Survey in Topanga Canyon in the Santa Monica Mountains, Los Angeles County, California Tentative Tract No. 32299*	1977
Jenkins, Richard C.	02349	*4600 Vegetation and Watershed Management Archaeological Review Furst Vmp Los Angeles County*	1988
King, Chester	07139	*Archaeological Survey of Wild Walnut Park*	2003
King, Chester	08996	*Archaeological Survey of Mountains Restoration Trust Lands at Headwaters Corners*	2007
King, Chester and Jeff Parsons	06601	*Archaeological Record of Settlement and Activity in the Simi Hills Malu'liwini*	2000
Leonard, Nelson N. III	00600	*An Archaeological Evaluation of a 484-acre Parcel in Calabasas Park, California*	1977
Malone, Terry	00976	*Archaeological Test Report on LAN-711 and LAN-712 Located on Tentative Tract 35008 in the Foothills of the Santa Monica Mountains, South of Calabasas in the County of Los Angeles, California*	1979
McIntyre, Michael J.	01048	*Assessment of the Archaeological Impact by the Proposed Development of Tract Number 33175*	1977
McKenna, Jeannette A.	02019	*Historic Property Survey Report: the Old Topanga Canyon Road Realignment and Improvement Project, Los Angeles County, California*	1989
Padon, Beth	01129	*An Archaeological Assessment of a Portion of the Life Bible Project in Dry Canyon, Los Angeles County*	1982
Parr, Robert E.	09786	*Cultural Resource Assessment for the Replacement of Deteriorated Power Pole #1639354E on the Southern California Edison Crater-Malibu-Valdez 66kV Circuit Los Angeles County, CA*	2008
Pence, Robert L.	01394*	*Archaeological Assessment for Parcel Maps 11384 and 8257, Calabasas Area, Los Angeles County*	1980
Rabb, Mark L. Virginia Howard, and Richard L. Wessel	00242	*Report of Archaeological Testing (Phase II Evaluation), Site LAN-1325, Crown Park Development of Proposed Crown Park Development SW Quarter of Section 26 T. 1N, R. 17 W, Calabasas Quad Calabasas, CA.*	1987
Romani, Gwendolyn R.	02132	*Cultural Resources Investigation: Chateau Calabasas, Tentative Tract No. 48541*	1990

Author	SCCIC# (LA-)	Title	Date
Rosen, Martin D.	00081	*Evaluation of the Archaeological Resources for the Areawide Facilities Plan for the Las Virgenes Municipal District, (Malibu Coast, Western Santa Monica Mountains, Southern Simi Hills), Los Angeles and Ventura Counties.*	1975
Singer, Clay A. and John E. Atwood	01685	*Cultural Resources Survey and Impact Assessment for an 80 Acre Property in Calabasas, Los Angeles County, California*	1987
Tartaglia, Louis J.	01327	*Cultural Resource Survey Mulholland Highway and Cold Creek Road*	1984
Vidal, Fatima and Kyle Garcia	09500	*Results of the Cultural Resource Assessment for the Southern California Edison Replacement of Deteriorated Pole Nos. 2116234E, 2279223E, 2279224E, 2279225E, 2279226E, 2279227E, and 2272998E; Los Angeles County, California; WO 4605-2205*	2008
Villanueva, Jeannie C.	01002	*Archaeological Investigations at Site 4-LAN-712*	1979
Whitley, David S.	01963	*Tentative Tract 35008 Re: Salvage Excavations of Sites 19-000711 and 19-00712*	1979
Whitley, David S. and F.J. Bove	02686	*Draft Environmental Impact Report Tentative Tract 33967 Woodland Oaks Manor Calabasas, Los Angeles County*	1978
Wlodarski, Robert J. and Robert L. Pence	01199	*An Evaluation of the Impact Upon Cultural Resources by the Development of Tentative Tract No. 35971, Calabasas*	1979

*Indicates study overlapping project area

Previously Recorded Cultural Resources

The results of the SCCIC records search indicated that a total of seven cultural resources, all prehistoric archaeological sites, have been previously recorded within ½-mile of the project area (**Table 2**). None of these seven previously recorded resources appear to have been subject to eligibility evaluation for listing in either the National Register or California Register. Of these seven resources, none are located within the project area; however, one resource (P-19-001325) is located near the Peters site. Resource P-19-001325 was recorded in 1986 as a surface scatter of lithic and groundstone artifacts (Atwood & McDowell, 1986). Similarly, the six other resources previously recorded within the record search radius consist of prehistoric sites with habitation debris, and lithic and groundstone scatters. No previously recorded historic-period built resources were identified within the ¼-mile built resource search radius.

TABLE 2
PREVIOUSLY RECORDED CULTURAL RESOURCES WITHIN 1/2-MILE OF THE PROJECT AREA

Permanent Trinomial (CA-LAN-)	P-Number (P-19-)	Other Designation	Description	Date Recorded /Updated
711/712	000712	N/A	Prehistoric site consisting of a lithic scatter and habitation debris.	1975/1979
1133	001133	N/A	Prehistoric site consisting of a lithic scatter and habitation debris.	1983
1135	001135	N/A	Prehistoric site consisting of a lithic scatter.	1984/1990

Permanent Trinomial (CA-LAN-)	P-Number (P-19-)	Other Designation	Description	Date Recorded /Updated
1325	001325	Crown Park Site (VS-656)	Prehistoric site consisting of a lithic scatter and groundstone scatter.	1986
1342	001342	Glenfed #1	Prehistoric site consisting of a lithic scatter.	1987
N/A	003769	MRT-1	Prehistoric site consisting of a lithic scatter.	2007
N/A	003770	Baiba 1	Prehistoric site consisting of a lithic scatter and habitation debris.	2007

Source: SCCIC, 2015

Historic Topographic Map and Aerial Photograph Review

Historic maps and aerial photographs were examined in order to provide historical information about the natural topography and natural resources of the project area, and past uses and historic development of the project area. Historic maps reviewed include the 1903 Calabasas 15' topographic quadrangle and the 1947, 1967, and 1980 Calabasas 7.5' topographic quadrangles. Historic aerial photographs from 1947, 1952, 1959, 1967, 1977, 1978, 1980, 1989, 1994, and 2002 were also reviewed (Historicaerials.com, 2015).

Historic topographic maps and aerial photographs indicate that there are several water sources, such as streams and creeks, surrounding the project area (USGS, 1903). Dry Canyon Creek runs in a northeast/southwesterly direction through the Peters site and north of the Brown and Castle Oaks sites.

The historic maps and aerials indicate that the project area and its immediate vicinity remained largely undeveloped until the 1960s when development associated with the Viewpoint School began, later followed by residential development beginning during the 1980s (Historicaerials.com, 2015). An unnamed trail, which will later become Dry Canyon Cold Creek Road, is depicted as early as 1903 running roughly east-west just to the south of the Peters site and the north of the Brown and Castle Oaks sites, while Dry Canyon Road/Old Topanga Road is depicted running north-south just to the east of the project area (USGS, 1903; Historicaerials.com, 2015). By 1953, a quarry was located about 100 feet southwest of the Peters site (USGS, 1953).

Aerial photographs reveal that the Peters site remained in a natural state until sometime between 1978 and 1980 when discrete portions of the site appear to have been subject to vegetation clearing, and possibly some degree of leveling, although the degree of ground disturbance beyond vegetation clearance is difficult to discern based on aerial photography. The cleared areas include roughly what would later become the footprint of the Peters residence and pool, and the Viewpoint School maintenance yard and parking lot. By 1989, the residence appears in the southern-most portion of the site and part of the northern portion of the site appears to be in use as a storage yard. The central portion of the site (the area that would later contain portions of the citrus and olive orchard, bridges, and nursery and vineyard appear to have remained largely undisturbed (Historicaerials.com, 2015).

According to aerial photographs, aside from the presence of Dry Canyon Cold Creek Road and development associated with the Viewpoint School to the north and northwest, the Castle Oaks and Brown sites appear to have remained in their natural state until sometime between 1980 and 1989; with the residences and driveways visible by 1989. Vegetation clearing and some level of grading of the two areas that would become horse corrals (southern portion of Castle Oaks site APN 2072-001-015 and Brown site APN 2072-001-020) appears to have occurred sometime between 1994 and 2002 (Historicaerials.com, 2015).

Native American Heritage Commission

The Native American Heritage Commission (NAHC) was contacted on February 11, 2015 to request a search of the Sacred Land File (SLF) for the project area. In a letter dated February 27, 2015, the NAHC indicated that the SLF search failed to indicate the presence of known prehistoric or Native American resources within the project vicinity (Sanchez, 2015). The letter also included an attached list of Native American contacts with ties to the project vicinity and who might possess information pertaining to cultural resources in the area. Contact letters were prepared and mailed via certified mail and email on March 17, 2015 to all individuals and groups indicated by the NAHC contact list. The letters described the proposed project and included maps depicting the location of the project area. Recipients were requested to reply with any information they are able to share about Native American resources that might be affected by the proposed project.

Two responses from individuals on the contact list have been received to date. In a phone call on March 24, 2015, Mr. Richard Angulo, former President of California Indian Council Chumash, stated that he is very familiar with the project area having grown up there. He also stated that the project area is very sensitive for Native American cultural resources and requested a Native American monitor be present during earthmoving activities. In a phone call on March 25, 2015, Ms. Beverly Salazar-Folkes, a representative for the Chumash, Tataviam, and Fernandeño tribes, stated that she is very familiar with the project area and its vicinity, and she knows it to be very sensitive for Native American cultural resources. Ms. Salazar-Folkes also stated that although the project area has been subject to previous disturbances associated with development, any ground disturbances may nonetheless still encounter previously undisturbed soils and resources and should therefore be closely monitored.

Cultural Resources Survey

On March 24, 2015, ESA cultural resources specialists Matthew Gonzalez, B.A., and Monica Strauss, M.A., R.P.A., conducted a pedestrian cultural resources survey of each of the three sites (Peters, Brown, and Castle Oaks) in the project area (**Figures 3a and 3b**).



SOUCE: ESRI

Viewpoint School Tennis Courts and Parking Lots . 140358.04

Figure 3a

Peters Site-Survey Areas



SOURCE: ESRI

Viewpoint School Tennis Courts and Parking Lots . 140358.04

Figure 3b

Brown and Castle Oaks Sites-Survey Areas

Methods

The survey was aimed at identifying surface evidence of archaeological resources within the project area and to document evidence of past disturbances associated with previous development for each of the sites. Survey was limited to portions of the three sites where proposed project disturbances would occur; this included the entirety of the Peters site, the horse corral and new driveway portion of the Brown site, and the horse corral and T-portion of the driveway associated with the Castle Oaks site. Survey was conducted systematically in transects spaced at 5-meter intervals where terrain and a lack of development allowed, such as the Brown and Castle Oaks site horse corral areas. Areas where systematic survey was not conducive due to terrain or impeding development, surveyors individually meandered at close interval to gain comprehensive coverage of each of the portions of the sites where proposed project disturbances are anticipated; these areas included the entirety of the Peters site, the proposed driveway area associated with the horse corral at the Brown site, and the vicinity of the T-portion of the entry driveway associated with the Castle Oaks site. Where surface visibility was obscured by vegetation or leaf litter, the surface was regularly scraped to enhance soil visibility. Rocky outcroppings were inspected for the presence of bedrock milling features.

Results

Peters Site

The Peters site contains several distinct use-areas, which were documented during the survey (**see Figure 3a**). The use-areas include from south to north: (1) residence and pool; (2) olive and citrus orchard; (3) bridges and patio area; (4) nursery and vineyard; and (5) storage yard and parking lot. Areas 1 through 4 are associated with APN 2072-034-003 and area 5 is associated with APN 2072-003-025. Native sediments observed at the Peters site consist of medium brown and grey, fine sandy loams. No surface evidence of archaeological resources was encountered as a result of the survey of the Peters site.

- **Residence and Pool:** This portion of the Peters site is located at the southern end of the site and is delineated roughly by the footprint of the residence, front lawn and associated flower beds, driveway, and gated swimming pool (**Plates 1 and 2**). These areas appear to have been subject to some level of disturbance in the course of construction, with deep excavation, at least to a depth of 9 feet, associated with the pool. Visibility in this area was highly limited (< 5%) by the residence itself, pool, and landscaping and hardscaping. The depth of past disturbances in areas other than the swimming pool footprint presumably would have been limited to the construction of the building foundation and utilities installations, with minimal disturbances elsewhere.



Plate 1. Peters Site: Residence (view to West)



Plate 2. Peters Site: Swimming Pool (view to Southwest)

- **Olive and Citrus Orchard:** This portion of the Peters site is located just north of the residence, driveway, and swimming pool and is delineated by the footprint of what is an open undeveloped area characterized by a prevalence of citrus and olive trees (**Plate 3**). Roughly two dozen trees dot this area and are intermingled by a series of winding paved and decomposing granite pathways. The decomposing granite pathways are lined with rocks and cobbles. Whole, relatively unweathered, oyster shells were observed randomly sprinkled around the bases of some of the trees, likely an effort to increase soil calcium content and balance soil pH. Leaves, mulch ,and a variety herb plants and weeds obscured much of the surface of the orchard with surface visibility in the range of less than 10%. Past disturbances to this area were likely limited to initial vegetation clearing, possibly shallow leveling, and intermittent deeper excavation in tree locations, up to 2 feet, to accomplish the initial planting of the orchard.



Plate 3. Peters Site: Olive and Citrus Orchard (view to Northeast)

- **Bridges and Patio:** This portion of the Peters site is located north of the orchard and consists of two pedestrian foot bridges, the first measuring approximately 10 feet in length, oriented in a roughly north/south direction crossing a channel or wash (**Plates 4 and 5**). The second bridge, measuring approximately 20 feet in length, is located to the west and perpendicular of the first and is oriented roughly east/west crossing Dry Canyon Creek. The treads of the bridges are plywood and the railings are chain-link framed with steel posts. A cement slab patio area is located in the intervening open space between the two footbridges with visibility being nearly 0%. This area appears to have been subject to minor disturbances limited to the installation of the patio and bridges.



Plate 4. Peters Site: Bridges and Patio Area (patio shown, view to North)



Plate 5. Peters Site: Bridges and Patio (from bridge crossing Dry Canyon Creek, view to North)

- **Nursery and Vineyard:** This portion of the Peters site is located north and west of the bridges and patio area and is characterized by vineyards lining the eastern two-thirds of this area and chicken coups and an approximately 2-foot-wide unpaved footpath running the length of the western portion (**Plate 6**). An area just to the west-southwest of the foot bridge, approximately opposite the direction of the footpath, evidences recent felling of several trees. Moving north on the footpath is a clearing where rows of containered plants are stored. Surface visibility in this area is limited by leaf litter. Less than 20% of the ground surface is visible in this area. Little evidence of past ground disturbances, aside from possible shallow leveling and grape plantings, were observed in this area.



Plate 6. Peters Site: Nursery and Vineyard (view to North)

- **Storage Yard and Parking Lot:** The storage yard is located to the north of the nursery and vineyard and is separated from the nursery and vineyard by a tall fence and access gate (**Plates 7 and 8**). Beyond the storage yard to the north is a paved parking lot. The storage yard area contains items associated with the school campus including storage bins, small portable structures including a guard shack and bleachers, stockpiles of equipment and materials, trash bins, and gravel drives. The parking lot is a large open space with an asphalt slab covering the central portion surrounded by gravel. Both the storage and parking areas afforded limited visibility in the range of less than 25%, most of which was primarily on the western periphery of this area. Several large oaks dot this western periphery. The western edge of this area was inspected to identify evidence of past mechanical cuts to ascertain whether any substantial past ground disturbance had occurred here. No such evidence was identified.



Plate 7. Peters Site: Storage Yard (view to South)



Plate 8. Peters Site: Parking Lot (view to South)

Brown Site

Survey of the Brown site included: (1) the horse corral; and (2) new driveway portion of the site (APN 2072-001-020) (**see Figure 3b**). Native sediments observed at the Brown site consist of rocky light to medium brown sandy soil. Several rock outcroppings were also present. No surface evidence of archaeological resources was encountered as a result of the survey of the Brown site.

- **Horse Corral:** The horse corral is currently being used as a construction staging area, presumably by the Viewpoint School (**Plate 9**). The staging area contained piles of stacked materials and a stockpile of very fine-grained gravel was located at the entrance. The same fine-grained gravel was observed covering the entirety of the surface of the staging area (0% visibility). The northern and eastern peripheries of the staging area were vegetated with tall mustard weed and lacked the same fine-grained gravel that was spread over the central portion of the corral (<20% visibility). The corral is bordered by white rail fencing. A several-foot-high cut along the eastern border of the corral suggests the corral pad had been cut down to create what is now a flat area.



Plate 9. Brown Site: Horse Corral (view to West)

- **New Driveway:** North of the corral, is a triangular-shaped natural open space bound by the corral on the south, the Castle Oaks/Brown sites driveway on the east and Dry Canyon Cold Creek Road on the west (**Plate 10**). This area contains oak and other tree species and bedrock outcroppings and does not appear to have been subject to any previous ground disturbance. A wooden retaining wall retains the western slope from Dry Canyon Cold Creek Road. This area contained mustard weed roughly 3 feet in height at the time of the survey with generally poor to moderate visibility (< 35%).



Plate 10. Brown Site: New Driveway Area (view to East)

Castle Oaks Site

Survey of the Castle Oaks site (APN 2072-001-015) included: (1) the horse corral; and (2) the T-portion of the driveway at the entry of the site (**see Figure 3b**). Native sediments observed at the Castle Oaks site consist of light to medium brown sandy soil. No surface evidence of archaeological resources was encountered as a result of the survey of the Castle Oaks site.

- **Horse Corral:** The horse corral is currently vacant land set at the rear of the Castle Oaks residence and swimming pool (**Plate 11**). The corral is on an elevated pad in an area that appears to have been subject to previous grading. A cut on the eastern periphery of the corral suggests grading may have been up to several feet deep. At the time of the survey, the corral area was densely covered with 1-foot-tall mustard weed limiting visibility to less than 10%. A set of circular cement and pebble-formed stepping stones was observed along a pathway cut into the steep slope at the north of the corral which appeared to offer access to the corral area from the Castle Oaks pool area below.



Plate 11. Castle Oaks Site: Horse Corral (view to North)

- **T-Portion of the Driveway Entry:** This portion of the site is currently paved with an existing driveway and landscaped with oleander (**Plate 12**). There was no surface visibility in this area.



Plate 12. Castle Oaks Site: T-Portion of the Driveway Entry (view to East)

Archaeological Sensitivity

The project area is located in Dry Canyon and both intersects and is adjacent to Dry Canyon Creek in the Santa Monica Mountain range. Prehistoric people are known to have inhabited the area and engaged in varying levels of permanent and temporary habitation as well as hunting and gathering activities that required them to move about the landscape amongst resource patches (Joseph, 2009). The environmental variable most important in the organization of settlement and subsistence patterns in prehistoric times was access to freshwater sources. As the records search indicated, seven prehistoric archaeological resources have been previously recorded within ½-mile of the project area. These resources are all indicative of varying types of use of the area, including tool manufacture, food procurement, temporary camps, and longer-term habitation. One prehistoric archaeological resource identified as a lithic and groundstone artifact scatter, P-19-001325, is located near the Peters site and measures over 2,500 square meters. This and other resources in the vicinity strongly suggest localized frequenting by prehistoric peoples, especially in light of the proximity to fresh water provided by Dry Canyon Creek. Representatives from the Native American community with ties to the general area have expressed concern over the sensitivity of the project area and the potential for archaeological resources to be encountered during project implementation.

Historic maps and aerial photographs indicate that the three project sites remained in their natural states and generally undisturbed until approximately 1980 and later. Disturbances introduced during that time appear to have been limited to those portions of the sites where necessary for proper foundational support of structures or where a flat surface was desired, leaving intervening spaces relatively undisturbed.

- **Peters Site**: In the southern portion of the Peters site (Peters property APN 2072-034-003), disturbances appear to have been limited to the Residence and Pool area. Survey observations of the property suggest that only minimal, if any, ground disturbances occurred in the remainder of the property and that disturbances, where they exist, have likely been limited to relatively unintrusive activities such as gardening and landscaping, and are therefore considered sensitive for archaeological resources (**Figure 4a**).

  The Storage Yard and Parking Lot areas of the northern part of the Peters site (APN 2072-003-025) appear to have been subject to vegetation clearing in the 1980s to accommodate use of the property by Viewpoint School. Whether ground leveling or grading of these areas took place is not known, however, survey failed to identify any indications of mechanical cuts along the western edge so it is likely that any past ground disturbances would have been relatively shallow. The archaeological resources sensitivity of this area is unknown (**see Figure 4a**).



SOUCE: ESRI

Viewpoint School Tennis Courts and Parking Lots . 140358.04

Figure 4a

Peters Site-Archaeological Sensitivity

- **Brown and Castle Oaks Sites**: The two horse corrals associated with each the Brown (APN 2072-001-020) and Castle Oaks (APN 2072-001-015) sites appear to have remained in their natural state until sometime between 1994 and 2002. Based on soil cuts observed on the eastern edges of each of the corrals, disturbances caused by razing the areas may have been as much as several feet in depth. The driveway construction and improvements proposed at the Brown and Castle Oaks sites are located in steep and rocky terrain and are unlikely to be sensitive for archaeological resources (**Figure 4b**).

Conclusions and Recommendations

Conclusions

The results of the Phase I cultural resources study indicate that three areas have a higher potential for the presence of subsurface archaeological resources: 1) Citrus and Olive Orchard; 2) Bridges and Patio; and 3) Nursery and Vineyard. One area, the Storage Yard and Parking Lot, is considered to have unknown potential. The remainder of the project area is considered to have a lower potential, but the discovery of archaeological resources in these areas cannot be precluded based on the general cultural resources sensitivity of the area. Ground-disturbing actions that would occur in the more archaeologically sensitive areas include the following:

- **Citrus and Olive Orchard:** Removal of existing trees, hardscaping, and wrought iron fence, and construction of a tennis court with a 14-foot-tall fence, 5.5-foot-tall retaining wall, and trench drain. The tennis court area would be graded to achieve a 1% downslope to the northwest.

- **Bridges and Patio:** Removal of two footbridges, a concrete pad, and several trees, and construction of two new pedestrian bridges, a new sanitary sewer line, and new utility conduits for future use.

- **Nursery and Vineyard:** Removal of existing vineyards and oak trees, and construction of a 700-square foot accessory room with changing rooms and bathrooms.

- **Storage Yard and Parking Lot:** Removal of all existing buildings/structures, a concrete pad, asphalt paving, a portion of a retaining wall, and several trees, and construction of three tennis courts with 14-foot-tall fence, a parking lot, four earth V-ditches, three trench drains, sewer drain lines, retaining walls varying from 1 to 7.5-feet in height, and a 5-foot-tall fence along the property line at Mullholland Highway. The tennis courts would be graded to achieve a downslope of 1% to the west. The parking lot would be graded with a downslope to the east-southeast, which would vary from 1.5% in the west, to 3% in the center, and 2% in the east.



SOURCE: ESRI

Viewpoint School Tennis Courts and Parking Lots . 140358.04

Figure 4b

Brown and Castle Oaks Sites-Archaeological Sensitivity

Recommendations

Based on the results of this Phase I cultural resources study, the following recommendations are made:

(1) Construction worker cultural resources sensitivity training should be conducted prior to the start of ground disturbing activities (including vegetation removal, building demolition, pavement removal, etc.) associated with the project such that construction personnel become familiar with the types of archaeological resources that might be encountered and procedures required in the event of a discovery. Training shall be conducted by a qualified archaeologist (Qualified Archaeologist) meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (U.S. Department of the Interior, 2008).

(2) Full-time archaeological monitoring of ground disturbing activities at three Peters site areas identified as Citrus and Olive Orchard, Bridges and Patio, and Nursery and Vineyard where there is the greatest likelihood of encountering intact archaeological resources deposits. Monitoring may be reduced or discontinued if it is determined by the Qualified Archaeologist that the possibility of encountering buried archaeological deposits is low based on observations of subsurface soil stratigraphy.

(3) Archaeological monitoring of the *initial phases* of ground disturbance at the Peters site area identified as Storage Yard and Parking Lot where there is unknown potential of encountering intact archaeological resources deposits. If during initial observations of a fair sampling of the area, the monitor determines the area lacks archaeological potential due to evidence of past disturbances, monitoring may be discontinued at the monitor's discretion.

(4) In areas that are not subject to archaeological monitoring, inadvertent discovery measures should be implemented. In the event resources are discovered during ground disturbing activities, work should be immediately halted within 50 feet of the discovery until the time when a qualified archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for Archaeology has inspected the find and developed a treatment strategy.

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1903 Geologic map of the Calabasas 30' quadrangle, Los Angeles County, CA.
1953 Geologic map of the Calabasas 7' quadrangle, Los Angeles County, CA.

Contact Information

If you have any questions about the information provided in this letter report, please do not hesitate to contact me. I can be reached by phone at (831) 737-7438 or email at cehringer@esassoc.com.

Sincerely,



Candace Ehringer, MA, RPA

Cultural Resources

APPENDIX F

CalEEMod Outputs

Viewpoint

South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	68.00	1000sqft	1.56	68,000.00	0
Parking Lot	6.80	1000sqft	0.16	6,800.00	0
Parking Lot	11.20	1000sqft	0.26	11,200.00	0
User Defined Residential	1.00	Dwelling Unit	0.10	4,286.00	3
User Defined Residential	1.00	Dwelling Unit	0.17	7,317.00	3

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	9			**Operational Year**	2016
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Browns-4286
Castle Oaks, 7317

Construction Phase - Days taken from const. sched.

Off-road Equipment - Defualts used.

Off-road Equipment - Eqip taken from work site restoration phase

Off-road Equipment - Equipment from construction list.

Off-road Equipment - Eqip. taken from "grading" phase

Off-road Equipment - Eqip. from paving phase

Off-road Equipment - Equip. taken from demo phase

Trips and VMT - 74 multiplied by 2 for grading

Demolition - 4,188 existing for Peter's Property

Grading - all three SF were added for acres disturbed

Construction Off-road Equipment Mitigation - SCAQMD standards.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	28.00
tblConstructionPhase	NumDays	220.00	118.00
tblConstructionPhase	NumDays	20.00	61.00
tblConstructionPhase	NumDays	6.00	75.00
tblConstructionPhase	NumDays	10.00	35.00
tblGrading	AcresOfGrading	0.00	2.00
tblGrading	MaterialExported	0.00	2,650.00
tblLandUse	LandUseSquareFeet	0.00	4,286.00
tblLandUse	LandUseSquareFeet	0.00	7,317.00
tblLandUse	LotAcreage	0.00	0.10
tblLandUse	LotAcreage	0.00	0.17
tblOffRoadEquipment	HorsePower	125.00	122.00
tblOffRoadEquipment	LoadFactor	0.42	0.44
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	OperationalYear	2014	2016
tblTripsAndVMT	HaulingTripLength	20.00	7.50
tblTripsAndVMT	HaulingTripLength	20.00	7.50
tblTripsAndVMT	HaulingTripNumber	262.00	148.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2016	5.1395	47.5596	33.8141	0.0504	6.2868	2.6639	8.3118	3.3761	2.4967	5.2939	0.0000	5,007.8318	5,007.8318	1.2408	0.0000	5,033.8890
2017	5.7395	12.3809	8.2976	0.0182	0.5123	0.5844	1.0967	0.1376	0.5390	0.6766	0.0000	1,722.2756	1,722.2756	0.3253	0.0000	1,729.1058
Total	**10.8790**	**59.9406**	**42.1117**	**0.0686**	**6.7991**	**3.2482**	**9.4084**	**3.5137**	**3.0357**	**5.9705**	**0.0000**	**6,730.1074**	**6,730.1074**	**1.5661**	**0.0000**	**6,762.9948**

Mitigated Construction

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

2016	5.1395	47.5596	33.8141	0.0504	2.4781	2.6639	4.5031	1.2904	2.4967	3.2082	0.0000	5,007.8318	5,007.8318	1.2408	0.0000	5,033.8890
2017	5.7395	12.3809	8.2976	0.0182	0.5123	0.5844	1.0967	0.1376	0.5390	0.6766	0.0000	1,722.2756	1,722.2756	0.3253	0.0000	1,729.1058
Total	**10.8790**	**59.9406**	**42.1117**	**0.0686**	**2.9904**	**3.2482**	**5.5997**	**1.4280**	**3.0357**	**3.8848**	**0.0000**	**6,730.1074**	**6,730.1074**	**1.5661**	**0.0000**	**6,762.9948**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**56.02**	**0.00**	**40.48**	**59.36**	**0.00**	**34.93**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	3/1/2016	5/24/2016	5	61	
2	Grading	Grading	5/25/2016	9/6/2016	5	75	
3	Trenching	Trenching	9/7/2016	11/3/2016	5	42	
4	Paving	Paving	11/4/2016	12/22/2016	5	35	
5	Building Construction	Building Construction	12/23/2016	6/6/2017	5	118	
6	Architectural Coating	Architectural Coating	6/7/2017	7/14/2017	5	28	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 2

Acres of Paving: 0

Residential Indoor: 23,496; Residential Outdoor: 7,832; Non-Residential Indoor: 3,870; Non-Residential Outdoor: 1,290 (Architectural

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Air Compressors	1	8.00	78	0.48
Demolition	Bore/Drill Rigs	1	4.00	205	0.50

Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Excavators	1	8.00	162	0.38
Demolition	Rubber Tired Dozers	0	8.00	255	0.40
Demolition	Rubber Tired Loaders	1	8.00	199	0.36
Demolition	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Air Compressors	1	8.00	78	0.48
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Excavators	1	8.00	162	0.38
Grading	Graders	0	0.00	174	0.41
Grading	Plate Compactors	1	4.00	8	0.43
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Rubber Tired Loaders	1	8.00	199	0.36
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Welders	1	4.00	46	0.45
Trenching	Air Compressors	1	8.00	78	0.48
Trenching	Concrete/Industrial Saws	1	8.00	81	0.73
Trenching	Excavators	1	8.00	162	0.38
Trenching	Graders	0	8.00	174	0.41
Trenching	Graders	0	8.00	174	0.41
Trenching	Plate Compactors	1	4.00	8	0.43
Trenching	Rubber Tired Dozers	1	8.00	255	0.40
Trenching	Rubber Tired Loaders	1	8.00	199	0.36
Trenching	Scrapers	0	8.00	361	0.48
Trenching	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Trenching	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Trenching	Welders	1	4.00	46	0.45
Paving	Air Compressors	1	4.00	78	0.48
Paving	Cement and Mortar Mixers	0	8.00	9	0.56
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Concrete/Industrial Saws	1	8.00	81	0.73

Paving	Pavers	0	8.00	125	0.42
Paving	Pavers	1	8.00	122	0.44
Paving	Paving Equipment	1	8.00	130	0.36
Paving	Plate Compactors	1	8.00	8	0.43
Paving	Rollers	1	8.00	80	0.38
Paving	Rubber Tired Dozers	1	8.00	255	0.40
Paving	Rubber Tired Loaders	1	4.00	199	0.36
Paving	Surfacing Equipment	1	8.00	253	0.30
Paving	Sweepers/Scrubbers	1	8.00	64	0.46
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving	Welders	1	4.00	46	0.45
Building Construction	Cement and Mortar Mixers	1	2.00	9	0.56
Building Construction	Cranes	0	8.00	226	0.29
Building Construction	Crawler Tractors	1	4.00	208	0.43
Building Construction	Forklifts	0	7.00	89	0.20
Building Construction	Generator Sets	0	8.00	84	0.74
Building Construction	Plate Compactors	1	4.00	8	0.43
Building Construction	Pressure Washers	1	4.00	13	0.30
Building Construction	Rubber Tired Loaders	1	4.00	199	0.36
Building Construction	Sweepers/Scrubbers	1	8.00	64	0.46
Building Construction	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Building Construction	Welders	0	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	19.00	14.70	6.90	7.50	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	148.00	14.70	6.90	7.50	LD_Mix	HDT_Mix	HHDT
Trenching	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

Trenching	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	13	33.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	6	38.00	14.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Clean Paved Roads

3.2 Demolition - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0676	0.0000	0.0676	0.0102	0.0000	0.0102			0.0000			0.0000
Off-Road	1.8910	19.9351	11.2118	0.0229		1.0282	1.0282		0.9669	0.9669		2,339.1043	2,339.1043	0.6366		2,352.4731
Total	**1.8910**	**19.9351**	**11.2118**	**0.0229**	**0.0676**	**1.0282**	**1.0958**	**0.0102**	**0.9669**	**0.9772**		**2,339.1043**	**2,339.1043**	**0.6366**		**2,352.4731**

Unmitigated Construction Off-Site

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

Hauling	3.5200e-003	0.0371	0.0540	9.0000e-005	2.0400e-003	5.2000e-004	2.5600e-003	5.6000e-004	4.8000e-004	1.0400e-003		8.9786	8.9786	7.0000e-005		8.9802
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0555	0.0745	0.7786	1.7300e-003	0.1453	1.2100e-003	0.1465	0.0385	1.1200e-003	0.0397		145.0430	145.0430	7.9300e-003		145.2096
Total	**0.0590**	**0.1116**	**0.8326**	**1.8200e-003**	**0.1474**	**1.7300e-003**	**0.1491**	**0.0391**	**1.6000e-003**	**0.0407**		**154.0216**	**154.0216**	**8.0000e-003**		**154.1898**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0250	0.0000	0.0250	3.7900e-003	0.0000	3.7900e-003			0.0000			0.0000
Off-Road	1.8910	19.9351	11.2118	0.0229		1.0282	1.0282		0.9669	0.9669	0.0000	2,339.1043	2,339.1043	0.6366		2,352.4731
Total	**1.8910**	**19.9351**	**11.2118**	**0.0229**	**0.0250**	**1.0282**	**1.0533**	**3.7900e-003**	**0.9669**	**0.9707**	**0.0000**	**2,339.1043**	**2,339.1043**	**0.6366**		**2,352.4731**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	3.5200e-003	0.0371	0.0540	9.0000e-005	2.0400e-003	5.2000e-004	2.5600e-003	5.6000e-004	4.8000e-004	1.0400e-003		8.9786	8.9786	7.0000e-005		8.9802
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0555	0.0745	0.7786	1.7300e-003	0.1453	1.2100e-003	0.1465	0.0385	1.1200e-003	0.0397		145.0430	145.0430	7.9300e-003		145.2096
Total	**0.0590**	**0.1116**	**0.8326**	**1.8200e-003**	**0.1474**	**1.7300e-003**	**0.1491**	**0.0391**	**1.6000e-003**	**0.0407**		**154.0216**	**154.0216**	**8.0000e-003**		**154.1898**

3.3 Grading - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.0504	0.0000	6.0504	3.3133	0.0000	3.3133			0.0000			0.0000
Off-Road	3.9029	36.8313	25.5379	0.0352		2.0198	2.0198		1.9130	1.9130		3,522.3095	3,522.3095	0.8626		3,540.4237
Total	**3.9029**	**36.8313**	**25.5379**	**0.0352**	**6.0504**	**2.0198**	**8.0702**	**3.3133**	**1.9130**	**5.2263**		**3,522.3095**	**3,522.3095**	**0.8626**		**3,540.4237**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0223	0.2348	0.3421	5.7000e-004	0.0129	3.3000e-003	0.0162	3.5400e-003	3.0400e-003	6.5800e-003		56.8835	56.8835	4.7000e-004		56.8933
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0853	0.1147	1.1978	2.6500e-003	0.2236	1.8700e-003	0.2254	0.0593	1.7200e-003	0.0610		223.1431	223.1431	0.0122		223.3994
Total	**0.1076**	**0.3495**	**1.5400**	**3.2200e-003**	**0.2365**	**5.1700e-003**	**0.2416**	**0.0628**	**4.7600e-003**	**0.0676**		**280.0266**	**280.0266**	**0.0127**		**280.2927**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.2417	0.0000	2.2417	1.2276	0.0000	1.2276			0.0000			0.0000
Off-Road	3.9029	36.8313	25.5379	0.0352		2.0198	2.0198		1.9130	1.9130	0.0000	3,522.3095	3,522.3095	0.8626		3,540.4237
Total	**3.9029**	**36.8313**	**25.5379**	**0.0352**	**2.2417**	**2.0198**	**4.2614**	**1.2276**	**1.9130**	**3.1406**	**0.0000**	**3,522.3095**	**3,522.3095**	**0.8626**		**3,540.4237**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0223	0.2348	0.3421	5.7000e-004	0.0129	3.3000e-003	0.0162	3.5400e-003	3.0400e-003	6.5800e-003		56.8835	56.8835	4.7000e-004		56.8933
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0853	0.1147	1.1978	2.6500e-003	0.2236	1.8700e-003	0.2254	0.0593	1.7200e-003	0.0610		223.1431	223.1431	0.0122		223.3994
Total	**0.1076**	**0.3495**	**1.5400**	**3.2200e-003**	**0.2365**	**5.1700e-003**	**0.2416**	**0.0628**	**4.7600e-003**	**0.0676**		**280.0266**	**280.0266**	**0.0127**		**280.2927**

3.4 Trenching - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.9029	36.8313	25.5379	0.0352		2.0198	2.0198		1.9130	1.9130		3,522.3095	3,522.3095	0.8626		3,540.4237

Total	**3.9029**	**36.8313**	**25.5379**	**0.0352**		**2.0198**	**2.0198**		**1.9130**	**1.9130**		**3,522.3095**	**3,522.3095**	**0.8626**		**3,540.4237**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1706	0.2293	2.3957	5.3100e-003	0.8358	3.7400e-003	0.8395	0.2140	3.4400e-003	0.2174		446.2861	446.2861	0.0244		446.7987
Total	**0.1706**	**0.2293**	**2.3957**	**5.3100e-003**	**0.8358**	**3.7400e-003**	**0.8395**	**0.2140**	**3.4400e-003**	**0.2174**		**446.2861**	**446.2861**	**0.0244**		**446.7987**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.9029	36.8313	25.5379	0.0352		2.0198	2.0198		1.9130	1.9130	0.0000	3,522.3095	3,522.3095	0.8626		3,540.4237
Total	**3.9029**	**36.8313**	**25.5379**	**0.0352**		**2.0198**	**2.0198**		**1.9130**	**1.9130**	**0.0000**	**3,522.3095**	**3,522.3095**	**0.8626**		**3,540.4237**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1706	0.2293	2.3957	5.3100e-003	0.8358	3.7400e-003	0.8395	0.2140	3.4400e-003	0.2174		446.2861	446.2861	0.0244		446.7987
Total	**0.1706**	**0.2293**	**2.3957**	**5.3100e-003**	**0.8358**	**3.7400e-003**	**0.8395**	**0.2140**	**3.4400e-003**	**0.2174**		**446.2861**	**446.2861**	**0.0244**		**446.7987**

3.5 Paving - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.8505	47.3704	31.8377	0.0460		2.6608	2.6608		2.4938	2.4938		4,639.6458	4,639.6458	1.2207		4,665.2801
Paving	0.1482					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**4.9987**	**47.3704**	**31.8377**	**0.0460**		**2.6608**	**2.6608**		**2.4938**	**2.4938**		**4,639.6458**	**4,639.6458**	**1.2207**		**4,665.2801**

Unmitigated Construction Off-Site

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

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1408	0.1892	1.9764	4.3800e-003	0.3689	3.0800e-003	0.3719	0.0978	2.8300e-003	0.1007		368.1860	368.1860	0.0201		368.6090
Total	**0.1408**	**0.1892**	**1.9764**	**4.3800e-003**	**0.3689**	**3.0800e-003**	**0.3719**	**0.0978**	**2.8300e-003**	**0.1007**		**368.1860**	**368.1860**	**0.0201**		**368.6090**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.8505	47.3704	31.8377	0.0460		2.6608	2.6608		2.4938	2.4938	0.0000	4,639.6457	4,639.6457	1.2207		4,665.2801
Paving	0.1482					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**4.9987**	**47.3704**	**31.8377**	**0.0460**		**2.6608**	**2.6608**		**2.4938**	**2.4938**	**0.0000**	**4,639.6457**	**4,639.6457**	**1.2207**		**4,665.2801**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1408	0.1892	1.9764	4.3800e-003	0.3689	3.0800e-003	0.3719	0.0978	2.8300e-003	0.1007		368.1860	368.1860	0.0201		368.6090
Total	**0.1408**	**0.1892**	**1.9764**	**4.3800e-003**	**0.3689**	**3.0800e-003**	**0.3719**	**0.0978**	**2.8300e-003**	**0.1007**		**368.1860**	**368.1860**	**0.0201**		**368.6090**

3.6 Building Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0683	11.7416	4.7540	0.0102		0.6081	0.6081		0.5609	0.5609		1,031.7205	1,031.7205	0.3016		1,038.0549
Total	**1.0683**	**11.7416**	**4.7540**	**0.0102**		**0.6081**	**0.6081**		**0.5609**	**0.5609**		**1,031.7205**	**1,031.7205**	**0.3016**		**1,038.0549**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1278	1.2397	1.6739	3.0200e-003	0.0875	0.0201	0.1076	0.0249	0.0185	0.0434		302.6806	302.6806	2.2400e-003		302.7277
Worker	0.1621	0.2179	2.2759	5.0400e-003	0.4248	3.5500e-003	0.4283	0.1127	3.2600e-003	0.1159		423.9718	423.9718	0.0232		424.4588
Total	**0.2899**	**1.4575**	**3.9497**	**8.0600e-003**	**0.5123**	**0.0237**	**0.5359**	**0.1376**	**0.0218**	**0.1593**		**726.6524**	**726.6524**	**0.0254**		**727.1865**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0683	11.7416	4.7540	0.0102		0.6081	0.6081		0.5609	0.5609	0.0000	1,031.7205	1,031.7205	0.3016		1,038.0549
Total	**1.0683**	**11.7416**	**4.7540**	**0.0102**		**0.6081**	**0.6081**		**0.5609**	**0.5609**	**0.0000**	**1,031.7205**	**1,031.7205**	**0.3016**		**1,038.0549**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1278	1.2397	1.6739	3.0200e-003	0.0875	0.0201	0.1076	0.0249	0.0185	0.0434		302.6806	302.6806	2.2400e-003		302.7277
Worker	0.1621	0.2179	2.2759	5.0400e-003	0.4248	3.5500e-003	0.4283	0.1127	3.2600e-003	0.1159		423.9718	423.9718	0.0232		424.4588
Total	**0.2899**	**1.4575**	**3.9497**	**8.0600e-003**	**0.5123**	**0.0237**	**0.5359**	**0.1376**	**0.0218**	**0.1593**		**726.6524**	**726.6524**	**0.0254**		**727.1865**

3.6 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0071	11.0570	4.6574	0.0102		0.5630	0.5630		0.5194	0.5194		1,016.8167	1,016.8167	0.3017		1,023.1519

Total	**1.0071**	**11.0570**	**4.6574**	**0.0102**		**0.5630**	**0.5630**		**0.5194**	**0.5194**		**1,016.8167**	**1,016.8167**	**0.3017**		**1,023.1519**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1167	1.1273	1.5890	3.0200e-003	0.0875	0.0179	0.1055	0.0249	0.0165	0.0414		297.7718	297.7718	2.1700e-003		297.8174
Worker	0.1453	0.1966	2.0512	5.0400e-003	0.4248	3.4200e-003	0.4282	0.1127	3.1500e-003	0.1158		407.6871	407.6871	0.0214		408.1365
Total	**0.2620**	**1.3239**	**3.6402**	**8.0600e-003**	**0.5123**	**0.0214**	**0.5336**	**0.1376**	**0.0196**	**0.1572**		**705.4590**	**705.4590**	**0.0236**		**705.9539**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0071	11.0570	4.6574	0.0102		0.5630	0.5630		0.5194	0.5194	0.0000	1,016.8167	1,016.8167	0.3017		1,023.1519
Total	**1.0071**	**11.0570**	**4.6574**	**0.0102**		**0.5630**	**0.5630**		**0.5194**	**0.5194**	**0.0000**	**1,016.8167**	**1,016.8167**	**0.3017**		**1,023.1519**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1167	1.1273	1.5890	3.0200e-003	0.0875	0.0179	0.1055	0.0249	0.0165	0.0414		297.7718	297.7718	2.1700e-003		297.8174
Worker	0.1453	0.1966	2.0512	5.0400e-003	0.4248	3.4200e-003	0.4282	0.1127	3.1500e-003	0.1158		407.6871	407.6871	0.0214		408.1365
Total	**0.2620**	**1.3239**	**3.6402**	**8.0600e-003**	**0.5123**	**0.0214**	**0.5336**	**0.1376**	**0.0196**	**0.1572**		**705.4590**	**705.4590**	**0.0236**		**705.9539**

3.7 Architectural Coating - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	5.3766					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3323	2.1850	1.8681	2.9700e-003		0.1733	0.1733		0.1733	0.1733		281.4481	281.4481	0.0297		282.0721
Total	**5.7089**	**2.1850**	**1.8681**	**2.9700e-003**		**0.1733**	**0.1733**		**0.1733**	**0.1733**		**281.4481**	**281.4481**	**0.0297**		**282.0721**

Unmitigated Construction Off-Site

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

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0306	0.0414	0.4318	1.0600e-003	0.0894	7.2000e-004	0.0901	0.0237	6.6000e-004	0.0244		85.8289	85.8289	4.5000e-003		85.9235
Total	**0.0306**	**0.0414**	**0.4318**	**1.0600e-003**	**0.0894**	**7.2000e-004**	**0.0901**	**0.0237**	**6.6000e-004**	**0.0244**		**85.8289**	**85.8289**	**4.5000e-003**		**85.9235**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	5.3766					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3323	2.1850	1.8681	2.9700e-003		0.1733	0.1733		0.1733	0.1733	0.0000	281.4481	281.4481	0.0297		282.0721
Total	**5.7089**	**2.1850**	**1.8681**	**2.9700e-003**		**0.1733**	**0.1733**		**0.1733**	**0.1733**	**0.0000**	**281.4481**	**281.4481**	**0.0297**		**282.0721**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0306	0.0414	0.4318	1.0600e-003	0.0894	7.2000e-004	0.0901	0.0237	6.6000e-004	0.0244		85.8289	85.8289	4.5000e-003		85.9235
Total	**0.0306**	**0.0414**	**0.4318**	**1.0600e-003**	**0.0894**	**7.2000e-004**	**0.0901**	**0.0237**	**6.6000e-004**	**0.0244**		**85.8289**	**85.8289**	**4.5000e-003**		**85.9235**

Viewpoint

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	68.00	1000sqft	1.56	68,000.00	0
Parking Lot	6.80	1000sqft	0.16	6,800.00	0
Parking Lot	11.20	1000sqft	0.26	11,200.00	0
User Defined Residential	1.00	Dwelling Unit	0.10	4,286.00	3
User Defined Residential	1.00	Dwelling Unit	0.17	7,317.00	3

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	9			**Operational Year**	2016
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Browns-4286
Castle Oaks- 7317

Construction Phase - Days taken from const. sched.

Off-road Equipment - Defualts used.

Off-road Equipment - Eqip taken from work site restoration phase

Off-road Equipment - Equipment from construction list.

Off-road Equipment - Eqip. taken from "grading" phase

Off-road Equipment - Eqip. from paving phase

Off-road Equipment - Equip. taken from demo phase

Trips and VMT - 74 multiplied by 2 for grading

Demolition - 4,188 existing for Peter's Property

Grading - all three SF were added for acres disturbed

Construction Off-road Equipment Mitigation - SCAQMD standards.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	28.00
tblConstructionPhase	NumDays	220.00	118.00
tblConstructionPhase	NumDays	20.00	61.00
tblConstructionPhase	NumDays	6.00	75.00
tblConstructionPhase	NumDays	10.00	35.00
tblGrading	AcresOfGrading	0.00	2.00
tblGrading	MaterialExported	0.00	2,650.00
tblLandUse	LandUseSquareFeet	0.00	4,286.00
tblLandUse	LandUseSquareFeet	0.00	7,317.00
tblLandUse	LotAcreage	0.00	0.10
tblLandUse	LotAcreage	0.00	0.17
tblOffRoadEquipment	HorsePower	125.00	122.00
tblOffRoadEquipment	LoadFactor	0.42	0.44
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	OperationalYear	2014	2016
tblTripsAndVMT	HaulingTripLength	20.00	7.50
tblTripsAndVMT	HaulingTripLength	20.00	7.50
tblTripsAndVMT	HaulingTripNumber	262.00	148.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	0.3887	3.6566	2.5907	3.9800e-003	0.2671	0.1984	0.4655	0.1346	0.1871	0.3217	0.0000	358.6623	358.6623	0.0851	0.0000	360.4494
2017	0.1507	0.7261	0.4974	1.0800e-003	0.0294	0.0352	0.0646	7.9000e-003	0.0326	0.0405	0.0000	92.5735	92.5735	0.0170	0.0000	92.9296
Total	**0.5395**	**4.3827**	**3.0881**	**5.0600e-003**	**0.2965**	**0.2335**	**0.5300**	**0.1425**	**0.2198**	**0.3622**	**0.0000**	**451.2358**	**451.2358**	**0.1021**	**0.0000**	**453.3790**

Mitigated Construction

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

2016	0.3887	3.6566	2.5907	3.9800e-003	0.1230	0.1984	0.3214	0.0561	0.1871	0.2433	0.0000	358.6619	358.6619	0.0851	0.0000	360.4490
2017	0.1507	0.7261	0.4974	1.0800e-003	0.0294	0.0352	0.0646	7.9000e-003	0.0326	0.0405	0.0000	92.5735	92.5735	0.0170	0.0000	92.9295
Total	**0.5395**	**4.3827**	**3.0881**	**5.0600e-003**	**0.1524**	**0.2335**	**0.3859**	**0.0640**	**0.2198**	**0.2838**	**0.0000**	**451.2354**	**451.2354**	**0.1021**	**0.0000**	**453.3785**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**48.61**	**0.00**	**27.19**	**55.05**	**0.00**	**21.65**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	3/1/2016	5/24/2016	5	61	
2	Grading	Grading	5/25/2016	9/6/2016	5	75	
3	Trenching	Trenching	9/7/2016	11/3/2016	5	42	
4	Paving	Paving	11/4/2016	12/22/2016	5	35	
5	Building Construction	Building Construction	12/23/2016	6/6/2017	5	118	
6	Architectural Coating	Architectural Coating	6/7/2017	7/14/2017	5	28	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 2

Acres of Paving: 0

Residential Indoor: 23,496; Residential Outdoor: 7,832; Non-Residential Indoor: 3,870; Non-Residential Outdoor: 1,290 (Architectural

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Air Compressors	1	8.00	78	0.48
Demolition	Bore/Drill Rigs	1	4.00	205	0.50

Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Excavators	1	8.00	162	0.38
Demolition	Rubber Tired Dozers	0	8.00	255	0.40
Demolition	Rubber Tired Loaders	1	8.00	199	0.36
Demolition	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Air Compressors	1	8.00	78	0.48
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Excavators	1	8.00	162	0.38
Grading	Graders	0	0.00	174	0.41
Grading	Plate Compactors	1	4.00	8	0.43
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Rubber Tired Loaders	1	8.00	199	0.36
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Welders	1	4.00	46	0.45
Trenching	Air Compressors	1	8.00	78	0.48
Trenching	Concrete/Industrial Saws	1	8.00	81	0.73
Trenching	Excavators	1	8.00	162	0.38
Trenching	Graders	0	8.00	174	0.41
Trenching	Graders	0	8.00	174	0.41
Trenching	Plate Compactors	1	4.00	8	0.43
Trenching	Rubber Tired Dozers	1	8.00	255	0.40
Trenching	Rubber Tired Loaders	1	8.00	199	0.36
Trenching	Scrapers	0	8.00	361	0.48
Trenching	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Trenching	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Trenching	Welders	1	4.00	46	0.45
Paving	Air Compressors	1	4.00	78	0.48
Paving	Cement and Mortar Mixers	0	8.00	9	0.56
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Concrete/Industrial Saws	1	8.00	81	0.73

Paving	Pavers	0	8.00	125	0.42
Paving	Pavers	1	8.00	122	0.44
Paving	Paving Equipment	1	8.00	130	0.36
Paving	Plate Compactors	1	8.00	8	0.43
Paving	Rollers	1	8.00	80	0.38
Paving	Rubber Tired Dozers	1	8.00	255	0.40
Paving	Rubber Tired Loaders	1	4.00	199	0.36
Paving	Surfacing Equipment	1	8.00	253	0.30
Paving	Sweepers/Scrubbers	1	8.00	64	0.46
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving	Welders	1	4.00	46	0.45
Building Construction	Cement and Mortar Mixers	1	2.00	9	0.56
Building Construction	Cranes	0	8.00	226	0.29
Building Construction	Crawler Tractors	1	4.00	208	0.43
Building Construction	Forklifts	0	7.00	89	0.20
Building Construction	Generator Sets	0	8.00	84	0.74
Building Construction	Plate Compactors	1	4.00	8	0.43
Building Construction	Pressure Washers	1	4.00	13	0.30
Building Construction	Rubber Tired Loaders	1	4.00	199	0.36
Building Construction	Sweepers/Scrubbers	1	8.00	64	0.46
Building Construction	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Building Construction	Welders	0	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	19.00	14.70	6.90	7.50	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	148.00	14.70	6.90	7.50	LD_Mix	HDT_Mix	HHDT
Trenching	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

Trenching	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	13	33.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	6	38.00	14.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Clean Paved Roads

3.2 Demolition - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.0600e-003	0.0000	2.0600e-003	3.1000e-004	0.0000	3.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0577	0.6080	0.3420	7.0000e-004		0.0314	0.0314		0.0295	0.0295	0.0000	64.7210	64.7210	0.0176	0.0000	65.0909
Total	**0.0577**	**0.6080**	**0.3420**	**7.0000e-004**	**2.0600e-003**	**0.0314**	**0.0334**	**3.1000e-004**	**0.0295**	**0.0298**	**0.0000**	**64.7210**	**64.7210**	**0.0176**	**0.0000**	**65.0909**

Unmitigated Construction Off-Site

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

Hauling	1.0000e-004	1.1500e-003	1.6100e-003	0.0000	6.0000e-005	2.0000e-005	8.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.2493	0.2493	0.0000	0.0000	0.2494
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5900e-003	2.3400e-003	0.0243	5.0000e-005	4.3500e-003	4.0000e-005	4.3900e-003	1.1600e-003	3.0000e-005	1.1900e-003	0.0000	4.0755	4.0755	2.2000e-004	0.0000	4.0801
Total	**1.6900e-003**	**3.4900e-003**	**0.0259**	**5.0000e-005**	**4.4100e-003**	**6.0000e-005**	**4.4700e-003**	**1.1800e-003**	**4.0000e-005**	**1.2200e-003**	**0.0000**	**4.3248**	**4.3248**	**2.2000e-004**	**0.0000**	**4.3295**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.6000e-004	0.0000	7.6000e-004	1.2000e-004	0.0000	1.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0577	0.6080	0.3420	7.0000e-004		0.0314	0.0314		0.0295	0.0295	0.0000	64.7209	64.7209	0.0176	0.0000	65.0908
Total	**0.0577**	**0.6080**	**0.3420**	**7.0000e-004**	**7.6000e-004**	**0.0314**	**0.0321**	**1.2000e-004**	**0.0295**	**0.0296**	**0.0000**	**64.7209**	**64.7209**	**0.0176**	**0.0000**	**65.0908**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-004	1.1500e-003	1.6100e-003	0.0000	6.0000e-005	2.0000e-005	8.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.2493	0.2493	0.0000	0.0000	0.2494
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5900e-003	2.3400e-003	0.0243	5.0000e-005	4.3500e-003	4.0000e-005	4.3900e-003	1.1600e-003	3.0000e-005	1.1900e-003	0.0000	4.0755	4.0755	2.2000e-004	0.0000	4.0801
Total	**1.6900e-003**	**3.4900e-003**	**0.0259**	**5.0000e-005**	**4.4100e-003**	**6.0000e-005**	**4.4700e-003**	**1.1800e-003**	**4.0000e-005**	**1.2200e-003**	**0.0000**	**4.3248**	**4.3248**	**2.2000e-004**	**0.0000**	**4.3295**

3.3 Grading - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2269	0.0000	0.2269	0.1243	0.0000	0.1243	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1464	1.3812	0.9577	1.3200e-003		0.0757	0.0757		0.0717	0.0717	0.0000	119.8270	119.8270	0.0293	0.0000	120.4432
Total	**0.1464**	**1.3812**	**0.9577**	**1.3200e-003**	**0.2269**	**0.0757**	**0.3026**	**0.1243**	**0.0717**	**0.1960**	**0.0000**	**119.8270**	**119.8270**	**0.0293**	**0.0000**	**120.4432**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	8.2000e-004	8.9600e-003	0.0125	2.0000e-005	4.8000e-004	1.2000e-004	6.0000e-004	1.3000e-004	1.1000e-004	2.4000e-004	0.0000	1.9420	1.9420	2.0000e-005	0.0000	1.9424
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0100e-003	4.4300e-003	0.0460	1.0000e-004	8.2300e-003	7.0000e-005	8.3000e-003	2.1900e-003	6.0000e-005	2.2500e-003	0.0000	7.7091	7.7091	4.2000e-004	0.0000	7.7178
Total	**3.8300e-003**	**0.0134**	**0.0586**	**1.2000e-004**	**8.7100e-003**	**1.9000e-004**	**8.9000e-003**	**2.3200e-003**	**1.7000e-004**	**2.4900e-003**	**0.0000**	**9.6511**	**9.6511**	**4.4000e-004**	**0.0000**	**9.6601**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0841	0.0000	0.0841	0.0460	0.0000	0.0460	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1464	1.3812	0.9577	1.3200e-003		0.0757	0.0757		0.0717	0.0717	0.0000	119.8268	119.8268	0.0293	0.0000	120.4431
Total	**0.1464**	**1.3812**	**0.9577**	**1.3200e-003**	**0.0841**	**0.0757**	**0.1598**	**0.0460**	**0.0717**	**0.1178**	**0.0000**	**119.8268**	**119.8268**	**0.0293**	**0.0000**	**120.4431**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	8.2000e-004	8.9600e-003	0.0125	2.0000e-005	4.8000e-004	1.2000e-004	6.0000e-004	1.3000e-004	1.1000e-004	2.4000e-004	0.0000	1.9420	1.9420	2.0000e-005	0.0000	1.9424
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0100e-003	4.4300e-003	0.0460	1.0000e-004	8.2300e-003	7.0000e-005	8.3000e-003	2.1900e-003	6.0000e-005	2.2500e-003	0.0000	7.7091	7.7091	4.2000e-004	0.0000	7.7178
Total	**3.8300e-003**	**0.0134**	**0.0586**	**1.2000e-004**	**8.7100e-003**	**1.9000e-004**	**8.9000e-003**	**2.3200e-003**	**1.7000e-004**	**2.4900e-003**	**0.0000**	**9.6511**	**9.6511**	**4.4000e-004**	**0.0000**	**9.6601**

3.4 Trenching - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0820	0.7735	0.5363	7.4000e-004		0.0424	0.0424		0.0402	0.0402	0.0000	67.1031	67.1031	0.0164	0.0000	67.4482

Total	**0.0820**	**0.7735**	**0.5363**	**7.4000e-004**		**0.0424**	**0.0424**		**0.0402**	**0.0402**	**0.0000**	**67.1031**	**67.1031**	**0.0164**	**0.0000**	**67.4482**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3800e-003	4.9600e-003	0.0515	1.1000e-004	0.0172	8.0000e-005	0.0173	4.4100e-003	7.0000e-005	4.4800e-003	0.0000	8.6342	8.6342	4.7000e-004	0.0000	8.6439
Total	**3.3800e-003**	**4.9600e-003**	**0.0515**	**1.1000e-004**	**0.0172**	**8.0000e-005**	**0.0173**	**4.4100e-003**	**7.0000e-005**	**4.4800e-003**	**0.0000**	**8.6342**	**8.6342**	**4.7000e-004**	**0.0000**	**8.6439**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0820	0.7735	0.5363	7.4000e-004		0.0424	0.0424		0.0402	0.0402	0.0000	67.1030	67.1030	0.0164	0.0000	67.4481
Total	**0.0820**	**0.7735**	**0.5363**	**7.4000e-004**		**0.0424**	**0.0424**		**0.0402**	**0.0402**	**0.0000**	**67.1030**	**67.1030**	**0.0164**	**0.0000**	**67.4481**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3800e-003	4.9600e-003	0.0515	1.1000e-004	0.0172	8.0000e-005	0.0173	4.4100e-003	7.0000e-005	4.4800e-003	0.0000	8.6342	8.6342	4.7000e-004	0.0000	8.6439
Total	**3.3800e-003**	**4.9600e-003**	**0.0515**	**1.1000e-004**	**0.0172**	**8.0000e-005**	**0.0173**	**4.4100e-003**	**7.0000e-005**	**4.4800e-003**	**0.0000**	**8.6342**	**8.6342**	**4.7000e-004**	**0.0000**	**8.6439**

3.5 Paving - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0849	0.8290	0.5572	8.1000e-004		0.0466	0.0466		0.0436	0.0436	0.0000	73.6578	73.6578	0.0194	0.0000	74.0647
Paving	2.5900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0875**	**0.8290**	**0.5572**	**8.1000e-004**		**0.0466**	**0.0466**		**0.0436**	**0.0436**	**0.0000**	**73.6578**	**73.6578**	**0.0194**	**0.0000**	**74.0647**

Unmitigated Construction Off-Site

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

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.3200e-003	3.4100e-003	0.0354	8.0000e-005	6.3400e-003	5.0000e-005	6.3900e-003	1.6800e-003	5.0000e-005	1.7300e-003	0.0000	5.9360	5.9360	3.2000e-004	0.0000	5.9427
Total	**2.3200e-003**	**3.4100e-003**	**0.0354**	**8.0000e-005**	**6.3400e-003**	**5.0000e-005**	**6.3900e-003**	**1.6800e-003**	**5.0000e-005**	**1.7300e-003**	**0.0000**	**5.9360**	**5.9360**	**3.2000e-004**	**0.0000**	**5.9427**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0849	0.8290	0.5572	8.1000e-004		0.0466	0.0466		0.0436	0.0436	0.0000	73.6577	73.6577	0.0194	0.0000	74.0647
Paving	2.5900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0875**	**0.8290**	**0.5572**	**8.1000e-004**		**0.0466**	**0.0466**		**0.0436**	**0.0436**	**0.0000**	**73.6577**	**73.6577**	**0.0194**	**0.0000**	**74.0647**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.3200e-003	3.4100e-003	0.0354	8.0000e-005	6.3400e-003	5.0000e-005	6.3900e-003	1.6800e-003	5.0000e-005	1.7300e-003	0.0000	5.9360	5.9360	3.2000e-004	0.0000	5.9427
Total	**2.3200e-003**	**3.4100e-003**	**0.0354**	**8.0000e-005**	**6.3400e-003**	**5.0000e-005**	**6.3900e-003**	**1.6800e-003**	**5.0000e-005**	**1.7300e-003**	**0.0000**	**5.9360**	**5.9360**	**3.2000e-004**	**0.0000**	**5.9427**

3.6 Building Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.2000e-003	0.0352	0.0143	3.0000e-005		1.8200e-003	1.8200e-003		1.6800e-003	1.6800e-003	0.0000	2.8079	2.8079	8.2000e-004	0.0000	2.8251
Total	**3.2000e-003**	**0.0352**	**0.0143**	**3.0000e-005**		**1.8200e-003**	**1.8200e-003**		**1.6800e-003**	**1.6800e-003**	**0.0000**	**2.8079**	**2.8079**	**8.2000e-004**	**0.0000**	**2.8251**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.7000e-004	3.7900e-003	4.8900e-003	1.0000e-005	2.6000e-004	6.0000e-005	3.2000e-004	7.0000e-005	6.0000e-005	1.3000e-004	0.0000	0.8278	0.8278	1.0000e-005	0.0000	0.8279
Worker	4.6000e-004	6.7000e-004	6.9900e-003	2.0000e-005	1.2500e-003	1.0000e-005	1.2600e-003	3.3000e-004	1.0000e-005	3.4000e-004	0.0000	1.1718	1.1718	6.0000e-005	0.0000	1.1731
Total	**8.3000e-004**	**4.4600e-003**	**0.0119**	**3.0000e-005**	**1.5100e-003**	**7.0000e-005**	**1.5800e-003**	**4.0000e-004**	**7.0000e-005**	**4.7000e-004**	**0.0000**	**1.9996**	**1.9996**	**7.0000e-005**	**0.0000**	**2.0010**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.2000e-003	0.0352	0.0143	3.0000e-005		1.8200e-003	1.8200e-003		1.6800e-003	1.6800e-003	0.0000	2.8079	2.8079	8.2000e-004	0.0000	2.8251
Total	**3.2000e-003**	**0.0352**	**0.0143**	**3.0000e-005**		**1.8200e-003**	**1.8200e-003**		**1.6800e-003**	**1.6800e-003**	**0.0000**	**2.8079**	**2.8079**	**8.2000e-004**	**0.0000**	**2.8251**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.7000e-004	3.7900e-003	4.8900e-003	1.0000e-005	2.6000e-004	6.0000e-005	3.2000e-004	7.0000e-005	6.0000e-005	1.3000e-004	0.0000	0.8278	0.8278	1.0000e-005	0.0000	0.8279
Worker	4.6000e-004	6.7000e-004	6.9900e-003	2.0000e-005	1.2500e-003	1.0000e-005	1.2600e-003	3.3000e-004	1.0000e-005	3.4000e-004	0.0000	1.1718	1.1718	6.0000e-005	0.0000	1.1731
Total	**8.3000e-004**	**4.4600e-003**	**0.0119**	**3.0000e-005**	**1.5100e-003**	**7.0000e-005**	**1.5800e-003**	**4.0000e-004**	**7.0000e-005**	**4.7000e-004**	**0.0000**	**1.9996**	**1.9996**	**7.0000e-005**	**0.0000**	**2.0010**

3.6 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0564	0.6192	0.2608	5.7000e-004		0.0315	0.0315		0.0291	0.0291	0.0000	51.6567	51.6567	0.0153	0.0000	51.9785

Total	**0.0564**	**0.6192**	**0.2608**	**5.7000e-004**		**0.0315**	**0.0315**		**0.0291**	**0.0291**	**0.0000**	**51.6567**	**51.6567**	**0.0153**	**0.0000**	**51.9785**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.3600e-003	0.0644	0.0865	1.7000e-004	4.8300e-003	1.0000e-003	5.8200e-003	1.3800e-003	9.2000e-004	2.3000e-003	0.0000	15.2019	15.2019	1.1000e-004	0.0000	15.2042
Worker	7.6600e-003	0.0113	0.1178	2.9000e-004	0.0234	1.9000e-004	0.0235	6.2000e-003	1.8000e-004	6.3800e-003	0.0000	21.0334	21.0334	1.0900e-003	0.0000	21.0562
Total	**0.0140**	**0.0757**	**0.2042**	**4.6000e-004**	**0.0282**	**1.1900e-003**	**0.0294**	**7.5800e-003**	**1.1000e-003**	**8.6800e-003**	**0.0000**	**36.2353**	**36.2353**	**1.2000e-003**	**0.0000**	**36.2604**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0564	0.6192	0.2608	5.7000e-004		0.0315	0.0315		0.0291	0.0291	0.0000	51.6566	51.6566	0.0153	0.0000	51.9785
Total	**0.0564**	**0.6192**	**0.2608**	**5.7000e-004**		**0.0315**	**0.0315**		**0.0291**	**0.0291**	**0.0000**	**51.6566**	**51.6566**	**0.0153**	**0.0000**	**51.9785**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.3600e-003	0.0644	0.0865	1.7000e-004	4.8300e-003	1.0000e-003	5.8200e-003	1.3800e-003	9.2000e-004	2.3000e-003	0.0000	15.2019	15.2019	1.1000e-004	0.0000	15.2042
Worker	7.6600e-003	0.0113	0.1178	2.9000e-004	0.0234	1.9000e-004	0.0235	6.2000e-003	1.8000e-004	6.3800e-003	0.0000	21.0334	21.0334	1.0900e-003	0.0000	21.0562
Total	**0.0140**	**0.0757**	**0.2042**	**4.6000e-004**	**0.0282**	**1.1900e-003**	**0.0294**	**7.5800e-003**	**1.1000e-003**	**8.6800e-003**	**0.0000**	**36.2353**	**36.2353**	**1.2000e-003**	**0.0000**	**36.2604**

3.7 Architectural Coating - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0753					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.6500e-003	0.0306	0.0262	4.0000e-005		2.4300e-003	2.4300e-003		2.4300e-003	2.4300e-003	0.0000	3.5746	3.5746	3.8000e-004	0.0000	3.5825
Total	**0.0799**	**0.0306**	**0.0262**	**4.0000e-005**		**2.4300e-003**	**2.4300e-003**		**2.4300e-003**	**2.4300e-003**	**0.0000**	**3.5746**	**3.5746**	**3.8000e-004**	**0.0000**	**3.5825**

Unmitigated Construction Off-Site

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

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-004	6.0000e-004	6.2000e-003	2.0000e-005	1.2300e-003	1.0000e-005	1.2400e-003	3.3000e-004	1.0000e-005	3.4000e-004	0.0000	1.1070	1.1070	6.0000e-005	0.0000	1.1082
Total	**4.0000e-004**	**6.0000e-004**	**6.2000e-003**	**2.0000e-005**	**1.2300e-003**	**1.0000e-005**	**1.2400e-003**	**3.3000e-004**	**1.0000e-005**	**3.4000e-004**	**0.0000**	**1.1070**	**1.1070**	**6.0000e-005**	**0.0000**	**1.1082**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0753					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.6500e-003	0.0306	0.0262	4.0000e-005		2.4300e-003	2.4300e-003		2.4300e-003	2.4300e-003	0.0000	3.5746	3.5746	3.8000e-004	0.0000	3.5825
Total	**0.0799**	**0.0306**	**0.0262**	**4.0000e-005**		**2.4300e-003**	**2.4300e-003**		**2.4300e-003**	**2.4300e-003**	**0.0000**	**3.5746**	**3.5746**	**3.8000e-004**	**0.0000**	**3.5825**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-004	6.0000e-004	6.2000e-003	2.0000e-005	1.2300e-003	1.0000e-005	1.2400e-003	3.3000e-004	1.0000e-005	3.4000e-004	0.0000	1.1070	1.1070	6.0000e-005	0.0000	1.1082
Total	**4.0000e-004**	**6.0000e-004**	**6.2000e-003**	**2.0000e-005**	**1.2300e-003**	**1.0000e-005**	**1.2400e-003**	**3.3000e-004**	**1.0000e-005**	**3.4000e-004**	**0.0000**	**1.1070**	**1.1070**	**6.0000e-005**	**0.0000**	**1.1082**

APPENDIX G

Response to Comments

APPENDIX G
Response to Comments

The Initial Study/Mitigated Negative Declaration for the Viewpoint School Tennis Courts and Parking Lots Project ("proposed project") was circulated for public review for 30 days (September 22, 2015 through October 22, 2015). The City of Calabasas received six comment letters during the public review period and three additional comment letters shortly after the close of public review. All of the comment letters have been bracketed and numbered and are presented in the table below. The responses are provided below and are labeled to correspond to the numbered bracketed comments that appear in the margins of the comment letter.

COMMENT LETTERS RECEIVED

Comment No.	Commenting Agency / Interested Party	Date of Comment
State Agencies		
1	US Department of Homeland Security, FEMA Region IX	October 6, 2015
2	Department of Toxic Substances Control	October 20, 2015
3	Department of Conversation, Division of Oil, Gas and Geothermal Resources	October 26, 2015
Local Agencies		
4	County of Los Angeles Fire Department	October 8, 2015
5	County of Los Angeles Department of Parks and Recreation	October 8, 2015
6	County of Los Angeles Sheriff's Department	October 26, 2015
Interested Parties		
7	Parksouth Homeowners Association	September 29, 2015
8	Angela and Jeffery Liberman	September 24, 2015
9	Santa Monica Mountain Conservancy	November 3, 2015

Comment Letter 1

RECEIVED
OCT 20 2015
COMMUNITY DEVELOPMENT
PLANNING DEPT

U.S. Department of Homeland Security
FEMA Region IX
1111 Broadway, Suite 1200
Oakland, CA. 94607-4052

FEMA

October 6, 2015

Michael Klein, Planner
City of Calabasas
100 Civic Center Way
Calabasas, California 91302

Dear Mr. Klein:

This is in response to your request for comments regarding the Viewpoint School Tennis Courts and Parking Lots project (Draft Initial Study/Mitigated Negative Declaration).

Please review the current effective countywide Flood Insurance Rate Maps (FIRMs) for the County of Los Angeles (Community Number 065043) and City of Calabasas (Community Number 060749), Maps revised September 26, 2008. Please note that the City of Calabasas, Los Angeles County, California is a participant in the National Flood Insurance Program (NFIP). The minimum, basic NFIP floodplain management building requirements are described in Vol. 44 Code of Federal Regulations (44 CFR), Sections 59 through 65.

A summary of these NFIP floodplain management building requirements are as follows:

- All buildings constructed within a riverine floodplain, (i.e., Flood Zones A, AO, AH, AE, and A1 through A30 as delineated on the FIRM), must be elevated so that the lowest floor is at or above the Base Flood Elevation level in accordance with the effective Flood Insurance Rate Map. 1-A

- If the area of construction is located within a Regulatory Floodway as delineated on the FIRM, any ***development*** must not increase base flood elevation levels. **The term *development* means any man-made change to improved or unimproved real estate, including but not limited to buildings, other structures, mining, dredging, filling, grading, paving, excavation or drilling operations, and storage of equipment or materials.** A hydrologic and hydraulic analysis must be performed *prior* to the start of development, and must demonstrate that the development would not cause any rise in base flood levels. No rise is permitted within regulatory floodways. 1-B

www.fema.gov

Comment Letter 1

- All buildings constructed within a coastal high hazard area, (any of the "V" Flood Zones as delineated on the FIRM), must be elevated on pilings and columns, so that the lowest horizontal structural member, (excluding the pilings and columns), is elevated to or above the base flood elevation level. In addition, the posts and pilings foundation and the structure attached thereto, is anchored to resist flotation, collapse and lateral movement due to the effects of wind and water loads acting simultaneously on all building components.

1-C

- Upon completion of any development that changes existing Special Flood Hazard Areas, the NFIP directs all participating communities to submit the appropriate hydrologic and hydraulic data to FEMA for a FIRM revision. In accordance with 44 CFR, Section 65.3, as soon as practicable, but not later than six months after such data becomes available, a community shall notify FEMA of the changes by submitting technical data for a flood map revision. To obtain copies of FEMA's Flood Map Revision Application Packages, please refer to the FEMA website at http://www.fema.gov/business/nfip/forms.shtm.

1-D

Please Note:

Many NFIP participating communities have adopted floodplain management building requirements which are more restrictive than the minimum federal standards described in 44 CFR. Please contact the local community's floodplain manager for more information on local floodplain management building requirements. The Calabasas floodplain manager can be reached by calling Bob Woodward, Plan Checker, at (818) 244-1690. The Los Angeles County floodplain manager can be reached by calling George De La O, Senior Civil Engineer, at (626) 458-7155.

If you have any questions or concerns, please do not hesitate to call Michael Hornick of the Mitigation staff at (510) 627-7260.

Sincerely,

Gregor Blackburn, CFM, Branch Chief
Floodplain Management and Insurance Branch

Comment Letter 1

cc:
Bob Woodward, Plan Checker, City of Calabasas
George De La O, Senior Civil Engineer, Los Angeles County, Watershed Management Division
Garret Tam Sing/Salomon Miranda, State of California, Department of Water Resources,
Southern Region Office
Michael Hornick, NFIP Planner, DHS/FEMA Region IX
Alessandro Amaglio, Environmental Officer, DHS/FEMA IX

Response to Comment Letter 1: Federal Emergency Management Agency (October 6, 2015)

1-A: The commenter states all buildings constructed within a riverine floodplain must be elevated so that the lowest floor is at or above the Base Flood Elevation level in accordance with the effective Flood Insurance Rate Map.

Thank you for your comment. The proposed project is not located within a 100-year flood hazard area, Special Flood Hazard Areas or a regulatory floodplain of any kind. No associated floodplain regulations apply to the project.

1-B: The commenter states if the area of construction is located within a Regulatory Floodway as delineated on the FIRM, any development must not increase base flood elevation levels. A hydrologic and hydraulic analysis must be performed prior to the start of development and must demonstrate the development would not cause any rise in base flood levels as no rise is permitted within regulatory floodways.

Please refer to response to comment 1-A, above. No additional response is required.

1-C: The commenter states all buildings constructed within a coastal high hazard area must be elevated on pilings and columns so that the lowest horizontal structural member is elevated above the base flood elevation level. In addition, the posts and pilings foundation and the structure attached thereto is anchored to resist the effects of wind and water loads acting simultaneously on all building components.

The proposed project is not located within a coastal high hazard area. No additional response is required.

1-D: The commenter states upon completion of any development that changes existing Special Flood Hazard Areas, the NFIP directs all participating communities to submit the appropriate hydrologic and hydraulic data to FEMA for a FIRM revision. Many NFIP participating communities have adopted floodplain management building requirements that are more restrictive than these minimum federal standards described in 44 CFR. The Calabasas floodplain manager should be contacted for more information on floodplain management building requirements.

Please see the response to comment 1-A, above. No additional response is required.

Comment Letter 2

Department of Toxic Substances Control

Barbara A. Lee, Director
5796 Corporate Avenue
Cypress, California 90630

Matthew Rodriquez
Secretary for
Environmental Protection

Edmund G. Brown Jr.
Governor

October 20, 2015

Mr. Michael Klein (mklein@cityofcalabasas.com)
Planning Division
City of Calabasas
100 Civic Center Way
Calabasas, California 91302

DTSC COMMENTS ON THE MITIGATED NEGATIVE DECLARATION AND INITIAL STUDY FOR THE VIEWPOINT SCHOOL TENNIS COURTS AND PARKING LOTS PROJECT, CALABASAS (SCH# 2015091051)

Dear Mr. Klein:

The Department of Toxic Substances Control (DTSC) has reviewed the Mitigated Negative Declaration (MND) and Initial Study (IS) for the subject site (ESA – September 2015). The proposed project includes the redevelopment of three sites (Peters, Brown and Castle Oak) that would become part of the school campus property. Improvements to the sites include installation of six tennis courts and an accessory building, additional campus parking in three areas, and the renovation of two existing residential structures. Based on review of the submitted MND and IS, DTSC would like to provide the following comments:

1. If the existing site buildings were constructed prior to 1978, lead based paint and organochlorine pesticides (from termiticide applications) may be potential environmental concerns at the site. DTSC recommends that these environmental concerns be investigated and possibly mitigated, in accordance with DTSC's *"Interim Guidance, Evaluation of School Sites with Potential Soil Contamination as a Result of Lead From Lead-Based Paint, Organochlorine Pesticides from Termiticides, and Polychlorinated Biphenyls from Electrical Transformers,"* dated June 9, 2006. 2-A

2. If the site was previously used for agricultural purposes, pesticides (DDT, DDE, toxaphene) and fertilizers (usually containing heavy metals) commonly used as part of agricultural operations are likely to be present. These agricultural chemicals are persistent and bio-accumulative toxic substances. DTSC recommends that these environmental concerns be investigated and possibly mitigated, in accordance with the "*Interim Guidance for Sampling Agricultural Soils (Third Revision),"* dated August 2-B

Comment Letter 2

2008. This guidance should be followed to sample agricultural properties where development is anticipated. 2-B

DTSC is also administering the Cleanup Loans and Environmental Assistance to Neighborhoods (CLEAN) Program which provides low-interest loans to investigate and cleanup hazardous materials at properties where redevelopment is likely to have a beneficial impact to a community. These loans are available to developers, businesses, schools, and local governments.

For additional information on DTSCs School process or CLEAN Program, please visit DTSCs web site at www.dtsc.ca.gov. If you would like to discuss this matter further, please contact me at (714) 484-5320 or at rana.georges@dtsc.ca.gov.

Sincerely,

Rana Georges
Project Manager
Schools Evaluation and Brownfields Cleanup Branch
Brownfields and Environmental Restoration Program

cc: State Clearinghouse (via e-mail)
Office of Planning and Research
state.clearinghouse@opr.ca.gov

Mr. Michael O'Neill (via e-mail)
Department of Education – Sacramento, CA
moneill@cde.ca.gov

John Gordon (via e-mail)
Department of Education – Sacramento, CA
JGordon@cde.ca.gov

B&ERP Reading File – Cypress

CEQA Reading File – Cypress

Response to Comment Letter 2: Department of Toxic Substances Control (October 20, 2015)

2-A The commenter states if the site buildings were constructed prior to 1978, lead-based paint and organichlorine pesticides may be potential environmental concerns that should be investigated and possibly mitigated.

Thank you for your comment. The proposed project involves the demolition of the existing residence on the Peters site, which has the potential to contain toxic materials that could be released into the environment during demolition. However, because the residence was constructed in 1981, it is unlikely to contain hazardous materials such as lead-based paint or asbestos. The use of lead based paint containing more than 0.06% was banned for residential use in the United States in 1978 by the U.S. Consumer Product Safety Commission. The use of asbestos was banned over a series of Federal Clean Air Actions from 1973 to 1977. The proposed project sites are not identified or included on a list of hazardous sizes and are not anticipated to create a significant hazard to the public or the environment. No known uses of organichlorine on the site have been documented. No further investigations are required.

2-B The commenter states if the site was previously used for agricultural purposes, pesticides and fertilizers could be present that should be investigated and possibly mitigated.

The school was founded in 1961 (Viewpoint, 2012); the school site was undeveloped prior to the construction of the school facilities. According to historic aerial photographs, aside from the presence of Dry Canyon Cold Creek Road and development associated with the Viewpoint School to the north and northwest, the Castle Oaks and Brown sites appear to have remained in their natural state until sometime between 1980 and 1989; with the residences and driveways visible by 1989. Therefore, it was not previously used for large scale agricultural purposes. The Peters site contains a residential use olive and citrus orchard and nursery and vineyard. The orchard, nursery and vineyard were used for residential purposes and not large scale agricultural purposes. Roughly two dozen trees are located in the orchard area and are intermingled by a series of winding paved and decomposing granite pathways. Because it was not previously used for large scale agricultural purposes, pesticides and fertilizers that would require remediation or removal are not likely present; however, the conservative approach would be to ensure that no adverse effects would result from residual concentrations in surface soils through additional sampling. Therefore, the applicant shall evaluate the potential for these contaminants in accordance with DTSC's Interim Guidance for Sampling Agricultural Properties (Third Revision) dated August 2008.

Comment Letter 3

State of California • Natural Resources Agency
Edmund G. Brown Jr., *Governor*
Department of Conservation
Division of Oil, Gas, and Geothermal Resources – District 1
5816 Corporate Avenue • Suite 100
Cypress, CA 90630
(714) 816-6847 • FAX (714) 816-6853

October 26, 2015

RECEIVED
OCT 27 2015
COMMUNITY DEVELOPMEN
PLANNING DEPT

Mr. Michael Klein
City of Calabasas
100 Civic Center Way
Calabasas, CA 91302-3172

Dear Mr. Klein:

Mitigated Negative Declaration
Viewpoint School Tennis Courts and Parking Lots Project
SCH #2015091051

The Department of Conservation's (Department's) Division of Oil, Gas, and Geothermal Resources (Division) has reviewed the above referenced project. The Division supervises the drilling, maintenance, and plugging and abandonment of oil, gas, and geothermal wells in California. The Division offers the following comments for your consideration.

Based on information provided to the Division by the City of Calabasas, the project area is not within an oil field. Existing well records indicate that one abandoned oil well (Lyle W. Rucker's 1, 037-05821) is within approximately 200 feet of the project area. The approximate well location is shown on the attached map. Division information can be found at: www.conservation.ca.gov. Individual well records are available by making an appointment with our Records Clerk.

Preliminary project documents indicate that no habitable structure will be constructed over the abandoned well location. However, if any structure is to be located over or in close proximity of any active, idle, or previously plugged and abandoned well, the well may need to be plugged to current Division specifications.

If any wells, including any plugged, abandoned or unrecorded wells, are damaged or uncovered during excavation or grading, remedial plugging operations may be required. If such damage or discovery occurs, the Division's district office must be contacted to obtain information on the requirements and approval to perform remedial operations.

The possibility for future problems from oil and gas wells that have been plugged and abandoned, or reabandoned, to the Division's current specifications are remote. However, the Division recommends that a diligent effort be made to avoid building over any plugged and abandoned well.

3-A

To ensure proper review of this project, please contact Weiru Chen at (714) 816-6847 prior to construction. The Division has available an informational packet entitled, "Construction-Site Plan Review Program". This document is available on the Division's website at http://www.conservation.ca.gov/dog/for_operators/Pages/construction_site_review.aspx.

Comment Letter 3

Ms. Michael Klein
October 26, 2015
Page 2

Thank you for the opportunity to comment. If you have any questions, please contact Kathleen Andrews at (714) 816-6847 or via email at Kathleen.Andrews@conservation.ca.gov.

Sincerely,

Kenneth Carlson
Environmental and Facilities Unit Supervisor

Attachment: Well Location Map

cc: DOGGR- HQ, Rob Habel
DOGGR- HQ, Connie Spade
Environmental CEQA File

Comment Letter 3



Response to Comment Letter 3: Department of Conservation Division of Oil, Gas and Geothermal Resources (October 26, 2015)

3-A The commenter states the project area is not located within an oil field; however, one abandoned oil well is within approximately 200 feet of the project area. The project documents indicate that no habitable structure will be constructed over the abandoned well location; if any structure is to be located over or in close proximity of any active, idle or previously plugged and abandoned well, the well may need to be plugged to specific requirements. If any of the aforementioned well types are damaged or uncovered during excavation, remedial plugging may be required. The Division must be contacted to obtain instructions and approval to remediate any such wells. The project should avoid building over any plugged and abandoned well.

Thank you for your comment. The project does not include any structure that will be located over or in close proximity to a well. Should a well be uncovered during excavation, the project will abide by the Division's required protocol.

Comment Letter 4

COUNTY OF LOS ANGELES
FIRE DEPARTMENT
1320 NORTH EASTERN AVENUE
LOS ANGELES, CALIFORNIA 90063-3294

RECEIVED
OCT 14 2015
COMMUNITY DEVELOPMEN
PLANNING DEPT

DARYL L. OSBY
FIRE CHIEF
FORESTER & FIRE WARDEN

October 8, 2015

Michael Klein, Planner
City of Calabasas
Planning Division
100 Civic Center Way
Calabasas, CA 91302

Dear Mr. Klein:

MITIGATED NEGATIVE DECLARATION, NOTICE OF INTENT TO ADOPT A NEGATIVE DECLARATION / MITIGATED NEGATIVE DECLARATION, "VIEWPOINT SCHOOL TENNIS COURTS AND PARKING LOTS PROJECT", INCLUDES THE RE-DEVELOPMENT OF THREE SITES THAT WOULD BECOME PART OF THE SCHOOL CAMPUS PROPERTY, IMPROVEMENTS TO THE SITES INCLUDE INSTALLATION OF SIX TENNIS COURTS AND AN ACCESSORY BUILDING, CALABASAS (FFER 201500171)

The Mitigated Negative Declaration has been reviewed by the Planning Division, Land Development Unit, Forestry Division, and Health Hazardous Materials Division of the County of Los Angeles Fire Department. The following are their comments:

PLANNING DIVISION:

1. We have no comments at this time.

LAND DEVELOPMENT UNIT:

1. The development of this project must comply with all applicable code and ordinance requirements for construction, access, water mains, fire flows, and fire hydrants. 4-A

SERVING THE UNINCORPORATED AREAS OF LOS ANGELES COUNTY AND THE CITIES OF:

AGOURA HILLS	CALABASAS	DIAMOND BAR	HIDDEN HILLS	LA MIRADA	MALIBU	POMONA	SIGNAL HILL
ARTESIA	CARSON	DUARTE	HUNTINGTON PARK	LA PUENTE	MAYWOOD	RANCHO PALOS VERDES	SOUTH EL MONTE
AZUSA	CERRITOS	EL MONTE	INDUSTRY	LAKEWOOD	NORWALK	ROLLING HILLS	SOUTH GATE
BALDWIN PARK	CLAREMONT	GARDENA	INGLEWOOD	LANCASTER	PALMDALE	ROLLING HILLS ESTATES	TEMPLE CITY
BELL	COMMERCE	GLENDORA	IRWINDALE	LAWNDALE	PALOS VERDES ESTATES	ROSEMEAD	WALNUT
BELL GARDENS	COVINA	HAWAIIAN GARDENS	LA CANADA FLINTRIDGE	LOMITA	PARAMOUNT	SAN DIMAS	WEST HOLLYWOOI
BELLFLOWER	CUDAHY	HAWTHORNE	LA HABRA	LYNWOOD	PICO RIVERA	SANTA CLARITA	WESTLAKE VILLAG
BRADBURY							WHITTIER

Comment Letter 4

2. The statutory responsibilities of the County of Los Angeles Fire Department's Land Development Unit are to review and comment on all projects within the unincorporated areas of the County of Los Angeles. Our emphasis is on the availability of sufficient water supplies for firefighting operations and local/regional access issues. However, we review all projects for issues that may have a significant impact on the County of Los Angeles Fire Department. We are responsible for the review of all projects within contract cities (cities that contract with the County of Los Angeles Fire Department for fire protection services). We are responsible for all County facilities, located within non-contract cities. The County of Los Angeles Fire Department's Land Development Unit may also comment on conditions that may be imposed on a project by the Fire Prevention Division, which may create a potentially significant impact to the environment.

3. This property is located within the area described by the Forester and Fire Warden as a Fire Zone 4, Very High Fire Hazard Severity Zone (VHFHSZ). All applicable fire code and ordinance requirements for construction, access, water mains, fire hydrants, fire flows, brush clearance, and fuel modification plans, must be met.

4-B

4. Every building constructed shall be accessible to Fire Department's apparatus by way of access roadways with an all-weather surface of not less than the prescribed width. The roadway shall be extended to within 150 feet of all portions of the exterior walls when measured by an unobstructed route around the exterior of the building.

5. Access roads shall be maintained with a minimum of 10 feet of brush clearance on each side. Fire access roads shall have an unobstructed vertical clearance clear-to-sky with the exception of protected tree species. Protected tree species overhanging fire access roads shall be maintained to provide a vertical clearance of 13 feet 6 inches.

6. When a bridge is required to be used as part of a fire access road, it shall be constructed and maintained in accordance with nationally recognized standards and designed for a live load sufficient to carry a minimum of 75,000 pounds. All water crossing designs are required to be approved by the public works department prior to installation.

7. The gradient of Fire Department's vehicle access roads shall not exceed 15% unless approved by the fire code official Fire Code 503.2.7. Abrupt changes in grade shall not exceed the maximum angles of approach and departure for fire

Comment Letter 4

apparatus. The first 10 feet of any angle of approach or departure or break-over shall not exceed a 10 percent change or 5.7 degrees. Fire Code 503.2.6.

8. When involved with subdivision in a city contracting fire protection with the County of Los Angeles Fire Department, Fire Department's requirements for access, fire flows, and hydrants are addressed during the subdivision tentative map stage.

9. Fire sprinkler systems are required in some residential and most commercial occupancies. For those occupancies not requiring fire sprinkler systems, it is strongly suggested that fire sprinkler systems be installed. This will reduce potential fire and life losses. Systems are now technically and economically feasible for residential use.

10. The development may require fire flows up to 8,000 gallons per minute at 20 pounds per square inch residual pressure for up to a five-hour duration. Final fire flows will be determined utilizing the County of Los Angeles Fire Code Appendix B Table B105.1

4-B

11. Fire hydrant spacing shall be 300 feet and shall meet the following requirements:

    a) No portion of lot frontage shall be more than 200 feet via vehicular access from a public fire hydrant.

    b) No portion of a building shall exceed 400 feet via vehicular access from a properly spaced public fire hydrant.

    c) Additional hydrants will be required if hydrant spacing exceeds specified distances.

    d) When cul-de-sac depth exceeds 200 feet on a commercial street, hydrants shall be required at the corner and midblock.

    e) A cul-de-sac shall not be more than 500 feet in length when serving land zoned for commercial use.

12. Turning radii shall not be less than 32 feet. This measurement shall be determined at the centerline of the road. A Fire Department approved turning area shall be provided for all driveways exceeding 150 feet in-length and at the end of all cul-de-sacs.

Comment Letter 4

13. All on-site driveways/roadways shall provide a minimum unobstructed width of 28 feet, clear-to-sky. The on-site driveway is to be within 150 feet of all portions of the exterior walls of the first story of any building. The centerline of the access driveway shall be located parallel to and within 30 feet of an exterior wall on one side of the proposed structure.

14. Driveway width for non-residential developments shall be increased when any of the following conditions will exist:

    a) Provide 34 feet in-width when parallel parking is allowed on one side of the access roadway/driveway. Preference is that such parking is not adjacent to the structure.

    b) Provide 42 feet in-width when parallel parking is allowed on each side of the access roadway/driveway.

    c) Any access way less than 34 feet in-width shall be labeled "Fire Lane" on the final recording map and final building plans.

    d) For streets or driveways with parking restrictions: The entrance to the street/driveway and intermittent spacing distances of 150 feet shall be posted with Fire Department approved signs stating "NO PARKING - FIRE LANE" in three-inch high letters. Driveway labeling is necessary to ensure access for Fire Department use.

15. All access devices and gates shall meet the following requirements:

    a) Any single gated opening used for ingress and egress shall be a minimum of 26 feet in-width, clear-to-sky.

    b) Any divided gate opening (when each gate is used for a single direction of travel i.e., ingress or egress) shall be a minimum width of 20 feet clear-to-sky.

    c) Gates and/or control devices shall be positioned a minimum of 50 feet from a public right-of-way and shall be provided with a turnaround having a minimum of 32 feet of turning radius. If an intercom system is used, the 50 feet shall be measured from the right-of-way to the intercom control device.

4-B

Comment Letter 4

d) All limited access devices shall be of a type approved by the Fire Department.

e) Gate plans shall be submitted to the Fire Department, prior to installation. These plans shall show all locations, widths, and details of the proposed gates.

16. All proposals for traffic calming measures (speed humps/bumps/cushions, traffic circles, roundabouts, etc.) shall be submitted to the Fire Department for review prior to implementation.

17. Temporary bridges shall be designed, constructed, and maintained to support a live load of at least 70,000 pounds. A minimum vertical clearance of 13 feet 6 inches will be required throughout construction.

18. Disruptions to water service shall be coordinated with the County of Los Angeles Fire Department and alternate water sources shall be provided for fire protection during such disruptions.

19. The County of Los Angeles Fire Department's Land Development Unit's comments are only general requirements. Specific fire and life safety requirements will be addressed at the building and fire plan check phase. There may be additional requirements during this time.

20. Submit three sets of water plans to the County of Los Angeles Fire Department's Land Development Unit. The plans must show all proposed changes to the fire protection water system such as fire hydrant locations and main sizes. The plans shall be submitted through the local water company. The need for additional fire hydrants will be determined upon submittal of the Conditional Use Permit for review and approval.

21. Should any questions arise regarding subdivision, water systems, or access, please contact the County of Los Angeles Fire Department's Land Development Unit's Inspector Nancy Rodeheffer at (323) 890-4243.

22. The County of Los Angeles Fire Department's Land Development Unit appreciates the opportunity to comment on this project.

4-B

Comment Letter 4

Michael Klein, Planner
October 8, 2015
Page 6

FORESTRY DIVISION – OTHER ENVIRONMENTAL CONCERNS:

1. The statutory responsibilities of the County of Los Angeles Fire Department's Forestry Division include erosion control, watershed management, rare and endangered species, vegetation, fuel modification for Very High Fire Hazard Severity Zones or Fire Zone 4, archeological and cultural resources, and the County Oak Tree Ordinance. Potential impacts in these areas should be addressed. 4-C

2. This property is located in an area described by the Forester and Fire Warden as being in a Very High Fire Severity Zone. The development of this project must comply with all Fire Hazard Severity Zone code and ordinance requirements for fuel modification. Specific questions regarding fuel modification requirements should be directed to the Fuel Modification Office at (626) 969-2375. 4-D

HEALTH HAZARDOUS MATERIALS DIVISION:

1. The Health Hazardous Materials Division (HHMD) of the Los Angeles County Fire Department advises that prior to commencement of onsite ground-disturbing activities, the Applicant should obtain soil samples from the project site at 1) the olive and citrus orchard and 2) the nursery and vineyard, and analyze the soil samples for the presence of potential agricultural chemicals/pesticides (e.g., insecticides, herbicides, and/or heavy metals, especially arsenic). If chemical concentrations are above regulatory guidance/screening levels, a human health risk assessment should be conducted and/or the contaminated soils should be remediated/removed in compliance with applicable local, state, and federal requirements prior to project development. 4-E

If you have any additional questions, please contact this office at (323) 890-4330.

Very truly yours,

KEVIN T. JOHNSON, ACTING CHIEF, FORESTRY DIVISION
PREVENTION SERVICES BUREAU

KTJ:ad

Response to Comment Letter 4: Los Angeles County Fire (October 8, 2015)

4-A The commenter states the development of this project must comply with all applicable code and ordinance requirements for construction, access, water mains, fire flows, and fire hydrants.

Thank you for your comment. The project will comply with all applicable code and ordinance requirements for construction, access, water mains, fire flows, and fire hydrants. The entire City of Calabasas is designated as a high fire hazard zone. However, due to the nature of the proposed project, the development of tennis courts, parking lots, and reuse of two existing residential structures, is not introducing incompatible land uses to an area designated as having a high wildland fire capability. Additionally, the project applicant has prepared a site-specific fuel modification plan that will be reviewed by the LACFD and implemented by the applicant and impacts from wildland fires would be reduced to less than significant.

4-B The commenter states the County of Los Angeles Fire Department's Land Development Unit has the responsibility of reviewing and commenting on all projects within the unincorporated areas of the County of Los Angeles and in contract cities. They are also responsible for all County facilities located within non-contract cities. The project may also comment on conditions that may be imposed on a project by the Fire Prevention Division.

This comment does not pertain to an inadequacy in the IS/MND. Refer to response 4-A, above.

4-C The commenter states potential impacts in the areas of erosion control, watershed management, rare and endangered species, vegetation, fuel modification, archaeological resources and cultural resources should be addressed.

The IS/MND has addressed these impacts in Section 3. Impacts related to erosion control and watershed management were addressed under "Hydrology and Water Quality." Impacts to vegetation and pertaining to fuel modification were addressed under "Biological Resources." Impacts to archaeological and cultural resources were addressed under "Cultural Resources."

4-D The commenter states this project must comply with all Fire Hazard Severity Zone code and ordinance requirements for fuel modification.

The fuel modification plan prepared for the accessory structure would be built in conjunction with the tennis courts on the Peters site and identifies various forms of vegetation impacts such as removal, thinning, and removal of downed wood and leaf-litter, as well as installing irrigation lines. The project would comply with all Fire Hazard Severity Zone code and ordinance requirements for fuel modification. Refer to response 4-A, above.

4-E The commenter states the Applicant should obtain soil samples from the project site at 1) the olive and citrus orchard and 2) the nursery and vineyard, and analyze the soil samples for the presence of potential agricultural chemicals/pesticides (e.g., insecticides, herbicides, and/or heavy metals, especially arsenic). If chemical concentrations are above regulatory guidance/screening levels, a human health risk assessment should be conducted and/or the contaminated soils should be remediated/removed in compliance with applicable local, state, and federal requirements prior to project development.

The Peters site contains several distinct use-areas, which include from south to north: (1) residence and pool; (2) olive and citrus orchard; (3) bridges and patio area; (4) nursery and vineyard. The olive and citrus orchard, nursery and vineyard were used for residential purposes and not large scale agricultural uses. Roughly two dozen trees are located in the orchard area and are intermingled by a series of winding paved and decomposing granite pathways. Because it was not previously used for large scale agricultural purposes, pesticides and fertilizers that would require remediation or removal are not likely present; however, the conservative approach would be to ensure that no adverse effects would result from residual concentrations in surface soils through additional sampling. Therefore, the applicant shall evaluate the potential for these contaminants in accordance with DTSC's Interim Guidance for Sampling Agricultural Properties (Third Revision) dated August 2008.

Comment Letter 5

COUNTY OF LOS ANGELES

DEPARTMENT OF PARKS AND RECREATION

"Parks Make Life Better!"

John Wicker, Acting Director

October 22, 2015

Sent via email: mklein@cityofcalabasas.com

Mr. Michael Klein
City of Calabasas
100 Civic Center Way
Calabasas, CA 91302

Dear Mr. Klein:

NOTICE OF INTENT TO ADOPT A NEGATIVE DECLARATION/ MITIGATED NEGATIVE DECLARATION

The proposed project has been reviewed for potential impacts on the facilities of this Department. We have determined that the project, which consists of removal of Peters property building and appurtenant structures, redevelopment of the interior of the Castle Oaks property to accommodate the administrative offices, and update of the Brown residence to accommodate the principal's primary residence, will not impact any Departmental facilities. 5-A

Thank you for including this Department in the review of this document. If you have any questions, please contact me at (213) 351-5129 or jchien@parks.lacounty.gov.

Sincerely,

Jui Ing Chien
Park Planner

JIC/City of Calabasas Viewpoint School

c: DPR (N.E. Garcia, K. King, C. Lau)

Executive Offices • 433 South Vermont Avenue • Los Angeles, CA 90020-1975 • (213) 738-2961

Response to Comment Letter 5: Los Angeles County Parks Department (October 22, 2015)

5-A The commenter states the project will not impact any Departmental facilities.

Thank you for your comment. This comment does not pertain to the adequacy of the IS/MND, no further response is required.

Comment Letter 6

OFFICE OF THE SHERIFF

COUNTY OF LOS ANGELES

HALL OF JUSTICE

JIM MCDONNELL, SHERIFF

RECEIVED
OCT 28 2015
COMMUNITY DEVELOPMEN
PLANNING DEPT

October 26, 2015

Michael Klein, Planner
City of Calabasas
100 Civic Center Way
Calabasas, California 91302

Dear Mr. Klein:

REVIEW COMMENTS
INITIAL STUDY AND MITIGATED NEGATIVE DECLARATION
VIEWPOINT SCHOOL TENNIS COURTS AND PARKING LOTS PROJECT
STATE CLEARINGHOUSE NO. 2015091051

Thank you for inviting the Los Angeles County Sheriff's Department (Department) to review and comment on the Initial Study and Mitigated Negative Declaration (IS/MND), dated September 2015, for the Viewpoint School Tennis Courts and Parking Lots Project (Project). The proposed Project is located in multiple sites within or near the Viewpoint School campus in the City of Calabasas, specifically 23238 and 23620 Mulholland Highway, and 23602 and 23604 Dry Canyon Cold Creek Road. The proposed Project will demolish certain existing improvements, then construct/renovate certain other sites that would become part of the existing Viewpoint School campus. Development includes the construction of six tennis courts with an accessory building, additional campus parking, landscaping, and the renovation of two existing residential structures, one to accommodate school administration offices, and the other to provide a primary residence for the school headmaster.

The proposed Project is located within the service area of the Department's Malibu/Lost Hills Station (Station). Accordingly, the Station reviewed the IS/MND and authored the attached review comments (see correspondence, dated October 13, 2015, from Captain Patrick S. Davoren).

Also, for future reference, the Department provides the following updated contact information for all requests for review comments, law enforcement service information, California Environmental Quality Act documents, and other related correspondence:

211 WEST TEMPLE STREET, LOS ANGELES, CALIFORNIA 90012

A Tradition of Service
Since 1850

Comment Letter 6

Tracey Jue, Director
Facilities Planning Bureau
Los Angeles County Sheriff's Department
4700 Ramona Boulevard, Fourth Floor
Monterey Park, California 91754

Attention: Lester Miyoshi, Departmental Facilities Planner

Should you have any questions regarding this matter, please contact me at (323) 526-5657, or your staff may contact Lester Miyoshi, of my staff, at (323) 526-5664.

Sincerely,

JIM McDONNELL, SHERIFF

Tracey Jue, Director
Facilities Planning Bureau

Comment Letter 6

RECEIVED
#:348
OCT 15 2015
Org Leste CC:Subj
FACILITIES PLANNING BUREAU
ADMINISTRATIVE SERVICES DIVISIO

COUNTY OF LOS ANGELES
SHERIFF'S DEPARTMENT
"A Tradition of Service"

DATE: October 13, 2015

OFFICE CORRESPONDENCE

FROM: PATRICK S. DAVOREN, CAPTAIN
MALIBU/LOST HILLS STATION

TO: TRACEY JUE, DIRECTOR
FACILITIES PLANNING BUREAU

SUBJECT: REVIEW COMMENTS ON THE INITIAL STUDY AND MITIGATED NEGATIVE DECLARATION FOR THE VIEWPOINT SCHOOL TENNIS COURTS AND PARKING LOTS PROJECT

The Traffic Bureau of the Malibu/Lost Hills Sheriff's Station (Station) reviewed the Initial Study and Mitigated Negative Declaration (IS/MND), dated September 2015, for the Viewpoint School Tennis Courts and Parking Lots Project (Project). The proposed Project is located in multiple sites within or near the Viewpoint School campus in the City of Calabasas: 23238 and 23620 Mulholland Highway; and, 23602 and 23604 Dry Canyon Cold Creek Road. The proposed Project will demolish certain existing improvements, then construct/renovate certain other sites that would become part of the existing Viewpoint School campus. Development includes the construction of six tennis courts with an accessory building, additional campus parking, landscaping, and the renovation of two existing residential structures, one to accommodate school administration offices, and the other to provide a primary residence for the school headmaster. The proposed Project site is located within the Station's service area.

According to Section 3 of the IS/MND, the proposed Project is expected to have no impact on law enforcement services provided by LASD and the Station, because it will serve the existing student and faculty populations, and will not increase the occupant capacity of the facility (see page 3-70). Based on our review of the IS/MND, the Station generally concurs with this assessment. However, due to the relatively remote location of the proposed Project site, response times to calls for service from the Project site could be measurably longer than those for other, urban communities within our service area. Accordingly, close attention must be afforded to emergency management preparations by the Project owner/operator. Also, Project-related construction activities must not impede emergency vehicles from entering, exiting, or passing beyond, the Project site. 6-A 6-B

Lastly, although the Station is not overly concerned with the proposed Project itself, we remain concerned that continued growth and intensification of land uses within our service area will ultimately contribute to significant cumulative impacts on our 6-C

Comment Letter 6

resources and operations. It is reasonable to expect that continued development will ultimately result in increased demands for law enforcement services. Meeting such increased demand will require additional resources, including patrol deputies, other sworn deputies, support personnel, and attendant assets (patrol vehicles, support vehicles, communications equipment, weaponry, office furniture/equipment, etc.). In order to accommodate such additional staff and assets, the Station itself will require substantial modernization and/or expansion. 6-C

Thank you for including the Station in the environmental review process for the proposed Project. Should you have any questions regarding this matter, please feel free to contact Sergeant Brad L. Johnson (B1Johnso@lasd.org), (818) 878-1808.

PSD:bj

Response to Comment Letter 6: Los Angeles County Sheriff Department (October 26, 2015)

6-A LASD generally concurs that the proposed project would have no impact on Los Angeles Sheriff Department and Malibu Los Hills Sheriff's Station law enforcement services because the project will not increase the occupant capacity of the facility. However, the remote location of the project might lead to longer response times, so close attention must be afforded to emergency management preparations.

Thank you for your comment. The proposed project facilities would not increase occupants of the school nor block existing emergency vehicle ingress and egress, and would therefore not affect the length of response time to potential emergencies at the school site. Therefore, the existing comprehensive Emergency Plan in place at Viewpoint School, which was developed with the guidance of local Sheriff's and Fire Departments and follows federal guidelines on national preparedness efforts (Viewpoint, 2015), is sufficient to accommodate for expected length of response times for the school in the case of an emergency.

6-B The commenter states construction activities must not impede emergency vehicles from entering, exiting or passing the project site.

The ingress for the Peters site is on Dry Canyon Cold Creek Road and the egress is on Mulholland Highway. The two accesses for the Brown site and the Castle Oaks site are on Dry Canyon Cold Creek Road. All accesses are adequate for emergency access or access to nearby uses. The proposed project would not eliminate a through-route and would not narrow any roadways. All proposed roadways, access roads and drive lanes meet the LACFD access standards. The proposed project would reduce parking on the sides of Dry Canyon Cold Creek Road, thus creating a safer and wider route for emergency vehicles. No other modifications with the potential to affect emergency access would occur in conjunction with the proposed project.

6-C The commenter states the Station is concerned that growth and intensification of land uses within the service area will contribute to significant cumulative impacts on resources and operations as it will result in increased demands for law enforcement services. The Station will be required to modernize and/or expand to meet such needs.

The proposed project would involve the demolition of one residential unit and the repurposing of two others, and would thus not contribute to the growth and intensification of land uses within the Station's service area. The project would have no impact to public services, and would not contribute to the cumulative impact on police services.

Comment Letter 7

City of Calabasas
Community Development Department
100 Civic Center Way
Calabasas, CA 91302

RECEIVED
OCT 05 2015
COMMUNITY DEVELOPMENT
PLANNING DEPT

September 29, 2015

To: City of Calabasas- Community Development Department

From: Parksouth Homeowner Association

Re: Notice of Intent to Adopt a Negative Declaration/Mitigated Negative Declaration for Viewpoint School Tennis Court and Parking Lot Project, 140001413

Attn: Michael Klein

Dear Michael,

This letter to serve as a formal notice that Parksouth Homeowner Association objects to any approval of improvement, expansion or modification of Viewpoint School. As I explained in our phone conversation we have suffered substantially from the growth of Viewpoint School. The entrance to our community is being used by parents of Viewpoint who wish to make a u-turn to go back west on Mulholland Highway. In the past we have contacted Viewpoint but found no interest from them to mitigate this concern.

As you are aware the City of Calabasas installed no u-turn signs at our community entrance but the parents of Viewpoint still violate the signs and the law. In the morning during drop off and in the afternoon during pick up time the entrance to our community is being flooded with Viewpoint parents causing problems for us to exit our community to take our kids to school or ourselves to work. This is causing a very dangerous situation along the intersection of Parksouth and Mulholland Highway which will eventually lead to an accident.

Per your recommendation I have informed Mr. Robert Yalda from the City of Calabasas in regard to the above. I understand that the tennis court and parking lot project may not increase the size of the school but we have concerns and wish for you to look into the current application and prior approvals of Viewpoint and see what mitigation they had to do to address the impact of their traffic and the parents' behavior on the surrounding neighbors.

7-A

Comment Letter 7

We have nothing against Viewpoint School as a school. We have heard only good things about the educational part of the school but we are objecting to how they handle the traffic situation along Mulholland Highway and Parksouth.

As I suggested one way to mitigate it is to ask Viewpoint to inform all parents that they are not allowed to use Parksouth for a u-turn or enter Parksouth which is a private street. In addition ask Viewpoint to place a security guard at the intersection of Mulholland and Parksouth during pick up and drop off to write down all the parents' information that use Parksouth for a u-turn and take any action needed to stop them from continuing this violation.

7-A

If you wish to contact me you can reach me at 818-999-9979 ext. 100.

Sincerely,

Shawn Evenhaim
Parksouth Homeowners Association
President of the Board
21510 Roscoe Blvd.
Canoga Park, CA 91304
818-999-9979 ext. 100

Response to Comment Letter 7: Parksouth Home Owners Association (September 29, 2015)

7-A The commenter states the Parksouth Home Owners Association objects to the improvement, expansion or modification of Viewpoint School. The entrance to the Parksouth community is being used by parents of Viewpoint schoolchildren that are trying to make a U-turn to go west on Mulholland Highway. The commenter asks that the prior approvals of Viewpoint are researched to see what mitigation was done to address the impact of their traffic and the parents' behavior on the surrounding neighbors. The commenter recommends mitigation including informing all parents that they are not allowed to use Parksouth for a U-turn or enter Parksouth, which is a private street. A Viewpoint security guard could also be placed at the intersection of Mulholland Highway to regulate usage of Parksouth by school parents.

Thank you for your comment. The project would not exacerbate or alleviate the existing use of the Parksouth community entrance by school parents because the proposed project does not change the fundamental use of the site or Viewpoint's allowed enrollment. As a result, the existing school related traffic will remain the same. The study area intersections currently operate at Level of Service A, which is an acceptable level of service. The City's General Plan Circulation Element states that peak hour intersection operations of Level of Service C or better are generally acceptable, except at several existing deficient intersections, none of which are in the project study area. Therefore, any intersection operating at Level of Service D or worse is considered deficient. The study area intersections, which included Dry Canyon Creek Road at Mulholland Highway, Loop Road at Mullholland Highway, and Old Topanga Canyon Road at Dry Canyon Cold Creek Road and Mulholland Highway, are anticipated to continue to operate at their existing Level of Service A upon completion of the project.

In addition, students would no longer be driven or bussed off-site for tennis activities, which will result in a lower amount of net trips from the Viewpoint School. The proposed supplemental parking at the Brown site and Castle Oaks site would not generate any additional school-related trips, but would shift a nominal amount of existing trips from existing parking lots and from street parking to the proposed parking areas. This shift would likely result in a minor improvement in congestion along Dry Creek Cold Canyon Road and at existing project accesses.

Because the study area intersections currently operate at Level of Service A and would continue to do so with the addition of project traffic, there is no identified traffic impact triggered that would require mitigation measures.

Comment Letter 8

RECEIVED
SEP 30 2015
COMMUNITY DEVELOPMENT
PLANNING DEPT

September 24, 2015

Michael Klein
Planner, City of Calabasas
100 Civic Center Way
Calabasas a, CA 91302

RE: Viewpoint Project 140001413

We are writing to express concern regarding the proposed addition to the Viewpoint campus including the tennis courts and additional parking lots.

Our home is located at 23355 Mulholland Hwy. Our concern and opposition to the proposed project is on many levels. First of all, we are concerned about the potential for significant traffic delays that may result during construction. Specifically we are concerned about accessibility to Mulholland Hwy and subsequently to our home during construction hours. Our home is directly across from the school, and we currently experience significant accessibility issues during school start and end times as it is. 8-A

Our second concern has to do with the long-term impact on us should the project be approved. We already experience significant noise as a result of the football field's proximity to our home. There is constant loud music over the sound system, yelling and loud whistles. This is not just relegated to the football season, but at other times during the year, including summer. Adding tennis courts and additional parking facilities will add to the already present noise that results from the use of the football filed. 8-B

Furthermore, we have noticed that there is a certain amount of loitering that occurs near the parking lot across our home, resulting in broken bottles and other littering, and we are concerned that additional parking facilities in the vicinity will create more opportunity for such activities. 8-C

Also, we are concerned about the potential impact that more lighting will have on the natural environment that led us to purchase in this area. Not to mention our 8-D 8-E

Comment Letter 8

concern over the impact on the aesthetic nature of Mulholland Highway in general should the project require the removal of mature trees that currently line the street. 8-E

We thank you for the opportunity to address our concerns.

Sincerely,

Angela and Jeffery Liberman
23355 Mulholland Hwy,
Calabasas, CA 91302

Response to Comment Letter 8: Angela and Jeffrey Liberman (September 24, 2015)

8-A The commenter states construction of the project may result in traffic delays; specifically, accessibility to Mulholland Highway during construction hours.

Thank you for your comment. The intersections in the study area currently operate within acceptable Levels of Service (A) during the evening peak hour for existing traffic conditions. Construction of the proposed project would occur over a 12 to 18 month period, beginning in the second quarter of 2016. The proposed project would not require any soil import or export, as all soils would be balanced onsite and would not result in truck trips. Demolition materials associated with the existing structures would be recycled and transported from the site via Mulholland Highway to the Calabasas Landfill. Heavy equipment would be used during construction. Approximately 20 construction workers would be expected to work onsite at any given time. Expected daily construction trips are estimated at approximately 11 to 25 trips and an estimated 235 total trips are expected to and from the site for the transport of construction workers and construction equipment over the life of the construction activities. Haul routes would be via Mulholland Highway to Old Topanga/Valmar to Mulholland Drive, and staging of construction vehicles and materials would occur on the project site. No significant traffic delays are expected to occur during construction of the project, as no improvements to streets (including Mullholland Highway) are proposed, and construction vehicles would be kept onsite throughout the duration of the project and would thus not require repeated use of the existing roadways surrounding the project site. Because construction activities could generate up to 25 daily trips, construction impacts would be similar to operational impacts discussed next.

The project would not result in traffic delays during operation. Although the proposed tennis courts are expected to generate approximately 24 vehicles per hour during the weekday evening peak hour, students would no longer be driven or bussed off-site for tennis activities, which will result in a lower amount of net trips from the Viewpoint School. The proposed supplemental parking at the Brown site and Castle Oaks site would not generate any additional school-related trips, but would shift a nominal amount of existing trips from existing parking lots and from street parking to the proposed parking areas. This shift would likely result in a minor improvement in congestion along Dry Creek Cold Canyon Road and at existing project accesses. The study area intersections, which included Dry Canyon Creek Road at Mulholland Highway, Loop Road at Mullholland Highway, and Old Topanga Canyon Road at Dry Canyon Cold Creek Road and Mulholland Highway, are anticipated to continue to operate at their existing level of service upon completion of the project.

8-B The commenter states adding tennis courts and additional parking facilities will add to the already present noise that results from the use of the football field.

Noise sources associated with project operations that would have potential noise impacts include offsite vehicle traffic, onsite parking, and outdoor tennis court space. The tennis courts would create an increase in noise when in operation, but they would be located far enough away (600 feet) from residential structures to not cause a substantial permanent increase in noise. As would be required by the conditions of approval, no loud speaker or portable public system (PA) would be allowed. As such, off-site noise levels resulting from the proposed project would not generate a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project and impacts would be less than significant.

8-C The commenter states additional parking facilities in the vicinity will create more opportunity for loitering activities.

The project includes construction of tennis courts with 14-foot-tall fence and a 5-foot-tall fence along the property line at Mullholland Highway. These fences will prevent loitering in the parking facilities. In addition, Viewpoint School operates a 24-hour Campus Safety Department (Viewpoint, 2015), which is responsible for patrolling the campus facilities to prevent or control criminal activity from occurring on campus, including loitering.

8-D The commenter states the project could result in additional lighting.

The project sites are surrounded by low density residential and school land uses and these land uses do not generate significant light or glare. There are no lights on the tennis courts; however, the applicant is proposing security lighting in the parking lots and walkways. A photometric plan was submitted that demonstrates all proposed lighting conforms with the City's Dark Skies ordinance, Section 17.27 of the CMC. As a result, there would be no new lighting or glare that would affect day or nighttime views in the area and no impact would occur.

8-E The commenter states the removal of mature trees that currently line Mullholland Highway could result in aesthetic impacts.

The project property and surrounding areas are heavily populated with oak trees. Though the project has been designed to minimize impacts to surrounding native vegetation, project implementation would result in the removal of three coast live oak trees, none of which are Heritage trees as described in the City of Calabasas Oak Tree Ordinance, and would encroach upon another 60 coast live oak trees, of which 19 are Heritage trees. As defined in the Ordinance, "encroachment" refers to construction taking place within five feet of a City-protected oak tree's dripline or within 15 feet of its trunk. In addition, some pruning of oak trees may be required to provide clearance for the tennis court construction and parking lot. Based on the abundance of oak trees on the project site and surrounding areas and the small number of trees that will be removed as a result of the project, the impacts to the overall oak population in the vicinity of the project site will be relatively minor. A map depicting the locations of the oak trees on the three project

properties and a list of oaks expected to be impacted as a result of the project is included in the Oak Tree Report. Impacts to City-protected oak trees would conflict with the City's Oak Tree Ordinance; however, they may be mitigated through implementation of Mitigation Measure BIO-5, which requires replacement of trees or monetary compensation. As part of Mitigation Measure BIO-5, a permit shall be required prior to pruning or removing any native oak trees protected in accordance with the City of Calabasas Oak Tree Ordinance. No other trees would be removed on the project sites or along Mullholland Highway. Therefore, no aesthetic impacts associated with the removal of mature trees would occur.

Comment Letter 9

STATE OF CALIFORNIA–THE NATURAL RESOURCES AGENCY EDMUND G. BROWN, JR., *Governor*

SANTA MONICA MOUNTAINS CONSERVANCY
RAMIREZ CANYON PARK
5750 RAMIREZ CANYON ROAD
MALIBU, CALIFORNIA 90265
PHONE (310) 589-3200
FAX (310) 589-3207
WWW.SMMC.CA.GOV

November 2, 2015

RECEIVED
NOV 03 2015
COMMUNITY DEVELOPMENT
PLANNING DEPT

Michael Klein, Planner
Community Development Department
City of Calabasas
100 Civic Center Way
Calabasas, California 91302

Viewpoint School Tennis Courts and Parking Lots Project
Mitigated Negative Declaration Comments

Dear Mr. Klein:

The Santa Monica Mountains Conservancy provides the following comments on the proposed Viewpoint School expansion project along the Dry Creek Canyon stream and adjacent hillsides. To date the school has not permanently protected any habitat in the Santa Monica Mountains, and it continues to expand. A considerable length of a blueline stream now disappears into the campus with marginal habitat utility.

The Conservancy asserts that the proposed project would result in significant biological impacts without additional mitigation and minor project modifications. 9-A

The proposed project would jacket over 1,000 feet of willow-lined blueline stream with fencing, lighting utilities, and impervious surfaces. It would also disrupt the creek's hydrological and ecological balance with the addition of over half a dozen direct storm drain inlets with no defined or detailed provision for energy dissapation or permanent riparian habitat clearance at the drain outlets. The proposed project would create multiple acres of impervious surface of which 93 new parking spaces would drain directly into the creek. The proposed project would leave 1,000 feet of blueline stream with zero upland habitat buffer beyond the edge of the existing and future willow canopy edge. 9-B

The proposed biological mitigation measures do nothing to offset the permanent degradation of 1,000 feet of blueline stream habitat and severing of wildlife movement across Mulholland Highway. 9-C

Comment Letter 9

The project description is inadequate because it does not distinctly show or define where the proposed security fence would go along the 1,000-plus feet of the blueline stream. For either side of the creek it would go on, it would 100 percent cut off wildlife access from that side of the creek. The MND analysis is deficient for not addressing how the project would significantly degrade habitat connectivity across Mulholland Highway. The subject project area provides the only Mulholland Highway wildlife crossing (habitat on both sides of road) between Old Topanga Canyon Road and just west of Canyon Drive. The couple hundred acres of contiguous high quality habitat north of Mulholland Highway are in danger of being isolated. The proposed project contributes significantly to that isolation. The Mountains Restoration Trust has photographs of an un-collared young mountain lion on its property this month within that above-described approximately 200-hundred acre habitat block. 9-D

For a project that requires a General Plan Amendment, a Scenic Corridor permit, and a Zone Change within the Santa Monica Mountains National Recreation Area, the Conservancy expects mitigation commensurate with the significant biological impacts. 9-E

To not result in unavoidable significant adverse biological impacts, the proposed project must include an adequate permanent wildlife corridor across Mulholland Highway. Such a corridor must be at least 15-20 feet wide and be free of all lighting and fencing of all types. The permanency of the corridor must be from a third party conservation easement or a deed restriction that requires a unanimous City Council vote to revoke. The attached figure shows where such a wildlife corridor could go. For all intents and purposes the project needs to lose the most downstream proposed tennis court to have a functional wildlife corridor.

To mitigate both of the direct loss and degradation of habitat from all of the project components, the school must permanently protect all of the remaining open space along the proposed tennis court area and south of the Brown and Castle Oaks sites. The attached figure shows the minimum conservation easement boundary to achieve adequate habitat protection and future buffering of offsite habitat. That permanent protection must be via a third party conservation easement or a deed restriction that requires a unanimous City Council vote to revoke. Ideally the Mountains Recreation and Conservation Authority 9-F

Comment Letter 9

would hold the conservation easements. The proposed protected areas do not diminish the project except to potentially eliminate one tennis court. 9-F

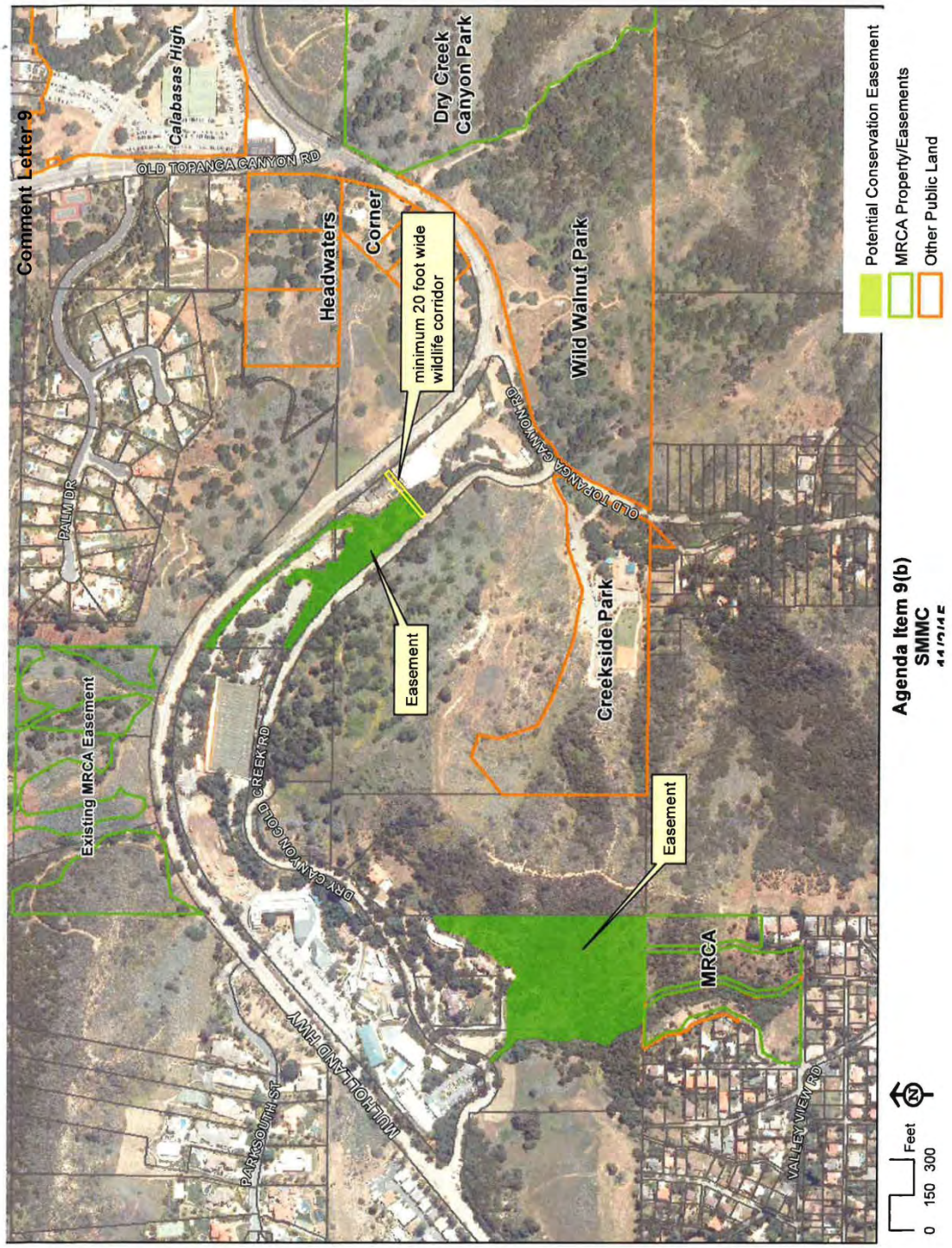
In the spirit of ecological sustainability in the Santa Monica Mountains, we hope the school concurs with and accepts these suggested mitigation measures as depicted and described in this letter and attached figure as part of the MND. Unless the school plans for additional expansion into the proposed conservation easement areas, we see no reason for resistance. If such expansion is planned, it should have been included in the subject MND. The MND should include an analysis of how the project fits into the school's planning documents and if the proposed Conservancy conservation easement areas show ecologically incongruous uses in the school's planning documents. 9-G

Please direct any questions and future documentation to Paul Edelman of our staff at 310-589-3200 ext. 128 or at the above letterhead address.

Sincerely,

Linda Parks

LINDA PARKS
Chairperson


Comment Letter 9
Calabasas High
OLD TOPANGA CANYON RD
Dry Creek Canyon Park
Headwaters Corner
minimum 20 foot wide wildlife corridor
Wild Walnut Park
OLD TOPANGA CANYON RD
PALM DR
Easement
Creekside Park
Existing MRCA Easement
CREEK RD
DRY CANYON COLD
Easement
MRCA
MULHOLLAND HWY
PARK SOUTH ST
VALLEY VIEW RD
Potential Conservation Easement
MRCA Property/Easements
Other Public Land
Agenda Item 9(b)
SMMC
0 150 300 Feet

Response to Comment Letter 9: Santa Monica Mountain Conservancy (November 2, 2015)

9-A: The commenter states a considerable length of a blueline stream now disappears into the campus with marginal habitat utility. The Conservancy asserts that the proposed project would result in significant biological impacts without additional mitigation and minor project modifications. The project would cover over 1,000 feet of willow-lined blueline stream with fencing, lighting utilities, and impervious surfaces.

The project site is an existing developed school site. The project involves the removal of several buildings and associated infrastructure to build the proposed facilities. As such, the project is repurposing a built site and is not disturbing pristine, high value habitat. The site contains two jurisdictional features, Dry Canyon Creek and one of its unnamed tributaries, each with ephemeral or intermittent flows. The portion of Dry Canyon Creek within the project site is relatively unvegetated and contains large boulders and cobbles, and the unnamed tributary contains non-native grassland. Some portions of Dry Canyon Creek are concrete lined or have reinforced sidewalls to prevent erosion. While there are isolated portions of the drainage that contain silted areas, they do not indicate wetland soils. The slopes and upper terrace adjacent to the drainages support southern willow scrub habitat located dominated by willows (*Salix* spp.) and California sycamore (*Platanus racemosa*) trees. The drainages are fed by stormwater runoff that enters the channel from the west, as well as roadside runoff along Mulholland Highway that enters the channel from the north.

The applicant has in place a previously-developed Master Plan that addresses impacts to Dry Canyon Creek and its associated riparian vegetation from long-term development at and operation of the school. The proposed project has been designed to largely avoid direct impacts to this riparian habitat and other sensitive communities and will not contribute significantly to impacts previously identified in the Master Plan.

The project has been designed to minimize impacts to Dry Canyon Creek and associated native habitat with structures proposed to be constructed in areas that have been previously disturbed or are occupied by existing development. Construction of the project would not alter the drainage pattern of Dry Canyon Creek or remove adjacent native upland vegetation. Other than the removal of three coast live oak (*Quercus agrifolia*) trees, no native habitat will be impacted during the construction phase of the project. The only anticipated impact to native habitat would be minor ongoing maintenance trimming of southern willow scrub vegetation to maintain clearance along approximately 1,000 linear feet of security fencing along Dry Canyon Creek. In order to minimize impacts to this riparian habitat, Mitigation Measure BIO-3 shall be implemented to reduce impacts. Mitigation Measure BIO-3 requires that vegetation maintenance along the security fence adjacent to the Dry Canyon Creek shall be limited to the removal of non-native, invasive species. No native will trees shall be removed; however, some pruning of limbs that are 2 inches or less is permissible for providing clearance from the security fence. No more than 25 percent of a tree's canopy shall be removed during a pruning event.

The project has been designed to minimize impacts to native habitat with construction of the proposed structures. There are no identified significant impacts to plant or wildlife species or their habitats requiring additional mitigation measures beyond what the City has already identified.

9-B: The commenter states the project would disrupt the creek's hydrological and ecological balance with the addition of direct storm drain inlets with no defined provision for energy dissipation or permanent riparian habitat clearance at drain outlets. The project would create multiple acres of impervious surface of which 93 new parking spaces would drain directly into the creek.

The proposed project would be require to implement Mitigation Measure HYDRO-1, which requires implementation of post construction BMPS to promote water quality. The project would include landscape features and filters that would be used to capture and filter stormwater prior to discharge from the project site into the Creek. Each parking lot has a catch basin installed at a low point. Catch basins are equipped with a filter (or catch basin filtration insert) which is highly effective at capturing and removing pollutants from stormwater runoff. They designed to capture sediment, debris, trash and oils/grease from low (first flush) flows. In addition, the project is subject to the City of Calabasas development review process, which includes review and approval of all grading plans, drainage plans, and design review. The applicant's engineer will be required to provide product details, specifications and maintenance provisions with the final design.

9-C: The commenter states the project would leave 1,000 feet of blueline stream with zero upland habitat buffer beyond the edge of existing and future willow canopy edge. The proposed biological mitigation measures do not offset the permanent degradation of 1,000 feet of blueline stream habitat and severing of wildlife movement across Mulholland Highway.

Refer to response to comment 9-A, above. The proposed project does not result in the permanent removal of upland habitat but rather would include the periodic minor pruning of southern willow scrub habitat to maintain clearance from the fence.

9-D: The commenter states the project description is inadequate because it does not distinctly show or define where the proposed security fence would go along the 1,000-plus feet of blueline stream. Wildlife access from either side of the creek would be cut off by 100%; regardless of what side of the creek it would be put.

The proposed fencing location was shown on Figure 3-1, Landscaping Plan, of the Draft MND. Viewpoint Campus and the Peters site are currently secured by existing chain link and wrought iron fencing. The proposed project does not introduce any new fencing, but only replaces existing fencing in certain areas as show in the existing and proposed fence plan in Appendix 1. The replacement of existing fencing would not appreciably alter wildlife movement through the property. Furthermore, there is an existing fence along the

length of Dry Canyon Cold Creek Road from Old Topanga Canyon Road to Mullholland Highway. In addition, adjacent properties are fenced for security and privacy purposes.

Existing fencing likely limits wide scale wildlife movement through the school property. As noted above, fencing is currently in place around the subject sites, including along the length of Dry Canyon Cold Creek Road, separating the school from open space to the south, and much of Dry Canyon Creek adjacent to the proposed project improvements is bordered by fencing. The applicant proposes to replace some of this existing fencing, but will not place additional fencing.

In addition, while there are large tracts of open space to the south, the areas of native habitat to the north are ultimately confined by residential and other developments. The Planning Commission recently adopted a Mitigated Negative Declaration for a project to construct three residential units across Mulholland Highway directly North of Viewpoint, and certified an EIR for the construction of a new home to the south of Viewpoint, located at 3121 Old Topanga Canyon Road. Both documents considered wildlife movement and also found that there is no significant wildlife corridor in this area. There is, however, undeveloped land to the southeast of the school and adjacent equestrian facility that connects the remaining undeveloped land to the south of the school property with that to the north of Mulholland Highway. This area is a more viable area for wildlife movement because it has no existing obstacles, unlike the project site. Based on these facts and the presence of existing fencing on and adjacent to the school property and proposed development area, implementation of the project is not expected to affect regional wildlife movement.

9-E: The commenter states the project area provides the only Mulholland Highway wildlife crossing between Old Topanga Canyon Road and just west of Canyon Drive, and with project implementation; the couples hundreds of acres of high quality habitat north of the Highway are in danger of being isolated. Proof of important habitat can be seen in the Mountain Restoration Trust photos of an un-collared young mountain lion within the project area. To not result in unavoidable significant biological impacts, the Conservancy recommends a permanent wildlife corridor be made across Mulholland Highway; at least 15-20 feet wide, and free of all lighting and fencing. The project needs to lose the most downstream tennis courts proposed for the corridor to be functional. The permanency of the corridor must be from a third party conservation easement or a deed restriction that requires a unanimous City Council vote to revoke. The Conservancy attached a figure to show where the corridor would go.

The project site is an existing developed school site. Due to the site's land use as a school facility with young children regularly occupying the property, for safety purposes, it is not considered feasible to maintain a wildlife crossing through the project site, particularly given that there is a viable linkage nearby, as described above. The project site does not lie within a mapped wildlife linkage or corridor per the City of Calabasas General Plan, any Los Angeles County Significant Ecological Area (SEA), or wildlife

connectivity area as defined by the California Essential Habitat Connectivity Project. In addition, refer to response to comment 9-D regarding fencing for wildlife movement.

9-F: The commenter states to mitigate the direct loss and degradation of habitat, the school must permanently protect all remaining open space along the proposed tennis court area and south of the Brown and Castle Oak sites. The permanent protection must be via a third part conservation easement or a deed restriction that require a unanimous City Council vote to revoke; ideally the Conservancy would hold these easements. The Conservancy attached a figure to show the minimum conservation easement boundary to achieve adequate habitat protection and future buffering of offsite habitat. It was stated that the proposed protected areas do not diminish the proposed project with the exception of eliminating one tennis court.

As identified in the Draft IS/MND, there is no direct loss and degradation of habitat that would require additional mitigation measures beyond what is already proposed. Project construction impacts will be limited to areas that are already developed or disturbed and the proposed project would not result in significant impacts to Dry Canyon Creek or its tributary on the site, with the exception of some minor trimming of vegetation; therefore, no direct impacts to the movement of resident or migratory fish would occur. Refer to response to comments 9-A, above.

In addition, the City's Development Code requires a minimum of 70% pervious area for the project site. The tennis courts and parking lots include 72.8% pervious area; the Campus and Peters site include 80% pervious area; and the Brown and Castle Oak sites are 86% pervious area. Therefore, the proposed project provides ample open space, consistent with the City's Development Code.

9-G: The Conservancy hopes that the school concurs with and accepts the suggested mitigation measures discussed and depicted above. The Conservancy sees no reason for resistance unless the school plans for additional expansion into the proposed conservation easement areas. If such an expansion is planned, it should have been included into the MND. Lastly, the MND should include an analysis of how the project fits into the school's planning documents and if the proposed Conservancy conservation easement areas show ecologically incongruous uses in those planning documents.

The applicant has in place a previously-developed Master Plan that addresses impacts to Dry Canyon Creek and its associated riparian vegetation from long-term development at and operation of the school. The proposed project has been designed to largely avoid direct impacts to this riparian habitat and other sensitive communities and will not contribute significantly to impacts previously identified in the Master Plan, for which mitigation has already been established. As such, no biological impacts requiring additional measures have been identified.

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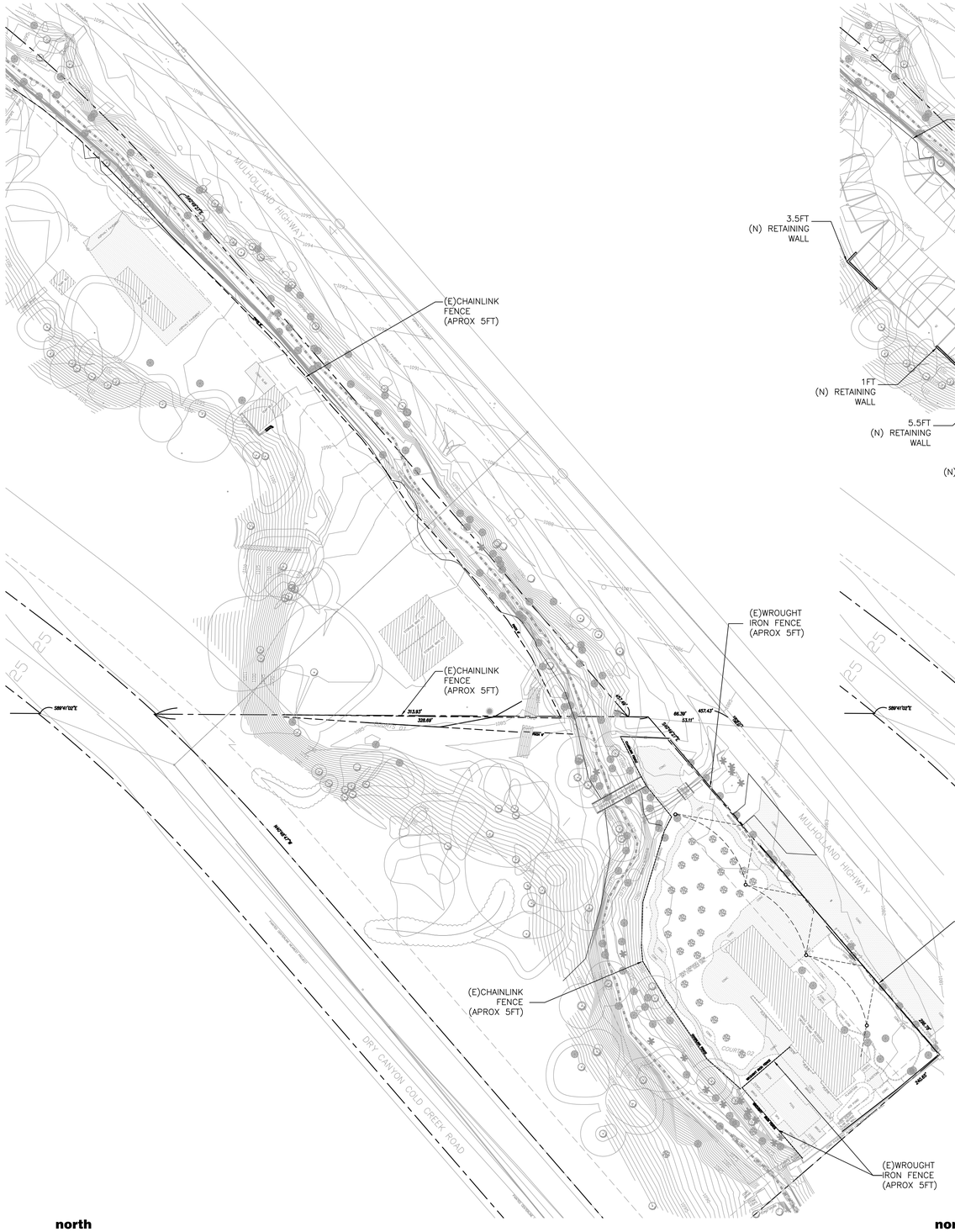
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APPENDIX 1

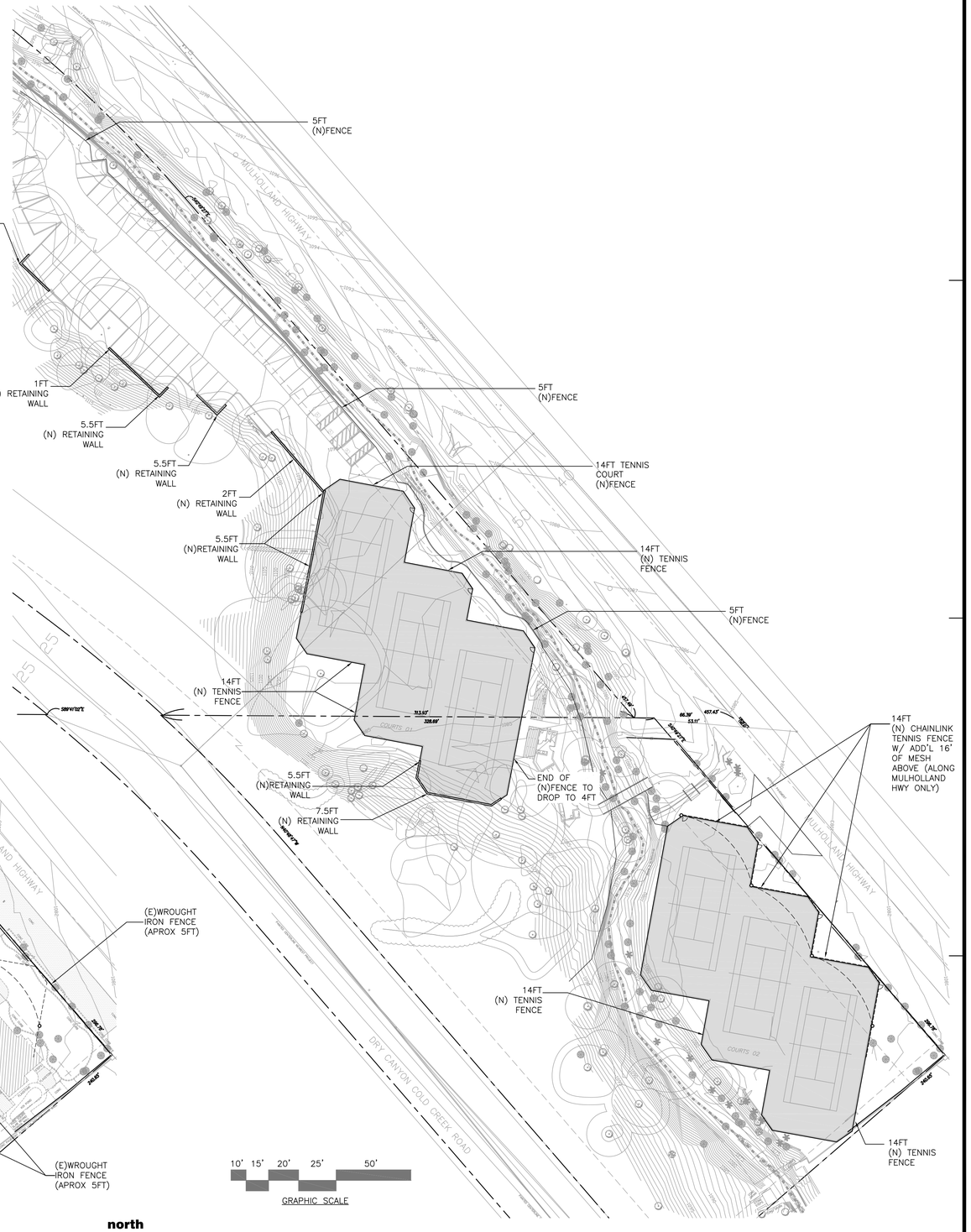
Fence and Wall Plan



north

1 PETERS EXISTING WALL HEIGHTS

scale: 1" = 40'-0"



10' 15' 20' 25' 50'

GRAPHIC SCALE

north

2 PETERS PROPOSED WALL HEIGHTS

scale: 1" = 40'-0"

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REV	DATE	Description
–	09/28/15	DRAWING CORRECTION
–	04/24/15	PLANNING RE-SUBMITTAL
–	03/17/15	PLANNING RE-SUBMITTAL
–	01/21/15	PLANNING RE-SUBMITTAL
–	12/01/14	PLANNING SUBMITTAL
–	11/24/14	100% PLANNING REVIEW
–	11/13/14	50% PLANNING REVIEW

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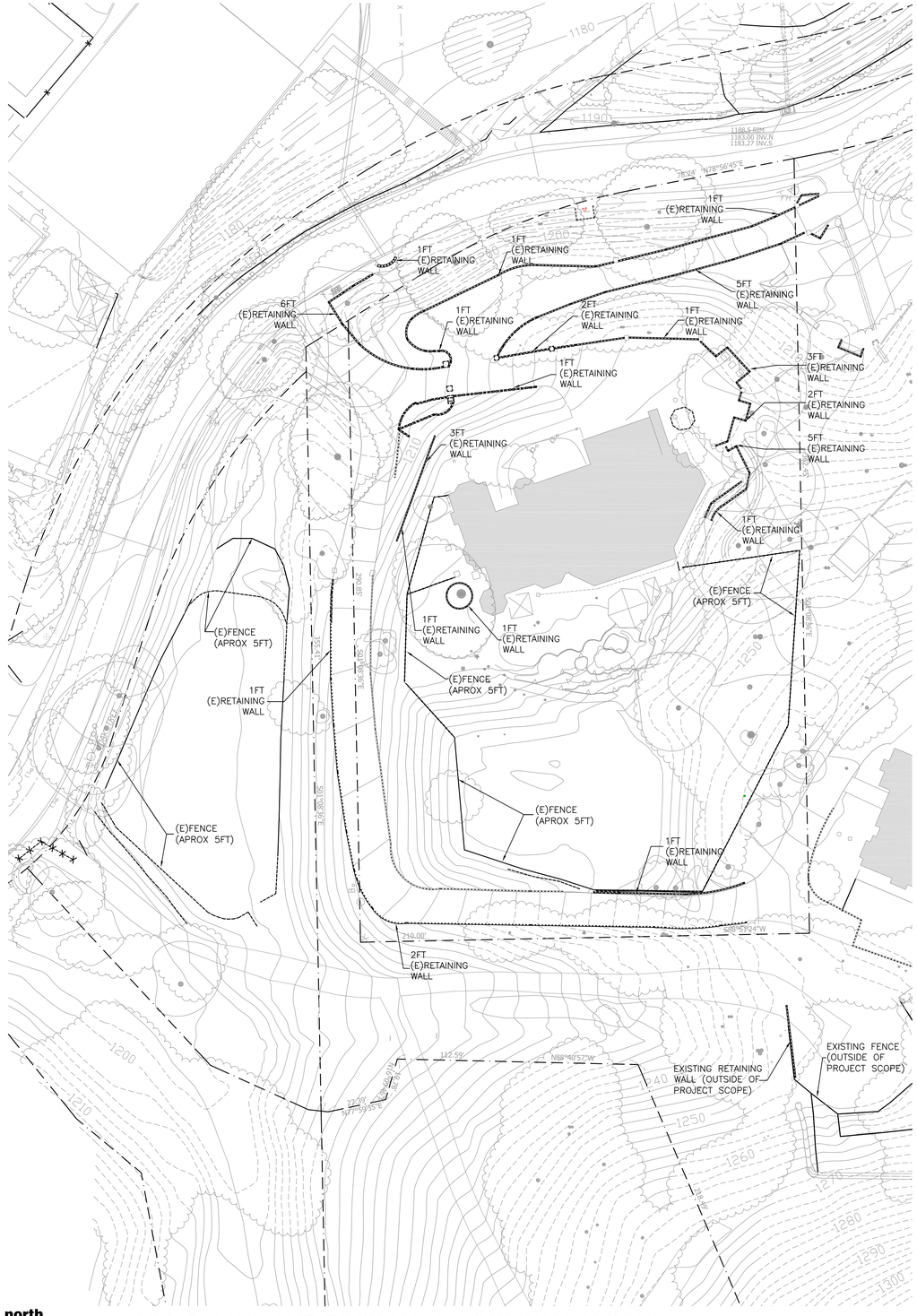
PROJECT:

Viewpoint School
Calabasas, CA

PROJECT NUMBER: 14.0017

WALL HEIGHTS
PETERS SITE

A111



1 CASTLE OAKS AND BROWN EXISTING WALL HEIGHTS
scale: 1" = 30'-0"



2 CASTLE OAKS AND BROWN PROPOSED WALL HEIGHTS
scale: 1" = 30'-0"

10' 15' 20' 25' 50'
GRAPHIC SCALE

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REV	DATE	Description
–	08/28/15	DRAWING CORRECTION
–	04/24/15	PLANNING RE-SUBMITTAL
–	03/17/15	PLANNING RE-SUBMITTAL
–	01/21/15	PLANNING RE-SUBMITTAL
–	12/01/14	PLANNING SUBMITTAL
–	11/24/14	100% PLANNING REVIEW
–	11/12/14	SDE PLANNING REVIEW

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PROJECT:

Viewpoint School
Calabasas, CA

PROJECT NUMBER: 14.0017

WALL HEIGHTS
CASTLE OAKS & BROWN

A112