APPENDIX A

Arborist Report
A Better Tree Service
Undated

A Better Tree Service
Lic. #751678

Arborist Report

Prepared for: Therese Hart-Pignotti
Project Manager
Law Offices of John K. Sutherland P.C.
Monica R. Salusky, Attorney at Law
2540 Camino Diablo, Suite 200
Walnut Creek, CA 94597

Prepared by: Jeffrey D. Strader, Certified Arborist
WE-9721A
A Better Tree Service
3117 El Camino Avenue
Sacramento, CA 95821

Location: Expo Pkwy & Leisure Lane
APN 275-0310-008

Valley oak Quercus lobata (Northern most tree) Tree #1
Dimension: Multi-trunk 7", 12" & 15" DBH X40'
Root crown: poor
Root structure: Unknown. No excavation performed.
Structure of main trunk: poor
Structure of branching throughout crown: fair
Foliage: fair

Valley oak Quercus lobata (Southern most tree) Tree #2
Dimension: 14"DBH X45'
Root crown: poor
Root structure: Unknown. No excavation performed.
Structure of main trunk: poor
Structure of branching throughout crown: poor. This tree was forced over by the larger dominant tree.

My observations of the aforementioned Valley oak trees are as follows: These trees spaced approximately 3' apart appear to have sustained severe damage to the lower trunk areas due to fire. Burn damage constitutes approximately 50%-75% of the outer bark, phloem and cambium tissue layers as well as a significant

portion of sap wood. This damage extends up the trunk from the root collar approximately 40". Dry rot was noted throughout these areas extending into heartwood and a colony of termites was noted on the east side lower trunk of tree #2. Borer holes 3/16" in diameter were noted at an approximate depth of 1" in the damaged area of both trunks.

Jeffrey D. Strader

APPENDIX B

Climate Action Plan Consistency Review Checklist
KD Anderson & Associates
August 25, 2014

City of SACRAMENTO
Community Development

300 Richards Blvd., 3rd Floor
Sacramento, CA 95811

Help Line: 916-264-5011
CityofSacramento.org/dsd

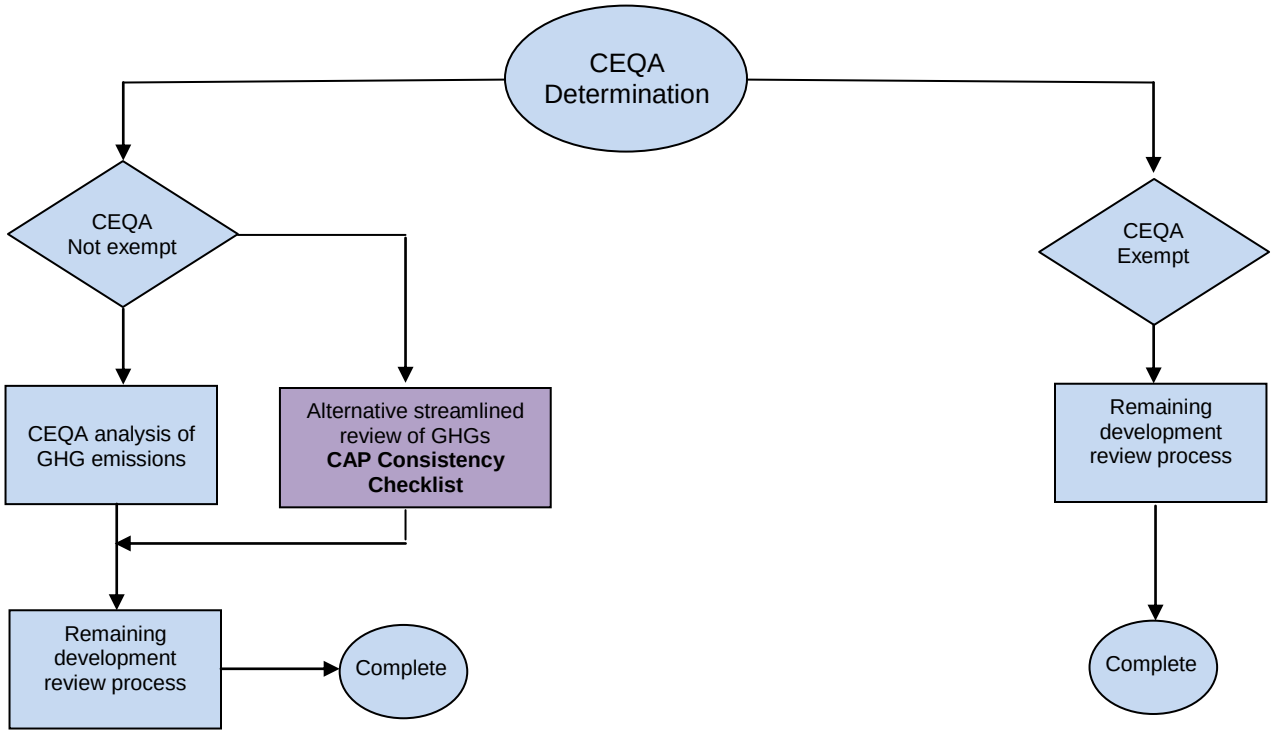
CLIMATE ACTION PLAN – CONSISTENCY REVIEW CHECKLIST

The purpose of the Climate Action Plan Consistency Review Checklist (CAP Consistency Review Checklist) is to provide a streamlined review process for proposed new development projects which are subject to discretionary review and trigger environmental review pursuant to the California Environmental Quality Act (CEQA)..

CEQA Guidelines require the analysis of greenhouse gas (GHG) emissions and potential climate change impacts from new development. The Sacramento Climate Action Plan qualifies under section 15183.5 of the CEQA Guidelines as a plan for the reduction of GHG emissions for use in cumulative impact analysis pertaining to development projects. This allows projects that demonstrate consistency with the CAP to be eligible for this streamlining procedure. Projects that demonstrate consistency with the CAP and the Sacramento 2030 General Plan may be able to answer "No additional significant environmental effect" in the City's initial study checklist. Projects that do not demonstrate consistency may, at the City's discretion, prepare a more comprehensive project-specific analysis of GHG emissions consistent with CEQA requirements. (See FAQ about the CAP Consistency Review Checklist for more details.)

The diagram below shows the context for the CAP Consistency Review Checklist within the planning review process framework.

Streamlined Review of GHG Emissions in Development Projects



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CLIMATE ACTION PLAN – CONSISTENCY REVIEW CHECKLIST

Application Submittal Requirements

1. The CAP Consistency Review Checklist is required only for proposed new development projects which are subject to CEQA review (non-exempt projects)
2. If required, the CAP Consistency Review Checklist must be submitted in addition to the basic set of requirements set forth in the Universal Application and the Planning Application Submittal Matrix.
3. The applicant shall work with staff to meet the requirements of this checklist. These requirements will be reflected in the conditions of approval and/or mitigation measures.
4. All conditions of approval and mitigation measures from this checklist shall be shown on full-size sheets for building plan check submittals.

Application Information

Project Number: _____

Address of Property: APN 275-0310-008-0000. Southeast corner of Leisure Lane/Slobe Avenue and Expo Parkway/Canterbury Road

Was a special consultant retained to complete this checklist? ☒ Yes ☐ No. If yes, complete following

Consultant Name*: Wayne Shijo

Company: KD Anderson & Associates

Phone: 916/660-1555 E-Mail: wshijo@kdanderson.com

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CAP Consistency Checklist Form for Projects that are Not Exempt from CEQA

Checklist Item (Check the appropriate box, and provide explanation for your answer).	Yes	No*
1. Is the proposed project substantially consistent with the City's over-all goals for land use and urban form, allowable floor area ratio (FAR) and/or density standards in the City's 2030 General Plan, as it currently exists?	X	

Please explain how proposed project compares to 2030 General Plan with respect to density standards, FAR, land use and urban form. (See directions for filling out CAP Checklist)

The project is consistent with the Suburban Center General Plan land use designation, including the goals for land use and urban form, FAR and density requirements.

2. Would the project reduce average vehicle miles traveled (VMT) per capita of the proposed residents, employees, and/or visitors to the project by a minimum of 35% compared to the statewide average?	Yes	No*	NA
	X		

Please explain how proposed project meets this requirement. If "not applicable", explain why this was not required. If project does not meet this requirement, see Directions for filling out CAP Consistency Review Checklist for alternatives to meeting checklist requirements.

VMT reductions are consistent with the City's VMT/Capita screening map.

(Attach a copy of the VMT model input and output. Record the model and version here _____)

*If "No", equivalent or better GHG reduction must be demonstrated as part of the project, and incorporated into conditions of approval.

Note: Requirements from this checklist should be incorporated into the conditions of approval, and shown on the full-size plans submitted for building plan check.

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Checklist Item (Check the appropriate box, and provide explanation for your answer).	Yes	NA
3. Would the project incorporate traffic calming measures? *(Examples of traffic calming measures include, but are not limited to: curb extensions, speed tables, raised crosswalks, raised intersections, median islands, tight corner radii, roundabouts or mini-circles, on-street parking, planter strips with street trees, chicanes/chokers.)*		X

Please explain how the proposed project meets this requirement (list traffic calming measures). If "not applicable", explain why traffic calming measures were not required.

The requirement is not applicable because the project does not include a circulation or roadway system that warrants such measures. The project is an infill project consisting of a single structure which includes a parking lot to serve the project.

4. Would the project incorporate pedestrian facilities and connections to public transportation consistent with the City's Pedestrian Master Plan?	Yes	NA
	X	

Please explain how the proposed project meets this requirement. If "not applicable", explain why this was not required.

Sidewalks and street lighting are already present along all project site street frontages. The southwest corner of the project site is directly across the street from an American River Bike Trail paved access trail. The project site is approximately one-half mile from the light rail transit corridor along Del Paso Boulevard.

*If "No", equivalent or better GHG reduction must be demonstrated as part of the project and incorporated into the conditions of approval.

Note: Requirements from this checklist should be incorporated into the conditions of approval, and shown on the full-size plans submitted for building plan check.

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5. Would the project incorporate bicycle facilities consistent with the City's Bikeway Master Plan, and meet or exceed minimum standards for bicycle facilities in the Zoning Code and CALGreen?	**Yes**	**NA**
		X

Please explain how the proposed project meets this requirement. If "not applicable", explain why this was not required.

The project is an infill project and does not include an offsite circulation or roadway system. As noted above in checklist item #4, sidewalks and street lighting are already present along all project site street frontages, and the southwest corner of the project site is directly across the street from an American River Bike Trail paved access trail.

6. For residential projects of 10 or more units, commercial projects greater than 25,000 square feet, or industrial projects greater than 100,000 square feet, would the project include on-site renewable energy systems (e.g., photovoltaic systems) that would generate at least a minimum of 15% of the project's total energy demand on-site? (CAP Actions: 3.4.1 and 3.4.2)	**Yes**	**No***	**NA**
	x		

Please explain how the proposed project meets this requirement. If "not applicable", explain why this was not required. If project does not meet requirements, see DIRECTIONS FOR FILLING OUT CAP CONSISTENCY REVIEW CHECKLIST re: alternatives to meeting checklist requirements.

The project shall comply with the adopted CAP by meeting the Tier 1 Voluntary Standards for Health Facilities (OSHPD 1, 2 & 4) in the 2013 California Green Building Standards Code (CALGreen).

Attach a copy of the CalEEMod input and output. Record the model and version here _____.
Do NOT select the "use historical" box in CalEEMod for energy demand analysis related to this requirement.

7. Would the project (if constructed on or after January 1, 2014) comply with minimum CALGreen Tier I water efficiency standards?	**Yes**	**NA**
	X	

Please explain how the proposed project meets this requirement. If "not applicable", explain why this was not required.

As noted above in checklist item #6, the project shall comply with the adopted CAP by meeting the Tier 1 Voluntary Standards for Health Facilities (OSHPD 1, 2 & 4) in the 2013 California Green Building Standards Code (CALGreen).

*If "No", equivalent or better GHG reduction must be demonstrated as part and incorporated into the conditions of approval.

Note: Requirements from this checklist should be incorporated into the conditions of approval, and shown on the full-size plans submitted for building plan check.

City of
SACRAMENTO
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Certification

I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this initial evaluation to the best of my ability and that the facts, statements and information presented are true and correct to the best of my knowledge and belief.

Signature: Monica R Salcedo Date: August 18, 2014

APPENDIX C

Jurisdictional Delineation and Special-Status Species Assessment
Gibson and Skordal
June 2014

JURISDICTIONAL DELINEATION
&
SPECIAL-STATUS SPECIES ASSESSMENT

LOT 8, WOODLAKE BUSINESS PARK

Gibson & Skordal, LLC
WETLAND CONSULTANTS
2617 K Street, Suite 175
Sacramento, California 95816

JURISDICTIONAL DELINEATION
&
SPECIAL-STATUS SPECIES ASSESSMENT

LOT 8, WOODLAKE BUSINESS PARK

Sacramento County, California

June 2014

Prepared For:

Law Offices of John K. Sutherland
2540 Camino Diablo, Suite 200
Walnut Creek, California 94597

Prepared By:

Gibson & Skordal, LLC
WETLAND CONSULTANTS
2617 K Street, Suite 175
Sacramento, California 95816

INTRODUCTION

This report presents the results of a delineation of waters of the United States and a special-status species assessment conducted within the Lot 8, Woodlake Business Park property.

LOCATION

The approximately 2.16-acre study area is located in the Rancho Del Paso Land Grant (1844), Sacramento County, California (UTM: 634,331 meters Easting/4,273,334 meters Northing; Zone 10 North). The study area is portrayed on the USGS Sacramento East, California 7.5-Minute Series Topographic Quadrangle. **Figure 1** is a vicinity map.

To access the site from downtown Sacramento, drive east on I-80 Business/Capital City Freeway and exit at Exposition Boulevard (Exit 9A). Turn left onto Exposition Boulevard and drive for approximately 0.6 mile. Turn left onto Leisure Lane and continue for approximately 0.4 mile. The study area is situated to the southeast of the Leisure Lane-Exposition Parkway intersection.

METHODOLOGY

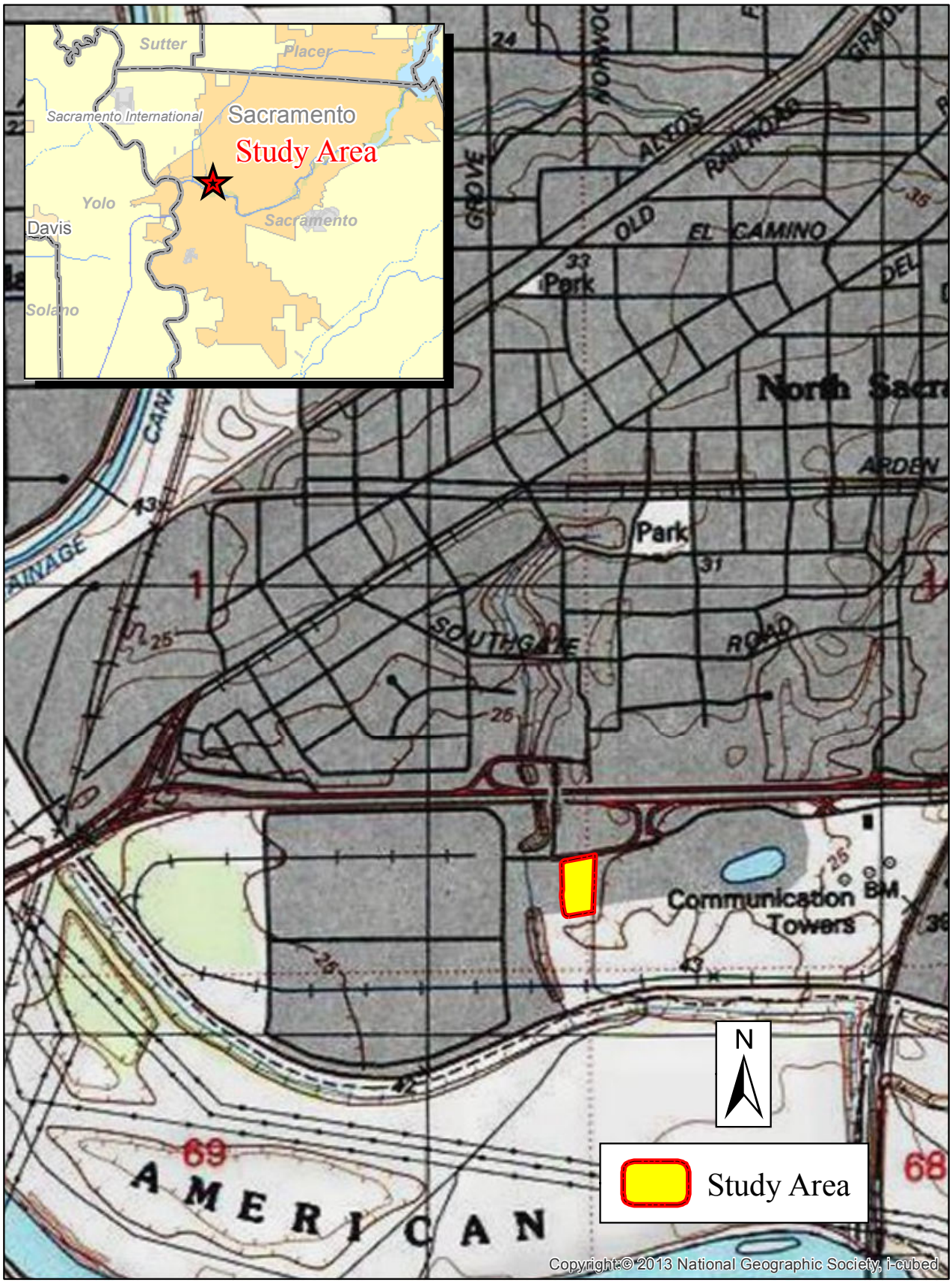
This delineation was performed in accordance with the 1987 **"Corps of Engineers Wetlands Delineation Manual,"**[1] the **"Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0),"**[2] **"Final Map and Drawing Standards for the South Pacific Division Regulatory Program"** dated August 6, 2012, and Sacramento District's **"Minimum Standards for Acceptance of Preliminary Wetlands Delineations"** dated November 30, 2001. Corps' regulations (33 CFR 328) were used to determine the presence of waters of the United States other than wetlands. The **"U.S. Army Corps of Engineers Jurisdictional Determination Form Instructional Guidebook, May 30, 2007"**[3] was consulted in evaluating the jurisdictional status of the water features within the study area. The **"National Wetland Plant List, Arid West, Final Draft Ratings"**[4] was used to determine the wetland indicator status of plants observed in the study area.

[1] Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station. Vicksburg, Miss.

[2] Wetlands Regulatory Assistance Program. September 2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0). U.S. Army Engineer Research and Development Center, Vicksburg, Miss.

[3] U.S. Army Corps of Engineers Jurisdictional Determination Form Instructional Guidebook. May 30, 2007. U.S. Army Corps of Engineers & U.S. Environmental Protection Agency.

[4] Lichvar, R.W., M. Butterwick, N.C. Melvin, and W.N. Kirchner. 2014. The National Wetland Plant List: 2014 Update of Wetland Ratings. Phytoneuron 2014-41: 1-42.



Lot 8, Woodlake Business Park
Jurisdictional Delineation and Special-Status Species Assessment
June 2014

Figure 1
Vicinity Map

Field surveys were conducted on June 5, 2014, to delineate water features that are potentially regulated under Section 404 of the Federal Clean Water Act. The data point location was surveyed utilizing a Trimble GeoXT GPS receiver equipped with sub-meter accuracy. The delineation map was prepared in accordance with the August 6, 2012, "**Final Map and Drawing Standards for the South Pacific Division Regulatory Program.**" The GPS survey data was digitized and layered over ortho-rectified aerial photography with 12 inch resolution flown in 2002 and provided by the USGS Earth Resources Observation & Science Center in Sioux Falls, South Dakota. Detailed data on vegetation, soils, and hydrology were taken in the field. A data sheet is provided in **Appendix A**. **Appendix B** is a list of plant species observed in the study area including their status as wetland indicator species. **Appendix C** contains photos of representative landscapes within the study area.

GENERAL SITE CONDITIONS AND HABITAT

Existing Field Conditions

The study area, which is located north of the American River Parkway and east of the Johnston Business Park, is situated on flat terrain ranging from 28 to 30 feet in elevation. With the exception of an asphalt access road, the site is undeveloped and lacks any habitable structures. Exposition Parkway defines the southern and western boundaries while Leisure Lane represents the northern extent of the study area. The abutting parcel to the east is occupied by the Red Lion hotel, and the surrounding lands support residential developments, business parks, open space areas, and associated infrastructure. Most of the site was disked at the time of field surveys. However, sufficient remnant vegetation existed in these areas to determine plant composition. Based on review of historic aerial photography, disking is a routine maintenance activity.

Plant Communities

The site consists of highly disturbed non-native annual grasslands. Plants consisted of soft chess (*Bromus hordeaceus*), ripgut brome (*Bromus diandrus*), barley (*Hordeum murinum*), yellow star-thistle (*Centaurea solstitialis*), and wild oats (*Avena fatua*). The only woody species present were two valley oaks (*Quercus lobata*).

Soils

According to the April 1993, "**Soil Survey of Sacramento County, California**," two soil map units occur within the study area: Columbia sandy loam, drained, 0-2% slopes, drained (117) and San Joaquin fine sandy loam, 0-3% slopes (211). **Figure 2** is a soils map.

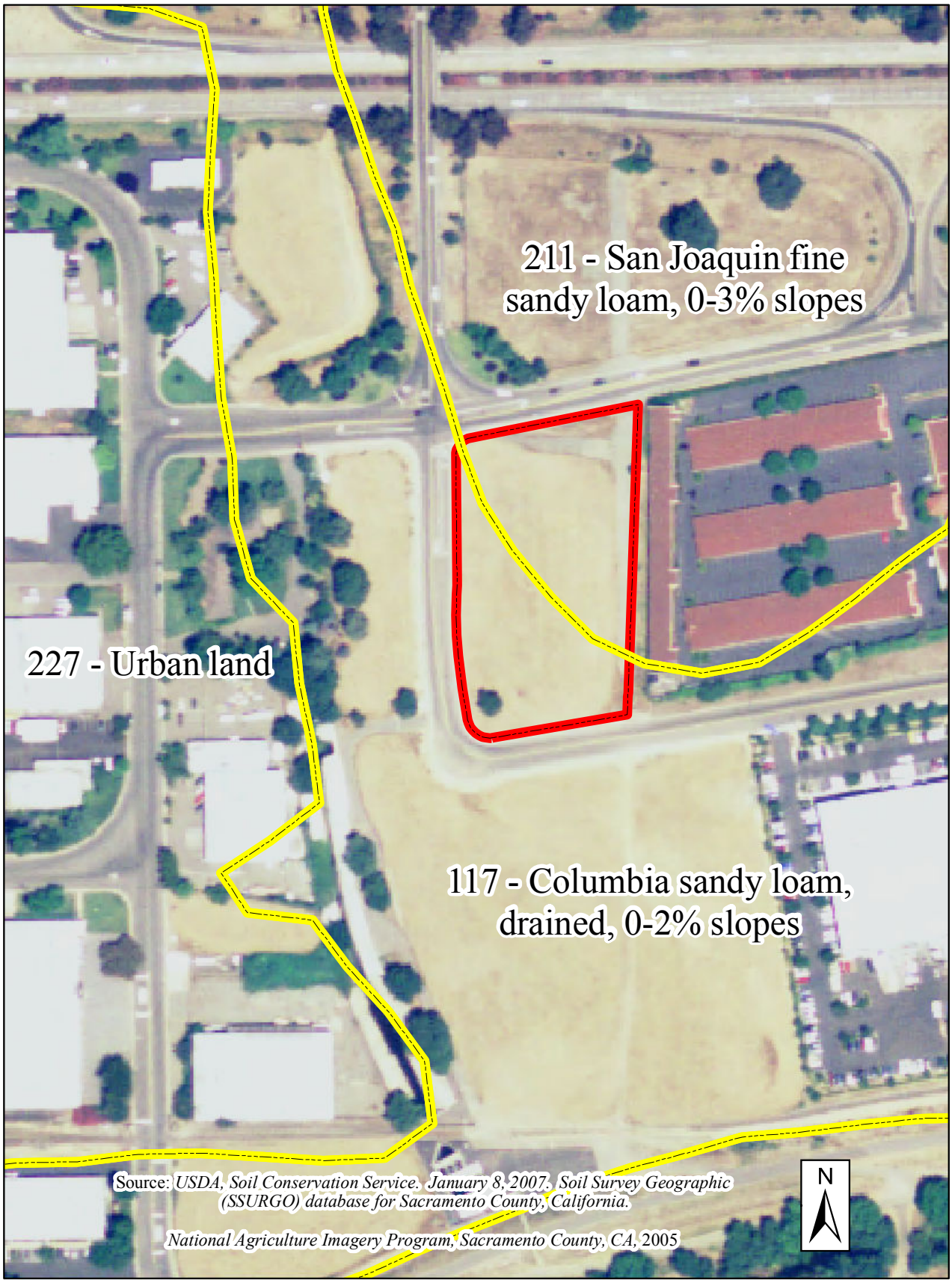


Figure 2
Soils Map

Columbia sandy loam, drained, 0 to 2% slopes (117) is the first listed map unit. This artificially drained soil is very deep and usually associated with low, narrow flood plains along streams and rivers. Inclusions, which compose about 15% of the overall unit, include Cosumnes, Vina, and Sailboat soils as well as Columbia soils possessing a clayey substratum.

The second is San Joaquin fine sandy loam, 0 to 3 % slopes (211) which is a moderately deep and moderately well drained soil that is mainly derived from granitic rocks and situated on low terraces. It has an underlying claypan at 20 to 36 inches. An approximately 25-inch indurated hardpan is situated beneath the claypan at a depth of 23 to 40 inches. Permeability for this soil unit is very slow resulting in pooled water for short periods after heavy winter/spring rains or over irrigation. This unit contains inclusions of the following soils: Bruella, Dierssen, Fiddyment, and Hedge.

Hydrology

The study area generally slopes to the east, but no obvious drainage patterns are present within the parcel. The navigable American River is located approximately 0.5 mile to the south.

According to the USGS Watershed Boundary Dataset, the study area is located within the American River Watershed (10-digit HUC: 1802011102) and the Lower American River sub-watershed (12-digit HUC 180201110201). **Figure 3** is a watershed exhibit.

FINDINGS

Potential Wetlands and Waters of the United States

No water features were mapped within the study area. **Figure 4** is a jurisdictional delineation map of the study area.

JURISDICTIONAL FINDINGS

It is the opinion of Gibson & Skordal, LLC that there are no jurisdictional waters/wetlands located within the study area.

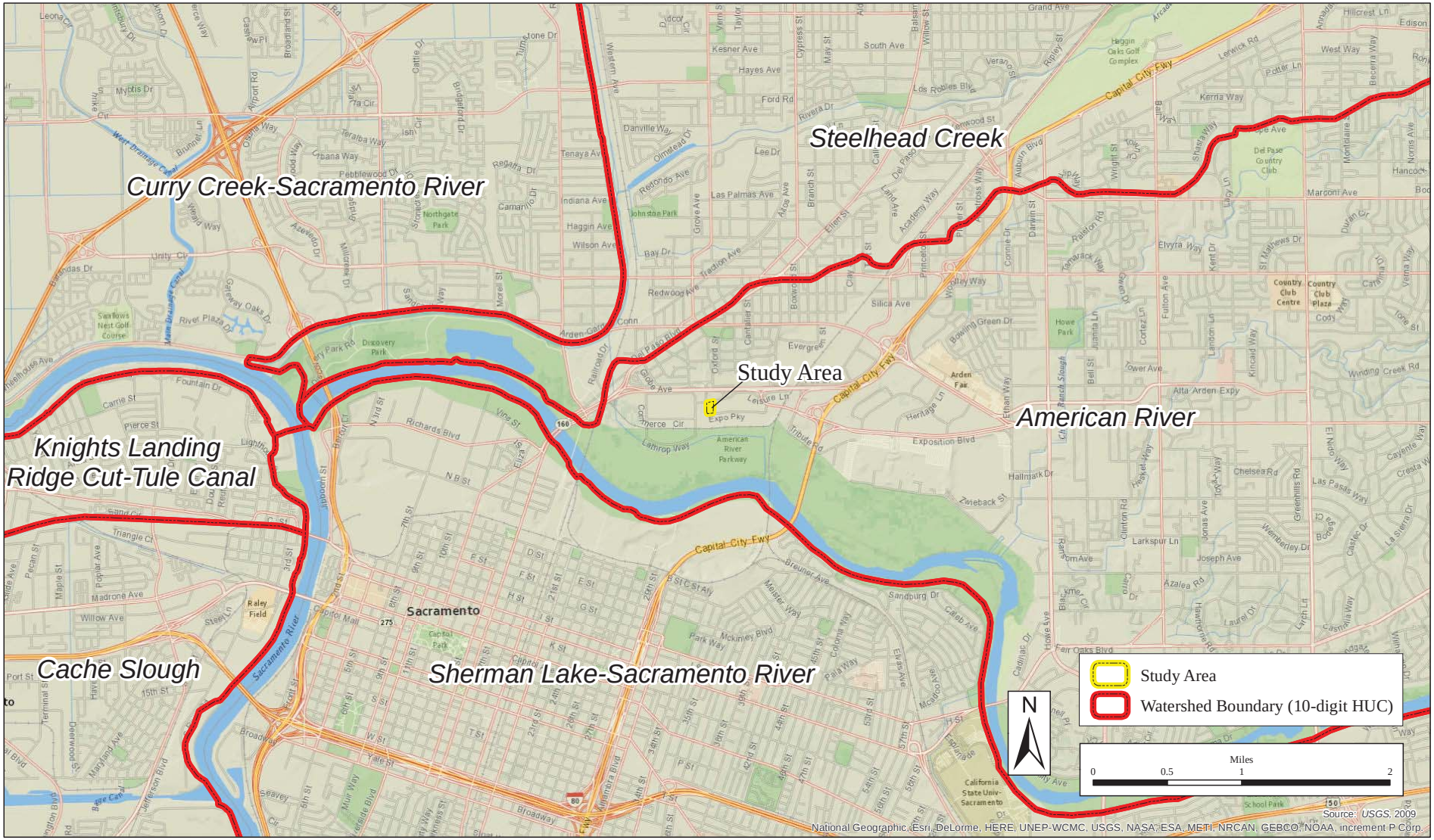
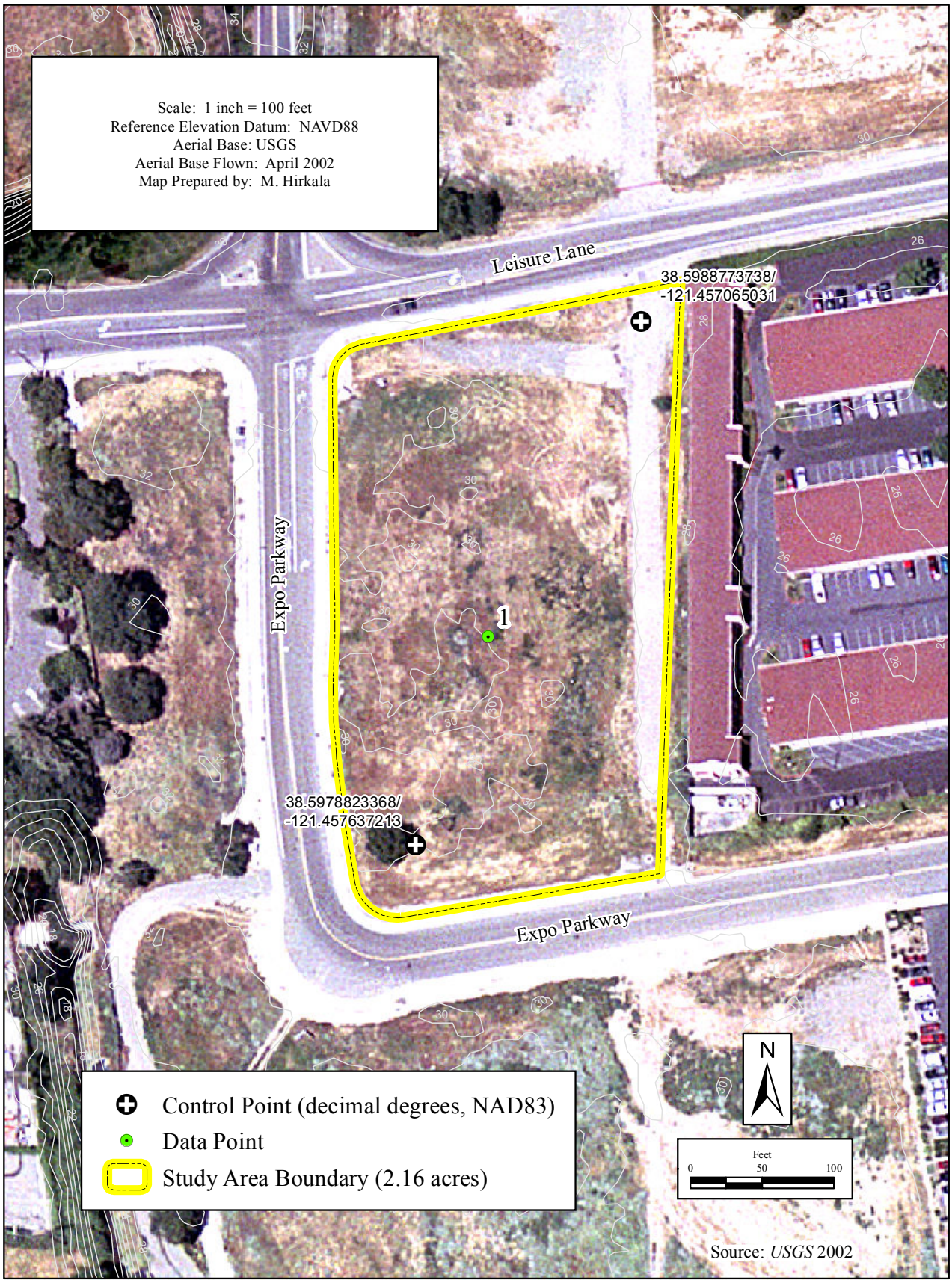


Figure 3
Watershed Exhibit



Lot 8, Woodlake Business Park
Jurisdictional Delineation and Special-Status Species Assessment
June 2014

Figure 4
Delineation Map

SPECIAL-STATUS SPECIES ASSESSMENT

Initially, a record search of the CNDDB was conducted to identify all documented sightings of special-status species within a 10-mile radius of the study area. The special-status species evaluation considers those species identified as having relative scarcity and/or declining populations by the United States Fish & Wildlife Service (FWS) or California Department of Fish & Wildlife (CDFW). Special-status species include those formally listed as threatened or endangered, those proposed for formal listing, candidates for federal listing, and those classified as species of special concern by CDFW. We also included species considered to be "special animals" or "fully protected" by the CDFW and plant species considered to be rare, threatened, or endangered in California by the California Native Plant Society (CNPS). This includes species on Lists 1, 2, 3, and 4 of the CNPS Ranking System:

- List 1 A: Plants presumed extinct in California.
- List 1 B: Plants rare, threatened, or endangered in California and elsewhere.
- List 2: Plants rare, threatened, or endangered in California, but more common elsewhere.
- List 3: Plants about which the CNPS needs more information – a review list.
- List 4: Plants of limited distribution – a watch list.

The CNPS Threat Rank is an extension that is added onto the CNPS List. It ranges from .1 to .3 and indicates the level of endangerment to the species with .1 representing the most endangered and .3 being the least endangered.

Also included are taxa meeting the criteria for listing under Section 15380 of the California Environmental Quality Act (CEQA) Guidelines. (Note that all CNPS List 1 and 2 and some List 3 species may fall under Section 15380 of CEQA.)

Reconnaissance level field surveys were conducted on June 5, 2014, to assess the presence of habitats within the study area necessary to support special-status species. Meandering transects were performed on foot throughout the study area, and the entire site was visually observed.

Table 1 provides a list of special-status species that were evaluated including their listing status, habitat associations, and their potential to occur in the study area. The following set of criteria has been used to determine each species' potential for occurrence on the site.

- Present: Species occurs on the site based on CNDDB records, and/or was observed on the site during field surveys.

TABLE 1
SPECIAL STATUS SPECIES HABITAT ASSESSMENT

Scientific Name (Common Name)	Federal Status	State Status	CNPS Listing	Habitat Requirements	Potential for Occurrence
Mammals					
Lasiurus cinereus (hoary bat)	None	CDFG-Special Animals	None	Prefer older large leaf trees such as cottonwoods, willows, and fruit/nut trees for daytime roosts. Often found in association with riparian corridors. Need open spaces to forage.	High
Taxidea taxus (American badger)	None	Species of Special Concern	None	This species prefers dry open fields, grasslands, and pastures.	Low
Birds					
Accipiter cooperi (Cooper's hawk)	None	CDFG-Special Animals	None	Inhabits forested habitats, forest edge, and riparian habitat, may forage in adjacent grassland and fields.	High
Agelaius tricolor (tricolored blackbird)	None	Species of Special Concern	None	Colonial nester in cattails, bulrush, or blackberries associated with marsh habitats.	Low
Aquila chrysaetos (golden eagle)	None	Fully Protected Species	None	Solitary nester preferring larger trees. Forages in open areas.	Low
Ardea alba (great egret)	None	CDFG-Special Animals	None	Rivers, streams, lakes, marsh and other aquatic habitats.	Habitat not present.
Ardea herodias (great blue heron)	None	CDFG-Special Animals	None	Rivers, streams, lakes, marsh and other aquatic habitats.	Habitat not present.
Athene cunicularia (burrowing owl)	None	Species of Special Concern	None	Nests in abandoned ground squirrel burrows associated with open grassland habitats.	Low
Buteo regalis (ferruginous hawk)	None	CDFG-Special Animals	None	Not known to nest in California. Forages in open areas such as grasslands and fields for ground squirrels as well as other small mammals, birds, lizards, snakes, and rabbits.	Low
Buteo swainsoni (Swainson's hawk)	None	Threatened	None	Nests in tall cottonwoods, valley oaks or willows. Forages in fields, cropland, irrigated pasture, and grassland near large riparian corridors.	High
Elanus leucurus (white-tailed kite)	None	Fully Protected	None	Nests in riparian corridors along streams and rivers, and forages in nearby grasslands and fields.	High
Falco columbarius (merlin)	None	None	None	It is not known to nest in California, but it is a winter transient throughout most of the state with wintering populations in the Central Valley.	Low
Melospiza melodia (song sparrow - Modesto population)	None	Species of Special Concern	None	Generally associated with freshwater emergent marshes. Nesting has also been observed within riparian forests of valley oak (*Quercus lobata*). Usually forages on the ground or in the leaf litter for seeds and small invertebrates.	Low
Progne subis (purple martin)	None	Species of Special Concern	None	Prefers open areas near bodies of water or wetlands. It is a colonial nester which utilizes cavities in trees, cliff faces, buildings.	Low

TABLE 1
SPECIAL STATUS SPECIES HABITAT ASSESSMENT

Birds Continued					
Riparia riparia (bank swallow)	None	Threatened	None	Colonial nester in vertical cliffs and banks associated with riparian zones along streams, rivers, and lakes.	Low
Vireo bellii pusillus (Bell's least vireo)	Endangered	Endangered	None	Strongly associated with riparian corridors. Today it generally restricted to southern California along lowland willow-dominated riparian areas. In the Sacramento Valley, the species occurs as a vagrant during the breeding season.	Low
Amphibians & Reptiles					
Emys marmorata (western pond turtle)	None	Species of Special Concern	None	Ponds, rivers, streams, wetlands, and irrigation ditches with associated marsh habitat.	Habitat not present.
Thamnophis gigas (giant garter snake)	Threatened	Threatened	None	Rivers, canals, irrigation ditches, rice fields, and other aquatic habitats with slow moving water and heavy emergent vegetation.	Habitat not present.
Fish					
Archoplites interruptus (Sacramento perch)	None	Species of Special Concern	None	Historically favored slow moving rivers, sloughs, lakes, ponds, and streams within the Central Valley.	Habitat not present.
Oncorhynchus mykiss irideus (Central Valley steelhead)	Endangered	None	None	Anadromous species requiring freshwater water courses with gravelly substrates for breeding. The young remain in freshwater areas before migrating to estuarine and marine environments.	Habitat not present.
Oncorhynchus tshawytscha (chinook salmon - spring-run)	Threatened	Threatened	None	Anadromous species requiring freshwater water courses with gravelly substrates for breeding. The young remain in freshwater areas before migrating to estuarine and marine environments.	Habitat not present.
Pogonichthys macrolepidotus (Sacramento splittail)	None	Species of Special Concern	None	Adults migrate upstream from brackish areas to spawn in freshwater on submerged vegetation in temporarily flooded upland and riparian habitat in the lower reaches of rivers, bypasses, sloughs. The young remain in shallow, weedy areas inshore near spawning sites and move to deeper offshore habitat as they mature.	Habitat not present.
Spirinchus thaleichthys (longfin smelt)	Candidate	Threatened	None	The Bay-Delta populations of this species are anadromous. Migrates upstream from brackish or marine waters to spawn in freshwater drainages. Most young spend their first three months in fresh water before migrating to brackish or marine habitats.	Habitat not present.
Invertebrates					
Andrena subapasta (No common name)	None	None	None	The life cycle of this bee is poorly understood. It is known to collect pollen from goldfields, sandwort, and butter and eggs, which are associated with vernal pools or grasslands.	Habitat not present.
Branchinecta lynchi (vernal pool fairy shrimp)	Threatened	None	None	Vernal pools.	Habitat not present.
Branchinecta mesovallensis (midvalley fairy shrimp)	None	None	None	Vernal pools.	Habitat not present.
Cicindela hirticollis abrupta (Sacramento Valley tiger beetle)	None	None	None	Requires fine to medium sand terraced floodplains or low sandy water edge flats. Considered extinct by the U.S. Fish & Wildlife Service.	Habitat not present.

TABLE 1
SPECIAL STATUS SPECIES HABITAT ASSESSMENT

Invertebrates Continued					
Desmocerus californicus dimorphus (valley elderberry longhorn beetle)	Threatened	None	None	Dependent upon elderberry plant as primary host species.	Habitat not present.
Dumontia oregonensis (hairy water flea)	None	None	None	Vernal pools.	Habitat not present.
*Hydrochara ricksecker*i (Ricksecker's water scavenger beetle)	None	None	None	Ponds, lakes, streams, rivers, vernal pools, and other freshwater features.	Habitat not present.
Lepidurus packardi (vernal pool tadpole shrimp)	Endangered	None	None	Vernal pools.	Habitat not present.
Linderiella occidentalis (California linderiella)	None	None	None	Vernal pools.	Habitat not present.
Plants					
Astragalus tener var. *ferrisiae* (Ferris' milk-vetch)	None	None	CNPS-1B.1	Meadows, foothill and valley grasslands. Usually found in dry adobe soils.	Habitat not present.
Downingia pusilla (dwarf downingia)	None	None	CNPS-2B.2	Vernal pools.	Habitat not present.
Fritillaria agrestis (stinkbells)	None	None	CNPS-4.2	Chaparral, cismontane woodland, pinyon and juniper woodland, non-native grasslands with heavy clay soils -- sometimes found on serpentine soils.	Habitat not present.
Gratiola heterosepala (Bogg's Lake hedge-hyssop)	None	Endangered	CNPS-1B.2	Vernal pools and margins of lakes/ponds	Habitat not present.
Hibiscus lasiocarpus var. *occidentalis* (wooly rose-mallow)	None	None	CNPS-2.2	Species typically occurs in freshwater wetlands/marshes or other areas with wet soils.	Habitat not present.
Juglans hindsii (Northern California black walnut)	None	None	CNPS-1B.1	Only two of three known native stands are still in existence. This species prefers riparian scrub and riparian woodland habitats.	Not present.
Legenere limosa (legenere)	None	None	CNPS-1B.1	Vernal pools.	Habitat not present.
Symphyotrichum lentum (Suisun Marsh aster)	None	None	CNPS-1B.2	Fresh and salt water marshes, often associated with blackberries, cattails, and bulrush.	Habitat not present.
Sagittaria sanfordii (Sanford's arrowhead)	None	None	CNPS-1B.2	Emergent marsh habitat, typically associated with drainages, canals, or irrigation ditches.	Habitat not present.

- High: Species is known to occur near the site (10-mile radius) and suitable habitat exists within the project site.
- Low: Species is known to occur in the vicinity of the site and there is marginal suitable habitat on the project site.
- None: Suitable habitat for the species does not exist on the site.

Figure 5, which shows CNDDB occurrences within ten miles of the study area, was created with GIS data provided by CDFW, and **Figure 6** displays Critical Habitats and Vernal Pool Core Recovery Area in relation to the study area.

Mammals

Hoary Bat

The hoary bat (*Lasiurus cinereus*) is a CDFW special animal. It is considered to be one of the most widespread of all American bats with a range extending from Canada to central Chile and Argentina as well as Hawaii. Hoary bats prefer older large leaf species such as cottonwoods, willows, and fruit or nut trees for daytime roosts. This species is primarily crepuscular or nocturnal and requires open areas to hunt its main prey item, moths. The hoary bat is considered a forest/woodland species, and in California they are often associated with undisturbed riparian or stream corridors.

The potential for occurrence is high due to the presence of foraging and roosting habitats.

American Badger

American badger (*Taxidea taxus*) is a listed CDFW species of special concern. This territorial burrowing mammal is solitary and preys on small mammals, lizards, snakes, insects, and carrion. It has no known natural enemies and inhabits dry, open fields, grasslands, and pastures.

The potential for occurrence is low due to the presence of low quality habitat and the encroaching urban development.

Birds

Cooper's Hawk

Cooper's hawk (*Accipiter cooperi*), which is also known as the blue darter or chicken hawk, is listed by CDFW as a special animal. This raptor is an ambush predator that prefers to forage in or near wooded locations for birds, domestic poultry, and small mammals. Unlike falcons which

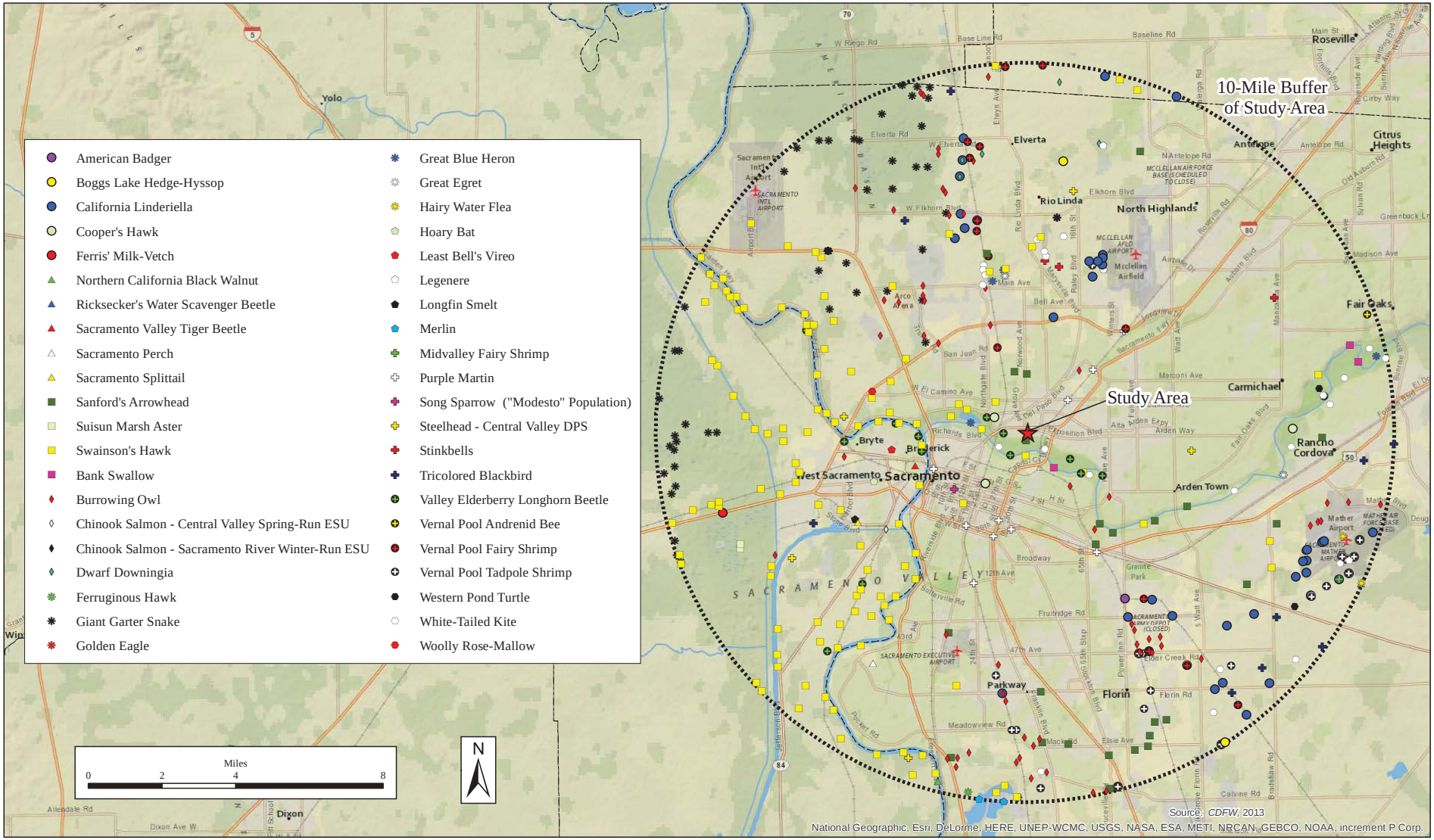
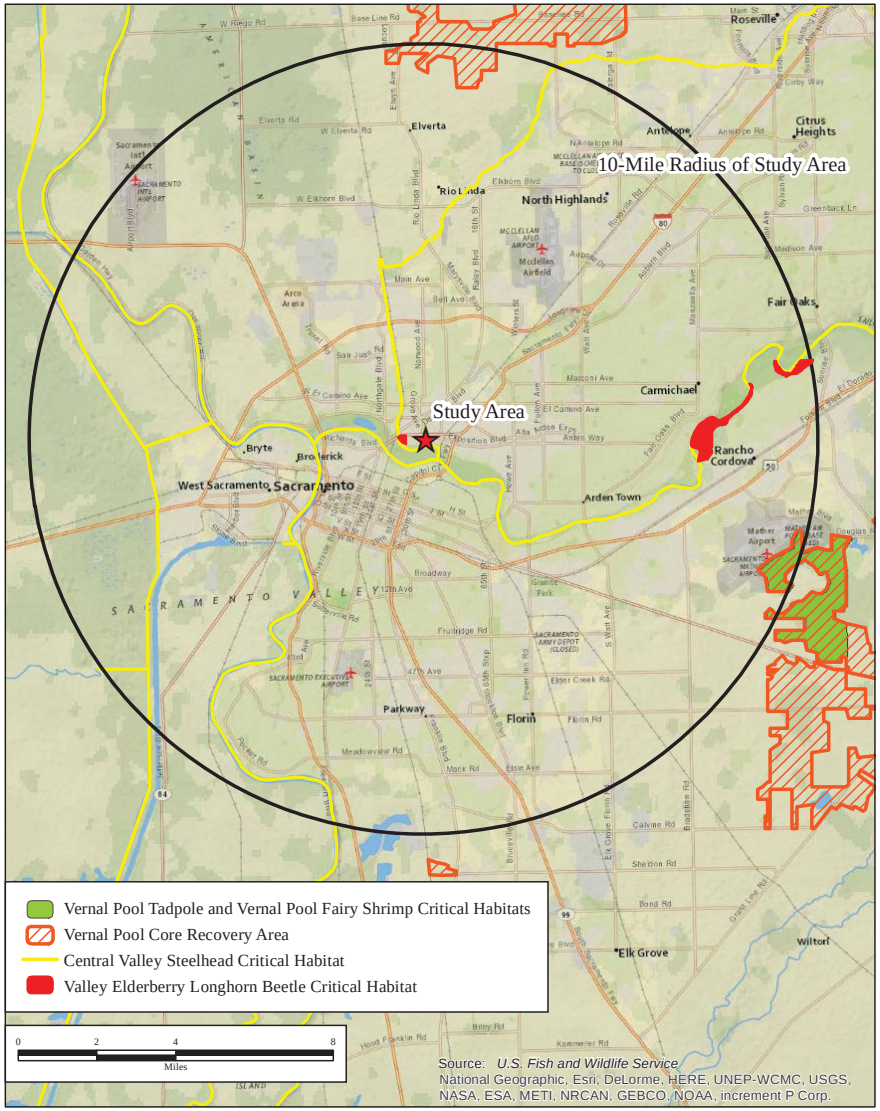


Figure 5
CNDDB Exhibit



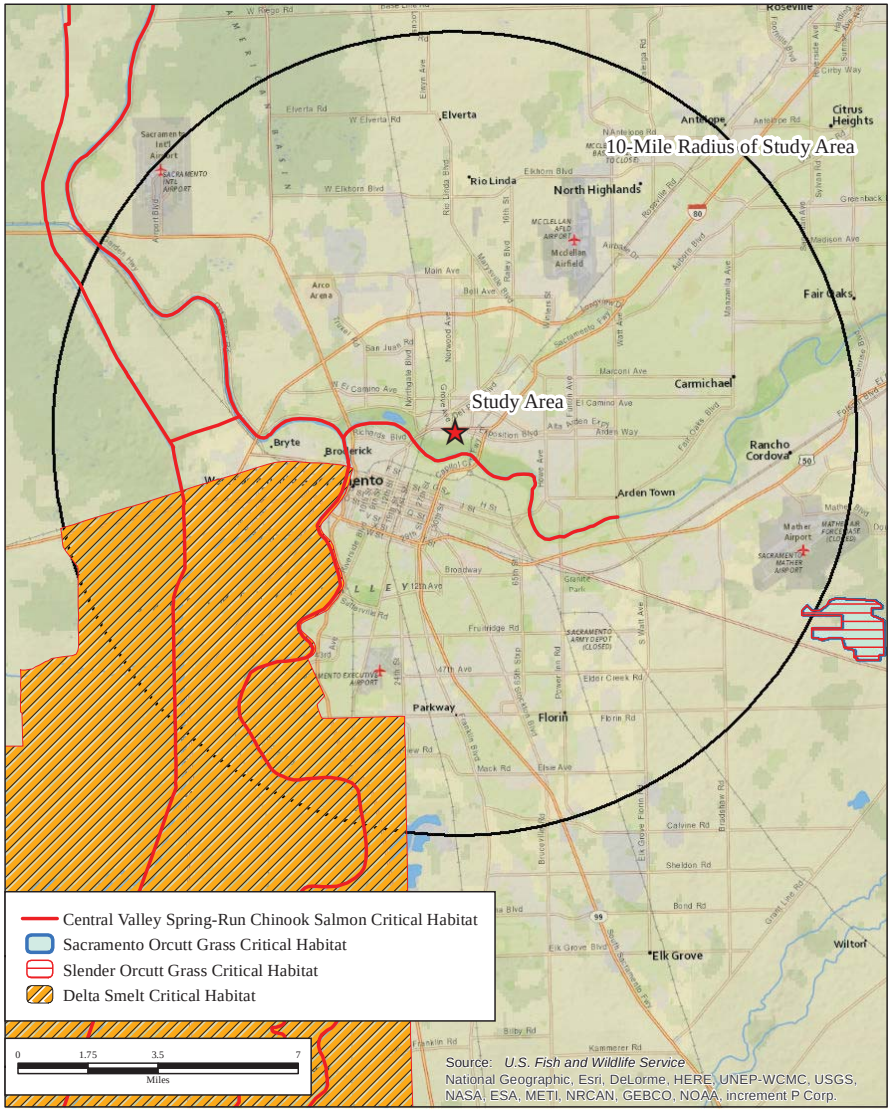


Figure 6
Critical Habitats & Vernal Pool Core Recovery Areas

use their beaks, Cooper's hawks subdue prey by continuously squeezing with talon-equipped feet. It has been observed on occasion drowning captured prey in water. This species prefers tree nesting in wooded areas typically 10 to 60 feet above ground level.

Potential for occurrence is high due to the presence of suitable foraging and nesting habitats within the study area.

Tricolored Blackbird

Tricolored blackbirds (*Agelaius tricolor*) are listed by CDFW as a species of special concern due to declining populations in the region. They nest in colonies in dense stands of cattails, bulrush, or blackberry thickets associated with drainages, ditches, canals or other water features.

The potential for occurrence is low due to the presence of low quality foraging habitat.

Golden Eagle

The golden eagle (*Aquila chrysaetos*) is afforded protection by CDFW as a species of special concern and a fully protected species. It is a very large solitary tree nesting raptor which feeds on mammals, carrion, and reptiles. Though its natural densities are generally believed to be low, it once was relatively common to the open areas of California. Today, the golden eagle is rarely observed in the Great Central Valley.

The potential for occurrence is low due to low natural densities, and the relatively small size of the site.

Great Egret

The great egret (*Ardea alba*) is listed by CDFW as a special animal. This bird usually forages alone in shallow open water and wetlands for fish, amphibians, and aquatic invertebrates. The species has recovered from historic persecution by plume hunters, but destruction of wetlands, especially in the West where colonies are few and widely scattered, poses a current threat. Great egrets prefer breeding habitat in or near open waters and wetlands.

Habitat is not present for this species.

Great Blue Heron

The great blue heron (*Ardea herodias*) is listed by CDFW as a special animal. This wading bird forages in wetlands and shallow open waters for fish, aquatic invertebrates, small mammals, and amphibians. It usually nests in rookeries that are situated in wetlands or near open waters.

Habitat is not present for this species.

Burrowing Owl

Burrowing owl (*Athene cunicularia*) is a ground nesting raptor species that is afforded protection by CDFW as a species of special concern due to declining populations in the Great Central Valley of California. They typically inhabit open grasslands and nest in abandoned ground squirrel burrows, cavities associated with raised mounds, levees, debris piles, or soft berm features.

The potential for occurrence is low due to the small amount of required grassland habitat present within the study area and the routine disking that occurs on the site.

Swainson's Hawk

Swainson's hawk (*Buteo swainsoni*) is a raptor species currently listed as threatened in California by the CDFW. Breeding pairs typically nest in tall cottonwoods, valley oaks, or willows associated with riparian corridors, grassland, irrigated pasture, and cropland with a high density of rodents. The Central Valley populations breed and nest in the late spring through early summer before migrating to Central and South America for the winter.

Potential for occurrence is high due to the presence of suitable foraging and nesting habitats within the study area, and the close proximity to a known nesting site along the American River, located approximately 0.5 mile to the south.

Ferruginous Hawk

The ferruginous hawk (*Buteo regalis*) is listed a CDFW special animal. Though this large and powerful raptor is not known to nest in California it often winters throughout the Central Valley. It has been observed foraging in grasslands or other open areas for small mammals, birds, reptiles, and large insects.

The potential for occurrence is low due to low natural densities in the area.

White-Tailed Kite

White-tailed kite (*Elanus leucurus*), also known as black-shouldered kite, is a CDFW fully protected species. This non-migrating bird typically attains a wingspan of approximately 40 inches and feeds primarily on insects, small mammals, reptiles, and amphibians, which it forages from open grasslands. It builds a platform-like nest of sticks in trees or shrubs and lays 3 to 5 eggs, but may brood a second clutch if prey is abundant. The kite's distinct style of hunting includes hovering before diving onto its target.

Potential for occurrence is high due to the presence of suitable foraging and nesting habitats within the study area.

Merlin

The merlin (*Falco columbarius*) is listed by CDFW as a special animal. Though it has never been recorded nesting in California, it is a transient throughout most of the state. Wintering populations are known to occur in the Central Valley and along the coast. Merlins prey on other birds, which they catch on the wing, in open or lightly wooded areas, often near rivers. Merlin pairs have been observed hunting flocks of birds with coordinated attacks.

The potential for occurrence is low due to the low natural densities in the area.

Song Sparrow – Modesto Population

The song sparrow – Modesto population (*Melospiza melodia*) is listed by CDFW as a species of special concern that is endemic to the north-central portion of the Central Valley. The Modesto population is generally associated with freshwater emergent marshes dominated by cattails (*Typha* sp.), riparian willows (*Salix* sp.) or tules (*Schoenoplectus* sp.). Nesting has also been observed within riparian forests of valley oak (*Quercus lobata*) with dense understories of Himalayan blackberries (*Rubus armeniacus*). This species usually forages on the ground or in the leaf litter for seeds and small invertebrates.

The potential for occurrence is low due to the presence of low quality foraging habitat.

Purple Martin

The purple martin (*Progne subis*) is a California species of special concern. This bird winters in South American and migrates to Mexico, the United States, and southern Canada to breed. It is a colonial nester and utilizes natural cavities such as hollow trees, cliffs, and abandoned woodpecker dens as well as artificial nesting sites such as bird houses or gourds. It feeds on

winged insects which it catches on the fly, and it prefers open areas near lakes, ponds, marshes or other water features.

The potential for occurrence is low due to the presence of low quality habitat.

Bank Swallow

The bank swallow (*Riparia riparia*) is a California threatened species. This bird nests in colonies of two or three pairs to a few thousand in vertical cliffs and banks associated with riparian zones, lakes, and streams. The species is known to colonize man-made vertical banks or building structures.

The potential for occurrence is low due to the presence of low quality habitat.

Least Bell's Vireo

Least Bell's vireo (*Vireo bellii pusillus*) is a federal and state endangered species that is strongly associated with riparian corridors. Historically abundant throughout in riparian woodlands of the Central Valley and low level riparian areas of southern California and northern Mexico, today it generally restricted to southern California along lowland willow-dominated riparian areas. This insectivore, which gleans its prey from bark or leaves, winters in southern Baja California, Mexico in a variety of non-riparian habitats including palm groves, mesquite scrub, and hedgerows bordering agricultural fields and residential developments. In the Sacramento Valley, the species occurs as a vagrant during the breeding season.

The potential for occurrence is low due to the presence of low quality habitat.

Amphibians & Reptiles

Western Pond Turtle

The western pond turtle (*Emys marmorata*) is a CDFW species of special concern. Its favored habitats include streams, large rivers and canals with slow-moving water, aquatic vegetation, and open basking sites. Although the turtles must live near water, they can tolerate drought by burrowing into the muddy beds of dried drainages. This species feeds mainly on invertebrates such as insects and worms, but will also consume small fish, frogs, mammals and some plants. Western pond turtle predators include raccoons, coyotes, raptors, weasels, large fish, and bullfrogs. This species breeds from mid to late spring in adjacent open grasslands or sandy banks.

Habitat is not present for this species.

Giant Garter Snake

Giant garter snake (*Thamnophis gigas*) is designated as a federal threatened and state threatened species afforded special protection by FWS and CDFW. The snakes are generally associated with larger canals, irrigation ditches, and other semi-permanent to permanent aquatic sites with slow moving water and an abundance of emergent vegetation.

Habitat is not present for this species.

Fish

Sacramento Perch

Sacramento perch (*Archoplites interruptus*), which is a CDFW species of special concern, is the only native centrarchid (sunfish) west of the Rocky Mountains. The species was once very abundant in lakes, sloughs, rivers, ponds, and drainages throughout the Central Valley but has been adversely affected by habitat destruction and the introduction of non-native fishes. Exotic sunfish typically spawn in nests that the male builds and protects until the off-spring are free swimming. Conversely, the Sacramento perch usually spawns on unprepared substrate and provides no further parental care. This may result in a higher rate of predation of eggs.

Habitat is not present for this species.

Sacramento Splittail

Sacramento splittail (*Pogonichthys macrolepidotus*) is a California species of special concern that was recently de-listed by the FWS. Adults migrate upstream from brackish areas to spawn in freshwater on submerged vegetation in temporarily flooded upland and riparian habitats. It usually prefers the lower reaches of rivers, bypasses, and sloughs. The young remain in shallow, vegetated areas near spawning sites and eventually migrate to deeper offshore habitat upon maturation.

Habitat is not present for this species.

Anadromous Fish

The CNDDB query identified two species of special status fish as occurring within ten mile of the study area: the Central Valley steelhead (*Oncorhynchus mykiss irideus*) and the spring-run

Chinook salmon (*Oncorhynchus tshawytscha*). The Central Valley steelhead is a federally-endangered species that requires cold freshwater water courses with gravelly substrates for breeding. The young remain in freshwater habitats foraging for a variety of terrestrial and aquatic vertebrates before migrating to estuarine and marine environments.

The spring-run chinook salmon is a California and federally-listed threatened species. The Chinook is the largest salmonid with individuals reaching sizes as large as 120 pounds. The life cycle and habitat requirements of the Chinook salmon are roughly similar to those of the Central Valley steelhead.

The study area lacks the habitat required for either species.

Longfin Smelt

Longfin smelt (*Spirinchus thaleichthys*) is a California threatened species and a federal candidate species. The Bay-Delta populations are anadromous though other populations are known to spend their entire life cycles in fresh water habitats. The Bay-Delta population migrates upstream from brackish or marine waters to spawn in freshwater drainages possibly during the night. Longfin smelt, which have a life cycle of approximately two years, die shortly after spawning. The majority of the young spend their first three months in fresh water before migrating to brackish or marine habitats.

Habitat is not present for this species.

Invertebrates

Bee (No Common Name)

This bee (*Andrena subapasta*) is not a state or federal listed species; however, it has been assigned a State Ranking code of S3 meaning that 21 to 100 elemental occurrences or 3,000 to 10,000 individuals have been identified within the state. This species is known to collect pollen from sandwort (*Arenaria* sp.), butter and eggs (*Triphysaria erianthus*), and goldfields (*Lasthenia* sp.) which grow in vernal pools or adjacent grasslands. Though its life cycle is poorly understood, other bees of this genus are solitary and burrow into the ground to cache collected pollen and lay eggs.

The study area lacks the necessary habitat to support this species.

Vernal Pool Branchiopods

The CNDDB record search lists several occurrences of the federally threatened vernal pool fairy shrimp *(Branchinecta lynchi*) and the federally endangered vernal pool tadpole shrimp (*Lepidurus packardi*) as well as the non-listed California linderiella (*Linderiella occidentalis*) and the midvalley fairy shrimp (*Branchinecta mesovallensis*) as occurring within ten miles of the study area. These species exclusively inhabit vernal pools or other seasonally ponded wetlands that sustain inundation during the winter before drying in the late spring.

Habitat is not present for these species.

Sacramento Valley Tiger Beetle

The Sacramento Valley tiger beetle (*Cicindela hirticollis abrupta*) is not a state or federal listed species; however, it has been assigned a State Ranking code of SH meaning that all elemental occurrences are historical. The U.S. Fish and Wildlife Service considers the species extinct. Its habitat consisted of fine to medium sand located on terraced flood plains.

The appropriate habitat is not present within the study area.

Valley Elderberry Longhorn Beetle

The valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) is a federal threatened insect that is dependent upon the elderberry plant (*Sambucus* sp.) as a primary host species. Elderberry shrubs are a common component of riparian areas throughout the Sacramento Valley region. No elderberry shrubs were observed during reconnaissance level field surveys. Due to the thick vegetation present and the close proximity of the Cosumnes River to the study area, elderberry shrubs may still be present.

Elderberry shrub habitat is not present within the study area.

Hairy Water Flea

Hairy water flea (*Dumontia oregonensis*) is not a state or federal listed species; however, it has been assigned a State Ranking code of S1 meaning that less than six elemental occurrences or less than 1,000 individuals have been identified within the state. The habits of this poorly understood species have not been thoroughly documented, though they are associated with vernal pools. In California specimens have only been observed within the confines of Travis Air Force Base and Mather Field.

Habitat is not present for this species.

Ricksecker's Water Scavenger Beetle

This aquatic beetle (*Hydrochara rickseckeri*) is not a state or federal listed species; however, it has been assigned a State Ranking code of S1S2 meaning that <6 to 20 elemental occurrences or <1,000 to 3,000 individuals have been identified within the state. The habits of this poorly understood species have not been thoroughly documented. They are believed to be scavengers and metamorphose from a predacious larval stage. This species favors shallow, weedy freshwater habitats such as vernal pools, lakes, ponds, and slow moving streams. It is capable of flight, but its dispersal capabilities are not well understood.

Habitat is not present for this species.

Plants

Plants Associated with Vernal Pools and Other Wet Habitats

Special-status plant species identified by CNDDB as occurring in the search area include dwarf downingia (*Downingia pusilla*), legenere (*Legenere limosa*), Bogg's Lake hedge-hyssop (*Gratiola heterosepala*), wooly rose-mallow (*Hibiscus lasiocarpus*), Suisun Marsh aster (*Symphyotrichum lentum*), and Sanford's arrowhead (*Sagittaria sanfordii*). Legenere and dwarf downingia are strongly associated with vernal pools or other seasonal wetlands. Bogg's Lake hedge-hyssop is also found in vernal pools, but it also favors other shallow water habitats such as lake margins and marshes. Wooly rose-mallow typically occurs on freshwater-saturated riverbanks and low peat islands located within sloughs at elevations below 360 feet. Suisun Marsh aster is documented in both fresh and saltwater marshes in association with cattails and bulrush. Sanford's arrowhead generally occurs in deeper aquatic or emergent marsh habitats near drainages, canals, ditches, or ponds.

The study area does not encompass the required wetland habitats necessary for the above species.

Special Status Species Plants Associated with Upland Habitats

The CNDDB lists three special status species plants known to grow in dryer habitats: Ferris' milk-vetch (*Astragalus tener* var. *ferrisiae*), northern California black walnut (*Juglans hindsii*) and stinkbells (*Fritillaria agrestis*). Northern California black walnut (*Juglans hindsii*) is a CNPS list 1B.1 species. Ferris' milk-vetch prefers valley and foothill grasslands with clay or adobe clay soils. Northern California black walnuts naturally occur in riparian woodlands or

forests with deep alluvial soils, though it was used extensively as rootstock for English walnut (*Juglans regia*) with which is readily hybridizes. Currently, only two of three native stands are still in existence. Stinkbells, so named because of its strong odor, is a species of lily commonly associated with non-native annual grasslands with heavy clay soils from 30 to 5,100 feet. It blooms from March to June and also favors other habitat types such as chaparral, cismontane woodland, and pinyon and juniper woodland. Stinkbells have also been documented on serpentine soils.

The site lacks the habitat needed for the above species.

SUMMARY OF SPECIAL-STATUS SPECIES ASSESSMENT

There is a high potential for occurrence for the following species: hoary bat, Cooper's hawk, Swainson's hawk, and white-tailed kite.

There is a low potential for occurrence of the following species: American badger, tricolored blackbird, golden eagle, burrowing owl, ferruginous hawk, merlin, song sparrow – Modesto population, purple martin, bank swallow, and Bell's least vireo.

If future development of the study area is to occur during the raptor and migratory bird nesting season, which extends from February to September, we recommend that a pre-construction nesting survey be completed within two weeks of the start of work.

APPENDIX A

DATA SHEET

Gibson & Skordal, LLC
WETLAND CONSULTANTS

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Lot 8, Woodlake Business Park City/County: Sacramento County Sampling Date: June 5, 2014
Applicant/Owner: Law Offices of John K. Sutherland State: CA Sampling Point: 1
Investigator(s): M. Hirkala Section, Township, Range: N/A - Rancho Del Paso Land Grant
Landform (hillslope, terrace, etc.): fallow field Local relief (concave, convex, none): none Slope (%): <1
Subregion (LRR): Mediterranean California (LRR C) Lat: 38.598279 Long: -121.457452 Datum: NAD83
Soil Map Unit Name: 211- San Joaquin fine sandy loam, 0-3% slopes NWI Classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation X, Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No	
Hydric Soil Present?	Yes	No	X
Wetland Hydrology Present?	Yes	No	X

Is the Sampled Area within a Wetland? Yes No X

Remarks: The majority of the site was disked at the time of field surveys however, there was sufficient remnant vegetation remaining to determine overall species composition. There was a lack of vegetation at the data point.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 4'x4')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	=Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
	=Total Cover		

% Bare Ground in Herb Stratum 100 % Cover of Biotic Crust

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: (A)
Total Number of Dominant Species Across All Strata: (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: **#DIV/0!** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:
OBL species	x1 =	**0**
FACW species	x2 =	**0**
FAC species	x3 =	**0**
FACU species	x4 =	**0**
UPL species	x5 =	**0**
Column Totals: **0** (A)		**0** (B)

Prevalence Index = B/A = **#DIV/0!**

Hydrophytic Vegetation Indicators:
Dominance Test is >50%
Prevalence Index is ≤3.0[1]
Morphological Adaptationd[1] (Provide supporting data in Remarks or on a separate sheet)
Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks: Most of the site was disked at the time of field surveys.

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
1-12"	10YR4/4	100					loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No x Depth (inches): _____

Water Table Present? Yes _____ No x Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No x Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

APPENDIX B

PLANT LIST

Gibson & Skordal, LLC
WETLAND CONSULTANTS

LIST OF PLANTS OBSERVED ON THE
Lot 8, Woodlake Business Park
PROPERTY AND THEIR STATUS AS WETLAND INDICATOR SPECIES

Scientific Name	**Common Name**	**Status** [1]&[2]
Brassica nigra	black mustard	UPL
Bromus diandrus *(Bromus rigidus)*	rip-gut grass	UPL
Bromus hordeaceus *(Bromus mollis)*	soft brome	FACU
Centaurea solstitialis	yellow star-thistle	UPL
Chondrilla juncea	skeleton weed	UPL
Convolvulus arvensis	bindweed	UPL
Erodium botrys	long-beak stork's-bill	FACU
Heterotheca grandiflora	telegraph weed	UPL
Hordeum murinum *(Hordeum leporinum)*	wall barley	FACU
Lactuca serriola	prickly lettuce	FACU
Quercus lobata	valley oak	FACU
Raphanus sativus	cultivated radish	UPL
Silybum marianum	milk thistle	UPL
Sorghum halepense	Johnson grass	FACU
Trapagon sp.	salsify	UPL
Trifolium hirtum	rose clover	UPL
Vicia villosa	winter vetch	UPL

[1] Lichvar, R.W., M. Butterwick, N.C. Melvin, and W.N. Kirchner. 2014. The National Wetland Plant List: 2014 Update of Wetland Ratings. Phytoneuron 2014-41: 1-42.

[2] OBL = obligate; FACW = facultative wetland; FAC = facultative; FACU = facultative upland; UPL = upland

APPENDIX C

PHOTOS

Gibson & Skordal, LLC
WETLAND CONSULTANTS


Leisure Lane
Expo Parkway
Photo Point 1
Photo Point 2
Expo Parkway
N
Photo Point
Study Area Boundary (2.16 acres)
Feet
0
50
100
Source: *USGS* 2002

Photo Index

Photo Point 1 – View to the South

Photo Point 1 – View to the West

Photo Point 1 – View to the North

Photo Point 2 – View to the North

APPENDIX D

Cultural Resource Assessment
Peak & Associates
August 2014

CULTURAL RESOURCE ASSESSMENT FOR THE PROPOSED WOODLAKE BUSINESS PARK, LOT 8 PROJECT, CITY OF SACRAMENTO, CALIFORNIA

Prepared by

Peak & Associates, Inc.
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Prepared for

Therese Hart-Pignotti, Executive Assistant
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August 2014
(Job #14-040)

INTRODUCTION

The project area is a 2.0632 acre parcel located to the south of Highway 160 within the City of Sacramento. The project area is bounded on the west and south by Expo Parkway. Leisure Lane forms the northern boundary, with the property currently proposed for development (Figure 1).

The project area lies with the boundaries of the Rancho del Paso land grant. Melinda Peak (resume, Appendix 1) served as principal investigator for the current study, assisted by Michael Lawson.

CALIFORNIA REGULATORY CONTEXT

For the purposes of CEQA, an historical resource is a resource listed in, or determined eligible for listing in the California Register of Historical Resources. When a project will impact a site, it needs to be determined whether the site is an historical resource, which is defined as any site which:

(A.) Is historically or archeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political or cultural annals of California; and

(B) Meets any of the following criteria:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

2. Is associated with the lives of persons important in our past;

3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

4. Has yielded, or may be likely to yield, information important in prehistory or history.

The study conducted on the project area has been designed to determine if any prehistoric or historic period sites were present; and if present, whether the resources are eligible for listing in the California Register of Historical Resources.

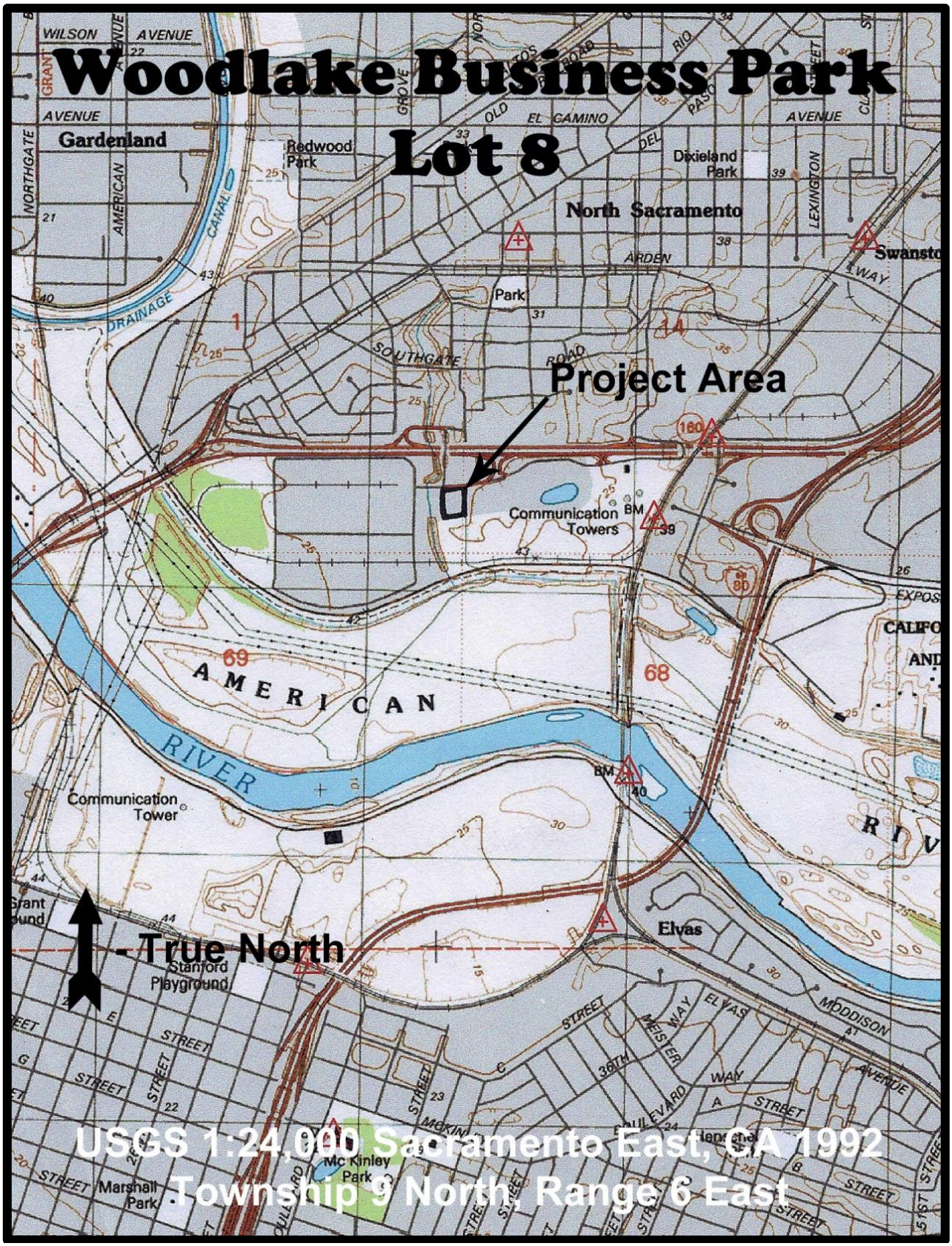
Woodlake Business Park
Lot 8
Project Area
True North
USGS 1:24,000 Sacramento East, CA 1992
Township 9 North, Range 6 East
AMERICAN
RIVER
Gardenland
North Sacramento
Redwood Park
Dixieland Park
Park
Communication Towers
Communication Tower
Elvas
Stanford Playground
Mc Kinley Park
Marshall Park
WILSON AVENUE
OLD EL CAMINO ROAD
ARDEN
SOUTHGATE ROAD
DRAINAGE CANAL
MEISTER WAY
MADDISON AVENUE

Figure 1

CULTURAL HISTORY

Prehistory

The Central Valley region was among the first in the state to attract intensive fieldwork, and research has continued to the present day. This has resulted in a substantial accumulation of data. In the early decades of the 1900s, E.J. Dawson explored numerous sites near Stockton and Lodi, later collaborating with W.E. Schenck (Schenck and Dawson 1929). By 1933, the focus of work was directed to the Cosumnes locality, where survey and excavation were conducted by the Sacramento Junior College (Lillard and Purves 1936). Excavation data, in particular from the stratified Windmiller site (CA-Sac-107), suggested two temporally distinct cultural traditions. Later work at other mounds by Sacramento Junior College and the University of California, Berkeley, enabled the investigators to identify a third cultural tradition, intermediate between the previously postulated Early and Late Horizons. The three-horizon sequence, based on discrete changes in ornamental artifacts and mortuary practices, as well as on observed differences in soils within sites (Lillard, Heizer and Fenenga 1939), was later refined by Beardsley (1954). An expanded definition of artifacts diagnostic of each time period was developed, and its application extended to parts of the central California coast. Traits held in common allow the application of this system within certain limits of time and space to other areas of prehistoric central California. Ragir (1972) applied the terms Windmiller Culture, Cosumnes Culture and Hotchkiss Culture to the Early, Middle and Late Horizons and updated their descriptions.

The Windmiller Culture (Early Horizon) is characterized by ventrally-extended burials (some dorsal extensions are known), with westerly orientation of heads; a high percentage of burials with grave goods; frequent presence of red ochre in graves; large projectile points, of which 60 percent are of materials other than obsidian; rectangular *Haliotis* beads; *Olivella* shell beads (types A1a and L); rare use of bone; some use of baked clay objects; and well-fashioned charmstones, usually perforated.

The Cosumnes Culture (Middle Horizon) displays considerable changes from the preceding cultural expression. The burial mode is predominately flexed, with variable cardinal orientation and some cremations present. There is a lower percentage of burials with grave goods, and ochre staining is common in graves. *Olivella* beads of types C1, F and G predominate, and there is abundant use of green *Haliotis sp.* rather than red *Haliotis sp.* Other characteristic artifacts include perforated and canid teeth; asymmetrical and "fishtail" charmstones, usually unperforated; cobble mortars and evidence of wooden mortars; extensive use of bone for tools and ornaments; large projectile points, with considerable use of rock other than obsidian; and use of baked clay.

Hotchkiss Culture (Late Horizon) -- The burial pattern retains the use of the flexed mode, and there is wide spread evidence of cremation, lesser use of red ochre, heavy use of baked clay, *Olivella* beads of Types E and M, extensive use of *Haliotis* ornaments of many elaborate shapes and forms, shaped mortars and cylindrical pestles, bird-bone tubes with elaborate geometric designs, clam shell disc beads, small projectile points indicative of the introduction of the bow

and arrow, flanged tubular pipes of steatite and schist, and use of magnesite (m Moratto 1984:181-183). The characteristics noted are not all-inclusive, but cover the more important traits.

Bennyhoff and Hughes (1984) have presented alternative dating schemes for the Central California Archeological Sequence. The primary emphasis is a more elaborate division of the horizons to reflect what is seen as cultural/temporal changes within the three horizons and a compression of the temporal span.

There has been a shift in general approach to taxonomy based on work by Fredrickson (1973) and Bennyhoff (1977). The term "pattern" is used rather similarly to "horizon" in the earlier system, but assignment of an archeological entity to a Pattern (now known as Windmiller, Berkeley and Augustine, from earliest to most recent) does not imply a specific time span. A pattern is a general way of life, as reflected in material culture, found in a defined geographic area. Related archeological assemblages in a smaller geographic area and specific time span can then be discussed as aspects, phases, facies or districts within the pattern.

Bennyhoff's (1977) work in the Plains Miwok area is the best definition of the Cosumnes District, of the Berkeley Pattern. This work, coupled with radiocarbon dating and the work of other archeologists, has shown that the Berkeley Pattern developed out of the Windmiller Pattern, as the horizon system would suggest, but it did so in the Bay Area, then spread back into the Central Valley. There is a great deal of chronological variance in the times of introduction of the Berkeley Pattern. In the Stockton District there may not be a Berkeley Pattern at all.

Similarly, the introduction of the Augustine Pattern into the southern valley was largely from the north, rather than an *in situ* development. This introduction was not always friendly, as demonstrated by the large number of burials with evidence of violent death found at the Blodgett Site (CA-SAC-267) in the Sloughhouse area (Johnson ed. 1976).

Thus, the modern view of prehistoric cultural sequences in the Central Valley allows for a more complex approach to cultural development than the horizon system's implied "Middle Horizon evolved out of Early and Late evolved from Middle." While *in situ* development is still an important aspect of the various material cultures, introduction of the basic patterns from elsewhere, peaceful or otherwise, is accommodated more easily in the newer taxonomic system. It is also generally recognized that chronological relationships are much more complex than was realized several years ago.

Ethnology

At the time of the gold rush, the project vicinity was occupied by the Nisenan Indians, identified by the language they spoke. There have been several general treatments of the Nisenan culture by Beals 1933; Kroeber 1929, 1953; Littlejohn 1928; Wilson and Towne 1978 and Wilson 1982. There are also several more specific articles on various aspects of their culture as reported in the bibliography and elsewhere.

The Nisenan peoples occupied the drainages of the Yuba, Bear, and the American Rivers from the Sacramento River on the west to the summit of the Sierra in the east. The Foothill and Hill Nisenan peoples were distinctive from the Valley Nisenan and were loosely organized into tribelets or districts with large central villages, surrounded by smaller villages. These are often referred to as winter villages by older Indians. These central villages and their leaders seemed to have had power or control over the surrounding smaller villages and camps and specific surrounding territory (Beals 1933; Littlejohn 1928; Wilson and Towne 1978). These districts were oriented to the natural resources and the landforms.

All the Nisenan depended on activities attuned to the seasonal ripening of plant foods and the seasonal movements and migration of the animals and the runs of fish. With the flooding of the valley in the winter and spring a great number of animals such as elk, antelope and bears moved to the natural levees along the rivers and up into the lower foothills. Along the foothill margins they joined the resident and migratory deer herds. Huge flocks of waterfowl visited the flooded areas between the rivers and the foothills, coveys of quail gathered in the fall, and pigeons were common in the fall and spring. Steelhead and salmon ran up most of the major streams including in the fall, winter and spring. The hunting of these plentiful resources was part of the foothill lifeway.

This same bounty was available to the river-oriented valley peoples out on the valley floor and along the natural levees of the rivers. Major north-south Indian trails along the margin of the foothills were usable year around as well as other trails east and west along the natural levees of the stream courses. There was probably not a great deal of competition for resources at this time except in lean years. Both the valley and foothill peoples lived at the edges of rich ecotones: the rivers and the valley floor, and the valley floor and the foothills.

Gabriel Moraga led the first recorded Spanish expedition into the project vicinity between 1806 and 1808, in order to scout new mission sites, return runaway Indians, and punish Indians hostile to Spanish rule. Beaver and other fur resources were exploited in the Sacramento Valley by the Hudson Bay Company. In 1827 and 1828, Jedediah Smith led a trapping foray into the project vicinity. These and other trappers set up temporary camps in Nisenan territory and relationships were friendly. However, another result of the early contacts was the great malaria epidemic of 1833 that swept through the Sacramento Valley, killing an estimated 75 percent of the Valley Nisenan population.

The first permanent European settler in the Sacramento Valley was Captain John Sutter, who set up operations in the present downtown area of Sacramento in 1839. Sutter initially employed the Nisenan to help him in his operations but later he imported large numbers of Plains Miwok from the Cosumnes River tribelets as laborers. Sutter's relations with these villages--both Miwok and Nisenan--were essentially feudal (Thompson and West 1880). With the discovery of gold and the subsequent influx of a large Euro-American population of miners after 1849, Nisenan numbers were further reduced by disease and genocide. Survivors who were not either sickened or murdered were ultimately forced to vacate their ancestral homes. By the 1920s, when University of California anthropologists sought Native American informants who could testify concerning aboriginal lifeways in the areas, only two elderly individuals could be located who retained any knowledge of Sacramento's native heritage.

History

The project area lies on the lands of the Rancho del Paso. John Sinclair, born in Scotland, settled here as early as 1841. The 44,000 acre Rancho del Paso was granted to Eliab Grimes in December of 1844. Sinclair built a house on the grant land two and one-half miles from Sutter's Fort. For a time this house was the first dwelling reached by the overland emigrant trains after crossing the Sierra Nevada (Hoover, Rensch and Rensch 1970:300)

Hiram Grimes acquired the land after his father's death, and sold the grant intact to Samuel Norris in 1849; the land became commonly known as the Norris Grant. James B. Haggin and Lloyd Tevis served as the attorneys for Grimes to clear his title, and acquired the land from him in 1862. The lands were used for pasturing sheep, cattle, and horses while crops of grain, hay, and hops were being grown on the bottom lands along the American River.

Haggin began breeding thoroughbreds on his land and established a nationwide reputation with his racehorses. By 1886 Haggin had about one hundred horses in training. It was in this year that his horse, Ben Ali, won the Kentucky Derby. Haggin's son, manager of Rancho del Paso, died in February of 1891, and Haggin quit racing in the fall of that year. The progeny of his horses continued to make Rancho del Paso nationally famous. Haggin shipped horses to New York for annual sale at Madison Square Garden until1905.

Haggin lost interest in horse racing and breeding, and sold his lands in 1909 for $1,500,000. The United States Farm Land Company of St. Paul and Minneapolis was the purchaser, and the company began the subdivision and development of the rancho lands (Austin 1962:1-16).

The company advertised nationwide, and described the richness of the area for the production of fruit. The advertisements drew many to the rancho lands, including a group of German Adventists who settled in what is now Rio Linda. The City of Sacramento acquired a large block of land for what became Del Paso Park and the Haggin Oaks Golf Course. The North Sacramento Land Company bought another large tract, and established the City of North Sacramento, now merged with the City of Sacramento.

Local realtors and developers bought portions of the rancho to subdivide into farms and home sites. The lack of water and the distance from Sacramento kept the land virtually uninhabited (Oliver 1983:27).

RESEARCH

A records search was conducted through the North Central Information Center (NCIC) of the California Historical Resources Information Center on June 23, 2014 (NCIC file number SAC-14-86). The NCIC report (Appendix 2) indicates that the parcel has never been subject to a systematic survey for cultural resources, and no prehistoric or historic period resources have been recorded within or adjacent to the project area.

NATIVE AMERICAN CONSULTATION

A letter was sent to the Native American Heritage Commission on June 22, 2014 requesting a check of the Sacred Lands files (Appendix 3). To date, no reply has been received from that agency. Letters were sent to the following groups requesting information on resources and issues of concern on June 20, 2014: Rose Enos; April Wallace Moore; Gene Whitehouse, Chairperson, United Auburn Community of Auburn Rancheria; Jason Camp, THPO, United Auburn Community of Auburn Rancheria; Marcos Guerrero, Tribal Preservation Committee, United Auburn Community of Auburn Rancheria; Grayson Coney, Cultural Director, T'si-Akim Maidu; Eileen Moon, Vice Chairperson, T'si-Akim Maidu; Hermo Olanio, Vice Chairperson, Shingle Springs Band of Miwok Indians; Nicholas Fonseca, Chairperson, Shingle Springs Band of Miwok Indians; and, Daniel Fonseca, Cultural Resource Director, Shingle Springs Band of Miwok Indians. A reply has been received from the Shingle Springs Band of Miwok Indians dated July 15, 2014 indicating that they do not know of all resources of concern in the project area. A copy of this report will be sent to their office.

FIELD SURVEY

A field survey of the site was conducted by Michael Lawson of Peak & Associates using complete coverage, transects of no more than five meters in width (Figure 2). The parcel has been leveled and recently plowed. There was excellent ground visibility due to recent mechanical weed abatement. About 10-15 chunks of concrete are scattered throughout parcel, with occasional modern trash. There are no visible soil color changes or historic or prehistoric artifacts. There are no cultural resources within the project sites.

RECOMMENDATIONS

With any surface inspection there is always a remote possibility that previous activities (both natural and cultural) have obscured prehistoric or historic period artifacts or habitation areas, leaving no surface evidence that would permit discovery of these cultural resources. If, during construction activities, unusual amounts of non-native stone (obsidian, fine-grained silicates, basalt), bone, shell, or prehistoric or historic period artifacts (purple glass, etc.) are observed, or if areas that contain dark-colored sediment that do not appear to have been created through natural processes are discovered, then work should cease in the immediate area of discovery and a professionally qualified archeologist should be contacted immediately for an on-site inspection of the discovery.

If any bone is uncovered that appears to be human, then the Sacramento County Coroner must be contacted, according to state law. If the coroner determines that the bone most likely represents a Native American interment, then he must contact the Native American Heritage Commission in Sacramento so that they can identify the most likely descendants.

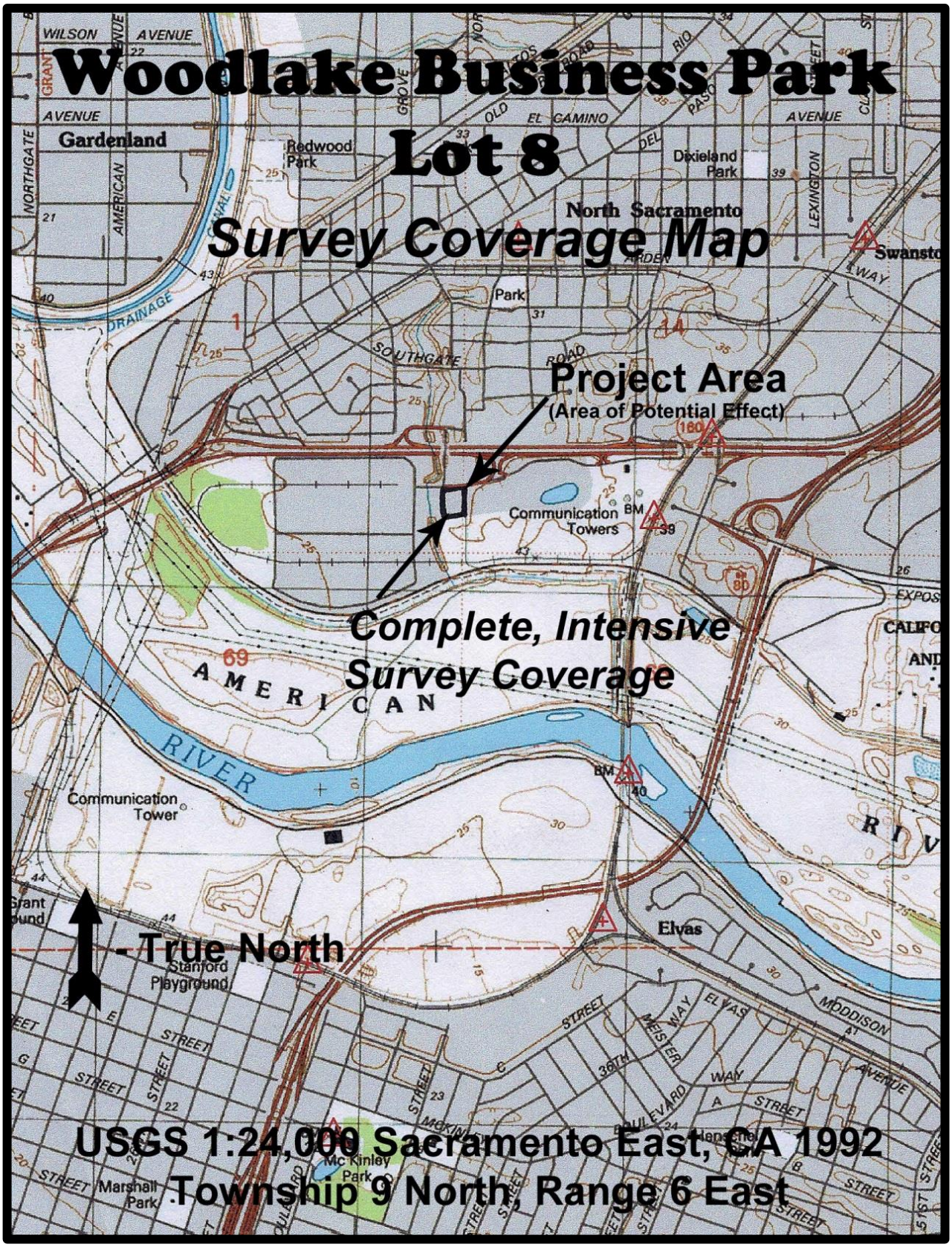
Woodlake Business Park
Lot 8
Survey Coverage Map
Project Area
(Area of Potential Effect)
Complete, Intensive
Survey Coverage
True North
USGS 1:24,000 Sacramento East, CA 1992
Township 9 North, Range 6 East
Gardenland
Redwood Park
Dixieland Park
North Sacramento
Communication Towers
Communication Tower
Elvas
Stanford Playground
Mc Kinley Park
Marshall Park
AMERICAN RIVER
WILSON AVENUE
OLD EL CAMINO
SOUTHGATE ROAD
DRAINAGE CANAL
EXPOSITION
MOFFISON AVENUE
ELVAS AVENUE
MEISTER WAY
36TH STREET

Figure 2

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APPENDIX 1

Resumes

PEAK & ASSOCIATES, INC.
RESUME

MELINDA A. PEAK **January 2014**
Senior Historian/Archeologist
3941 Park Drive, Suite 20 #329
El Dorado Hills, CA 95762
(916) 939-2405

PROFESSIONAL EXPERIENCE

Ms. Peak has served as the principal investigator on a wide range of prehistoric and historic excavations throughout California. She has directed laboratory analyses of archeological materials, including the historic period. She has also conducted a wide variety of cultural resource assessments in California, including documentary research, field survey, Native American consultation and report preparation.

In addition, Ms. Peak has developed a second field of expertise in applied history, specializing in site-specific research for historic period resources. She is a registered professional historian and has completed a number of historical research projects for a wide variety of site types.

Through her education and experience, Ms. Peak meets the Secretary of Interior Standards for historian, architectural historian, prehistoric archeologist and historic archeologist.

EDUCATION

M.A. - History - California State University, Sacramento, 1989
Thesis: *The Bellevue Mine: A Historical Resources Management Site Study in Plumas and Sierra Counties, California*
B.A. - Anthropology - University of California, Berkeley

RECENT PROJECTS

Ms. Peak completed the cultural resource research and contributed to the text prepared for the DeSabla-Centerville PAD for the initial stage of the FERC relicensing. She also served cultural resource project manager for the FERC relicensing of the Beardsley-Donnells Project. For the South Feather Power Project and the Woodleaf-Palermo and Sly Creek Transmission Lines, her team completing the technical work for the project.

In recent months, Ms. Peak has completed several determinations of eligibility and effect documents in coordination with the Corps of Engineers for projects requiring federal permits, assessing the eligibility of a number of sites for the National Register of Historic Places. She has also completed historical research projects on a wide variety of topics for a number of projects including the development of navigation and landings on the Napa River, farmhouses dating to the 1860s, bridges, an early roadhouse, Folsom Dam and a section of an electric railway line.

In recent years, Ms. Peak has prepared a number of cultural resource overviews and predictive models for blocks of land proposed for future development for general and specific plans. She has been able to direct a number of surveys of these areas, allowing the model to be tested.

She served as principal investigator for the multi-phase Twelve Bridges Golf Club project in Placer County. She served as liaison with the various agencies, helped prepare the historic properties treatment plan, managed the various phases of test and data recovery excavations, and completed the final report on the analysis of the test phase excavations of a number of prehistoric sites. She is currently involved as the principal investigator for the Clover Valley Lakes project adjacent to Twelve Bridges in the City of Rocklin, coordinating contacts with Native Americans, the Corps of Engineers and the Office of Historic Preservation.

Ms. Peak has served as project manager for a number of major survey and excavation projects in recent years, including the many surveys and site definition excavations for the 172-mile-long Pacific Pipeline proposed for construction in Santa Barbara, Ventura and Los Angeles counties. She also completed an archival study in the City of Los Angeles for the project. She also served as principal investigator for a major coaxial cable removal project for AT&T.

Additionally, she completed a number of small surveys, served as a construction monitor at several urban sites, and conducted emergency recovery excavations for sites found during monitoring. She has directed the excavations of several historic complexes in Sacramento, Placer and El Dorado Counties.

Ms. Peak is the author of a chapter and two sections of a published history (1999) of Sacramento County, *Sacramento: Gold Rush Legacy, Metropolitan Legacy*. She served as the consultant for a children's book on California, published by Capstone Press in 2003 in the land of Liberty series.

PEAK & ASSOCIATES, INC.
RESUME

MICHAEL D. LAWSON
6241 Brantford Way
Citrus Heights, CA 92621
916-765-2441

Professional Experience

Mr. Lawson has 19 years of experience with various private agencies conducting typical fieldwork and laboratory work, as well. Major projects include Twelve Bridges Golf Club and adjacent areas, Clover Valley Lakes, and other smaller projects in several counties.

Survey work includes the following counties: Colusa, Sutter, Yuba, Sacramento, El Dorado, Sierra, Butte, Lake, Fresno, Merced, San Joaquin, Placer, Nevada, Amador, Solano, Tuolumne, Kern, Contra Costa, Sonoma, Kings and Tulare. Additional experience includes mapping and processing field notes and photography. Informal visits in an unpaid capacity include: historic and prehistoric sites in Sacramento, Amador, Placer, Sonoma, Marin, Fresno, Modoc and Lassen.

Other site visits include prehistoric sites in Nevada, Arizona, Oregon, South Dakota, Michigan, Ohio and Texas.

Sites visited in Mexico and Guatemala include: El Ray, Uxmal, Tulum, Escaret, Chitchen-Itza, Carocol, Burial Creek Caves and Tikal.

Mr. Lawson has undertaken extensive survey work throughout the San Joaquin Valley for a number of smaller projects for Peak & Associates. For over a year, he served as lead monitor during the excavations for improvements to Sutter Street in the city of Folsom and monitored excavations for improvements to a roadway in El Dorado County

Other recent projects include his participation as a team member on major excavations in San Francisco and Vacaville, involving the removal of Native American interments. Other projects have included historic period excavations. He assisted in an Extended Phase I test in Yuba County, checking for both prehistoric and historic period resources.

APPENDIX 2

NCIC Record Search

California Historical Resources Information System

NORTH CENTRAL INFORMATION CENTER

AMADOR
EL DORADO
NEVADA
PLACER
SACRAMENTO
YUBA

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

6/23/2014 NCIC File No.: **SAC-14-86**

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

Re: **Woodlake Business Park**

The North Central Information Center received your record search request for the project area referenced above, located on the Sacramento East USGS 7.5' quadrangle. The following reflects the results of the records search for the project area:

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

Resources within project area:	None.
Resources within radius:	No search radius requested.
Reports within project area:	2019
Reports within radius:	No search radius requested.

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

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

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

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

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

Sincerely,

Machiel Van Dordrecht
Researcher

APPENDIX 3

Native American Consultation

PEAK & ASSOCIATES, INC.
CONSULTING ARCHEOLOGY
30 Years: 1975-2005

June 22, 2014

Ms. Debbie Pilas-Treadway
Native American Heritage Commission
915 Capitol Mall, Room 288
Sacramento, CA 95814

Dear Ms. Treadway:

Peak & Associates, Inc. has contracted with the Law Offices of John K. Sutherland to perform a cultural resources assessment of the proposed Woodlake business park in Sacramento County. The project involves a land parcel of about two acres at the corner of Leisure Lane and Expo Parkway between SR 160 and the American River.. The project area lies in T9N, R5E, Section 32 (extended, Rancho del Paso) and is mapped on the Sacramento East 7.5' USGS quadrangle, which is the base for the attached map.

Because of potential wetlands issues the project may be a federal undertaking. In accordance with the Secretary of the Interior's Guidelines for implementing Section 106, we are requesting a list of appropriate Native American contacts for the project area. We also request a check of the Sacred Lands Inventory for any potential conflicts.

Thank you for your assistance.

Sincerely,

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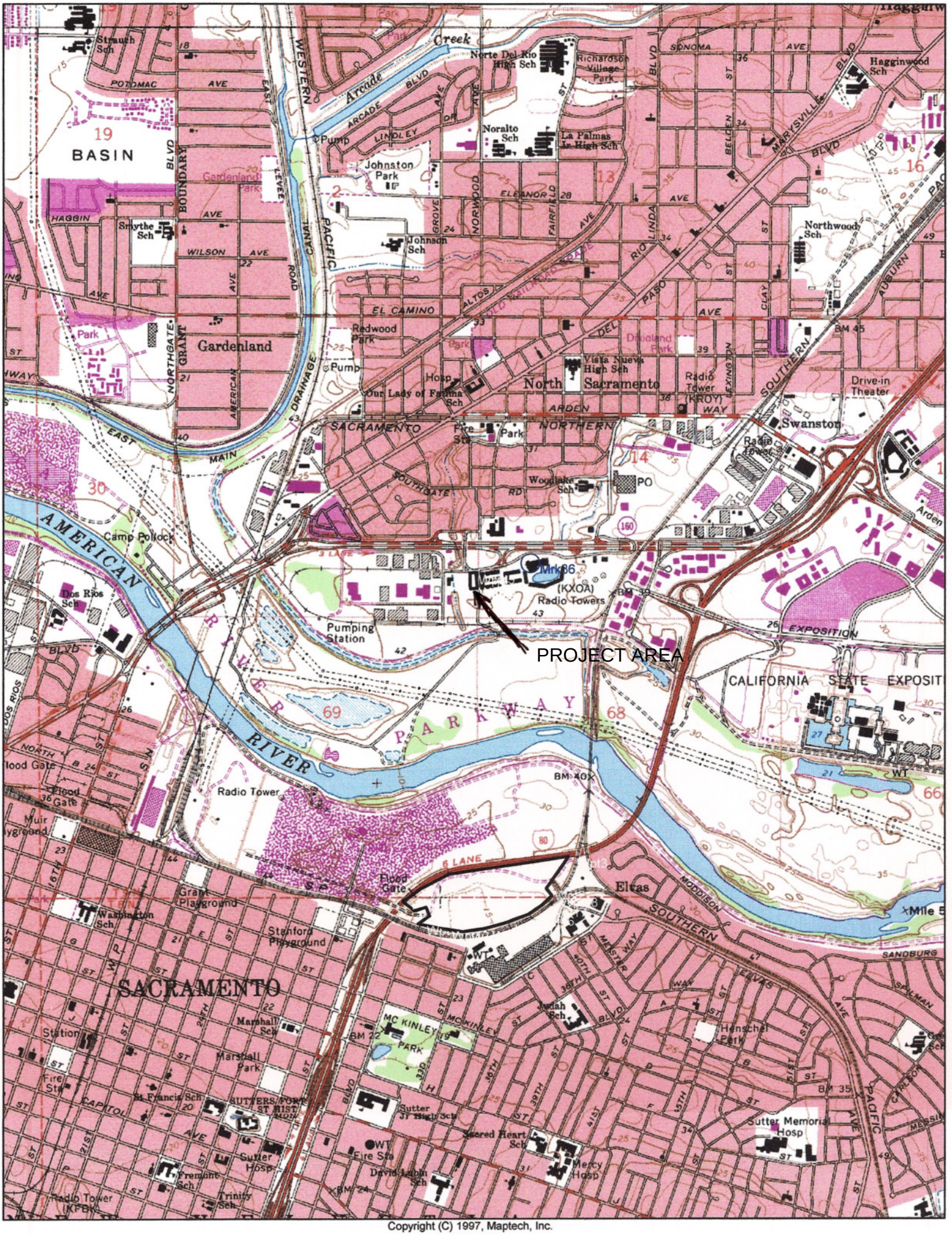
//RG
Encl.


PROJECT AREA
AMERICAN RIVER PARKWAY
SACRAMENTO
Gardenland
North Sacramento
Swanston
Arden
Camp Pollock
Pumping Station
Radio Towers
(KXOA)
Radio Tower
(KFBK)
Elvas
Grant Playground
Stanford Playground
Marshall Park
MC KINLEY PARK
Henschel Park
Johnston Park
Redwood Park
Dissland Park
Woodlake Sch
Norte Del Rio High Sch
Vista Nueva High Sch
Our Lady of Fatima Sch
Sutter Memorial Hosp
Mercy Hosp
Sutter Hosp
Drive-in Theater
CALIFORNIA STATE EXPOSIT
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PEAK & ASSOCIATES, INC.
CONSULTING ARCHEOLOGY

June 20, 2014

Dear :

Peak & Associates, Inc. has contracted with the Law Offices of John K. Sutherland to perform a cultural resources assessment of the proposed Woodlake business park in Sacramento County. The project involves a land parcel of about two acres at the corner of Leisure Lane and Expo Parkway between SR 160 and the American River.. The project area lies in T9N, R5E, Section 32 (extended, Rancho del Paso) and is mapped on the Sacramento East 7.5' USGS quadrangle, which is the base for the attached map.

We are contacting individuals identified by the Native American Heritage Commission as persons who might have information to contribute regarding potential Native American concerns in the project area. Any information or concerns that you may have regarding village sites, traditional properties or modern Native American uses in any portion of the project vicinity will be welcomed. If you know other individuals who are familiar with the vicinity, we would welcome this information as well.

We recognize that much of the information about protected and sacred sites may be confidential within your community and cannot be shared with those outside of your community. We will work with you to minimize impact on your cultural resources. Please contact me to discuss how we can accomplish protection of your cultural resources within your limits of confidentiality and the needs of the project.

Thank you for your assistance.

Sincerely,

Robert A. Gerry
Consulting Archeologist

RG//
Encl.

■ 3941 Park Drive, Suite 20-329, El Dorado Hills, CA 95762/Phone: (916)939-2405/Fax: (916)283-5239/email: peakinc@sbcglobal.net
□ 3161 Godman Avenue, Suite A, Chico, CA 95973/Phone: (530)342-2800/Fax: 342-0273/email: peakinc@yahoo.com

MAILING LIST

Ms. Rose Enos
15310 Bancroft Road
Auburn, CA 95603

Ms. April Wallace Moore
19630 Placer Hills Road
Colfax, CA 95713

Shingle Springs Band of Miwok Indians
Mr. Hermo Olanio, Vice-Chairperson
PO Box 1340
Shingle Springs, CA 95682

Shingle Springs Band of Miwok Indians
Mr. Daniel Fonseca, Cultural Resource Director
PO Box 1340
Shingle Springs, CA 95682

Shingle Springs Band of Miwok Indians
Mr. Nicholas Fonseca, Chairperson
PO Box 1340
Shingle Springs, CA 95682

United Auburn Indian Community of the Auburn Rancheria
Mr. Marcos Guerrero, Tribal Preservation Committee
10720 Indian Hill Road
Auburn, CA 95603

United Auburn Indian Community of the Auburn Rancheria
Mr. Gene Whitehouse, Chairperson
10720 Indian Hill Road
Auburn, CA 95603

United Auburn Indian Community of the Auburn Rancheria
Mr. Jason Camp, THPO
10720 Indian Hill Road
Auburn, CA 95603

T si-Akim Maidu
Mr. Grayson Coney, Cultural Director
PO Box 1316
Colfax, CA 95713

T si-Akim Maidu
Ms. Eileen Moon, Vice-Chairperson
1239 East Main Street
Grass Valley, CA 95945

SHINGLE SPRINGS RANCHERIA
P.O. BOX 1340; SHINGLE SPRINGS, CA 95682
(530) 676-8010; FAX (530) 676-3582

July 15, 2014

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

RE: Woodlake Business Park in Sacramento County

Dear Robert A. Gerry

Thank you for your letter dated June 20, 2014 in regard to the Woodlake Business Park in Sacramento County. Based on the information provided, the Shingle Springs Band of Miwok Indians is not aware of any known cultural resources on this site. However, SSR would like to have continued consultation through updates, as the project progresses this will foster a greater communication between the Tribe and your agency.

SSR would also like to request any and all completed record searches and or surveys that were done in or around the project area up to and including environmental, archaeological and cultural reports.

If during the progress of the project new information or human remains are found we would like to be able to go over our process with you that we currently have in place to protect such important and sacred artifacts (especially near rivers and streams).

Please contact the following individuals if such finds are made:

Andrew Godsey, Assistant Cultural Resource Director / NAI
Office: (530) 698-1403 agodsey@ssband.org

And copy all communications to:
Kara Perry, Administrative Assistant (530) 488-4049 kperry@ssband.org

Thank you for providing us with this notice and opportunity to comment.

Sincerely,

Daniel Fonseca
Cultural Resource Director
Tribal Historic Preservation Officer (THPO)
Most Likely Descendent (MLD)

APPENDIX E

Geotechnical Investigation
Raney Geotechnical
July 2014

GEOTECHNICAL INVESTIGATION
ADVANCED HEALTH CARE
SKILLED NURSING FACILITY
Expo Parkway and Leisure Lane
Sacramento, California

Raney Geotechnical Inc. Job No. 4028-001

Raney Geotechnical Inc

Raney Geotechnical Inc

July 22, 2014

Monica R. Salusky, Attorney at Law
2540 Camino Diablo, Suite 200
Walnut Creek, CA 94597

GEOTECHNICAL INVESTIGATION
ADVANCED HEALTH CARE SKILLED NURSING FACILITY
Expo Parkway and Leisure Lane
Sacramento, California
File No. 4028-001

INTRODUCTION

This firm has completed a Geotechnical Investigation for the skilled nursing facility planned for construction on Expo Parkway in Sacramento. The purpose of this investigation has been to provide data pertinent to design and construction of the building and pavements. This report presents the results of the investigation. Our firm previously performed a foundation investigation on the property in 2007.[1] Information from the referenced previous investigation has been used in preparing this report.

Field exploration for this investigation has included the drilling of three borings to depths of about nine, 15 and 39.5 feet below the existing ground surface. Relatively undisturbed soil samples were obtained from the borings for classification and laboratory testing. The locations of borings completed for this investigation, as well as borings completed on site for the previous investigation, are shown on Plate 1, *Plot Plan*; logs of Borings D1, D2 and D3, completed for this investigation, are shown on Plates 2, 3 and 4, *Log of Boring*. Logs of Borings 1, 2, and 3, which were previously completed on the site, are shown on Plates 5, 6 and 7, *Log of Boring.* The results of moisture content, dry unit weight and unconfined compressive strength tests are included on the logs at the depths of each sample tested. The nomenclature used to describe the soils on the logs is defined on Plate 8, *Unified Soil Classification System*. The results of atterberg limits tests, used in classifying site surface soils, are depicted graphically on Plate 9, *Atterberg Limit Data.* Guide earthwork specifications are appended following the plates.

PROPOSED CONSTRUCTION

We understand it is planned to construct a 40 bed skilled nursing facility on the property. The building will be a single story structure covering about 31,000 square feet. The building will be of wood frame construction with a concrete slab-on-grade floor. Building roof heights will range from about 14 to 38

[1]Raney Geotechnical Inc.: "Foundation Investigation, Canterbury Crossing, Expo Parkway and Leisure Lane, Sacramento, California", October 5, 2007; Job No. 3048-001.

feet. The building will be constructed on the central and easterly portions of the parcel. Asphalt concrete paved parking and driveways will be provided along the west and south sides of the building.

Building foundation loads are expected to be light to moderate and common to this type of construction. The building floor level is expected to be near the existing site grade.

GEOLOGIC SETTING

General

The subject property is located within the Sacramento Valley portion of the Great Valley Geomorphic Province of California. The Great Valley is bordered to the north by the Cascade and Klamath Ranges, to the west by the Coast Ranges, to the east by the Sierra Nevada, and to the south by the Transverse Ranges. The valley was formed by tilting of the Sierran Block with the western side dropping to form the valley and eastern side uplifting to form the Sierra Nevada. The valley is characterized by a thick sequence of sediments derived from erosion of the adjacent Sierra Nevada to the east and the Coast Ranges to the west. These sedimentary rocks are mainly Cretaceous in age. The depth of the sediments vary from a thin veneer at the edges of the valley to depths in excess of 50,000 feet near the western edge of the valley. In the vicinity of the subject site, these sediments are indicated to extend to depths greater than 5,000 feet.

Lithology

According to U.S. Geological Survey mapping prepared by Helley and Harwood (1985) the surface and near surface deposits are recognized as undivided Holocene basin deposits, Qb; as well as levee and channel deposits, Qa. These deposits typically consist of silt, sand and clay deposited by drainages similar to present-day stream and river systems.

Structure, Faults, and Seismicity

The general area of the subject site is underlain by a monoclinal series of Cenozoic deposits dipping gently to the southwest toward the center of the Sacramento Valley. The contact between the Cenozoic and basement rocks dips nearly eight degrees southwest, or at a slightly greater inclination than does the on-lapping homoclinal Cenozoic sequence. No active faults are mapped within the project area, and based on mapping and historical seismicity, the seismicity of the Sacramento area is considered relatively low by the scientific community.

Adjacent to the Sacramento Valley, the Sierra Nevada and Coast Ranges are geologically young mountain ranges and contain active and potentially active fault zones. Numerous active faults are present within the Coast Ranges west of the site including the San Andreas, Calaveras, Hayward/Rodgers Creek, and Green Valley Faults. In addition, an active seismotectonic source, the Coast Ranges-Central Valley (CRCV) boundary zone, is located approximately 30 miles west of the site. The CRCV boundary zone is the geomorphic boundary of the Coast Ranges and the Central Valley and is underlain by a 300-mile long seismically active fold and thrust belt. The CRCV boundary zone is

considered the dominant seismic feature with potential for affecting the subject site.

Regional structure within the Western Sierra Nevada east of the subject site is complex and generally consists of blocks separated by steeply eastward-dipping, north and northwest striking reverse faults of the Foothills Fault System. The Foothills Fault system is located more than 22 miles east of the subject site. Based on mapping and historical seismicity, seismic activity on the Sierra Nevada foothills is generally considered geologically infrequent.

Hazard Zones in California

Review of Fault-Rupture Zone mapping indicates that the subject site is not within a Fault-Rupture Hazard Zone currently delineated by the State of California. The nearest State-delineated Fault-Rupture Zone to the site is located on the Mt. George Topographic Quadrangle about 40 miles southwesterly of the site. Furthermore, review of published and unpublished geologic literature, as well as our site investigation activities, have not revealed any evidence of fault rupture hazard on the subject site.

The area of the subject site is not on any of State of California Seismic Hazard Zone Maps released to date.

Ground Motion

The site will be subject to ground shaking related to seismic activity on the referenced nearby fault systems. Ground motions are often characterized by a probabilistic seismic hazards analysis wherein the probability that a peak ground motion (acceleration, velocity) will be exceeded during a given period of time is evaluated. Probabilistic hazards analyses undertaken by our firm for nearby projects generally have resulted in peak ground accelerations with a 10% probability of being exceeded in 50 years of between 0.13g and 0.22g. Mapping by the United States Geological Survey indicates a peak ground acceleration for the Maximum Credible Earthquake of about 0.21g. For a peak ground acceleration with a 2% probability of exceedance in 50 years, a value of about 0.30 g has been determined. The primary sources for these accelerations appear to be Magnitude 6.5 to 6.7 earthquakes occurring within the CRCV Boundary Zone.

SITE CONDITIONS

SURFACE

The subject site encompasses about two and one-half acres on the east side of the westerly leg of Expo Parkway. The property is bordered on the north by Leisure Lane and on the south by the southerly leg of Expo Parkway. A two story lodging wing of the Woodlake Inn is along the east side of the property. Portland cement concrete sidewalks are along the road shoulders. The site is relatively flat and was mostly covered with dry weeds. The surface of most of the area now has been disced for weed control. A few trees are growing on the southwesterly corner and easterly edges of the property. Remnants of a gravel road that previously served as an access to the American River parkway is on the east edge of the parcel.

SUBSURFACE

Regions north and east of the subject site are dominated by a profile of older alluvium that usually includes medium dense silts or sands in the upper few feet, underlain by dense and variably cemented silts, sands and clays ("hardpan"). Adjacent to the American River, the older alluvium has been incised and replaced with recent channel deposits. The upper several feet of the recent river alluvium often consists of loose silts and sands. The subject site was found to be in a transition zone between these two soil formations, with the upper few feet of undisturbed soils on the southerly portion of the site identified as recent river alluvium, and the deeper soils consisting of older, variably cemented deposits.

At the test borings, the upper one to three feet of soils were observed to be disturbed either by discing or due to the presence of loosely placed fill materials. The disturbed soils were found to extend to a depth of about three feet at Boring 1, to depths on the order of one and one-half feet at Borings D1, 2 and 3, and to depths on the order of one foot at Borings D2 and D3. The disturbed soils were found to consist of loose, light brown fine sandy silts mixed with some clay clods and gravel.

Beneath the disturbed soils and extending to depths varying from about two and one-half to five feet below the existing ground surface, undisturbed surface soils were found. These soils included loose, light brown to light gray-brown fine sandy silts and very stiff, very silty clays/clayey silts. Underlying the surface silts, one-half to one and one-half foot thick layers of very stiff, light brown to dark gray-brown clays were encountered. Beneath the clay layers and extending to the 39.5 maximum depth explored, dense and variably cemented soils were observed. Above a depth of about 18 feet, these subsurface soils were found to consist of hard and variably cemented, light brown to tan or gray, fine sandy to clayey silts. Below 18 feet to the 39.5 foot depth drilled, the subsurface soils were found to include interlayered, dense/hard and variably cemented fine sandy to clayey silts as well as dense to very dense, light brown to gray-brown fine to medium sands.

BEARING CAPACITY

Loose existing fill materials and disturbed soils were found to depths varying from about one to three feet below the existing ground surface. Such disturbed soils are not considered suitable for support of building construction. Recommendations are presented below for overexcavation and recompaction of the disturbed soils.

The native undisturbed soils are indicated to have strength and compressibility properties that are favorable for support of the planned construction. The undisturbed surface soils as well as new engineered fill placed and compacted in accordance with our recommendations, are expected to be capable of supporting floors, and light to moderately loaded foundations. The subsurface variably cemented soils are relatively strong materials and can support heavy foundation loads with negligible settlements.

EXPANSIVE SOILS

The surface soils consist primarily of low plasticity silts that are considered to have low expansion potential. Relatively thin clay layers were encountered between depths of about two and seven feet;

such clays can develop swelling pressures with increases in moisture content. However, at the depth encountered, moisture content variations will be reduced and overburden pressures will restrict soil movements. We expect expansive soils will not have a significant effect on the planned construction provided the recommendations of this report are employed.

GROUNDWATER

Groundwater was encountered in Boring D3 at a depth of about 33 feet below the ground surface. Sacramento County groundwater maps indicate that groundwater in the area is most often at depths between 25 and 40 feet below the ground surface. Experience has shown that during heavy rainfall periods and high flows in the adjacent American River, groundwater levels can rise. Within the recent river alluvium, the groundwater levels rise can be significant. Within the variably cemented strata underlying this site, the groundwater rise will be subdued. We expect that groundwater levels will remain at depths of more than 20 feet below the ground surface. The permanent groundwater table is not expected to have a significant effect on the completed construction.

Deep utilities bedded with permeable sands or gravels and whose trenches extend south of the site into deep river alluvium, may tend to collect groundwater during periods of high river/groundwater levels. In addition, in the cemented soil regime of this site, precipitation and irrigation water percolating into the surface soils may tend to perch on top of the clays and cemented layers as well as to collect in permeable utility trench bedding. Saturated bedding materials are likely to be contacted when making connections to existing utilities, particularly during and for some time following the wet season. Foundation, utility or other construction excavations attempted during or shortly following the wet season may experience perched water inflow. The potential for perched water conditions should be considered in construction scheduling.

The surface soils consist of fine sandy silts that are very sensitive to moisture. High soil moisture contents can result in instability under earthwork equipment and prevent compaction. Elevated soil moisture contents are likely to occur during the rainy season and to persist for some time following cessation of rains. High moisture content soils may require considerable aeration in order to achieve a moisture content that will allow compaction. The potential for elevated soil moisture and resulting instability should be considered in the scheduling of earthwork construction.

SOIL LIQUEFACTION POTENTIAL

Soil liquefaction is the loss of strength of low- to no- cohesion soils (usually sands) that occurs when pore water pressure exceeds the confining stress (weight) of the soils. Liquefaction normally occurs only under saturated conditions and in soils with a low relative density. Liquefaction can occur during earthquakes as vibrations induce soils to readjust to a more compact state. Experience has shown that earthquake induced liquefaction normally occurs only within the upper 50 to 60 feet of the soil profile.

The test borings show that the subsurface soils primarily are dense and cemented silts. Such soils are not considered susceptible to seismic induced liquefaction. Boring D3 as well as experience in the area show that the subsurface strata also can include layers or lenses of dense to very dense sands. We have used the methods of Seed and others as implemented in the LiquefyPro software by CivilTech

Corporation to evaluate the liquefaction potential of sands below expected groundwater levels. The method correlates standard penetration resistance and liquefaction potential based on historical case studies. In determining liquefaction potential, groundwater depth, confining pressures, and, intensity and duration of potential ground shaking are considered.

Probabilistic seismic hazards mapping by the United States Geological Survey indicates that the peak ground acceleration produced by maximum credible earthquakes on nearby faults (10 percent probability of exceedance in 50 years) is likely to be on the order of 0.21 g. Interpretations according to the ASCE 7-10 standard indicates that the peak ground acceleration produced by maximum credible earthquakes with a two percent probability of exceedance in 50 years is likely to be on the order of 0.30 g. The controlling earthquakes in developing this acceleration appear to mostly be events of magnitude 6.5 to 6.7 occurring within the Coast Range/Central Valley (CRCV) boundary zone about 46 kilometers southwesterly of the subject site. Using these earthquake data, our analysis indicates that seismic induced liquefaction on this project is unlikely.

For a better understanding of subsurface conditions, reference should be made to Plates 2 through 7, Log of Boring.

RECOMMENDATIONS

EARTHWORK

The building pad and pavement areas should be cleared of surface vegetation, earth berms, soil stockpiles, rubble and rock fragments exceeding three inches in maximum dimension, rubbish, unwanted trees, stumps and root systems, and any other debris. Any underground pipes within two feet of original or final grade (whichever is lower) should be removed. Any abandoned underground pipes exceeding two inches in diameter should be removed from building pad areas regardless of depth. Low areas should be cleaned out of any loose or saturated materials.

All existing fills and disturbed soils, including fills and disturbed soils indicated to be present to depths of one to three feet over most of the parcel (see boring logs for more information) should be overexcavated from building pad and pavement areas to facilitate recompaction. This is expected to require excavation to a depth on the order of one foot over most of the site and to a depth of near three feet in the vicinity of Boring 1.

Following clearance and any required excavation to final subgrade level, the building pad and pavement areas should be observed by our representative to determine if significant quantities of disturbed soils or old fill materials remain. Test excavations or proof rolling with compaction or other equipment should be performed where required by our representative. Any remaining loose or disturbed soils designated by our representative should be removed.

Any excavations required for the removal of the above items, as well as any other loose or unstable soil deposits identified by our representative, should be cleaned of loose, saturated or soft materials so that

firm undisturbed soils are exposed. Deep excavations required for the removal of the above items should be sloped back to a dish shaped configuration allowing through passage of compaction equipment. Any deep excavations should be restored to grade with engineered fill placed and compacted in accordance with the recommendations of this report.

Areas designated to receive engineered fill as well as building pad and pavement areas left at existing grade should be scarified to a depth of eight inches, brought to a uniform moisture content of at least optimum, and recompacted in place to at least 90 percent of the maximum dry density determined by ASTM D1557-02 test procedure. If recompacted subgrades are unstable or compaction cannot be achieved due to high soil moisture contents, our firm should be contacted for further recommendations. Engineered fill should be placed in lifts not exceeding six inches in compacted thickness, brought to a moisture content of at least optimum, and compacted to at least 90 percent in accordance with the above standard. On-site soils are suitable for use as engineered fill provided the soils do not contain significant vegetable matter, rubble, rubbish, or other undesirable substances. Import materials, if any, should have a plasticity index of ten or less, and should be tested and approved by this firm prior to importation to the site.

The upper six inches of building pad and pavement subgrades should be compacted to at least 90 percent of the ASTM D1557-02 maximum dry density regardless of whether the final grade is achieved by cutting, filling or is left at existing grade. Permanent excavation and embankment slopes should not exceed an inclination of one vertical on two horizontal. A representative of this firm should be present during grading operations to test and observe earthwork construction.

FOUNDATIONS

The proposed building may be supported upon continuous and/or isolated spread foundations bearing on undisturbed or recompacted natural ground, engineered fills placed and compacted as recommended in this report, or a combination of these materials. The building foundations should extend to a depth of at least 18 inches below the soil building pad or lowest surrounding soil subgrade level (whichever is lower), and should have a minimum width of 12 inches. Foundations so established may be designed for maximum allowable bearing pressures of 2500 pounds per square foot (psf) for dead plus live load, or 3300 psf for total load including the effects of either wind or seismic forces.

Foundations for signs, trash enclosures and other appurtenant construction or equipment should be based in undisturbed or recompacted natural ground, engineered fills, or a combination of these materials. Such foundations should be based at least 12 inches below the lowest surrounding soil subgrade level and should have a minimum width of 12 inches. Foundations so established may be designed using the allowable bearing pressures recommended for the building foundations above.

The weight of foundation concrete below grade may be disregarded in sizing computations. Maximum total settlements of the recommended foundations are expected to be less than one-quarter inch. Foundation excavations should not be allowed to stand open for extended periods prior to concrete placement. Unformed foundation excavations are expected to stand open with only minor sloughing and raveling. A representative of this firm should observe foundation excavations prior to forming, reinforcing and concrete placement to verify the acceptability of the bearing materials.

Resistance to lateral forces may be computed using a passive earth pressure equivalent to that exerted by a fluid weighing 250 pounds per cubic foot. The sliding resistance of footings may be computed using a friction factor of 0.30. A combination of friction and passive pressure may be used provided the larger resistance is reduced by 50 percent. A soil-concrete adhesion value equivalent to 35 pounds per square foot per foot of depth along the sides of footings may be used in computation of lateral and uplift load resistance. The recommended passive pressure, friction coefficient and adhesion values have been modified by appropriate factors of safety and may be applied directly in design calculations.

Continuous foundations should contain at least four No. 4 reinforcing bars, two each, top and bottom. Actual foundation reinforcement should be detailed by the structural engineer.

Foundation excavations should be clean of slough and should be pumped free of significant water when concrete is placed.

SEISMIC DESIGN

In design using the lateral force provisions of the 2013 California building code, the parameters in Table 1 may be used.

TABLE 1

Period (seconds)	Mapped Spectral Response Accelerations (g)		Site Class	Site Coefficients		Maximum Considered Earthquake Spectral Response Accelerations (g)		Design Spectral Response Accelerations (g)	
0.2	S_S	0.641	D	F_a	1.287	S_{MS}	0.825	S_{DS}	0.550
1	S_1	0.285		F_v	1.830	S_{M1}	0.521	S_{D1}	0.348

SLAB-ON-GRADE

We recommend the floor slab contain at least nominal reinforcement, such as 6" x 6", No. 10 x No. 10 welded wire mesh, or heavier. Actual slab reinforcement should be detailed by the structural engineer. The reinforcement should be chaired at slab middepth.

The floor slab should be underlain by at least four inches of clean gravel as a capillary moisture break. The gravel should be graded such that 100 percent passes a one-inch sieve and none passes a No. 4 sieve. A plastic membrane at least ten-mils thick should be provided to retard moisture vapor migration. The membrane may be placed either above or below the gravel layer. If placed over the gravel layer, one to two inches of clean sand may be spread over the membrane for protection, if desired.

The flooring adhesives in current use are extremely sensitive to slab moisture. Recent experience suggests that even with the recommended membrane, some floors may still be susceptible to moisture vapor problems, particularly with impermeable floor coverings such as sheet vinyl, rubber, and wood/wood laminates. To minimize slab moisture problems, care must be taken to ensure that the gravel layer is at least four inches thick throughout the slab area, and that the vapor membrane is continuous beneath the extent of the slab. The membrane should overlap at least 12 inches and should be cut tight around all plumbing stands and other penetrations. All punctures and tears should be sealed with membrane manufacturer-approved sealing tape or overlain by a patching membrane. Vehicle traffic should not be allowed on the membrane; foot traffic should be minimized. The under-slab sand and gravel layers should be protected from precipitation and other moisture; wetting of the sand over the membrane prior to concrete placement should be minimized. If greater assurance against moisture problems is desired, consideration should be given to the use of a quality commercial concrete sealant.

PAVEMENTS

Resistance (R) value tests are used to evaluate pavement subgrade properties. R values can range from five for the poorest quality clay subgrades to 70 or higher for high quality sand and gravel subgrades. Tests performed for our referenced previous investigation resulted in design R values ranging from 26 to 38. We have used the test results in the Caltrans Design Method for Flexible Pavements and Portland Cement Association's design method to calculate alternative pavement sections.

The Caltrans design method uses traffic indices to account for vehicle loads, frequency, and design life. A design life of 20 years is commonly used for commercial pavements. The Asphalt Institute has suggested a traffic index of 4.5 for automobile parking lots. Traffic index 4.5 may be somewhat conservative for parking spaces used only by automobiles, and therefore we also have considered traffic index 4.0. The appropriate traffic index for design in truck use areas will depend on the number of trucks using any one area, number of axles and axle load distribution. We typically recommend traffic index 5.5 for automobile driveways that are occasionally used by refuse collection and similar trucks a few times per week. For driveways carrying more than about seven heavy trucks per week, traffic index 6.0 would be more appropriate.

Alternative pavement sections for these traffic indices are presented in Table 2. We can provide additional pavement sections for other traffic indices upon request. Decisions regarding design traffic index may be made on the basis of economics and the desired level future maintenance.

TABLE 2
PAVEMENT SECTION ALTERNATIVES

Design Traffic Index	Type B Asphalt Concrete (inches)	Class 2 Aggregate Base (inches)
4.0	2.5	5
4.5	2.5 3	6 5
5.5	3	7
6.0	3	8

Pavement subgrades should be prepared as recommended under the Earthwork subsection. Materials and construction within structural pavement sections should conform to the applicable provisions of the 2010 Caltrans Standard Specifications.

LIMITATIONS

This report necessarily assumes uniform variation of soils between borings. Our recommendations are based upon this assumed uniformity and the information provided regarding the proposed construction. If unusual conditions are encountered during construction, the contractor or his representative should notify this firm immediately so that alternate written recommendations can be made.

This report is applicable only to the proposed construction, as described herein, and should not be utilized for design or construction on any other site.

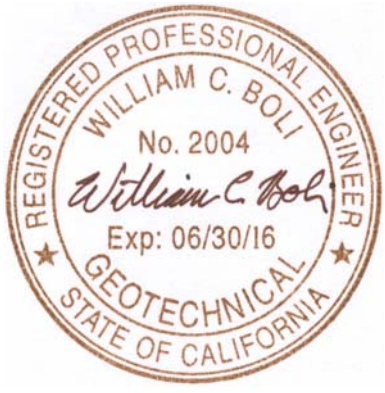
oOo

The following Plates and Specifications are attached and complete this report:

Plate 1 - Plot Plan
Plates 2 through 4 - Log of Boring, Borings D1 through D3
Plates 5 through 7 - Log of Boring, Borings 1 through 3
Plate 8 - Unified Soil Classification System
Plate 9 - Atterberg Limit Data
Guide Earthwork Specifications

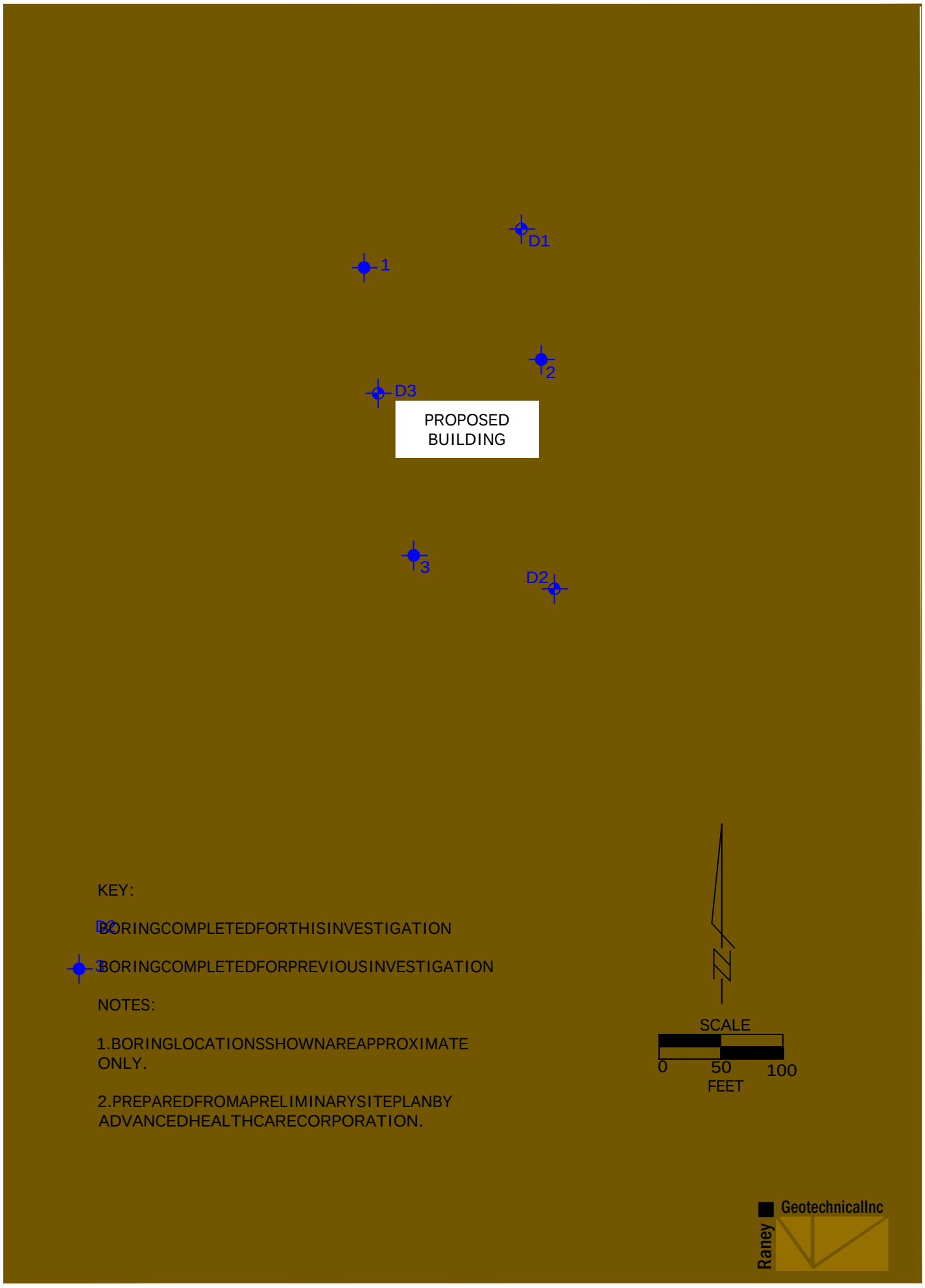
Sincerely,

RANEY GEOTECHNICAL, INC.



William C. Boli
Geotechnical Engineer No. 2004

(5) addressee



PROJECTNUMBER:4028-001DRAWNBY:WCB
PLATENUMBER:1DATE:7114

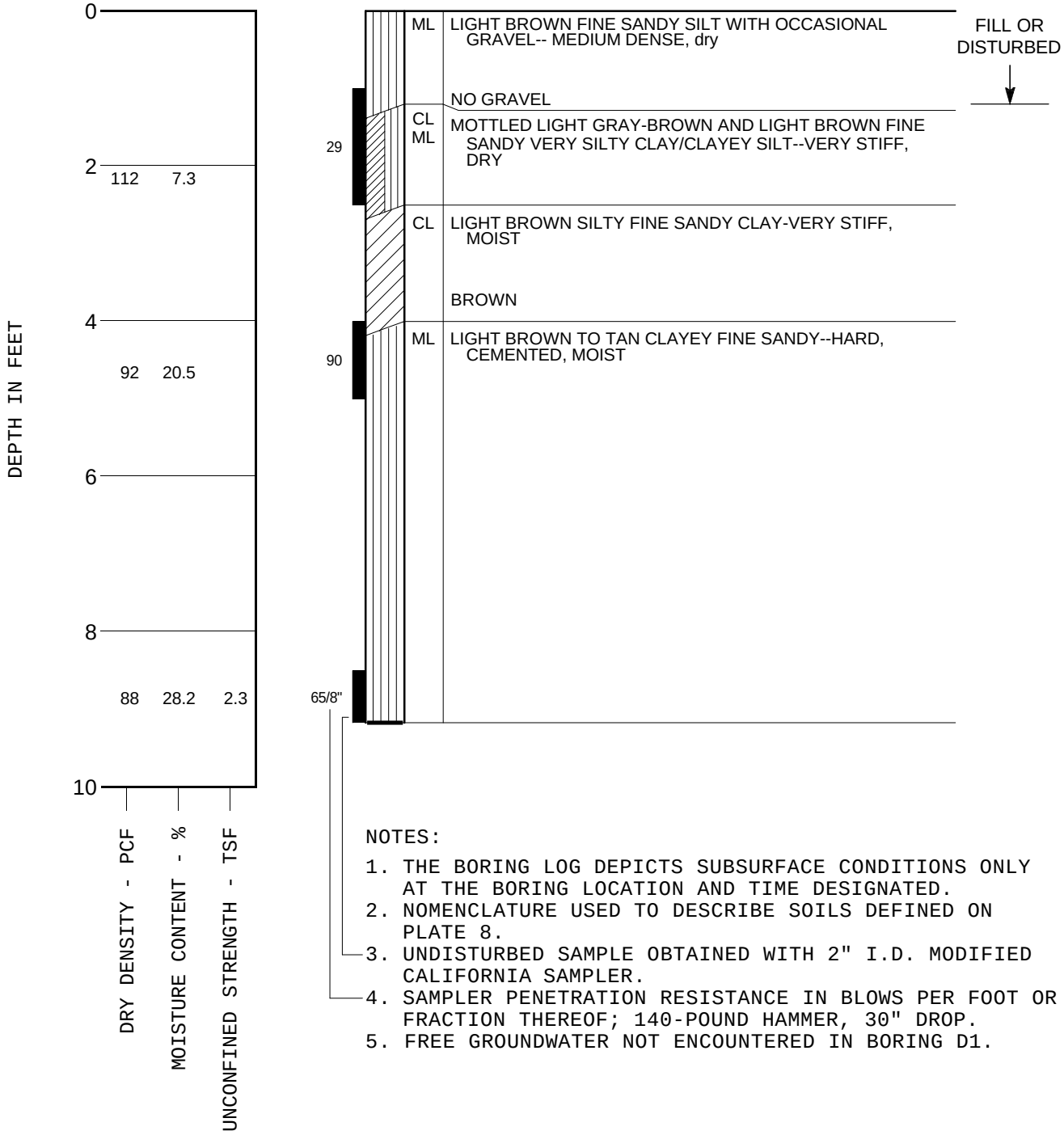
PLATE1

PROJECT NUMBER: 4028-001
PLATE NUMBER: 2

DRAWN BY: CCK
DATE: 6/24/2014

BORING D1

DRILLED:



NOTES:

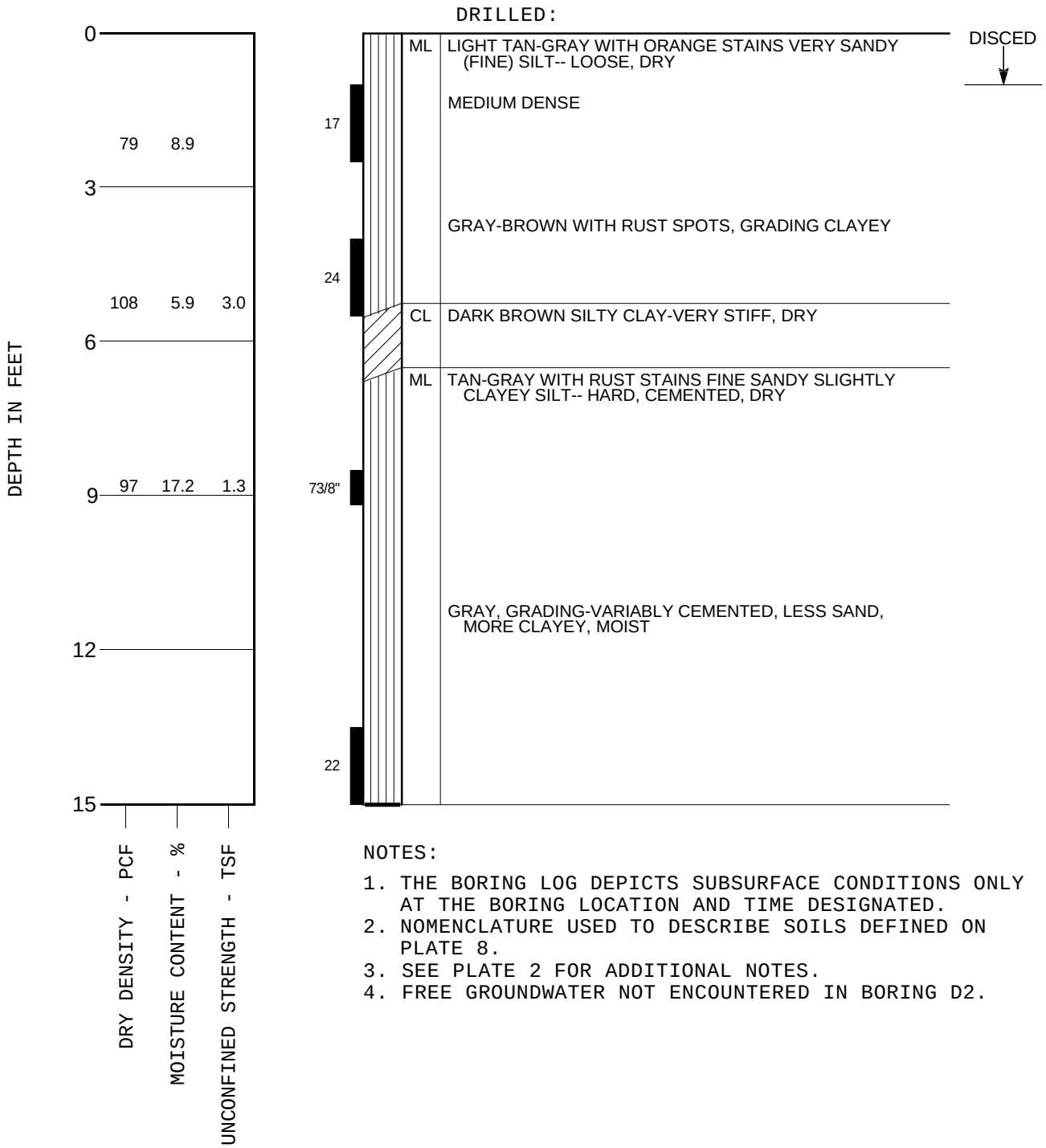
1. THE BORING LOG DEPICTS SUBSURFACE CONDITIONS ONLY AT THE BORING LOCATION AND TIME DESIGNATED.
2. NOMENCLATURE USED TO DESCRIBE SOILS DEFINED ON PLATE 8.
3. UNDISTURBED SAMPLE OBTAINED WITH 2" I.D. MODIFIED CALIFORNIA SAMPLER.
4. SAMPLER PENETRATION RESISTANCE IN BLOWS PER FOOT OR FRACTION THEREOF; 140-POUND HAMMER, 30" DROP.
5. FREE GROUNDWATER NOT ENCOUNTERED IN BORING D1.

Raney Geotechnical Inc

LOG OF BORING

PLATE 2

BORING D2



NOTES:

1. THE BORING LOG DEPICTS SUBSURFACE CONDITIONS ONLY AT THE BORING LOCATION AND TIME DESIGNATED.
2. NOMENCLATURE USED TO DESCRIBE SOILS DEFINED ON PLATE 8.
3. SEE PLATE 2 FOR ADDITIONAL NOTES.
4. FREE GROUNDWATER NOT ENCOUNTERED IN BORING D2.

PROJECT NUMBER: 4028-001
PLATE NUMBER: 3

DRAWN BY: CCK
DATE: 6/24/2014

Raney Geotechnical Inc

LOG OF BORING

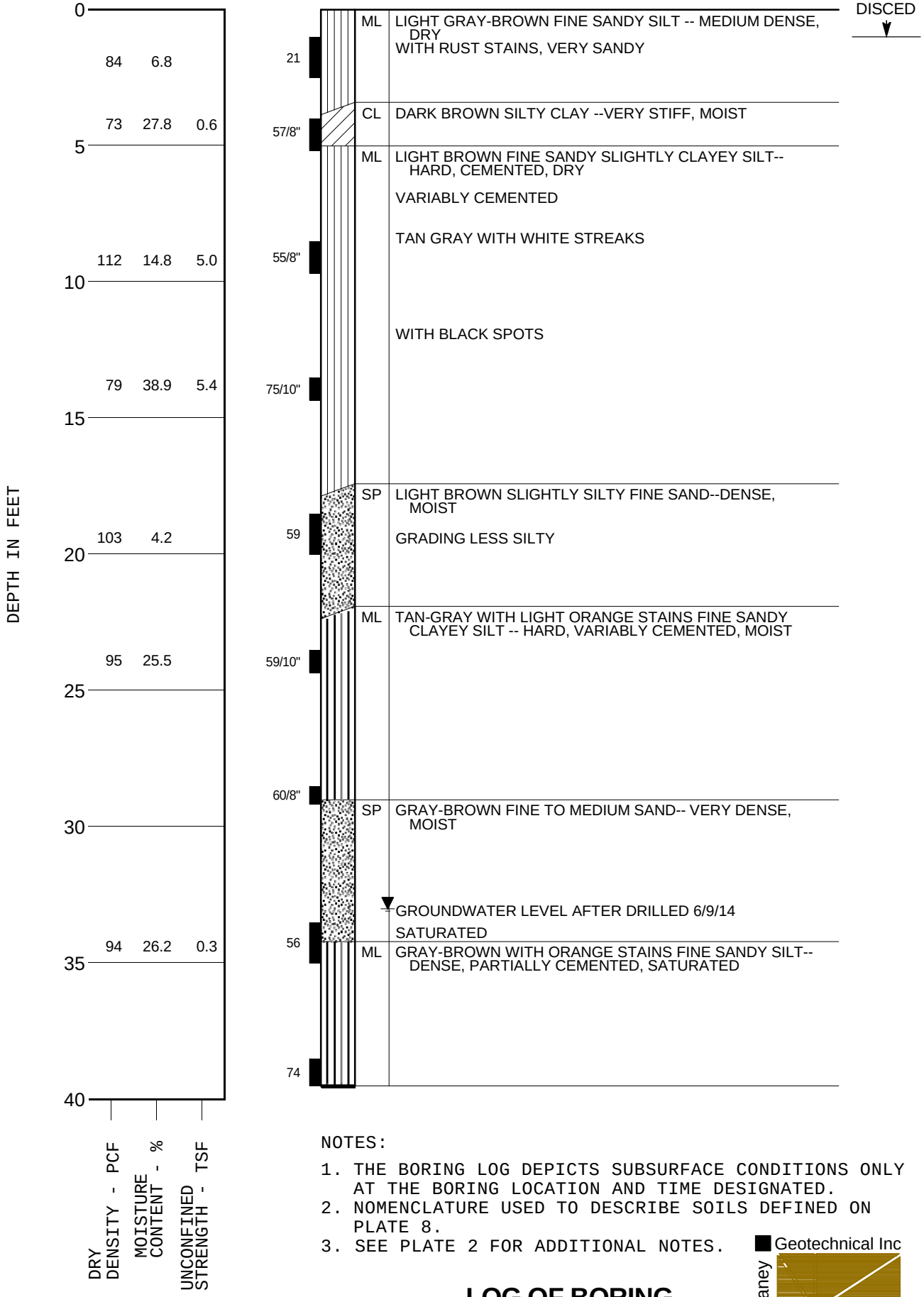
BORING D3

PROJECT NUMBER: 4028-001
PLATE NUMBER: 4

DRAWN BY: CCK
DATE: 6/24/2014

DRILLED:

DISCED



NOTES:

1. THE BORING LOG DEPICTS SUBSURFACE CONDITIONS ONLY AT THE BORING LOCATION AND TIME DESIGNATED.
2. NOMENCLATURE USED TO DESCRIBE SOILS DEFINED ON PLATE 8.
3. SEE PLATE 2 FOR ADDITIONAL NOTES.

Raney Geotechnical Inc

LOG OF BORING

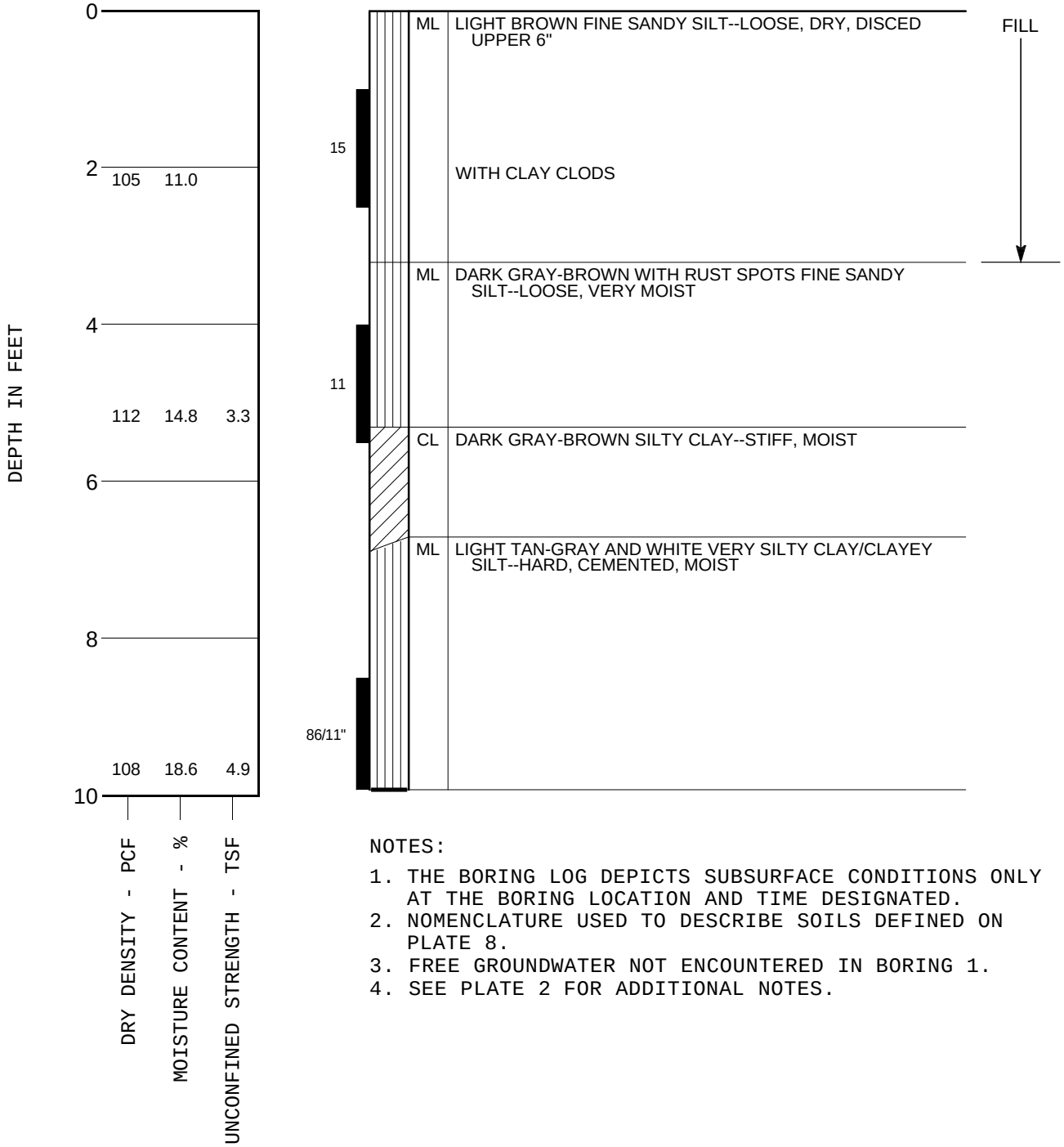
PLATE 4

PROJECT NUMBER: 3048-001
PLATE NUMBER: 5

DRAWN BY: WCB
DATE: 9/27/07

BORING 1

DRILLED: 9/20/07



NOTES:

1. THE BORING LOG DEPICTS SUBSURFACE CONDITIONS ONLY AT THE BORING LOCATION AND TIME DESIGNATED.
2. NOMENCLATURE USED TO DESCRIBE SOILS DEFINED ON PLATE 8.
3. FREE GROUNDWATER NOT ENCOUNTERED IN BORING 1.
4. SEE PLATE 2 FOR ADDITIONAL NOTES.

Raney Geotechnical Inc

LOG OF BORING

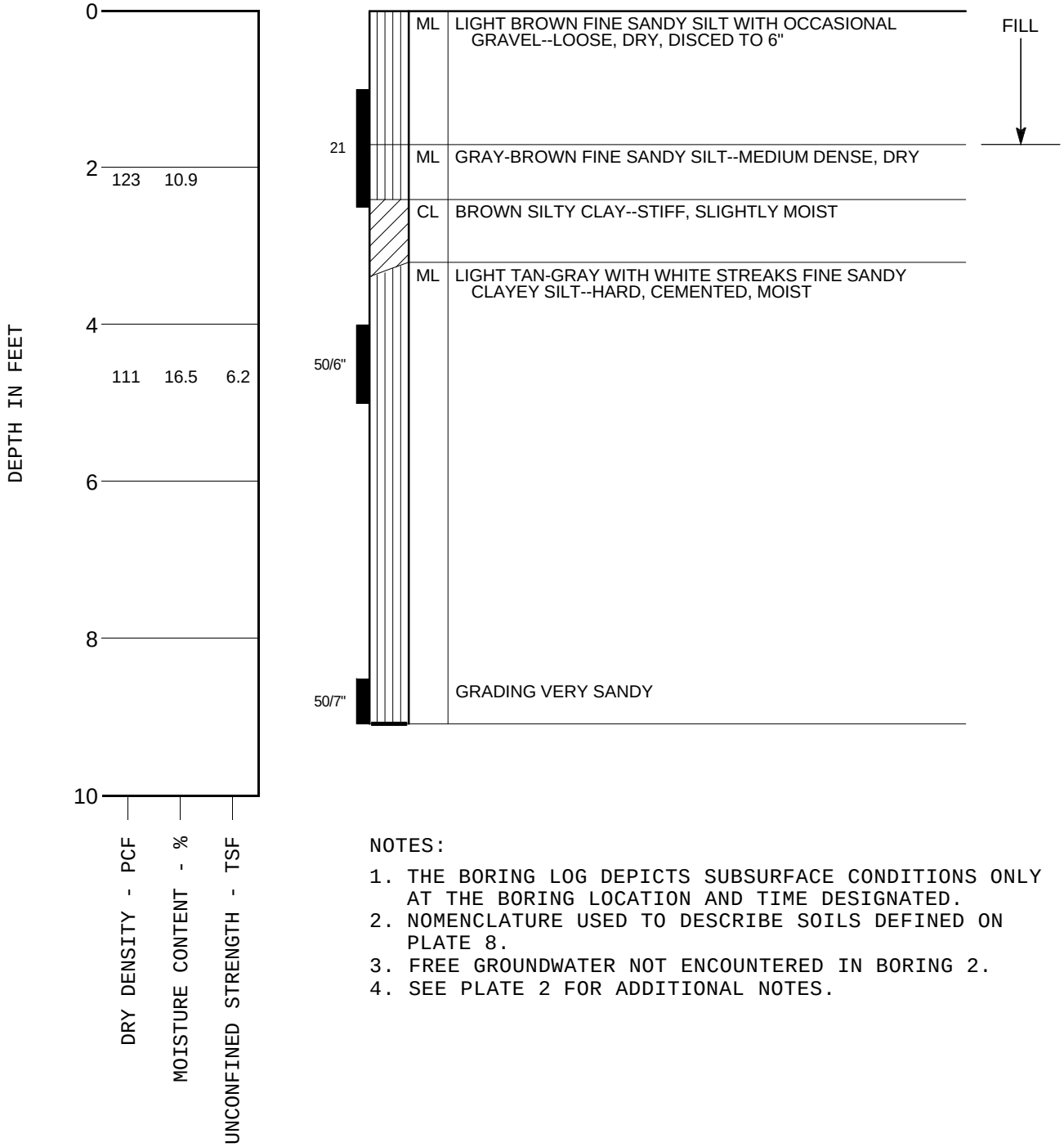
PLATE 5

PROJECT NUMBER: 3048-001
PLATE NUMBER: 6

DRAWN BY: WCB
DATE: 9/27/07

BORING 2

DRILLED: 9/20/07



NOTES:

1. THE BORING LOG DEPICTS SUBSURFACE CONDITIONS ONLY AT THE BORING LOCATION AND TIME DESIGNATED.
2. NOMENCLATURE USED TO DESCRIBE SOILS DEFINED ON PLATE 8.
3. FREE GROUNDWATER NOT ENCOUNTERED IN BORING 2.
4. SEE PLATE 2 FOR ADDITIONAL NOTES.

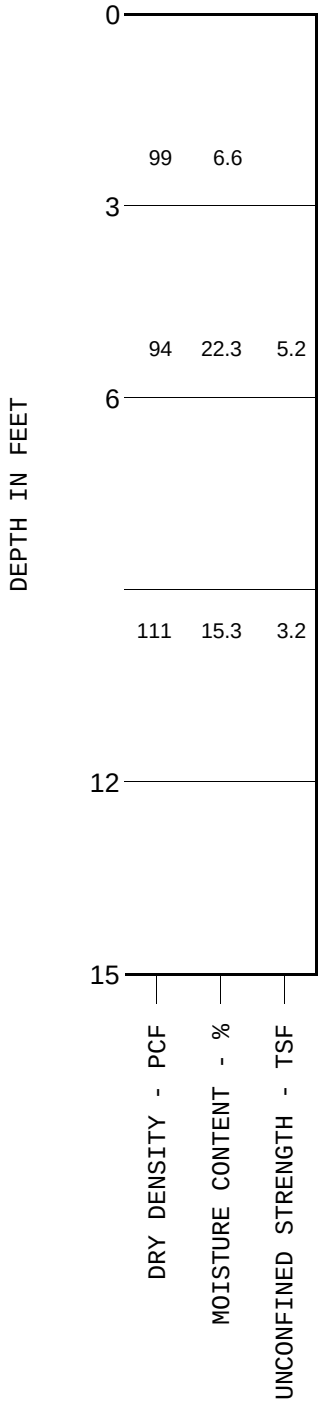
LOG OF BORING

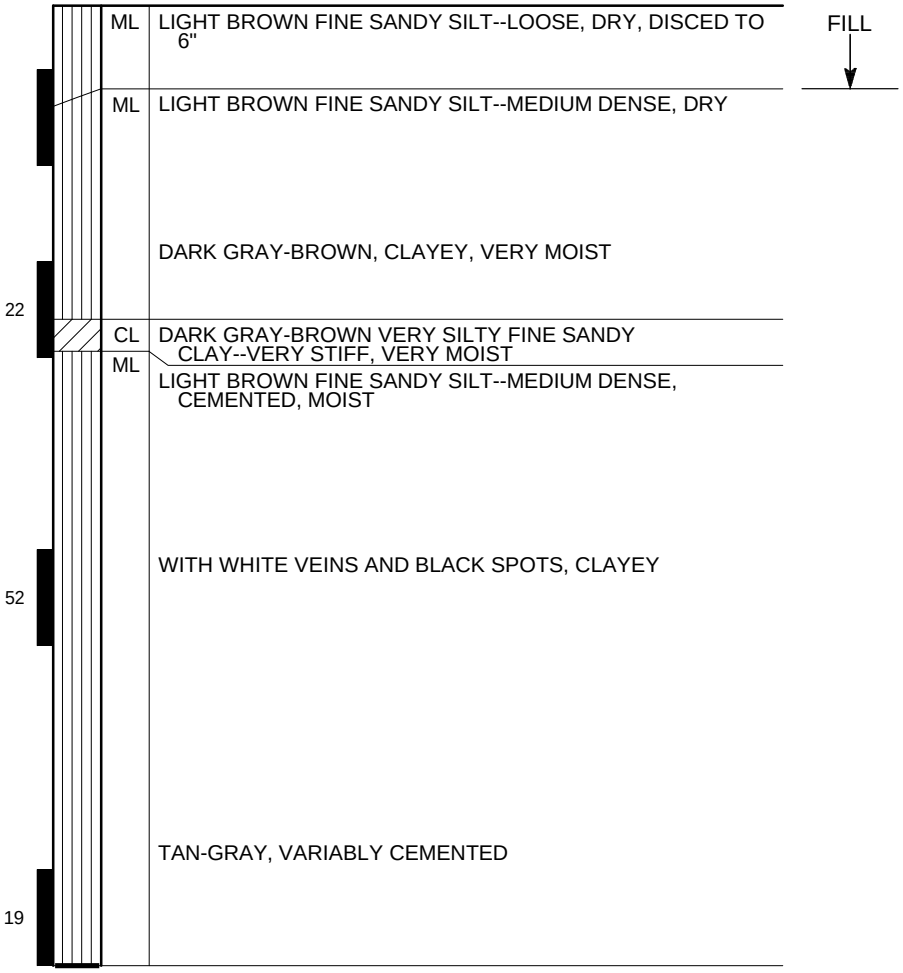
Raney Geotechnical Inc

PROJECT NUMBER: 3048-001
PLATE NUMBER: 7

DRAWN BY: WCB
DATE: 9/27/07

BORING 3





NOTES:

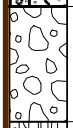
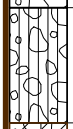
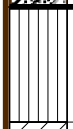
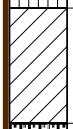
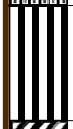
1. THE BORING LOG DEPICTS SUBSURFACE CONDITIONS ONLY AT THE BORING LOCATION AND TIME DESIGNATED.
2. NOMENCLATURE USED TO DESCRIBE SOILS DEFINED ON PLATE 8.
3. FREE GROUNDWATER NOT ENCOUNTERED IN BORING 3.
4. SEE PLATE 2 FOR ADDITIONAL NOTES.

Raney Geotechnical Inc

LOG OF BORING

PLATE 7

PROJECT NUMBER: 4028-001
PLATE NUMBER: 8

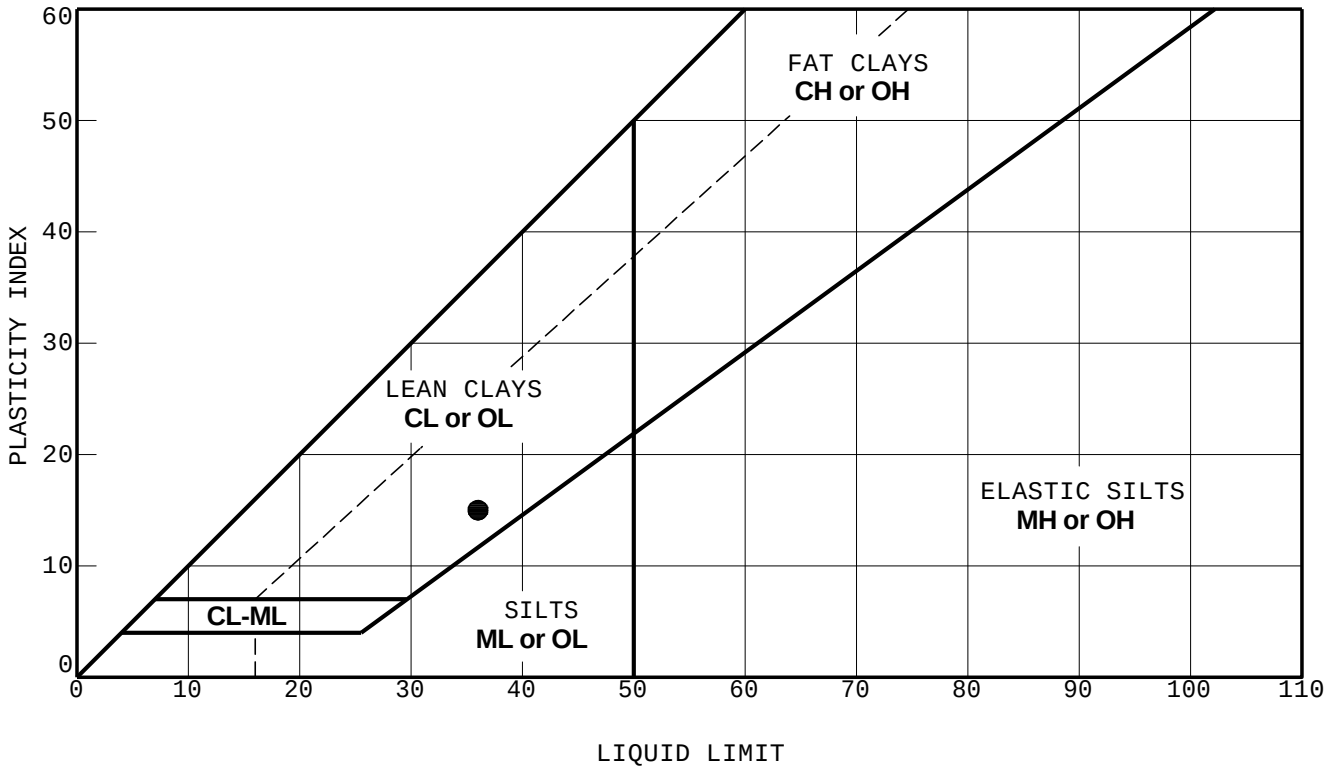
GRAPH	SYMBOL	DESCRIPTION	MAJOR DIVISIONS		
	GW	WELL GRADED GRAVELS, GRAVEL-SAND MIXTURES	CLEAN GRAVELS WITH LESS THAN 5% FINES	GRAVEL AND GRAVELLY SOILS	COARSE GRAINED SOILS MORE THAN 50% LARGER THAN NO. 200 SIEVE
	GP	POORLY GRADED GRAVELS, GRAVEL-SAND MIXTURES			
	GM	SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES	GRAVELS WITH MORE THAN 12% FINES	MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	
	GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES			
	SW	WELL GRADED SANDS, GRAVELLY SANDS	CLEAN SANDS WITH LESS THAN 5% FINES	SANDS AND SANDY SOILS	
	SP	POORLY GRADED SANDS, GRAVELLY SANDS			
	SM	SILTY SANDS, SAND-SILT MIXTURES	SANDS WITH MORE THAN 12% FINES	MORE THAN 50% OF COARSE FRACTION PASSING NO. 4 SIEVE	
	SC	CLAYEY SANDS, SAND-CLAY MIXTURES			
	ML	INORGANIC SILTS, ROCK FLOUR, OR CLAYEY SILTS WITH SLIGHT PLASTICITY	LIQUID LIMIT ~~LESS~~ THAN 50	SILTS AND CLAYS	FINE GRAINED SOILS MORE THAN 50% SMALLER THAN NO. 200 SIEVE
	CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, ~~LEAN CLAYS~~			
	OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY			
	MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS SILTS, ELASTIC SILTS	LIQUID LIMIT ~~GREATER~~ THAN 50	SILTS AND CLAYS	
	CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS			
	OH	ORGANIC CLAYS AND ORGANIC SILTS OF MEDIUM TO HIGH PLASTICITY			
	PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENT	HIGHLY ORGANIC SOILS		

UNIFIED SOIL CLASSIFICATION SYSTEM

Raney Geotechnical Inc

PLATE 8

PROJECT NUMBER: 4028-001
PLATE NUMBER: 9



CLASSIFICATION TEST RESULTS						
SYMBOL	SAMPLE LOCATION	DEPTH FEET	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	SOIL CLASSIFICATION
●	BORING D1	2.0	36	21	15	CL

ATTERBERG LIMIT DATA

Raney Geotechnical Inc

PLATE 9

GUIDE EARTHWORK SPECIFICATIONS
ADVANCED HEALTH CARE SKILLED NURSING FACILITY
Expo Parkway and Leisure Lane
Sacramento, California

GENERAL

SCOPE OF WORK

These specifications and applicable plans pertain to and include all site earthwork including, but not limited to, the furnishing of all labor, tools, and equipment necessary for site preparation, disposal of waste materials, excavation, preparation of foundation materials for receiving fill, and placement and compaction of fill to the lines and grades shown on the project grading plan.

PERFORMANCE

The Contractor shall be responsible for the satisfactory completion of all site earthwork in accordance with the project plans and specifications. This work shall be observed and tested by a representative of Raney Geotechnical, hereinafter known as the Soil Engineer. If the Contractor should fail to meet the technical or design requirements embodied in this document and on the applicable plans, he shall make the necessary readjustments until all work is deemed satisfactory as determined by the Soil Engineer. No deviation from the specifications shall be made except upon written approval of the Soil Engineer.

No site earthwork shall be performed without the physical presence or approval of the Soil Engineer. The Contractor shall notify the Soil Engineer at least twenty-four hours prior to commencement of any aspect of the site earthwork. The Soil Engineer shall be the Owner's representative to observe the grading operations during the site preparation work and placement and compaction of fills. He shall make enough visits to the site to familiarize himself generally with the progress and quality of the work. He shall make a sufficient number of tests and/or observations to enable him to form an opinion regarding the adequacy of the site preparation, the acceptability of the fill material, and the extent to which the compaction of the fill, as placed, meets the specification requirements. Any fill that does not meet the specification requirements shall be removed and/or recompacted until the requirements are satisfied.

In accordance with generally accepted construction practices, the Contractor shall be solely and completely responsible for working conditions at the job site, including safety of all persons and property during performance of the work. This requirement shall apply continuously and shall not be limited to normal work hours.

Any construction review of the Contractor's performance conducted by the Soil Engineer is not intended to include review of the adequacy of the Contractor's safety measures in, on, or near the construction site.

Upon completion of the construction work, the Contractor shall certify that all compacted fills are in place at the correct locations, have the correct dimensions, and have been constructed in accordance with sound construction practice.

SITE AND FOUNDATION CONDITIONS

The Contractor is presumed to have visited the site and to have familiarized himself with existing site conditions and the soil report titled "GEOTECHNICAL INVESTIGATION, ADVANCED HEALTH CARE SKILLED NURSING FACILITY, Expo Parkway and Leisure Lane, Sacramento, California", dated July 22, 2014 (Job No. 4028-001).

The Contractor shall not be relieved of liability under the contract for any loss sustained as a result of any variance between conditions indicated by or deduced from the Foundation Investigation and the actual conditions encountered during the course of the work.

The Contractor shall, upon becoming aware of surface and/or subsurface conditions differing from those disclosed by the Geotechnical Investigation, promptly notify the Owner as to the nature and extent of the differing conditions, first verbally to permit verification of the conditions, and then in writing. No claim by the Contractor for any conditions differing from those anticipated in the plans and specifications and disclosed by the Geotechnical Investigation will be allowed unless the Contractor has so notified the Owner's representative verbally and in writing, as required above, of such changed conditions.

DUST

The Contractor shall assume responsibility for the alleviation and prevention of any dust nuisance on or about the site. The Contractor shall assume all liability, including court costs of codefendants, for all claims related to dust or wind-blown materials attributable to his work.

STREET CLEANING

The Contractor shall assume responsibility for cleaning streets or other adjacent property of soil, mud or debris.

DEFINITION OF TERMS

ENGINEERED FILL - All soil and excavated rock placed at the site in order to raise grades or to backfill excavations and upon which the Soil Engineer has made sufficient tests and/or observations to enable him to issue a written statement that, in his opinion, the fill has been placed and compacted in accordance with the specification requirements.

ON-SITE MATERIAL - Material obtained from the required site excavations.

IMPORT MATERIAL - Material obtained from off-site borrow areas.

ASTM SPECIFICATIONS - The 2004 Edition of the American Society for Testing and Materials Standards.

RELATIVE COMPACTION - The ratio, expressed as a percentage, of the in-place dry density of the structural fill material to the maximum density of the same material as determined by ASTM Test Designation D1557-02.

CLEARING AND PREPARATION OF BUILDING PAD AND PAVEMENT AREAS

General site clearance shall include the removal of surface vegetation, loose surface fills, soil stockpiles, earth berms, rubble and rock fragments exceeding three inches (3") in maximum dimension, rubbish, and any other debris. All existing fills and disturbed soils shall be removed from the building pad areas as required by the project soil report and the Soil Engineer. Any underground pipes within two feet (2') of original or final grade (whichever is lower) shall be removed. Any abandoned underground pipes exceeding two inches (2") in diameter shall be removed regardless of depth. Low areas shall be cleaned out of any loose or saturated materials.

Following clearance and any required excavation to final subgrade level, the building pad areas shall be observed by the Soil Engineer to determine if significant quantities of disturbed soils or old fill materials remain. Proof rolling with compaction or other equipment shall be performed where required by the Soil Engineer. Any remaining loose or disturbed soils designated by the Soil Engineer shall be removed.

Any excavations required for the removal of the above items, as well as any other loose or unstable soil deposits identified by the Soil Engineer, shall be cleaned of loose, saturated or soft materials so that firm undisturbed soils are exposed. Deep excavations required for the removal of the above items shall be sloped back to a dish shaped configuration allowing through passage of compaction equipment. Any deep excavations shall be restored to grade with Engineered Fill placed and compacted in accordance with these specifications.

Areas designated to receive engineered fill as well as building pad and pavement areas completed in excavation or left at existing grade shall be scarified to a depth of eight inches (8"), brought to a uniform moisture content of at least optimum, and compacted to at least ninety percent (90%) relative compaction. If recompacted subgrades are unstable or compaction cannot be achieved due to high soil moisture contents, the Soil Engineer shall be contacted for further recommendations.

All excavations shall be performed to the lines and grades and within the tolerances specified on the project drawings. All overexcavation below the grades specified shall be backfilled at the Contractor's expense and shall be compacted in accordance with these specifications. The Contractor shall assume full responsibility for the stability of all temporary construction slopes at the site.

REQUIREMENTS FOR FILL MATERIAL

All fill materials must be approved by the Soil Engineer. These materials shall be soil or soil/rock mixtures which contain less than three percent (3%) organic matter or other deleterious substances by weight. Fill material shall not contain rocks or rubble fragments over three inches (3") in greatest dimension. On-site soils are suitable for use as Engineered Fill. All imported fill material shall be nonexpansive with a plasticity index of ten (10) or less, a Resistance value of at least 30, and shall be approved by the Soil Engineer prior to importation to the site.

Engineered Fill shall be placed in layers which when compacted shall not exceed six inches (6") in thickness. Each layer shall be spread evenly and shall be thoroughly mixed during spreading to promote uniformity of the material in each layer. When the moisture content of the Engineered Fill materials is below optimum, water shall be added until a moisture content of at least optimum is achieved. When the moisture content of the Engineered Fill is too high to permit the specified compaction, the fill shall be aerated by blading or other methods until a satisfactory moisture content is achieved.

Engineered Fill shall be compacted by mechanical means to produce a minimum degree of compaction of ninety percent (90%). Compaction shall be undertaken with equipment capable of achieving the specified density. Each layer shall be compacted over its entire area until the desired density has been obtained.

Field density tests shall be made by the Soil Engineer in accordance with ASTM Test Designation D6938 (Nuclear Probe Method). Where compaction equipment has disturbed the surface to a depth of several inches, density tests shall be taken in the compacted material below the disturbed surface. Additional layers of the fill shall not be spread until the field density tests indicate the specified densities have been obtained.

FINAL SUBGRADE PREPARATION

The upper eight inches (8") of all final building pad and pavement subgrades shall be compacted to a minimum degree of compaction of ninety percent (90%), regardless of whether final subgrade elevation is attained by filling, excavation, or is left at existing grade.

TESTING

Observation and testing by the Soil Engineer shall be provided during all filling, compacting, and chemical treatment operations. The grading contractor shall give at least twenty-four (24) hours notice prior to beginning such operations to allow proper scheduling of the work.

APPENDIX F

Environmental Noise Assessment
J.C. Brennan Associates
August 25, 2014

Environmental Noise Assessment

Advanced Health Care & Surgery Recovery Center

City of Sacramento, California

Job # 2014-181

Prepared For:

Monica Salusky

2540 Camino Diablo, Suite 200
Walnut Creek, CA 94597

CC: Mr. Casey Feickert

Prepared By:

j.c. brennan & associates, Inc.

Jim Brennan
President
Member, Institute of Noise Control Engineering

August 25, 2014

j.c. brennan & associates
consultants in acoustics

P.O. Box 6748 - 1287 High Street - Auburn, California 95603 -p: (530) 823-0960 -f: (530) 823-0961

INTRODUCTION

This report describes the existing noise environment in the area of the proposed Advanced Health Care Surgery Recovery project in the City of Sacramento, California, and the potential of the proposed project to be exposed to noise levels exceeding the applicable City of Sacramento exterior and interior noise level standards.

The project site is located at the southeast corner of Leisure Lane and Expo Parkway, and . The project is a 32,106 square foot surgical and stroke recovery center and short-term nursing facility. The project includes 40 patient rooms, kitchen facilities, physical therapy facilities and gym. The project includes 64 parking spaces, and there will be 2 vans for transport of patients.

Figure 1 shows the project site plan.

ENVIRONMENTAL SETTING

BACKGROUND INFORMATION ON NOISE

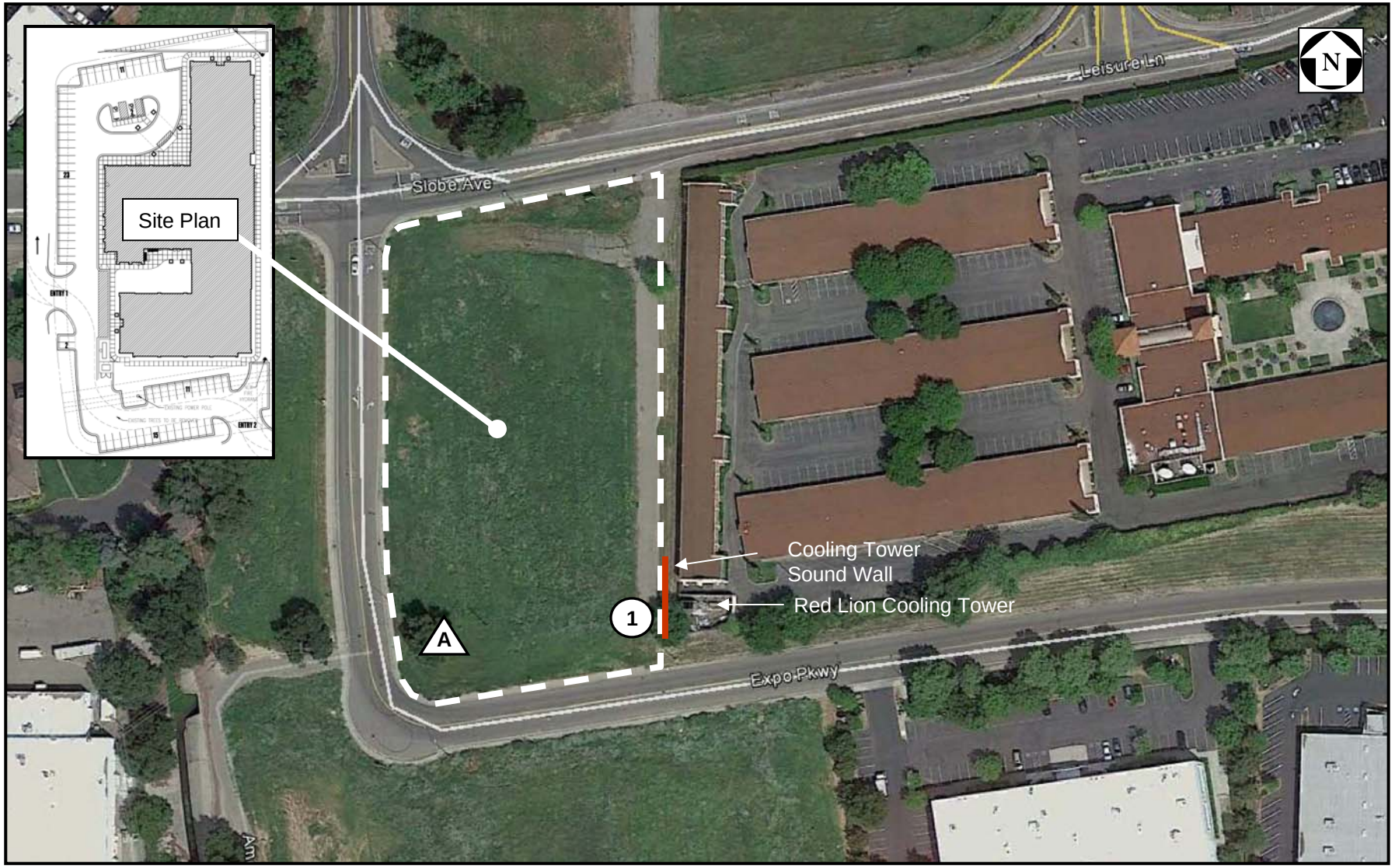
Fundamentals of Acoustics

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

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

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

Figure 1
Advanced Health Care Surgery & Recovery – City of Sacramento, California
Project Site and Noise Measurement Locations



△ : **Continuous Noise Measurement Site**
○ : **Short-term Noise Measurement Site**

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consultants in acoustics

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

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

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

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

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

TABLE 1
TYPICAL NOISE LEVELS

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

Source: Caltrans, Technical Noise Supplement, Traffic Noise Analysis Protocol. November, 2009.

Effects of Noise on People

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

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

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

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

With regard to increases in A-weighted noise level, the following relationships occur:

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

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

REGULATORY CONTEXT

CRITERIA FOR ACCEPTABLE NOISE EXPOSURE

City of Sacramento General Plan Noise Element

The City of Sacramento 2030 General Plan Noise Element establishes the following goals and policies for noise that would apply to the proposed project:

Goal EC 3.1:

Noise Reduction. Minimize noise impacts on human activity to ensure the health and safety of the community.

Policies

EC 3.1.1 **Exterior Noise Standards.** The City shall require noise mitigation for all development where the projected exterior noise levels exceed those shown in Table EC 1 (Table 2 of this report), to the extent feasible. *(RDR)*

EC 3.1.2 **Exterior Incremental Noise Standards.** The City shall require noise mitigation for all development that increases existing noise levels by more than the allowable increment show in Table EC 2 (Table 3 of this report), to the extent feasible. (*RDR*)

EC 3.1.3 **Interior Noise Standards.** The City shall require new development to include noise mitigation to assure acceptable interior noise levels appropriate to the land use type: 45 dBA Ldn for residential, transient lodgings, hospitals, nursing homes and other uses where people normally sleep; and 45 dBA Leq (peak hour) for office buildings and similar uses. *(RDR)*

EC 3.1.4 **Interior Noise Review for Multiple, Loud Short-Term Events.** In cases where new development is proposed in areas subject to frequent, high-noise events (such as aircraft over-flights, or train and truck pass-bys), the City shall evaluate noise impacts on any sensitive receptors from such events when considering whether to approve the development proposal, taking into account potential for sleep disturbance, undue annoyance, and interruption in conversation, to ensure that the proposed development is compatible within the context of its surroundings.

EC 3.1.8 **Operational Noise**. The City shall require mixed-use, commercial, and industrial projects to mitigate operational noise impacts to adjoining sensitive uses when operational noise thresholds are exceeded. (*RDR*)

EC 3.1.10 **Construction Noise.** The City shall require development project subject to discretionary approval to assess potential construction noise impacts on nearby sensitive uses and to minimize impacts on these uses, to the extent feasible. (*RDR*)

Table 2 (EC-1: City of Sacramento General Plan Noise Element)

Table EC 1 Exterior Noise Compatibility Standards for Various Land Uses

Land Use Type	*Highest Level of Noise Exposure That Is Regarded as "Normally Acceptable"[a] (L_{dn}[b] or CNEL[c])*
Residential—Low Density Single Family, Duplex, Mobile Homes	60 dBA[d,e]
Residential—Multi-family	65 dBA
Urban Residential Infill[f] and Mixed-Use Projects[g]	70 dBA
Transient Lodging—Motels, Hotels	65 dBA
Schools, Libraries, Churches, Hospitals, Nursing Homes	70 dBA
Auditoriums, Concert Halls, Amphitheaters	Mitigation based on site-specific study
Sports Arena, Outdoor Spectator Sports	Mitigation based on site-specific study
Playgrounds, Neighborhood Parks	70 dBA
Golf Courses, Riding Stables, Water Recreation, Cemeteries	75 dBA
Office Buildings—Business, Commercial and Professional	70 dBA
Industrial, Manufacturing, Utilities, Agriculture	75 dBA

SOURCE: Governor's Office of Planning and Research, *State of California General Plan Guidelines 2003*, October 2003.

a. As defined in the *Guidelines*, "Normally Acceptable" means that the "specified land use is satisfactory, based upon the assumption that any building involved is of normal conventional construction, without any special noise insulation requirements."

b. L_{dn} or Day Night Average Level is an average 24-hour noise measurement that factors in day and night noise levels.

c. CNEL or Community Noise Equivalent Level measurements are a weighted average of sound levels gathered throughout a 24-hour period.

d. dBA or A-weighted decibel scale is a measurement of noise levels.

e. The exterior noise standard for the residential area west of McClellan Airport known as McClellan Heights/Parker Homes is 65 dBA.

f. With land use designations of Central Business District, Urban Neighborhood (Low, Medium, or High) Urban Center (Low or High), Urban Corridor (Low or High).

g. All mixed-use projects located anywhere in the City of Sacramento.

Table 3 (EC-2: City of Sacramento General Plan Noise Element)

Table EC 2 Exterior Incremental Noise Impact Standards for Noise-Sensitive Uses (dBA)

Residences and buildings where people normally sleep[a]		*Institutional land uses with primarily daytime and evening uses[b]*	
Existing L_{dn}	*Allowable Noise Increment*	*Existing Peak Hour L_{eq}*	*Allowable Noise Increment*
45	8	45	12
50	5	50	9
55	3	55	6
60	2	60	5
65	1	65	3
70	1	70	3
75	0	75	1
80	0	80	0

SOURCE: Federal Transit Administration, *Transit Noise Impact and Vibration Assessment*, May 2006

a. This category includes homes, hospitals, and hotels where a nighttime sensitivity to noise is assumed to be of utmost importance.

b. This category includes schools, libraries, theaters, and churches where it is important to avoid interference with such activities as speech, meditation, and concentration on reading material.

Based upon review of Table 2 (EC 1 of the General Plan Noise Element), Hospitals and Nursing Home uses would be subject to an exterior noise level standard of 70 dB Ldn. The Advantage Health Care Surgery & Recovery Facility would be required to comply with an interior noise level standard of 45 dB Ldn, as outlined in Policy EC 3.1.3.

City of Sacramento Noise Control Ordinance

The City of Sacrament Noise Control Ordinance (Chapter 8.68) establishes noise level standards for stationary noise sources associated with the project, or which may affect the project site. The standards are 55 dBA during the daytime period (7:00 a.m. to 10:00 p.m.) and 50 dBA during the nighttime period (10:00 p.m. to 7:00 a.m.). The standards apply at the property line of noise-sensitive uses.

EXISTING CONDITIONS

The existing noise environment in the project area is defined primarily by the traffic on Highway 160. Although traffic occurs on Expo Parkway and Leisure Lane, it is not a significant contributor to the overall noise environment. In addition, the Red Lion Hotel has a cooling tower adjacent to the southeast corner of the project site and has been identified as a potential noise source which may affect the project.

EXISTING AMBIENT NOISE LEVELS

To quantify the existing ambient noise environment in the project vicinity, j.c. brennan & associates Inc. conducted continuous 24-hour noise level measurements on the project site. The 24-hour noise measurement site is identified as Site A, and was located in the southwest corner of the project site. The primary noise source was traffic on from SR-160.

In addition, short term noise level measurements of the Red Lion Hotel cooling tower were also conducted.

Noise measurement locations are shown on Figure 1. A summary of the continuous 24-hour noise level measurement survey results are provided in Table 4. Appendix B contains the complete results of the continuous (24-hr) noise monitoring. The noise measurements of the cooling tower will be discussed later in this report.

The sound level meters were programmed to record the maximum, median, and average noise levels at each site during the survey. The maximum value, denoted Lmax, represents the highest noise level measured. The average value, denoted Leq, represents the energy average of all of the noise received by the sound level meter microphone during the monitoring period. The median value, denoted L50, represents the sound level exceeded 50 percent of the time during the monitoring period. In addition, the composite 24-hour average noise level (Ldn) was also calculated from the hourly Leq values.

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

TABLE 4
SUMMARY OF EXISTING BACKGROUND NOISE MEASUREMENT DATA

Site	Date	Ldn	Average[1] Measured Hourly Noise Levels, dBA					
			Daytime (7am-10pm)			Nighttime (10pm-7am)		
			Leq	L50	Lmax	Leq	L50	Lmax
Site A	July 30-31, 2014	61 dBA	58	55	76	54	51	70

Source: j.c. brennan & associates, Inc., 2014.

FUTURE TRAFFIC NOISE LEVELS

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

Traffic volumes for Cumulative + Project conditions for State Route 160 (SR 160) were obtained from the City of Sacramento 2035 General Plan Master DEIR. Truck usage on the area roadways were estimated from field observations and file data.

Table 5 shows the predicted future S.R. 160 traffic noise levels in terms of the Day/Night Average Level descriptor (Ldn) at the project site, as well as distances to existing traffic noise contours. The extent by which existing land uses in the Plan Area vicinity are affected by existing traffic noise depends on their respective proximity to the roadways and their individual sensitivity to noise. A complete listing of the FHWA Model input data for existing conditions is contained in Appendix C.

TABLE 5
RED LION HOTEL COOLING TOWER NOISE MEASUREMENT RESULTS

Roadway	Segment	Traffic Noise Level at The Project Site	Distance to Noise Contours		
			70 dB Ldn	65 dB Ldn	60 dB Ldn
S.R. 160	Richards Blvd. - Bus. 80 Interchange	64 dB Ldn	196 feet	423 feet	912 feet
Source: City of Sacramento 2035 General Plan EIR, j.c. brennan & associates, Inc. 2014					

Based upon Tables 4 and 5, the project will comply with the exterior noise level standard of 70 dB Ldn. Assuming a typical exterior to interior noise level reduction of 25 dB with the windows in the closed position, the project will comply with the interior noise level standard of 45 dB Ldn.

Red Lion Hotel Cooling Tower Noise Levels

j.c. brennan & associates, Inc. conducted noise measurements and observations of noise levels associated with the Red Lion Hotel cooling tower on July 30th , 2014. Table 6 shows the results of the noise measurements.

Table 6
RED LION HOTEL COOLING TOWER NOISE MEASUREMENT RESULTS

Site/Location	Distance from Property Line	Primary Sources	Measured Noise Levels
			Leq
1	30 feet	Cooling Tower	55 dB
Source: j.c. brennan & associates, Inc. - 2014.			

Based upon the noise measurement data shown in Table 6, and observations, the majority of the project site is shielded from Red Lion Hotel activities by the building facade. The southeast portion of the project site will have views of the cooling tower, and will exceed the City of Sacramento Noise Ordinance nighttime standard of 50 dB.

Red Lion Hotel Cooling Tower Mitigation Measures

As a means of reducing noise levels associated the cooling tower, it is recommended that a sound wall is constructed to a height equal to the top of the cooling tower, and extending along the project east property line to a point 10-feet past the hotel south building facade, as shown on Figure 1.

CONCLUSIONS

The project will comply with the City of Sacramento Noise Element and Noise Ordinance standards provided that the following mitigation measures are included in the project design.

1. A sound wall is constructed to a height equal to the top of the cooling tower, and extending along the project east property line to a point 10-feet past the hotel south building facade, as shown on Figure 1.

2. Air conditioning is provided so that residents can close windows and doors for the appropriate acoustical isolation.

Appendix A
Acoustical Terminology

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

Appendix B
2014-181 Advanced Health Care Surgery & Recovery
24hr Continuous Noise Monitoring - Site A
7/30/14 - 7/31/2014

Hour	Leq	Lmax	L50	L90
13:00	57	72	55	52
14:00	60	79	59	52
15:00	58	82	55	51
16:00	58	71	56	53
17:00	58	77	56	53
18:00	58	74	55	51
19:00	58	72	55	50
20:00	57	76	54	50
21:00	53	69	51	49
22:00	53	73	51	48
23:00	53	72	51	49
0:00	52	68	51	48
1:00	49	60	48	47
2:00	51	67	48	47
3:00	49	66	48	47
4:00	54	75	50	48
5:00	57	75	53	50
6:00	58	76	56	53
7:00	59	74	57	54
8:00	59	81	56	53
9:00	58	79	55	51
10:00	58	81	55	52
11:00	59	76	56	51
12:00	58	72	56	52

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	60.4	53.2	58.0	57.6	49.2	53.8
Lmax (Maximum)	81.9	68.6	75.6	76.3	60.2	70.2
L50 (Median)	58.7	51.2	55.3	55.6	48.3	50.7
L90 (Background)	53.7	49.1	51.7	53.4	46.6	48.7

Computed Ldn, dB	61.1
% Daytime Energy	82%
% Nighttime Energy	18%

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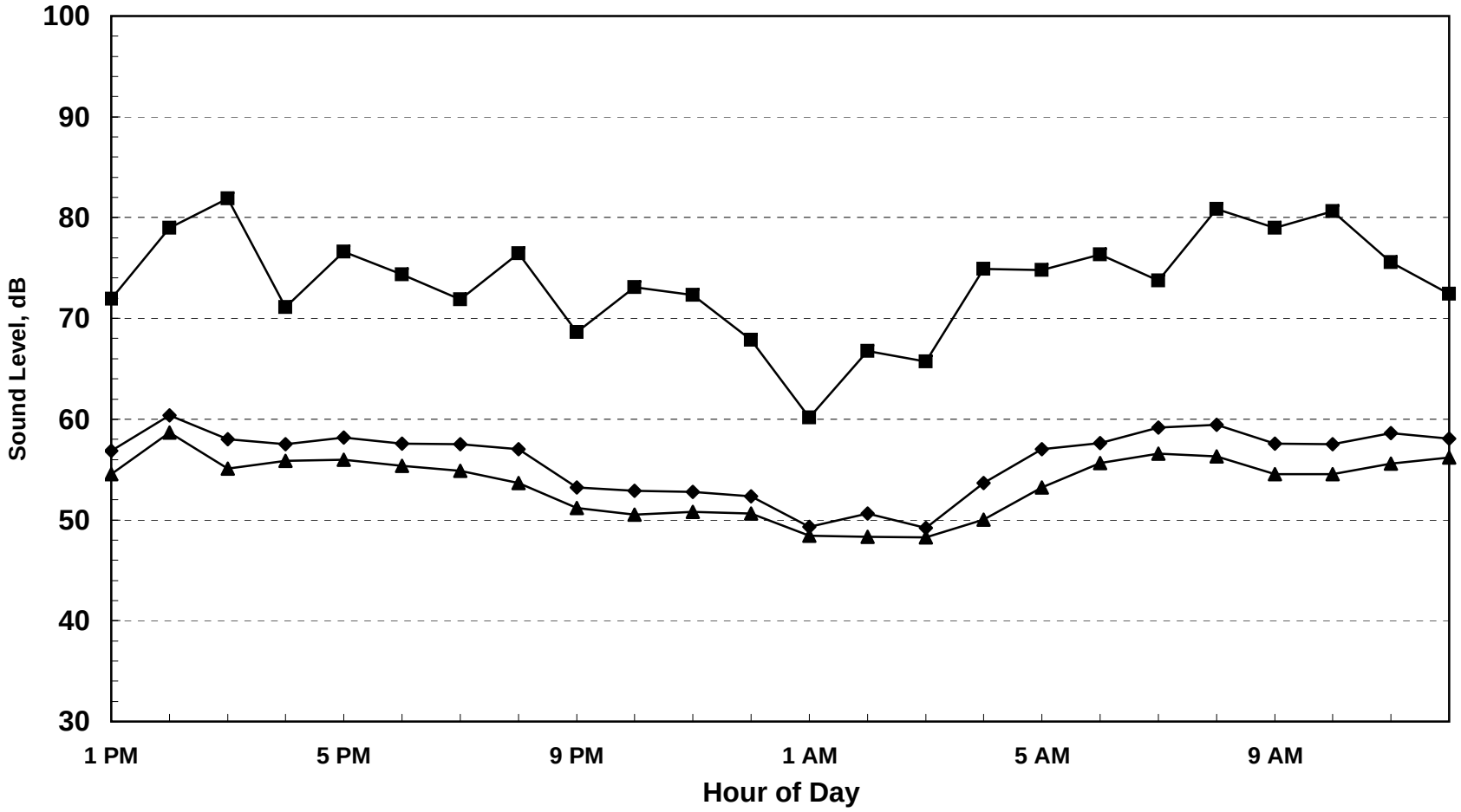
Appendix B

2014-181 Advanced Health Care Surgery & Recovery

24hr Continuous Noise Monitoring - Site A

7/30/14 - 7/31/2014



Ldn = 61.1 dB

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Appendix C

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

Data Input Sheet

Project #: 2014-181 Advantage Health Care Surgery & Recovery
Description: 2035 Cumulative + Project Traffic Conditions
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)
1	SR-160	Richards Blvd to Business 80 Interchange	45,900	82		18	4	2	65	480	

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Appendix C

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

Project #: 2014-181 Advantage Health Care Surgery & Recovery
Description: 2035 Cumulative + Project Traffic Conditions
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment	Autos	Medium Trucks	Heavy Trucks	Total
1	SR-160	Richards Blvd to Business 80 Interchange	62.8	55.2	55.7	64

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Appendix C

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

Project #: 2014-181 Advantage Health Care Surgery & Recovery
Description: 2035 Cumulative + Project Traffic Conditions
Ldn/CNEL: Ldn
Hard/Soft: Soft

			-------- Distances to Traffic Noise Contours --------				
Segment	Roadway Name	Segment	75	70	65	60	55
1	SR-160	Richards Blvd to Business 80 Interchange	91	196	423	912	1965

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