Appendix A

Notice of Preparation and Scoping
October 4, 2013

Ms. Colleen Oda
County of Santa Clara
Planning Office
County Government Center, East Wing, 7th Floor
70 West Hedding Street
San Jose, CA 95110-1705

Dear Ms. Oda:

24103 Congress Springs Road – Permit Application

Thank you for including the California Department of Transportation (Caltrans) in the application review process for the project referenced above. We have reviewed the County permit application and have the following comments to offer.

Encroachment Permit
As stated in our previous correspondence to Santa Clara County (County), the proposed driveway, sight distance, and stopping sight distance on State Route 9 must be designed consistent with the standards detailed in the Department’s Highway Design Manual, 2010 Standard Plans, and 2010 Standard Specifications. These publications can be obtained on-line at: <http://caltrans-opac.ca.gov/publicat.htm>. A copy of Appendix J from the Caltrans Encroachment Permit Manual has been enclosed with this letter for your reference.

As a reminder, please be advised that any work or traffic control that encroaches onto the State ROW requires an encroachment permit that is issued by Caltrans. To apply, a completed encroachment permit application, environmental documentation, and five (5) sets of plans clearly indicating State ROW must be submitted to the following address: David Salladay, District Office Chief, Office of Permits, California Department of Transportation, District 4, P.O. Box 23660, Oakland, CA 94623-0660. Traffic-related mitigation measures should be incorporated into the construction plans prior to the encroachment permit process. See the website linked below for more information: <http://www.dot.ca.gov/hq/traffops/developserv/permits>.

Environmental Approval
In addition to other required documentation, Caltrans requires that an approved environmental document accompany the "Standard Encroachment Permit Application." All required

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documentation, including environmental, must accompany the encroachment permit application before Caltrans deems the application complete. As the Lead Agency, the County will need to determine the applicability of NEPA and CEQA as well as the need for studies to determine impacts to specific resources.

**Cultural Resources**

Caltrans requires that a project environmental document include documentation of a current archaeological record search from the Northwest Information Center of the California Historical Resources Information System if construction activities are proposed within State right-of-way. Current record searches must be no more than five years old. Caltrans requires the records search, and if warranted, a cultural resource study by a qualified, professional archaeologist, and evidence of Native American consultation to ensure compliance with the California Environmental Quality Act (CEQA), Section 5024.5 and 5097 of the California Public Resources Code, and Volume 2 of Caltrans' Standard Environmental Reference: [http://www.dot.ca.gov/ser/vol2/vol2.htm](http://www.dot.ca.gov/ser/vol2/vol2.htm). These requirements, including applicable mitigation, must be fulfilled before an encroachment permit can be issued for project-related work in State ROW. Work subject to these requirements includes, but is not limited to: lane widening, channelization, and/or modification of existing features such as slopes, drainage features, curbs, sidewalks and driveways within or adjacent to State ROW.

**Habitat Restoration and Management**

Project level activities related to habitat restoration and management should be done in coordination with local and regional Habitat Conservation Plans, and with Caltrans where our programs share stewardship responsibilities for habitats, species and/or migration routes.

**Bridges, Trestles, Culverts and Other Structures in Riparian Environments**

Some project level activities may affect riparian flow patterns upstream of bridges, trestles, culverts or other structures for which Caltrans holds responsibility. Please ensure your project level environmental documents include hydrological studies to determine whether such impacts will occur, and to identify appropriate mitigation measures.

**Scenic Highways**

The segment of State Route (SR) 9 adjacent to the project is designated as a State Scenic Highway. Careful coordination of planning, design, construction, and regulation of land use and development should be considered to protect the social and economic values provided by the State's scenic resources.

If there is to be an aesthetic impact to SR 9 from the proposed project, then the developer has the responsibility to mitigate the impact. The local agency should encourage quality development that does not degrade the scenic value of the corridor. Further information is available on the following website: [http://www.dot.ca.gov/hq/LandArch/scenic_highways/scenic_hwy.htm](http://www.dot.ca.gov/hq/LandArch/scenic_highways/scenic_hwy.htm).

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Transportation Management Plan
If it is determined that traffic restrictions and detours are needed on or affecting State highways, a Transportation Management Plan (TMP) or construction TIS may be required of the developer for approval by Caltrans prior to construction. TMPs must be prepared in accordance with California Manual on Uniform Traffic Control Devices. Further information is available for download at the following web address: <http://www.dot.ca.gov/hq/traffops/signtech/mutcdsupp/pdf/camutcd2012/Part6.pdf>.

Please ensure that such plans are also prepared in accordance with the transportation management plan requirements of the corresponding jurisdictions. For further TMP assistance, please contact the Office of Traffic Management Plans at (510) 286-4647.

Transportation Permit
Project work that requires movement of oversized or excessive load vehicles on State roadways requires a transportation permit that is issued by Caltrans. To apply, a completed transportation permit application with the determined specific route(s) for the shipper to follow from origin to destination must be submitted to: Caltrans Transportation Permits Office, 1823 14th Street, Sacramento, CA 95811-7119. See the following website for more information: <http://www.dot.ca.gov/hq/traffops/permits>.

Should you have any questions regarding this letter, please contact Jesse Robertson of my staff at 510-286-5535 or <jesse_robertson@dot.ca.gov>.

Sincerely,

ERIK ALM, AICP
District Branch Chief
Local Development - Intergovernmental Review

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Standard Private and Commercial Driveway Approach
For Rural Areas With Unimproved Frontage On Conventional State Highways

(Drawing Not To Scale)

NOTES:

- For driveways constructed with fill slope 4:1 or less and not requiring special drainage design, a 0.61m (2') AB shoulder should be placed on each side.

- Driveway approach within 6m (20') of the traveled way shall have a grade not greater than 5% except that on superelevated curves, the pavement slope shall be continued to the edge of the shoulder.

- Culvert pipe under the driveway approach might be required to carry the State Highway gutter flow.

- Paved portion of driveway shall be surfaced not less than:
  - Private: 7.6cm AC over 15.2cm aggregate base (3" AC / 6" AB)
  - Commercial: 10.2cm AC over 15.2cm aggregate base (4" AC / 6" AB)

<table>
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<tr>
<th>Design Posted Speed</th>
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<tr>
<td>mph / km/h</td>
<td>feet / meters</td>
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After establishing the opening requirements, a field review of the bridge site should be made by the District designer to ensure that existing facilities (drainage, other bridges, or roadways) will not conflict with the falsework.

The placement and removal of falsework requires special consideration. During these operations, traffic should either be stopped for short intervals or diverted away from the span where the placement or removal operations are being performed. The method of traffic handling during these operations is to be included in the Special Provisions.

### Topic 205 - Road Connections and Driveways

#### 205.1 Access Openings on Expressways

Access openings are used only on expressways. The term access opening applies to openings through the right of way line which serve abutting land ownerships whose remaining access rights have been acquired by the State.

1. **Criteria for Location.** Access openings should not be spaced closer than one-half mile to an adjacent public road intersection or to another private access opening that is wider than 30 feet. When several access openings are closely spaced, a frontage road should be considered (see Index 104.3). To discourage wrong-way movements, access openings should be located directly opposite, or at least 300 feet from a median opening.

   Sight distance equivalent to that required for public road intersections shall be provided (see Index 405.1).

2. **Width.** The normal access opening width should be 30 feet. A greater width may result in large savings in right of way costs in some instances, but should be considered with caution because of the possibility that public use might develop. Conversion of a private opening into a public road connection requires the consent of the CTC, which cannot be committed in advance (see the Project Development Procedures Manual).
large vehicles are expected, then the maximum width should be 45 feet.

(c) When only one driveway serves a given property, in no case should the width of the driveway including the side slope distances exceed the property frontage.

(d) When more than one driveway is to serve a given property, the total width of all driveways should not exceed 70 percent of the frontage where such a frontage is 100 feet or less. Where the frontage is more than 100 feet, the total driveway width should not exceed 60 percent of the frontage. In either case, the width of the individual driveway should not exceed those given in the preceding paragraphs. Where more than one driveway is necessary to serve any one property, not less than 20 feet of full height curb should be provided between driveways. This distance between driveways also applies to projects where curbs and gutters are not to be placed.

(e) Certain urban commercial driveways may need to accommodate the maximum legal vehicle. The width will be determined by the use of truck turn templates.

(5) Surfacing. Where curbs, gutters, and sidewalks are to be placed, driveways should be constructed of portland cement concrete. Where only curbs and gutters are to be placed and pedestrian traffic or adjacent improvements do not warrant concrete driveway construction, the driveway may be paved with the same materials used for existing surfacing on the property to be served.

(6) Pedestrian Access. Where sidewalks traverse driveways, the sidewalk shall continue across the driveway to alert driveway users that they are crossing a pedestrian walkway, and must yield to pedestrians on the sidewalk. Driveway corner radii should also be minimized to encourage low-speed turns by motorized vehicles and bicycles. For accessibility requirements, see DIB 82. Provision of this feature, as indicated in the Standard Plans, may require the acquisition of a construction easement or additional right of way. Assessment of these needs must be performed early enough in the design to allow time for acquiring any necessary permits or right of way. Additionally, designers should consider the following:

- In many cases providing the pathway along the back of the driveway will lower the elevation at the back of the sidewalk. Depending on grades behind the sidewalk the potential may exist for roadway generated runoff to enter private property. The need for features such as low berms within the construction easement, or installation of catch basins upstream of the driveway should be determined.

When there are no sidewalks or other pedestrian facilities that follow the highway, the designer may develop driveway details that eliminate the flatter portion along the back edge in lieu of using the Standard Plans for driveways. Refer to Topic 105 for additional information related to pedestrian facilities.

205.4 Driveways on Frontage Roads and in Rural Areas

On frontage roads and in rural areas where the maximum legal vehicle must be accommodated, standard truck-turn templates should be used to determine driveway widths where the curb or edge of traveled way is so close to the right of way line that a usable connection cannot be provided within the standard limits.

Where county or city regulations differ from the State's, it may be desirable to follow their regulations, particularly where jurisdiction of the frontage road will ultimately be in their hands.

Details for driveway construction are shown on the Standard Plans. For corner sight distance, see Index 405.1(2)(c).

Driveways connecting to State highways shall be paved a minimum of 33 feet or to the edge of State right of way, whichever is less to minimize or eliminate gravel from being scattered on the highway and to provide a good surface for vehicles.
404.5 Turning Templates & Vehicle Diagrams

Figures 404.5A through G are computer-generated turning templates at an approximate scale of 1"=50' and their associated vehicle diagrams for the design vehicles described in Index 404.3. The radius of the template is measured to the outside front wheel path at the beginning of the curve. Figures 404.5A through G contain the terms defined as follows:

1) Tractor Width - Width of tractor body.
2) Trailer Width - Width of semitrailer body.
3) Tractor Track - Tractor axle width, measured from outside face of tires.
4) Trailer Track - Semitrailer axle width, measured from outside face of tires.
5) Lock To Lock Time - The time in seconds that an average driver would take under normal driving conditions to turn the steering wheel of a vehicle from the lock position on one side to the lock position on the other side. The default in AutoTurn software is 6 seconds.
6) Steering Lock Angle - The maximum angle that the steering wheels can be turned. It is further defined as the average of the maximum angles made by the left and right steering wheels with the longitudinal axis of the vehicle.
7) Articulating Angle - The maximum angle between the tractor and semitrailer.

Topic 405 - Intersection Design Standards

405.1 Sight Distance

1) Stopping Sight Distance. See Index 201.1 for minimum stopping sight distance requirements.
2) Corner Sight Distance.
   a) General - At unsignalized intersections a substantially clear line of sight should be maintained between the driver of a vehicle, bicyclist or pedestrian waiting at the crossroad and the driver of an approaching vehicle. Line of sight for all users should be included in right of way, in order to preserve sight lines.

   Adequate time must be provided for the waiting user to either cross all lanes of through traffic, cross the near lanes and turn left, or turn right, without requiring through traffic to radically alter their speed.

   The values given in Table 405.1A provide 7-1/2 seconds for the driver on the crossroad to complete the necessary maneuver while the approaching vehicle travels at the assumed design speed of the main highway. The 7-1/2 second criterion is normally applied to all lanes of through traffic in order to cover all possible maneuvers by the vehicle at the crossroad. However, by providing the standard corner sight distance to the lane nearest to and farthest from the waiting vehicle, adequate time should be obtained to make the necessary movement. On multilane highways a 7-1/2 second criterion for the outside lane, in both directions of travel, normally will provide increased sight distance to the inside lanes. Consideration should be given to increasing these values on downgrades steeper than 3 percent and longer than 1 mile (see Index 201.3), where there are high truck volumes on the crossroad, or where the skew of the intersection substantially increases the distance traveled by the crossing vehicle.

   In determining corner sight distance, a set back distance for the vehicle waiting at the crossroad must be assumed. Set back for the driver of the vehicle on the crossroad shall be a minimum of 10 feet plus the shoulder width of the major road but not less than 15 feet. Line of sight for corner sight distance is to be determined from a 3 and 1/2-foot height at the location of the driver of the vehicle on the minor road to a 4 and 1/4-foot object height in the center of the approaching lane of the major road as illustrated in Figure 504.3J. If the major road has a median barrier, a 2-foot object height should be used to determine the median barrier setback.

   In some cases the cost to obtain 7-1/2 seconds of corner sight distances
For additional information and guidance, refer to AASHTO, A Policy on Geometric Design of Highways and Streets, the Headquarters Traffic Liaison and the Design Coordinator.

### Table 405.1B
**Application of Sight Distance Requirements**

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<thead>
<tr>
<th>Intersection Types</th>
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<td>X</td>
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<tr>
<td>Signaled Intersections</td>
<td>X</td>
</tr>
<tr>
<td>State Route Intersections &amp; Route Direction Changes, with or without Signals</td>
<td>X</td>
</tr>
</tbody>
</table>

**NOTES:**

1. Using stopping sight distance between an eye height of 3.5 ft and an object height of 4.25 ft. See Index 405.1(2)(a) for setback requirements.

2. Apply corner sight distance requirements at signalized intersections whenever possible due to unanticipated violations of the signals or malfunctions of the signals. See Index 405.1(2)(b).

### 405.2 Left-turn Channelization

1. **General.** The purpose of a left-turn lane is to expedite the movement of through traffic by controlling the movement of turning traffic, increasing the capacity of the intersection, and improving safety characteristics.

   The District Traffic Branch normally establishes the need for left-turn lanes.

2. **Design Elements.**

   a. **Lane Width** - The lane width for both single and double left-turn lanes on State highways shall be 12 feet.

   For conventional State highways with posted speeds less than or equal to 40 miles per hour and AADTT (truck volume) less than 250 per lane that are in urban, city or town centers (rural main streets), the minimum lane width shall be 11 feet.

   When considering lane width reductions adjacent to curbed medians, refer to Index 303.5 for guidance on effective roadway width, which may vary depending on drivers' lateral positioning and shy distance from raised curbs.

   b. **Approach Taper** - On conventional highways without a median, an approach taper provides space for a left-turn lane by moving traffic laterally to the right. The approach taper is unnecessary where a median is available for the full width of the left-turn lane. Length of the approach taper is given by the formula on Figures 405.2A, B and C.

   Figure 405.2A shows a standard left-turn channelization design in which all widening is to the right of approaching traffic and the deceleration lane (see below) begins at the end of the approach taper. This design should be used in all situations where space is available, usually in rural and semi-rural areas or in urban areas with high traffic speeds and/or volumes.

   Figures 405.2B and 405.2C show alternate designs foreshortened with the deceleration lane beginning at the 2/3 point of the approach taper so that part of the deceleration takes place in the through traffic lane. Figure 405.2C is shortened further by widening half (or other appropriate fraction) on each side. These designs may be used in urban areas where constraints exist, speeds are moderate and traffic volumes are relatively low.

   c. **Bay Taper** - A reversing curve along the left edge of the traveled way directs traffic into the left-turn lane. The length of this bay taper should be short to clearly delineate the left-turn move and to discourage through traffic from drifting into the left-turn lane. Table 405.2A gives offset data for design of bay tapers. In urban areas,
December 2, 2013

Ms. Colleen Oda
Department of Planning and Development
County of Santa Clara
County Government Center, East Wing, 7th Floor
70 West Hedding Street
San Jose, CA 95110-1705

Dear Ms. Oda:

Conservation Center for Wildlife Care – Notice of Preparation (NOP)

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the project referenced above. We have reviewed the NOP and have the following comments to offer.

Traffic Impact Study (TIS)
During construction or starting “opening day,” this project may generate traffic at volumes sufficient to impact the operations and safety of nearby State highway facilities; we appreciate that a TIA will be prepared for this project for our review.

We recommend using the Caltrans Guide for the Preparation of Traffic Impact Studies for determining which scenarios and methodologies to use in the analysis. It is available at the following website address: http://dot.ca.gov/hq/ipp/offices/ocp/igr_ceqa_files/tisguide.pdf.

Lead Agency
As the lead agency, the County of Santa Clara (County) is responsible for all project mitigation, including any needed improvements to State highways. The project’s fair share contribution, financing, scheduling, implementation responsibilities and lead agency monitoring should be fully discussed for all proposed mitigation measures.

Scenic Highways
The segment of State Route (SR) 9 adjacent to the project is designated as a State Scenic Highway. Careful coordination of planning, design, construction, and regulation of land use

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and development should be considered to protect the social and economic values provided by the State's scenic resources.

If there is to be an aesthetic impact to SR 9 from the proposed project, then the developer has the responsibility to mitigate the impact. The local agency should encourage quality development that does not degrade the scenic value of the corridor. If a local government agency no longer adequately carries out their responsibility for the protection of the scenic corridor, the State may revoke the designation of the highway as an official State Scenic Highway and remove the signs which so indicate the highway. Further information is available on the following website:

**Traffic Impact Fees**

Please identify traffic impact fees to be used for project mitigation. Development plans should require traffic impact fees based on projected traffic and/or based on associated cost estimates for public transportation facilities necessitated by development. Please refer to the California Office of Planning and Research (OPR) 2003 General Plan Guidelines, page 163, which can be accessed on-line at the following website:
http://www.opr.ca.gov/index.php?a=planning/gpg.html. Scheduling and costs associated with planned improvements on State ROW should be listed, in addition to identifying viable funding sources correlated to the pace of improvements for roadway improvements, if any.

Should you have any questions regarding this letter, please call Brian Brandert of my staff at (510) 286-5505 or brian.brandert@dot.ca.gov.

Sincerely,

ERIK ALM, AICP
District Branch Chief
Local Development - Intergovernmental Review

c: Scott Morgan, State Clearinghouse

"Caltrans improves mobility across California"
Hi Oda,

I appreciate your reply. It took me a while to gather my thoughts and wrote up this response. I hope this is not too late.

Here are the concerns I have for this project "File #6943-12EIR" at 24103 congress springs road.

1. Number of vehicles going in/out of the site is very significant - the projects calls for 32 surface parking (PE building), 16 interior parking and 33 covered parking (WM building), 1 interior and 3 exterior parking (IS building) and each cottage has 1 to 2 interior parking, which could be 4 total. We are talking about 89 parking spaces, which give us a hint how many cars are expected to be on site AT A TIME. It doesn't yet tell us how many cars are expected to be there in a day but we can get a peak from the hours of operations and type of activities. For PE building, the hour of operation is 7am-7pm 7 days a week and the center itself is 24/7 all round clock operation. Then, possibly three educational program would occur in any one day and two conference-style single day meeting could be taken place each year. I could image this center would have car coming and going all days along every day throughout the year. When you add this number of car to congress springs road (thus via downtown Saratoga), we are not just talking about typical road congestion but also noise and pollution which cannot be mitigated by avoiding the typical commute hours. Noise could be caused by loud motorcycle, car with bad muffler and car rolling over the center lines, which is purposely stripped to make loud noise/vibration to alert driver on congress spring roads. (Many driver don't mind to drive over the center line so they can go faster on this windy congress springs road.) Besides, since congress springs road traverse in the valley with tall mountain on each side, any noise is magnified by this resonating effect. We should also look at pollution - not just the tailpipe pollution but also the hot brake fume when a driver ride on the brake too long when the car travels down a mountain road like congress spring road. If you come up on a weekend, you will smell this horrific hot brake fume all the time. I suspect an occasional driver using congress springs road is more likely contributing to this and unfortunately, many visitors to this conservation center would be deemed a casual driver. Last but not least, when you add this significant number of cars on congress springs road, the possibility of killing or injuring a deer or some wild animal by one of these verticals is really real and if it did happens (I think it will), it would be ironic to find out the conservation center, which set its mission to save the wild injured animal, is a contributing factor.

2. Noise - Besides the noise I mentioned above that is related to vehicle, I am also concerned about noise from the animal or equipment used in the center. Honestly, I don't know how loud the noise those animal living in the center would make but I am seriously concern if any dogs would live there in the future. Although the document I received didn't mention any dogs would be live there, the document didn't especially say dogs won't
be there either. (The document did say no mountain lion would be living in the center.) Can the use permit issued by the county specifically excluding dogs living in the center?

3. Contamination from animal waste - As you know, saratoga creek travels through the project site and so as San Andea fault, which means there are a lot cracks on the earth below the project site. Will animal waste (directly or indirectly via storm run off) ever goes into the underground water or the creek? Since wild animal doesn't use toilet, does the project plan to trap those waste and direct those waste to the on-site septic system? Is it a requirement from county health depart? The document I received only describe there are about 50 wild animal enclosures for the animal to live but it doesn't say how many animal would be living in each enclosures. There could have a very high density wild animal living on the property. Will the use permit limit how many animals to be living in the center?

4. Smell - would this center smell like a zoo or a animal farm? If this did happen, I would feel extremely sorry for those bicyclist going up the hill with short of breath.

5. light pollution - would this project site become another "landmark" like mountain winery on our hill side? When you travel on 280, 85 or even possibly 101, you could easily see the big splash of lights coming from the mountain winery.

6. size of the development - 50k sf WM building, 16k sf IM building, 868 ft PE building, 2 cottage, 89 parking, 50 animal enclosure (with undisclosed square footage), plus fire access road through out and septic leach field to support all these activity. These will generate huge disturbance to the wildlife animal and plants currently living on the site. Again, I found it ironic that the project is meant to save wild animal.

Many of these concerns could be relieved if the scope of the project is reduced. Right now, the proposed conservation center mainly serve seven functions - animal rehab, animal hospital, animal research, public animal drop-off, public education program, private conference and housing for guests. Among these seven functions, it is safe to say that only one function, the animal rehab, is better to be located in the proposal site. All other six functions are better off to be served by other locations, more close to city/urban area where most people live. For example, who would think driving up the windy congress springs road 3 miles to drop off an injured animal is more convince (or better to the animal) than a drop-off center in downtown Saratoga. The best solution is to have drop-off centers (like local SPCA branch) through the bay area and the injured animal would be first treated in the local drop-off center then be taken to the conservation center later when the animal is ready to be rehab. Same things could be said to the research, hospital, education and conference. Why asks people to drive all the way deep into the mountain for something that can be done in the well-developed urban area? I think every planner would agree with this assessment. Once these non-essential operations are removed from the proposed conservation center, the size of the proposed project would be smaller thus less impact to the environment and less cost to build and maintain too (PSPCA's bottom line). This is also good for the native animal/plant living on the site as well as those animal brought into the center. This is win-win situation for everyone.

By writing to you about my concerns, I hope you can take a deep look at the concerns I raised here. I am looking forward to review your environmental impact report.

I could be reached by this email or phone 408-460-7120 or mail @24098 congress springs rd, saratoga, ca.

Thanks,
Ken
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<thead>
<tr>
<th>NAME</th>
<th>MAILING ADDRESS</th>
<th>EMAIL ADDRESS</th>
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<tbody>
<tr>
<td>Bill Hirschman</td>
<td>15055 Los Gatos Rd, Los Gatos</td>
<td><a href="mailto:bill_hirschman@usa.net">bill_hirschman@usa.net</a></td>
<td>(408) 402-9517</td>
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<td>Liz Dodson</td>
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<td>Mike Ferreira</td>
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Appendix B

Air Quality and Greenhouse Gas Modeling
Appendix B Air Quality and Greenhouse Gases Modeling

**Air Quality and Greenhouse Gas Modeling Parameters and Assumptions**

This appendix contains the air quality and greenhouse gas modeling parameters and assumptions used to calculate the proposed project’s emissions. The modeling and assumptions related to air quality are primarily based upon the Air Quality Report prepared by Michael Brandman Associates on August 30, 2013 and the Health Risk Assessment for Construction of the Conservation Center for Wildlife Care in Santa Clara County, California prepared by URS in 2014. The modeling and assumptions related to greenhouse gases is based upon the Greenhouse Gas Impact Analysis prepared by Michael Brandman Associates on August 30, 2013. The following provides a discussion regarding the modeling parameters and assumptions used to calculate and evaluate the proposed project’s air quality and greenhouse gas emissions impact.

**Model Selection**

**California Emissions Estimator Model (CalEEMod)**

The CalEEMod version 2013.2 is the modeling software used to estimate the proposed project’s air quality and greenhouse gas emissions. Air pollutant emissions can be estimated by using emission factors and a level of activity. Emission factors represent the rate of emission of a pollutant given the activity over distance or time; for example, grams of NOX per horsepower hour or grams of NOX per vehicle mile traveled. The ARB has published emission factors for on-road mobile vehicles/trucks in the EMFAC mobile source emissions model and emission factors for off-road equipment and vehicles in the OFFROAD emissions model. An air emissions model (or calculator) combines the emission factors and the various levels of activity and outputs the emissions for the various pieces of equipment.

**EPA ISC Model (ISC)**

The model used to determine the project’s health risk is performed by the ISC. The ISC is one of the air dispersion models accepted by the BAAQMD which models the dispersion of air pollutant emissions. ISC predicts pollutant concentrations from point, area, volume, line, and flare sources with variable emissions in terrain from flat to complex with the inclusion of building downwash effects from buildings on pollutant dispersion. It captures the essential atmospheric physical processes and provides reasonable estimates over a wide range of meteorological conditions and modeling scenarios. It is used to predict concentrations and does not necessarily represent future concentrations. Modeling was conducted according to BAAQMD Guidance.
CalEEMod Assumptions

Construction Assumptions

The construction equipment list was estimated by CalEEMod, with the addition of one grader and one plate compactor during grading. In addition, the site preparation phase was removed since that would occur during grading. The duration for construction is assumed to occur over 24 months assuming 5 days per week. It was assumed that construction would begin in 2014. Model information and inputs used are described below (MBA, 2013).

Equipment Tiers and Emission Factors. The CalEEMod default tier mix was used in this analysis for the estimation of emissions from onsite construction equipment for the unmitigated scenario.

Demolition. Two existing cottages would be demolished and rebuilt. It was assumed that the proposed cottages are approximately 2,500 square feet total. CalEEMod has a demolition module, which estimates the haul trips from demolition.

Painting. For the unmitigated scenario, CalEEMod assumes 250 grams of ROG per liter. There is a bug in CalEEMod version 2013.2 that overestimates the area to be painted for the parking land uses. The area to be painted for the parking land uses is supposed to be six percent of the area. For this project, there would be approximately 204,732 square feet of paving, so six percent would be 12,283 square feet. This was added manually to the CalEEMod estimated area to be painted for the nonresidential building land uses.

Grading. CalEEMod estimates dust from dozers moving dirt around, dust from graders or scrapers leveling the land, and loading or unloading dirt into haul trucks. Each of those activities is calculated differently in CalEEMod based on the number of acres traversed by the grading equipment. Dust was estimated in CalEEMod using the default assumptions.

Paving. To estimate paving related ROG emissions, the “parking – other asphalt surfaces” for 4.7 acres was used as a land use type in CalEEMod.

Construction Offsite Trips. The CalEEMod default worker trips and vendor trips were retained. However, CalEEMod indicated zero haul trips, which was increased to two trips per day per phase to account for the delivery of construction equipment.

Since the preparation of the Air Quality Analysis Report (MBA, 2013), revisions have been made to the estimates of vehicle traffic during construction (Hexagon Transportation Consultants, 2014). These revisions identified an additional 899 total truck loads that would be needed to remove soil from the project site during construction.

The project site to the general San Jose area is approximately 16 miles. The trip lengths were increased from the CalEEMod default to reflect potentially longer trip distances:
- Worker trips: CalEEMod default of 12.4 miles, increased to 16 miles
- Vendor trips: CalEEMod default of 6.6 miles, increased to 16 miles
- Haul trips: CalEEMod default of 20 miles, retained at 20 miles

**Operational Assumptions**

Model information and inputs used are described below (MBA, 2013).

**Non-Stationary Sources**

**Motor Vehicles.** There is no “wildlife care” or similar land use type in CalEEMod; therefore, the trips are noted under “research and development.”

Two CalEEMod files were used to estimate emissions from trip generation: one file for the maximum daily emissions and the other file for the average annual emissions. Trip generation rates for the proposed project were compiled using information from the Traffic Report (MBA 2013). As the project is specific in nature and would not likely generate pass-by or diverted trips, primary trips is set to 100 percent in the CalEEMod model. The trip length was changed from the CalEEMod default (ranges between 6.6 and 14.7 miles) to 30 miles per round trip, as an average, because some trips may be shorter and some may be longer. The CalEEMod default vehicle fleet mix is not appropriate for this type of project; therefore, the fleet percentages were changed (MBA, 2013).

**Architectural Coatings (Painting) and Consumer Products.** Paints release ROG emissions. The buildings in the project would be repainted on occasion. CalEEMod defaults were used for this purpose. It is anticipated that the project would not have many consumer products, other than negligible amounts used in the maintenance facility and from cleaning compounds. Nevertheless, the CalEEMod default values are used to estimate this potential source.

**Animal Related Volatile Organic Compounds.** There would be minor and negligible ROGs emitted from wildlife/animal scat. Therefore, emissions from this potential source are not estimated because of the low emissions anticipated.

**Fireplaces.** It was assumed that the two cottages would have one wood burning fireplace each. The emissions are estimated using CalEEMod defaults for a fireplace.

**Maintenance.** Regular maintenance would occur once a year or less, dirt from water enclosures will be removed and replaced with fresh dirt (the used dirt will deposited off site). To estimate emissions from this source, the following assumptions were used and were estimated in the construction module in CalEEMod:

- This activity would occur for five days per year.
- Three workers, traveling 30 miles per trip.
- Two offsite haul trips total would be required for this activity, assumed to occur on the same day, for a distance of 30 miles per trip.
- One tractor/loader/backhoe used for seven hours per day.

During operation, onsite vehicles may be driven on the project site to provide supplies to animal habitat areas. It was assumed that there would be one light-duty truck driving onsite for 10 miles per day, as a worst-case assumption. These emissions are estimated by CalEEMod in its operational module.

**Water and Wastewater.** Water would be obtained using onsite wells and the wastewater would be treated onsite. Any electricity used to pump the water would be included in the electricity portion of the project. Therefore, the greenhouse gas emissions associated with this source are not separately estimated.

**Waste.** Emissions from waste were estimated using the CalEEMod defaults for a research and development land use.

**Electricity.** The applicant has indicated on plans a solar panel area on the IS Building and the WM Building. A percentage of the panel area will be devoted to solar hot water heating. It is estimated that this will output approximately 450,000 kWh, which would vary depending on the type of panel installed. This is based on a 160 kW system on the WM Building and the IS Building. It was assumed the project would use a 305W SunPower T5-SPR (MBA, 2013).

The proposed project may use some power on the grid. It was assumed that the proposed project would use 270,900 kWh per year from Silicon Valley Power, though this value may be lower considering any power sold back to the grid from solar power. Emission factors for this utility are not available (MBA, 2013).

**Stationary Sources**

**Emergency Generators.** The project would have two-150kW (201 horsepower) diesel generators onsite for emergency purposes. The project would be required to go through the health risk screening process and apply best available technology if necessary. It was assumed a 150-horsepower QSB7 series Cummins diesel generator would likely be used, which is Tier III certified. To estimate emissions from the generators, it was assumed that they would be tested for a maximum of 50 hours per year, consistent with BAAQMD’s Regulation 9, Rule 8. To estimate maximum daily emissions, it was assumed that testing would occur for no more than two hours per day for each generator, occurring on the same day (MBA, 2013).

**Crematory.** To power the crematory, propane would be used. Emissions associated with the crematory would be from the combustion of the dead animals as well as the combustion of the...
propane that would run the crematory. The emissions estimates do not account for any controls that the crematory unit may have and represents uncontrolled emissions.

It was assumed for purposes of this analysis that the crematory would run a full load once per week during the busy spring and summer months but once per month during the slow winter and fall months. A full load would be 75 pounds per hour at four hours per day, or 300 pounds per day. As an annual average, it was assumed that there would be 26 runs during the spring/summer and six runs during the winter/fall, for 32 runs total (MBA, 2013).

**Tanks.** The project would have onsite fuel tanks. Tanks can emit VOCs during loading and breathing. The emissions were estimated using the EPA TANKS 4.0.9d model. The model does not estimate emissions from propane; it is anticipated that propane emissions would be negligible.
Health Risk Assessment Assumptions

A health risk assessment was performed to estimate the cancer risk on the nearby and onsite sensitive receptors from the construction and operation of the proposed project.

Construction Assumptions

Dispersion Modeling Methodology

Model information and inputs used in the dispersion modeling are described below (URS, 2014).

Dispersion Model. The EPA model, Industrial Source Complex (ISC) dispersion model was used.

Emissions. Construction emissions presented in Air Quality Analysis Report Appendix A: Model Output and Spreadsheets were used (MBA, 2013). Construction PM$_{2.5}$ emissions were based on the total of on-site exhaust PM$_{2.5}$ emissions and on-site fugitive PM$_{2.5}$ emissions. Construction DPM emissions were based on the on-site exhaust emissions of PM$_{10}$.

Meteorological Data. Pre-processed meteorological data from the BAAQMD was used. BAAQMD provides data in ISC format with an option of using a 300 m or 600 m mixing height. This analysis used data for the 300 m mixing height case for a conservative scenario. Data from the nearest meteorological site was used (San Jose Airport). Data from the year 1995 was used.

Surface Parameters. Rural land use type was selected.

Terrain. AERMAP incorporated terrain information into ISC. AERMAP was used to import terrain elevation in the vicinity of the project site using data from the National Elevation Dataset (NED) with a resolution of 1 arcsecond.

Receptor Parameters. Receptors were modeled at a height of 1.8 meters. The closest offsite residence is approximately 200 feet west of the project site boundaries. The two cottages that are being built on-site as part of project construction were not considered in this analysis. URS assumes that these cottages would not be occupied during the construction period.

Source Parameters. The construction site was modeled as a polygon area source, with a release height of 5 meters. Although construction would occur at locations throughout the 170 acre project site, project site plans show that a majority of the buildings and paved areas would be constructed in the southwestern portion of the site. Therefore, project site plans were used to estimate the size and shape of this main construction area to conservatively be approximately 17 acres.

Emission Rate. Emissions were assumed to occur during for 8 hours each day (during typical work hours) throughout the entire year.
Health Risk Calculations Methodology

Inputs used in the health risk calculations for construction-related impacts are described below (URS, 2014).

**Exposure Factors.** Exposure factors are used to calculate inhalation dose associated with exposure to the estimated pollutant concentrations. The inhalation dose, as listed in the BAAQMD guidance on Recommended Methods for Screening and Modeling Local Risks and Hazards (BAAQMD 2012), is a function of the concentration of a chemical and the intake of that chemical. The receptors used in this analysis were identified as potential residences, and were therefore characterized as residents. The exposure parameters used for estimating excess lifetime cancer risks and chronic non-cancer Hazard Index (HI) for all potentially exposed populations were based on BAAQMD guidance on Recommended Methods for Screening and Modeling Local Risks and Hazards (BAAQMD, 2012c) as follows. URS used a DBR for residential receptors that was set to the child breathing rate of 581 liter/kilogram-day for an exposure of less than 2 years. The exposure frequency for residential receptors was 350 days per year, consistent with a resident being present at the home except for a two week vacation. The exposure duration was assumed to be 2 years. The averaging time is based on 70-years.

The dose can be calculated as follows:

\[
\text{Dose} = \frac{(\text{Conc} \times \text{DBR} \times \text{ET} \times \text{EF} \times \text{ED} \times \text{CF})}{\text{AT}}
\]

Where: \(\text{Dose}\) = Dose of chemical; \(\text{Conc}\) = Chemical concentration in air; \(\text{DBR}\) = Daily Breathing Rate; \(\text{ET}\) = Exposure Time; \(\text{EF}\) = Exposure Frequency; \(\text{ED}\) = Exposure Duration; \(\text{CF}\) = Conversion Factor; and \(\text{AT}\) = Averaging Time.

**Toxicity Assessment.** Under California regulatory guidelines, DPM is used as a surrogate measure of carcinogen exposure for the mixture of chemicals that make up diesel exhaust as a whole. DPM is the only chemical of potential concern quantified and assessed.

BAAQMD categorizes TACs into two broad categories: carcinogens and non-carcinogens (BAAQMD, 2010). The following sections describe the methods used to assess cancer and non-cancer risks.

**Cancer risk.** URS assessed cancer risk using methodologies presented in the BAAQMD guidance on Recommended Methods for Screening and Modeling Local Risks and Hazards (BAAQMD, 2012c). Cancer risk is calculated as the product of the dose, the chemical’s Cancer Potency Factor, and any adjustments. The dose is discussed in the exposure factors section above. For this assessment of construction emissions, exposure would occur during the period from the third trimester of pregnancy to two years of age, and uses the maximum cancer risk adjustment factor of 10 to estimate cancer risk for residential receptors.
The equation used to calculate the potential excess lifetime cancer risk for the inhalation pathway is as follows (BAAQMD, 2012c):

\[ \text{Risk}_i = \text{Dose} \times \text{CPF}_i \times \text{CRAF} \]

Where: \( \text{Risk}_i \) = Cancer Risk; the incremental probability of an individual developing cancer as a result of inhalation exposure to a particular potential carcinogen; \( \text{Dose} \) = Dose of chemical; \( \text{CPF}_i \) = Cancer Potency Factor for Chemical; and \( \text{CRAF} \) = Cancer Risk Adjustment Factor.

**Non-cancer risks.** Non-cancer risks were assessed using methodologies presented in the BAAQMD guidance on Recommended Methods for Screening and Modeling Local Risks and Hazards (BAAQMD 2012). DPM is used as a surrogate measure of carcinogen exposure for the mixture of chemicals that make up diesel exhaust as a whole. DPM is the only pollutant evaluated for chronic non-cancer risks in this analysis, and the hazard quotient (HQ) for DPM is the same as the overall hazard index (HI). No acute non-cancer impacts were estimated since there is no acute reference exposure level for DPM (OEHHA, 2013).

The equations used to calculate the chemical-specific HQs and the overall HI are:

\[ \text{Chronic HQ}_i = \frac{C_i}{\text{REL}_i} \]

\[ \text{Chronic HI} = \sum_{i} \text{HQ}_i \]

Where: \( \text{Chronic HQ}_i \) = Chronic Hazard Quotient for Chemical\( i \); \( \text{Chronic HI} \) = Hazard Index; \( C_i \) = Annual Average Air Concentration for Chemical\( i \); and \( \text{REL}_i \) = Chronic Non-cancer Reference Exposure Level for Chemical\( i \).

**Operation Assumptions**

Model information and inputs used in the dispersion modeling for operational uses are described below (MBA, 2013).

The metrological data used is from the BAAQMD’s San Jose Airport monitoring station, located approximately 11 miles northeast from the project. The data is at a 600-meter mixing height for the year 1995, the most recent year of data available besides 1997, which has the first couple of months missing (BAAQMD, 2011).

Terrain data was compiled by the EPA AERMAP terrain processor to obtain the elevations of the sources and the receptors. The ISC source type assumed for the emergency generators was Point STCK 2, 3, the gas exit temperature was assumed to be 924°F with the stack inside diameter being 4.2 inches (0.35 feet), the exhaust flow was assumed to be 35.6 m³/min (0.59 m³/sec), and the release height was assumed to be five feet (MBA, 2013). The ISC source type assumed for the crematory was Point STCK 1, the gas exit temperature was assumed to be 875°F with the stack inside diameter being 1.7 feet, the exhaust flow was assumed to be 3.0 m/sec, and the release height was assumed to be seven feet (MBA, 2013).
**Cancer Risk Methodology**

The cancer risk was calculated the equations below (BAAQMD, 2011).

Equation 1:

\[
Dose = \frac{(C_{air} \times DBR \times EF \times ED \times CF)}{AT}
\]

Where: Dose = Dose through inhalation; \(C_{air}\) = Annual average air concentration from the air dispersion model; DBR = Daily breathing rate; EF = Exposure frequency; ED = exposure duration; CF = conversion factor; and AT = averaging time.

Equation 2:

\[
Cancer\ Risk = (Dose \times CRAF \times Cancer\ Potency\ Factor)
\]

Where: Cancer risk = The cancer risk a hypothetical individual faces if exposed to carcinogenic emissions from a particular facility; this risk is defined as an excess risk because it is above and beyond the background cancer risk to the population contributed by emission sources not related to the facility; Dose = Dose through inhalation; and CRAF = Cancer risk adjustment factor.
Appendix C
Section 106 Cultural Resources Assessment
Section 106 Cultural Resources Assessment
The Conservation Center for Wildlife Care
City of Saratoga, Santa Clara County, California
Cupertino and Castle Rock Ridge, California, USGS 7.5-minute Topographic Quadrangle Maps
Township 8 South, Range 2 West, Section 9

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Cupertino and Castle Rock Ridge, California, USGS 7.5-minute Topographic Quadrangle Map
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MANAGEMENT SUMMARY

At the request of the Peninsula Humane Society and SPCA, Michael Brandman Associates (MBA) conducted a cultural resource investigation that included record search reviews and a field survey of the proposed The Conservation Center for Wildlife Care (project) Area of Potential Effects (APE), located outside the City of Saratoga city limits in Santa Clara County, California (Exhibit 1). The project site comprises approximately 170 acres off Congress Springs Road and would include the Wildlife Medical Facility and Education Building (WM Building), the Public Wildlife Intake Building (PE Building), the Imperiled Species Captive Breeding Building (IS Building), two cottages and 50 wildlife enclosures. Only a small portion of the project area would be developed, and the remaining area would be preserved and maintained as natural habitat in perpetuity.

Since the proposed project would affect the waters of the United States, the project proponent must meet the requirements of Section 404 of the Clean Water Act and, therefore, is seeking a permit from the U.S. Army Corps of Engineers (USACE). The purpose of this report is to document the presence or absence of any potentially significant cultural resources located within the project’s APE and, if significant resources would be affected by the proposed project, to propose recommendations to mitigate the effects, which might include a Memorandum of Agreement (MOA) or other protective measures. Completion of this investigation fulfills the protocols associated with Section 106 of the National Historic Preservation Act (NHPA) and the California Environmental Quality Act (CEQA).

The APE for the proposed project consists of the areas and resources that would potentially be directly or indirectly affected by the proposed project. As project development would be at various locations in steeply hilled areas, rather than separating out each of the individual locations, the APE was determined to consist of the entire 170-acre project area (Exhibit 2).

The results of the record search conducted at the Northwest Information Center (NWIC) in Rohnert Park in August 2012 indicated that three cultural resources and seven reports have been previously recorded within 0.50-mile of the project APE. None of the three cultural resources were evaluated for listing on the National Register of Historic Places (NR) or California Register of Historic Resources (CR).

In October 2012, the Native American Heritage Commission (NAHC) was sent a request to conduct a search of its Sacred Lands file. A response was received in November 2012 stating that the search failed to indicate the presence of known sacred sites within the project APE. NAHC provided a list of ten tribal members who could have additional information concerning the project area. In November, information request letters were sent to the 10 representatives; as of this date, no responses have been received.
The paleontological review conducted by Kenneth L. Finger, Ph.D. in September 2012 indicated that the proposed project includes geologic units of low paleontological potential; therefore, no further paleontological work is recommended. The paleontological report can be found in Appendix D.

In September 2012, MBA Archaeologist Carrie D. Wills conducted a pedestrian survey of specific development areas within the project APE to determine the presence or absence of historic properties that could be considered eligible for listing on the NR or the CR. The specific development areas within the APE were surveyed using 15-meter transects when possible, and the ground visibility was poor to fair, depending on vegetation cover. No prehistoric resources were discovered during the course of the field survey. The field survey included photo-documentation of the six existing buildings and structures within the northwest portion of the project APE. In February 2012, MBA Architectural Historian Kathleen Crawford, M.A. conducted a field survey and archival research for the project, and in August 2013, Ms. Crawford formally evaluated the six buildings and the project area. Each building/structure was evaluated for listing on the NR and CR and was found not to meet any of the four criteria for listing. Consequently, the buildings/structures are considered not eligible for listing on the NR, CR, or any local listings; therefore, no historic properties will be affected by the proposed undertaking for the purposes of Section 106 of the NHPA. To facilitate compliance with CEQA regulations and Section 106 of the NHPA, detailed descriptions on Department of Parks and Recreation (DPR) Primary and Building, Structure, Object (BSO) forms as well as photographs of all the structures are found in Appendix B and Appendix C of this report.
SECTION 1: INTRODUCTION

At the request of the Peninsula Humane Society and SPCA, MBA conducted a cultural resource assessment of the project APE. The purpose of the assessment was to identify the presence or absence of potentially significant cultural and paleontological resources within the project APE.

Numerous federal laws and regulations have been developed to protect cultural resources. The most important is the National Historic Preservation Act of 1966 (as amended). The Act established the Advisory Council on Historic Preservation and on the NR. Section 106 of the NHPA requires that any undertaking located on federal land, or that involves federal funds, or that requires federal permits, take into account the effect of the undertaking on all potentially historic properties, and afford the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment with regard to the undertaking. An inventory must be conducted of all potentially historic properties within the undertaking’s APE. Properties judged significant in terms of the criteria in the NR must be avoided or subject to programs that mitigate adverse effects. The federal lead agency would initiate consultation with the State Historic Preservation Officer (SHPO) if the undertaking affects a historical property.

As implementation of the project may include permitting (Section 404 Permit) required by the United States Army Corps of Engineers (USACE), it would be necessary to comply with Section 106 of the NHPA. As the lead federal agency for compliance with the NHPA, it is USACE’s responsibility to consult with the SHPO before granting permits, funding, or other authorization of the undertaking. The Section 106 review process normally involves a four-step procedure described in detail in the regulations implementing Section 106 of the NHPA (36 CFR Part 800). Following is a brief summary of the basic tenets of the process:

- Identify and evaluate historic properties in consultation with the SHPO and interested parties.
- Assess the effects of the undertaking on properties that are eligible for inclusion in the NR.
- Consult with the SHPO, other agencies, and interested parties to develop an agreement that addresses the treatment of historic properties and notify the Advisory Council on Historic Preservation.
- Proceed with the project according to the conditions of the agreement.

1.1 - Project Location

The project APE is located outside the City of Saratoga city limits, in Santa Clara County, California (Exhibit 1). The project is located approximately 2.7 miles west of the City of Saratoga’s central area and consists of approximately 170 acres of predominantly undeveloped land that is in a mountainous area northeast of State Route 9 (SR-9) (Exhibit 2). The project site is located on the Cupertino and
Castle Rock Ridge, California, United States Geologic Survey 7.5-minute topographic quadrangle maps, in Range 2 West, Township 8 South, Section 9 (Exhibit 3). A site plan map showing the location and relationship of the six buildings and structures in the northwest portion of the APE is depicted on Exhibit 4.

1.2 - Project Description

The proposed project consists of developing The Conservation Center for Wildlife Care (project) on an approximately 170-acre site east of Congress Springs Road (SR-9) outside of the City of Saratoga city limits. Only a small portion of the site would be developed and the remaining area would be preserved and maintained as natural habitat in perpetuity. The project is defined by its three primary programs:

- State-of-the-art rehabilitation of injured and orphaned native wildlife for the purpose of returning these animals to their natural habitats;
- Captive propagation of small, rare (endangered, threatened, or imperiled) native species, working in collaboration with U.S. Fish and Wildlife Service and the California Department of Fish and Wildlife, for the purpose of helping arrest and reverse the demise of critically important California animals; and
- Education programs for children and families about native wildlife and the natural environment, and the role people have and can play in securing the future of the natural world.

The project consists of the demolition of two cottages, concrete foundation, and barn/stable and construction of the project. The project includes the construction of five buildings in the western portion of the project site and 50 wildlife enclosures scattered throughout the site along the access road. The five proposed buildings include the following:

- Public Wildlife Intake Building (PE Building)
- Wildlife Medical Facility and Education Building (WM Building)
- Imperiled Species Breeding Facility (IS Building)
- Two Cottages

Each of the four proposed development areas would be connected by the existing unpaved road, which would be upgraded as necessary to address fire safety standards.
The PE Building would provide intake facilities for injured or orphaned animals found by the public, along with small, temporary holding areas for the initial triage of those animals. The WM Building would include state-of-the-art wildlife medical and rehabilitation holding facilities with limited public access. The IS Building would aide conservation efforts by breeding carefully selected populations of local threatened and endangered species for release to protected habitats. The two proposed cottages would be located in the area adjacent to the frontage road. The 50 wildlife enclosures would be strategically located throughout the site along the main access road above the WM Building.

The PE Building, WM Building, and IS Building have been designed to be located in the most level terrain areas of the site. Additionally, all of the potential building areas have been previously disturbed. Overall, the project has been designed to blend with the natural topography of the site by using sustainable design features such as green roofs, terracing, and stepped buildings.

### 1.3 - Area of Potential Effects (APE)

The APE for the proposed project consists of the areas and resources that could potentially be directly or indirectly affected by the proposed project. Because project development would occur at various locations in steeply hilled areas, rather than separating out each of the individual locations, the APE was determined to consist of the entire 170-acre project area (Exhibit 2).
SECTION 2: CULTURAL SETTING

Following is a brief overview of the prehistory, ethnography, and historic background, providing a context in which to understand the background and relevance of sites found in the general area of the project. This section is not intended to be a comprehensive review of the current resources available but, rather, serves as a generalized overview.

Further details can be found in ethnographic studies, mission records, and major published sources, including Beardsley (1948), Bennyhoff (1950), Fredrickson (1973 and 1974), Jones and Klar (2007), Kroeber (1925), Chartkoff and Chartkoff (1984), and Moratto (1984).

2.1 - Prehistoric Background

Early archaeological investigations in central California were conducted at sites located in the Sacramento-San Joaquin Delta region. The first published account documents investigations in the Lodi and Stockton area (Schenck and Dawson 1929). The initial archaeological reports typically contained descriptive narratives, with more systematic approaches sponsored by Sacramento Junior College in the 1930s. At the same time, University of California at Berkeley excavated several sites in the lower Sacramento Valley and Delta region that resulted in recognizing archaeological site patterns based on variations of inter-site assemblages. Research during the 1930s identified temporal periods in central California prehistory and provided an initial chronological sequence (Lillard and Purves 1936; Lillard et al. 1939). In 1939, Lillard noted that each cultural period led directly to the next and that influences spread from the Delta region to other regions in central California (Lillard et al. 1939). In the late 1940s and early 1950s, Beardsley documented similarities in artifacts between sites in the San Francisco Bay region and the Delta and refined his findings into a cultural model that ultimately became known as the Central California Taxonomic System (CCTS). This system proposed a uniform, linear sequence of cultural succession (Beardsley 1948 and 1954). The CCTS system was challenged by Gerow, whose work looked at radiocarbon dating to show that Early and Middle Horizon sites were not subsequent developments but, at least partially, contemporaneous (1954; 1974; Gerow with Force 1968).

To address some of the flaws in the CCTS system, Fredrickson (1973) introduced a revision that incorporated a system of spatial and cultural integrative units. Fredrickson separated cultural, temporal, and spatial units from each other and assigned them to six chronological periods: Paleo-Indian (10000 to 6000 B.C.); Lower, Middle and Upper Archaic (6000 B.C. to A.D. 500); and Emergent (Upper and Lower, A.D. 500 to 1800). The suggested temporal ranges are similar to earlier horizons, which are broad cultural units that can be arranged in a temporal sequence (Moratto 1984). In addition, Fredrickson defined several patterns, which are a general way of life shared within a specific geographical region. These patterns include:
• Windmiller Pattern or Early Horizon (3000 to 1000 B.C.)
• Berkeley Pattern or Middle Horizon (1000 B.C. to A.D. 500)
• Augustine Pattern or Late Horizon (A.D. 500 to historic period)

Brief descriptions of these temporal ranges and their unique characteristics follow.

2.1.1 - Windmiller Pattern or Early Horizon (3000 to 1000 B.C.)

Characterized by the Windmiller Pattern, the Early Horizon was centered in the Cosumnes district of the Delta and emphasized hunting rather than gathering, as evidenced by the abundance of projectile points in relation to plant processing tools. Additionally, atlatl, dart, and spear technologies typically included stemmed projectile points of slate and chert but minimal obsidian. The large variety of projectile point types and faunal remains suggests exploitation of numerous types of terrestrial and aquatic species (Bennyhoff 1950; Ragir 1972). Burials occurred in cemeteries and intra-village graves. These burials typically were ventrally extended, although some dorsal extensions are known with a westerly orientation and a high number of grave goods. Trade networks focused on acquisition of ornamental and ceremonial objects in finished form rather than on raw material. The presence of artifacts made of exotic materials such as quartz, obsidian, and shell indicates an extensive trade network that may represent the arrival of Utian populations into central California. Also indicative of this period are rectangular *Haliotis* and *Olivella* shell beads, and charmstones that usually were perforated.

2.1.2 - Berkeley Pattern or Middle Horizon (1000 B.C. to A.D. 500)

The Middle Horizon is characterized by the Berkeley Pattern, which displays considerable changes from the Early Horizon. This period exhibited a strong milling technology represented by minimally shaped cobble mortars and pestles, although metates and manos were still used. Dart and atlatl technologies during this period were characterized by non-stemmed projectile points made primarily of obsidian. Fredrickson (1973) suggests that the Berkeley Pattern marked the eastward expansion of Miwok groups from the San Francisco Bay Area. Compared with the Early Horizon, there is a higher proportion of grinding implements at this time, implying an emphasis on plant resources rather than on hunting. Typical burials occurred within the village with flexed positions, variable cardinal orientation, and some cremations. As noted by Lillard, the practice of spreading ground ochre over the burial was common at this time (Lillard et al. 1939). Grave goods during this period are generally sparse and typically include only utilitarian items and a few ornamental objects. However, objects such as charmstones, quartz crystals, and bone whistles occasionally were present, which suggest the religious or ceremonial significance of the individual (Hughes 1994). During this period, larger populations are suggested by the number and depth of sites compared with the Windmiller Pattern. According to Fredrickson (1973), the Berkeley Pattern reflects gradual expansion or assimilation of different populations rather than sudden population replacement and a gradual shift in economic emphasis.
2.1.3 - Augustine Pattern or Late Horizon (A.D. 500 to Historic Period)

The Late Horizon is characterized by the Augustine Pattern, which represents a shift in the general subsistence pattern. Changes include the introduction of bow and arrow technology; and most importantly, acorns become the predominant food resource. Trade systems expanded to include raw resources as well as finished products. There are more baked clay artifacts and extensive use of Haliotis ornaments of many elaborate shapes and forms. Burial patterns retained the use of flexed burials with variable orientation, but there was a reduction in the use of ochre and widespread evidence of cremation (Moratto 1984). Judging from the number and types of grave goods associated with the two types of burials, cremation seems to have been reserved for individuals of higher status, whereas other individuals were buried in flexed positions. Johnson (1976) suggests that the Augustine Pattern represents expansion of the Wintuan population from the north, which resulted in combining new traits with those established during the Berkeley Pattern.

Central California research has expanded from an emphasis on defining chronological and cultural units to a more comprehensive look at settlement and subsistence systems. This shift is illustrated by the early use of burials to identify mortuary assemblages and more recent research using osteological data to determine the health of prehistoric populations (Dickel et al. 1984). Although debate continues over a single model or sequence for central California, the general framework consisting of three temporal/cultural units is generally accepted, although the identification of regional and local variation is a major goal of current archaeological research.

2.2 - Native American Background

At the time of European contact, the project vicinity was occupied by the Tamyen tribe of the Ohlone Native Americans. The arrival of Ohlone groups into the Bay Area appears to be temporally consistent with the appearance of the Late Period artifact assemblage in the archaeological record, as documented at sites such as the Emeryville Shellmound or the Ellis Landing Shellmound. It is probable that the Ohlone moved south and west from the delta region of the San Joaquin-Sacramento River region (Levy 1978). The cultural territory of the Ohlone groups extended along the coast from San Francisco Bay in the north to just beyond Carmel in the south. The Tamyen language group is the tribal group that most likely occupied the project area. Its territory extended from the southern end of San Francisco Bay into the lower reaches of the Santa Clara Valley, and it is estimated to have had approximately 1,200 speakers (Levy 1978).

The various Ohlone tribes subsisted as hunter-gatherers and relied on local terrestrial and marine flora and fauna. The predominant plant food source was the acorn, but they also exploited a wide range of other plants, including various seeds, buckeye, berries, and roots. Protein sources included grizzly bear, elk, sea lions, antelope and black-tailed deer as well as smaller mammals such as raccoon, brush rabbit, ground squirrels, and wood rats (Levy 1978). Waterfowl, including Canadian geese, mallards, green-winged teal, and American widgeon, were captured in nets using decoys to attract them. Fish
also played an important role in the Tamyen diet, and included steelhead, salmon, and sturgeon (Levy 1978).

The Ohlone constructed watercraft from tule reeds and possessed bow and arrow technology. They fashioned blankets from sea otter pelts, fabricated basketry from twined reeds of various types, and assembled a variety of stone and bone tools in their assemblages. Ohlone villages typically consisted of domed dwelling structures, communal sweathouses, dance enclosures, and assembly houses constructed from thatched tule reeds and a combination of wild grasses, wild alfalfa, and ferns.

The Ohlone were politically organized into autonomous tribelets that had distinct cultural territories. Individual tribelets contained one or more villages with a number of seasonal camps for resource procurement within the tribelet territory. The tribelet chief could be either male or female and the position was inherited patrilineally but approval of the community was required. The tribelet chief and council were essentially advisors to the community and had the responsibilities of feeding visitors, directing hunting and fishing expeditions, ceremonial activities, and warfare on neighboring tribelets (Levy 1978).

2.3 - Historic Background

The history of the Bay Area and Santa Clara Valley can be divided into several periods of influence; pertinent historic periods are briefly summarized below.

2.3.1 - Spanish and Mexican California

The first European contact with the Ohlone was probably in 1602, when Sebastian Vizcaíno’s expedition moored in Monterey. The estimated Ohlone population in 1770, when the first mission was established in Ohlone territory, was approximately 10,000. By 1832, the population had declined to fewer than 2,000, mainly due to diseases introduced by the Europeans. When the Spanish mission system rapidly expanded across California, the Ohlone traditional way of life was irreversibly altered. The pre-contact hunter-gatherer subsistence economy was replaced by an agricultural economy, and the Spanish missionaries prohibited traditional social activities (Levy 1978).

The Mexican Period, 1821 to 1848, was marked by secularization of the missions and division of their lands among the Californios as land grants termed ranchos. The large rancho lands were often worked by Native Americans who were used as forced labor. During the 1830s and 1840s, Ohlone territory was usurped by both Mexican and Euro-Americans who secured title to the land through the lenient policies of the Mexican government (Johnson 1978).

The Gold Rush brought further disease to the native inhabitants. By the 1850s, nearly all of the Ohlone had adapted in some way or another to economies based on cash income. Hunting and gathering activities continued to decline and were rapidly replaced with economies based on ranching and farming.
2.4 - History of Santa Clara County

The Mexican revolt against Spain (1822) followed by the secularization of the missions (1834) changed land ownership patterns in the Santa Clara Valley. During the Mexican Period, vast tracts of land were granted to individuals, including former Mission lands, which had reverted to public domain. During this period, the raising of cattle for tallow and hides was the major economic pursuit in the Santa Clara Valley.

In 1848, California became a United States territory as a result of the Treaty of Guadalupe Hidalgo ending the war with Mexico. Santa Clara County was one of the original 27 counties in California and with the population explosion resulting from the Gold Rush local farmers started to raise crops and livestock in the fertile Santa Clara valley. The development of irrigation and new transportation systems in California also led to wheat being replaced by more lucrative crops such as fruit and vegetables. The opening of the transcontinental railroad also made it easier to ship fresh and canned products to the major cities on the East Coast by the 1880s.

By 1900, Santa Clara County had become a major food processing and commercial center with prunes, grapes, and orchard crops dominating the area. A major change in the focus of the Santa Clara Valley economy occurred in 1933 when the Naval Air Station in Sunnyvale opened and a variety of military-related industries started up in the area. The change in the economic focus led to the eventual demise of the agricultural economy and the rise of the electronics industry in Santa Clara County. The expanding urbanization of Santa Clara in the 1940s and early 1950s helped spur the development of new housing for a non-farm population of working families, cannery and railroad workers, plumbers, carpenters, drivers and construction workers. The Silicon Valley boom of the 1980s and 1990s dramatically altered the regional landscape; industrial parks, commercial districts, and housing subdivisions have taken the place of the orchards that once flourished in the Santa Clara Valley.

2.5 - History of the City of Saratoga

2.5.1 - City of Saratoga

The closest urban center to the project is the City of Saratoga (City), which is located within an area of lush redwood forests and foothills. In 1846, William Campbell came to Saratoga area and with his brother established a lumber mill. The lumber camp, about 2 miles west of present-day Saratoga Village, was known as Campbell’s Gap, and the creek in the area was originally named Campbell’s Creek (now Saratoga Creek). The 1849 Gold Rush attracted people to California and during that time, an Irish immigrant, Martin McCarthy, moved to the Saratoga area. McCarthy met Hannah Barry in San Jose and they were married after a brief courtship. In 1852, they acquired a substantial tract of land in the Saratoga hills. They registered and platted their land, naming the town after
themselves, McCarthysville (Halberstadt and Alexander 2009). The town’s name changed from McCarthysville to Bank Mills and, finally, in 1865 to Saratoga.

In 1850, McCarthy leased Campbell’s lumber mill and began improving access to the mill by building a toll road that made it easier to transport the lumber from the mill to the nearby settlement. Teamsters bringing wagonloads of timber from the mountains took 2 to 3 days to traverse the road on their way to San Jose. The town of Saratoga became one of the first stopping points for the wagons coming down the mountains and soon accommodations and eateries were developed to serve the travelers. This gave Saratoga an economic boost that helped establish the town’s foundation. “Hotels and saloons were strung out along Lumber Street, now Big Basin Way, and a rough frontier atmosphere prevailed as late as the 1880s” (Saratoga Historical Foundation History n.d.; Sawyer 1922). A nearby town’s newspaper commented that:

Saratoga was a notorious town with its lumbering and sawmills back in the mountains. There were lots of Chinese in the villages and opium smoking as well as lotteries were going on all the time. There were even saloons in the village and to be a ‘drunk from Saratoga’ was the last word in drunkenness . . . (Saratoga Historical Foundation History n.d.; Sawyer 1922).

During this time, other mills were established in the local area, including a flourmill, and a paper manufacturer that was the only Bay Area source for brown butcher’s paper (Halberstadt and Alexander 2009).

Lumbering was not the only economic activity in the small foothill community. By the late 19th century, Saratoga was known as an industrial manufacturing center and as a tourist locale owing to the nearby mineral springs. The proximity of the lumber mill prompted William York to start a furniture manufacturing business using local sycamore, redwood, and madrone wood. A tannery, store, gristmill, and blacksmith shop were introduced to the town of Saratoga in the early 1860s by Charles Maclay. Saratoga had the distinction of becoming the first city on the west coast to produce fiberboard, heavy butcher paper, and cardboard. The Saratoga Paper Mill flourished until 1883 when it was destroyed by fire (Saratoga Historical Foundation History n.d.; Sawyer 1922).

In addition to lumber mills, blacksmith shops, and tanneries, two limestone rock quarries were established in Saratoga. One of the primary resources, Saratoga slag, was created by crushing local gravel, which produced a superior road-building material that provided a smooth, waterproof driving surface.

Starting in the late 1860s, farming families began to plant large orchards of fruit trees that extended into the foothills. The trees included the French prune, Blenheim apricots, cherries, walnuts, almonds, and grapes. As time passed, fruit trees became the primary economic activity of the Saratoga area as the other businesses faded away. The beauty of the mountains combined with the
flowering trees created scenery that inspired poets and authors and helped to establish the local tourism industry. Out of this springtime beauty, the Saratoga Blossom Festival was started in 1899, drawing visitors from San Francisco and other parts of the country who arrived on the South Pacific Coast train. The Festival lasted until 1941 when the realities of the war effort made it impossible to continue with the tradition (Saratoga Historical Foundation History n.d.; Sawyer 1922).

Starting with the Blossom Festival, Saratoga gained a reputation as a center for the arts. Poets, artists, and writers took up residence in the foothill community. In the 1930s and 1940s, the “Theater of the Glade” was established behind the Saratoga Inn and staged Shakespeare’s plays in the summer months. Senator James D. Phelan built a beautiful estate, Villa Montalvo, to serve as his home and as a center for the arts. Important artists of all types were invited to be his guests; today, the estate continues to serve as a local cultural center in accordance with Senator Phelan’s wish. The Montalvo Foundation continues to stage a full range of musical and artistic programs on the grounds (Saratoga Historical Foundation History n.d.; Sawyer 1922).

Saratoga’s weather, location, and natural amenities attracted wealthy San Francisco residents to the area as a resort destination. Residents discovered a local mineral spring in the 1860s, and since the spring’s chemical content was similar to that of the famous Congress Spring at Saratoga Springs in New York, the town was officially named Saratoga in 1865. Lewis Sage owned the Congress Springs hotel in Saratoga, which had 63 rooms, several cottages, a dairy, a trout pond, an orchard, and a vineyard. This resort served San Francisco travelers and Santa Clara Valley’s elite.

During this period, various types of fruit orchards, including cherries, prunes, apricots and several grape vineyards, were developed and established Saratoga as a popular trading post. Saratoga was noted as having the largest prune orchard in the world, named Glen Una, and covering over 600 acres. In 1878, Paul Masson arrived in Santa Clara County and began making wine in the New Almaden area; approximately 16 miles southeast of Saratoga. In 1896, Masson acquired a vineyard in Saratoga from the Rodoni family and began producing excellent sparkling wines. The old winery site is now known as Mountain Winery and is an entertainment venue. Several other inns, hotels, and resorts developed in the Saratoga area, ranging from small inns serving lumberman and other workers who came to work in the local hills, to elaborate, more formal, resorts that attracted prestigious and elite visitors.

One of the major events to bring economic development to the town was the arrival in 1904 of the San Jose-Los Gatos Interurban Railway, later the Peninsular Railway—the first electric railway system to come to Saratoga. The line traversed across the valley as far as Stanford University in Palo Alto. This meant that students could travel to school by rail, and businessmen from other areas could choose to live in Saratoga and take the train to their businesses. It only took 15 minutes to travel by train from Saratoga to San Jose, a bonus for residents. Because of the advent of the automobile, the
line was phased out, and by 1933, the last of the trains were removed from service (Saratoga Historical Foundation History n.d.; Sawyer 1922).

Big Basin Redwoods State Park, established in 1902, is located east of the City of Saratoga and is the oldest state park in California. Big Basin has the largest continuous stand of ancient coast redwoods south of San Francisco. The City of Saratoga is considered the gateway to the park. Saving the redwoods marked a significant turning point in the development of California, and local residents proudly changed the name of their main thoroughfare from Lumber Street to Big Basin Way in 1927 (bigbasin.org).

The early residents of Saratoga created a notably excellent school system and parents with children sought residence in Saratoga because of the school system. The first school in Saratoga was the Little Brown Schoolhouse built by the Sons of Temperance as the Temperance Hall (Halberstadt and Alexander 2009). Starting in 1854, classes were held in the Temperance Hall, but over time, several other schools were constructed, and today Saratoga has more than a dozen schools across five school districts.

The period after World War II introduced new aerospace and electronics industries to the Bay Area, and Santa Clara Valley and Saratoga was considered a prime area for employees of the new industries to settle and raise their families. In addition to an increased population, the period after World War II increased pressures on Saratoga to alter its rural nature. In 1956, residents of Saratoga voted to incorporate and establish their own city government partially to deter potential annexation plans from the City of San Jose.

Today, Saratoga is a city of nearly 30,000 people, many of whom commute to San Jose and San Francisco for work. The City has maintained its pioneer heritage through its preservation work in saving older buildings and creating the Saratoga Historical Foundation and Historic Park. Several of the older buildings were moved to the Historic Park for preservation. The City continues to prosper and serves as a prime residential and business community within the Santa Clara Valley (Saratoga Historical Foundation History n.d.; Sawyer 1922).

**Subject Property History**

The subject property is located at 24103 Congress Springs Road approximately 2.7 miles outside the city limits of Saratoga, in the County of Santa Clara. The property contains two residential structures, an artist’s studio, a privy, a swimming pool, a tennis court, and recently constructed corrals. The residential buildings appear to date to the ca. 1950s-1960s period. The Santa Clara County Assessor’s Office indicated the structures were built in 1900; however, no evidence was found indicating the presence of structures within the project site that date to the 1900s.

Data regarding the background and history of the property was extremely limited and little was revealed regarding the occupation or use of the property. The property is located outside the Saratoga
city limits, and no records of the property were found in the city files. County records consisted mainly of maps and basic County Assessor’s official data. In addition, it appears from the Santa Clara County Assessor’s Office that lot splits occurred, making it more difficult to ascertain the original and later owners.

Some names of residents were obtained from historic maps, but consultation with Katie Alexander, Curator of the Saratoga Historical Foundation and co-author of a book on Saratoga history (Images of America: Saratoga), and April Halberstadt, co-author of the same work, revealed no new information. Neither of these local experts on Saratoga history knew anything about the names or activities within the property.

On February 12, 2013, Ms. Alexander conducted a site visit at the property and looked at the building complex, but she did not have any information about the site. Ms. Crawford reviewed historic maps in the California Room at the San Jose Public Library with Ms. Halberstadt, who neither recognized any of the names on the maps nor had additional information to offer. Historic maps were obtained from the County of Santa Clara Surveyor’s office and names of residents were located; unfortunately, no additional information about the residents or their activities was obtained. A variety of historic maps, aerial photographs, County Assessor’s data, excerpts from historic files at local repositories, and other sources provided a limited view of the property’s history and occupation.

The property is located on Congress Springs Road, originally known as Lumber Street, which was the main access road from the mountains for wagonloads of lumber. The County of Santa Clara purchased Lumber Street for $5,000; and in 1882, the County transferred the road to the City of Saratoga and it was renamed Congress Springs Road. In 1866, a resort hotel called Congress Hall was constructed at the nearby mineral springs, named after the famous resort Congress Hall at Saratoga Springs, New York. Congress Hall was located 1 mile above and south of the subject property. Congress Hall burned down in 1903 (Sawyer 1922).

According to Ms. Alexander, the general area of the subject property was settled by Swiss-Italian pioneers in the 1850s. A small schoolhouse stood in the area, but its precise location could not be determined and there is no evidence indicating that it stood within the property boundaries. The residents engaged in lumbering, charcoal production, farming, and wine production. The Paul Masson Winery owned property south of the subject property in the twentieth century.

Names of occupants of the subject property were obtained from historic maps at various locations. Historic United States quadrangle maps, the Cupertino and Castle Rock quadrangles, were reviewed. The maps were dated 1937, 1943, 1944, 1955, 1956, 1962, 1963, 1965, 1966, 1969, 1975, 1980, and 1998. The maps produced during the 1940s-1960s indicate the presence of structures in the general subject property vicinity; however, none of the current structures on the site could be definitively matched to a specific map location.
Historic aerial photographs (NETR HistoricAerials.com) of the property—dated 1948, 1956, 1968, 1980, 1987, 1993, 1998, 2002, and 2005—could not confirm the presence or absence of structures on the subject property because of the extremely heavy vegetation. As can be seen from the current photographs of the property, the buildings are sited within heavily forested areas.

On August 13, 2013, MBA Vice President Mary Bean reviewed County of Santa Clara, Surveyor’s Office, Historic School and Survey Maps for the names of previous occupants of the subject property. The maps provided the following limited information. A survey map from 1885 includes the names A. Bonnet and T. Bonchetti. A map dated February 2, 1885 indicates the following names: W.W. Booker, J. Mayer, W.C. Sargent, A. Bonnet, and T. Bonchetti. A 1902 parcel map indicates the following names in relation to the subject property: J.W. Johnson (160 acres); J.W. Shirey (80 acres); Heirs of W.W. Booker (120 acres); Auguste Wenschier; T. Bonchetti (120 acres); M. Nevo, A. Bonnet (160 acres); T.A. Pruett (160 acres); R.E. Collins (80 acres); A. Garcin (80+ acres); A. Respaud (40 acres); and A.B. Ruch.

Maps from the San Jose Public Library, California Room, Arbuckle Collection included the 1914 McMillan Map. The map showed that residents of the general area of the subject property in Section 9, Township 8 South, Range 2 West included T. Chersi (160 acres); Heirs of W.W. Booker (80 acres); A.D. McBride (40 acres); H. Pourroy (160+ acres); Pierre Routo (160 acres); Paul Masson Champagne Company (160 acres); and Estate of M.D. Enright (160 acres). No information was located regarding the owners or their activities, except for Paul Masson, whose property is approximately 3 miles east of the subject property.

An undated map had the name of Nat Schmielowitz near the project with a notation of “5 acres” on the map near the name, possibly indicating the amount of acreage owned. However, there was no documentation linking the name to the current project area.

City of Saratoga City Directories from the early twentieth century to the 1960s were reviewed at the California Room, San Jose Public Library for information related to the occupants. The directories include both city and county occupants. No information was found about any of the occupants listed on the historic maps.

**Property Summary**

The subject property is located on Congress Springs Road, formerly Lumber Street, on the main roadway leading down from the Santa Cruz Mountains. The road was used to transport lumber into the Santa Clara Valley. Historic maps indicate early residents may have been connected to the Bonnet family; however, the evidence was not conclusive. No archival information confirmed or denied the names of occupants on the historic maps. The various files and historical repositories did not reveal additional information related to the property or the occupants’ activities.
Currently, the site contains four structures on the north end of the property: a one-story residence, a two-story residence, a one-story artist’s cottage, and a privy. Additional outbuildings, a swimming pool and tennis court, as well as a newly constructed corral are also present. No historical documentation was found to indicate the presence of these structures in relation to the original occupants’ residences or activities. Therefore, no substantive information was discovered regarding the history of the subject property or its potential for historical and/or architectural significance. There is no evidence to indicate the property was connected to the major economic and social events that shaped the history of the Saratoga area.
SECTION 3: REGULATORY BACKGROUND

The cultural resource assessment for the project included record searches at the NWIC and the NAHC, and a pedestrian survey to re-locate and document the existence and condition of previously recorded or new cultural resource sites within the project, and to determine whether such resources will be affected by project development.

3.1 - Regulatory Background

The proposed project was evaluated based on the federal laws and regulations that are briefly described below. Government agencies, including federal, state, local agencies, have developed laws and regulations designed to protect significant cultural resources that may be affected by projects regulated, funded, or undertaken by the agency. Federal and state laws that govern the preservation of historic and archaeological resources of national, state, regional, and local significance include the National Environmental Policy Act (NEPA), National Historic Preservation Act (NHPA), and CEQA. In addition, laws specific to work conducted on federal lands includes the Archaeological Resources Protection Act (ARPA), the American Antiquities Act, and the Native American Graves Protection and Repatriation Act (NAGPRA). These laws govern the preservation of historic and archaeological resources of national, State, regional, and local significance.

Federal agencies are required to consider the effects of their actions on historic properties and afford the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment on such undertakings under Section 106 of the NHPA. Federal agencies are responsible for initiating Section 106 review and completing the steps in the process that are outlined in the regulations. They must determine if Section 106 applies to a given project and, if so, initiate review in consultation with the State Historic Preservation Officer (SHPO) and/or the Tribal Historic Preservation Officer (THPO). Federal agencies are also responsible for involving the public and other interested parties in the process. Furthermore, Section 106 requires that any federal or federally assisted undertaking, or any undertaking requiring federal licensing or permitting, consider the effect of the action on historic properties listed in or eligible for listing on the NR. Under the Code of Federal Regulations (CFR), 36 CFR Part 800.8, federal agencies are specifically encouraged to coordinate compliance with Section 106 of the NHPA and the NEPA process. The implementing regulations “Protection of Historic Properties” are found in 36 CFR Part 800. Resource eligibility for listing on the NR is detailed in 36 CFR Part 63, and the criteria for resource evaluation are found in 36 CFR Part 60.4 (a-d).

The NHPA established the NR as the official federal list for cultural resources that are considered important for their historical significance at the local, state, or national level. To be determined eligible for listing in the NR, properties must meet specific criteria for historic significance and possess certain levels of integrity of form, location, and setting. The criteria for listing on the NR are
significance in American history, architecture, archaeology, engineering, and culture as present in districts, sites, buildings, structures and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association. In addition, a resource must meet one or all of these eligibility criteria:

a.) Is associated with events that have made a significant contribution to the broad patterns of our history; or

b.) Is associated with the lives of persons significant in our past; or

c.) Embody the distinctive characteristics of a type, period, or method of construction; represent the work of a master; possess high artistic values, represent a significant and distinguishable entity whose components may lack individual distinction; or

d.) That have yielded, or may be likely to yield, information important in prehistory or history.

Criterion D is usually reserved for archaeological resources. Eligible properties must meet at least one of the criteria and exhibit integrity, measured by the degree to which the resource retains its historical properties and conveys its historical character.

3.2 - Thresholds of Significance

In consultation with the SHPO/THPO and other entities that attach religious and cultural significance to identified historic properties, the federal lead agency shall apply the criteria of adverse effect to historic properties within the APE. The agency official shall consider the views of consulting parties and the public when considering adverse effects.

3.2.1 - Federal Criteria of Adverse Effects

Under federal regulations, 36 CFR Part 800.5, an adverse effect is found when an undertaking alters, directly or indirectly, any of the characteristics of a historic property that qualifies the property for inclusion in the NR in a manner that diminishes the integrity of the property’s location, design, setting, materials, workmanship, feeling, or association. Consideration will be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property’s eligibility for listing in the NR. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance, or be cumulative.

In accordance with 36 CFR Part 800.5, adverse effects on historic properties include but are not limited to those listed below:

- Physical destruction of or damage to all or part of the property
- Alteration of a property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation, and provision of handicapped access, that is not consistent
with the U.S. Secretary of the Interior’s Standards for the Treatment of Historic Properties in accordance with 36 CFR Part 68 and applicable guidelines

- Removal of the property from its historic location

- Change of the character of the property’s use or of physical features within the property’s setting that contribute to its historic significance

- Introduction of visual, atmospheric, or audible elements that diminish the integrity of the property’s significant historic features

- Neglect of a property that causes its deterioration, except where such neglect and deterioration are recognized qualities of a property of religious and cultural significance to an Indian tribe or Native Hawaiian organization

- Transfer, lease, or sale of property out of federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property’s historic significance

If Adverse Effects Are Found

If adverse effects are found, the agency official shall continue consultation as stipulated at 36 CFR Part 800.6. The agency official shall consult with the SHPO/THPO and other consulting parties to develop alternatives to the undertaking that could avoid, minimize, or mitigate adverse effects to historic resources. In accordance with 36 CFR Part 800.14(d), if adverse effects cannot be avoided, then standard treatments established by the ACHP may be used as a basis for the MOA.

In accordance with 36 CFR Part 800.11(e), the filing of an approved MOA and appropriate documentation as specified, concludes the Section 106 process. The MOA must be signed by all consulting parties and approved by the ACHP prior to construction activities. If no adverse effects are found and the SHPO/THPO or the ACHP do not object within 30 days of receipt, the agencies responsibilities under Section 106 will be satisfied upon completion of the report and documentation as stipulated in 36 CFR Part 800.11. The information must be made available for public review upon request, excluding information covered by confidentiality provisions.
SECTION 4: RESULTS

4.1 - Records Search

4.1.1 - Northwest Information Center (NWIC) Record Search

On August 23, 2012, a records search was conducted by MBA Project Archaeologist at the NWIC, in Rohnert Park, California (Appendix E). The record search included the project APE and a 0.50-mile radius outside the project boundaries. To identify any historic properties or resources, the current inventories of the NR, the CR, the California Historical Landmarks (CHL) list, the California Points of Historical Interest (CPHI) list, and the California State Historic Resources Inventory (HRI) were reviewed to determine the existence of previously documented, local historical resources.

The results of the record search indicated that three cultural resources have been previously recorded within 0.50 mile of the project APE: two are within the 0.50-mile radius and the other (a rock wall) is immediately adjacent to the project APE (Table 1). One of historic sites (a stone feature) and the prehistoric site (lithic scatter) are within the 0.50-mile radius, and the other (a rock wall) is immediately adjacent to the project APE. None of the three sites were evaluated for NR or CR eligibility.

Table 1: Resources within 0.50 mile of the Project APE

<table>
<thead>
<tr>
<th>P-Number</th>
<th>Within Project APE</th>
<th>Resource Description/Author/Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>P-43-000995</td>
<td>No</td>
<td>Lithic scatter with shell, chert and thermally altered sandstone/Pacific Museum Consultants/1997</td>
</tr>
<tr>
<td>P-43-001782</td>
<td>No</td>
<td>Historical period stone feature, possibly a shrine, along SR-9/PAR Environmental/2005</td>
</tr>
<tr>
<td>P-43-001781</td>
<td>Yes</td>
<td>Historic-era stone retaining wall; 250 feet long, 18 inches wide and 3 to 6 feet tall/JRP Historical Consulting/2005</td>
</tr>
</tbody>
</table>

The record search indicated that seven studies have been conducted within a 0.50-mile radius of the project area. Two are within the APE (S-34577 and S-27822) and five are within the 0.50-mile search radius (Table 2). The two reports within the APE consisted of a 1-acre reconnaissance survey and a focused survey for two proposed house sites; both of the surveys were negative for prehistoric and historic resources.
4.1.2 - Native American Heritage Commission Record Search

A request was sent on October 30, 2012, to the Native American Heritage Commission (NAHC) requesting a search of its Sacred Lands file. A response was received from the NAHC on November 6, 2012 stating that the search failed to indicate the presence of known sacred sites within the project APE; however, the NAHC provided a list of ten tribal members who could have additional information concerning the project area. Letters requesting additional information from each of the ten tribal members or organizations were sent on November 29, 2012. As of this date, no responses have been received (Appendix A-2).

4.2 - Paleontological Record Search

A paleontological records search was requested on September 17, 2012, from consulting paleontologist, Ken Finger, Ph.D. A response was received from Dr. Finger on September 24, 2012. The record search included a comprehensive review of the University of California Museum of Paleontology University of California Museum of Paleontology (UCMP) vertebrate paleontology database for the proposed project area (Appendix D).

The results of the record search indicated that significant paleontological resources may be present in the late Pleistocene alluvium along Saratoga Creek. However, vertebrate fossils in alluvium are typically the result of downstream transport and deposition, so they are usually disarticulated elements that have an unpredictable occurrence. The Pleistocene alluvium in the vicinity of the project site is thus considered to have a high paleontological sensitivity but a low paleontological potential.

Table 2: Reports within 0.50 mile of the Project APE

<table>
<thead>
<tr>
<th>SC-Number</th>
<th>Within Project APE</th>
<th>Description/Author/Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-4587</td>
<td>No</td>
<td>Reconnaissance Survey of Paul Masson Chateau/Holman and Associates/1979</td>
</tr>
<tr>
<td>S-2784</td>
<td>No</td>
<td>Reconnaissance Survey/ARS/1981</td>
</tr>
<tr>
<td>S-24157</td>
<td>No</td>
<td>Reconnaissance Survey/ARS/2001</td>
</tr>
<tr>
<td>S-19771</td>
<td>No</td>
<td>Reconnaissance Survey/Pacific Museum Consultants</td>
</tr>
<tr>
<td>S-27822</td>
<td>Yes</td>
<td>Cultural Resource Evaluation of 24103 Congress Springs Road/Archeological Resource Management/2003: one-acre parcel, negative findings</td>
</tr>
<tr>
<td>S-34577</td>
<td>Yes</td>
<td>Cultural Resource Evaluation of 24103 Congress Springs Road/Archeological Resource Management/2003: two house sites, negative findings</td>
</tr>
</tbody>
</table>
No fossils recorded in the UCMP database are from the project site, including its borrow pit in the alluvium. Taking this and the paucity of fossils recovered from Pleistocene alluvium in Santa Clara County, neither a paleontological survey prior to construction nor monitoring during construction is recommended. However, if significant paleontological resources are discovered during the course of project development, work shall cease until a professional paleontologist has assessed the resource and made recommendations.

4.3 - Pedestrian Survey

4.3.1 - Field Survey Results

On September 28, 2012, Senior Project Archaeologist Carrie D. Wills conducted a pedestrian survey of specific development areas within the project APE to determine the presence or absence of historic properties that could be considered eligible for listing on the NR or the CR. As stated previously, the 170-acre APE will not be completely developed, the vast majority will be preserved and maintained as natural habitat in perpetuity. The specific areas within the APE were surveyed using 15-meter transects when possible, and the ground visibility was poor to fair, depending on vegetation cover. No prehistoric resources were discovered during the course of the field survey.

The field survey included photo-documentation of the six existing buildings and structures within the northwest portion of the project. The buildings and structures consist of two cottages, an artist’s studio, a privy, a tennis court, and a swimming pool. Although there is an additional structure at the entrance to the project, it is recently constructed and therefore not considered historically significant.

The six structures in the northwest portion of the project include Cottage #1 (Appendix B, Photograph 1) that has new additions that detract from the building’s integrity and, therefore, reduces the overall integrity of the structure. The second cottage is designated Cottage #2 (Appendix B, Photographs 2 and 3), and appears to have had alterations that affect the building’s historic integrity as well. The Artist’s Studio (Appendix B, Photograph 4) is in good condition with no apparent alterations. The privy/change room (Appendix B, Photograph 5) is in relatively poor condition and there is evidence of possible vandalism. The tennis court (Appendix B, Photograph 6) is in fair condition, as is the swimming pool (Appendix B, Photograph 7). To facilitate compliance with CEQA regulations and Section 106 of the NHPA, detailed descriptions on DPR BSO forms as well as photographs of all the structures are found in Appendix B and Appendix C of this report.

Although no prehistoric resources were discovered during the course of the survey, and only one prehistoric resource has been previously recorded within the 0.50-mile radius, the project sensitivity for prehistoric resources is considered to be moderate to high since Saratoga Creek (Appendix B, Photograph 8) traverses the southwest portion of the APE.

The general area within the APE consists of relatively steep hills (Appendix B, Photograph 9) interspersed with smaller hills and valleys (Appendix B, Photograph 10). The Campus’s four primary
development areas were included in the survey and are depicted in the following photographs: The Wildlife and Medical Facility and Education Center (Appendix B, Photograph 11), the PE Building (Appendix B, Photograph 12), the IS Facility (Appendix B, Photograph 13), and the Cottages (Appendix B, Photograph 14). The general areas where 50 wildlife enclosures would be located were surveyed using 10-meter transects in the areas that had been rough graded (Appendix B, Photographs 15 and 17). The surrounding areas consisted of very dense vegetation cover that reduced the ground surface visibility to zero. Most of the wildlife enclosure areas were along ridges and had steep slopes that further limited visibility. Appendix B’s Photographs 16 and 18 are overview photographs that provide a sense of the overall terrain and vegetation community.

The field surveys did not result in discovery of any additional historic resources, nor were any prehistoric resources discovered within the project APE.

### 4.4 - Historic and Architectural Evaluation

Following are the results of the historic evaluations for the buildings within the project APE. The buildings were evaluated by Kathleen Crawford, M.A., Architectural Historian in August 2013. Because of the lack of historic documentation linking the buildings to any important person, historic trend, architectural style, or their ability to provide additional important information, the buildings are considered not eligible for listing on the NR, the CR, or any local listing.

Ms. Crawford evaluated the property as a whole and each building individually.

### 4.5 - Property Evaluation

#### 4.5.1 - Integrity Statement

To determine the significance of a property under local, state, and federal criteria, it is necessary to assess whether the property has integrity. Integrity is the ability of a property to convey and maintain its significance. A property must not only be shown to be significant under the established criteria, it must also have integrity. In order to retain historic integrity, a property must possess several, and usually most, of the seven key aspects of integrity: location, design, setting, materials, workmanship, feeling, and association.

**Location:** The place where the historic property was constructed or the place where the historic event occurred.

The subject property contains two residential buildings and an artist’s studio, which appear to have been constructed in the 1950s to 1960s. It does not appear that the buildings have been moved to this location; rather, they appear to have been constructed onsite. The remaining elements located on the property—a privy, a tennis court, and a swimming pool—appear to have remained in their original locations. Therefore, the property retains its location element for integrity purposes.
**Design:** The combination of elements that create the form, plan, space, structure, and style of a property.

The two residential buildings and the artist’s studio structures were designed in a common, Vernacular style. The one-story residential building appears to have been altered by a large addition on the south façade. Openings for doors and windows have been altered and new elements inserted into the elevations. Therefore, the one-story residential structure has not retained its integrity of design. The two-story residence, the artist’s studio, and the tennis court and pool all appear to retain their original design elements; therefore, the remaining structures on the property have retained their original design elements for integrity purposes.

**Setting:** The physical environment of a historic property.

The property is located within a rural environment along a major transportation corridor in the area. Congress Springs Creek is located on the east side of the buildings. The site contains several buildings built in the 1950s to 1960s and associated outbuildings and other elements. The overall setting has remained the same but it is unknown what changes have taken place on the property that may have removed original elements with the addition of interior roads, and other structures. Therefore, it appears that the overall property may retain its setting element for integrity purposes.

**Materials:** The physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property.

The various buildings and structures do not contain any unusual materials used in their construction. The materials used have been identified as average types of wood, concrete, and stone construction elements. Therefore, the buildings and structures retain their material element for integrity purposes.

**Workmanship:** The physical evidence of the crafts of a particular culture or people during any given period in history or prehistory.

The workmanship demonstrated in the construction of the buildings and structures is apparent from the materials analysis. The level of workmanship is of average quality. Therefore, the buildings and structures retain their integrity of workmanship.

**Feeling:** A property’s expression of the aesthetic or historic sense of a particular period of time.

The buildings and structures appear to have remained in their original locations since they were constructed. However, it could not be determined what the original elements were on the property and it does not appear that the current buildings and structures date to the original ca. 1900 construction date as suggested by the Santa Clara County Assessor’s Office. The current structures and elements appear to date to the 1950s–1960s, and it is unknown what elements may have been removed over the years. The buildings and structures currently on the site do not convey a sense of
the 1950s and 1960s, as they are Vernacular-style structures with no significant architectural or historical value. No detailed information about the property, occupants, or their activities was discovered during the research phase. Therefore, the property does not retain the feeling element, as it could not be determined what the original or 1950s-era setting and feeling was for the property.

**Association:** The direct link between an important historic event or person and a historic property.

None of the buildings, structures, people, or activities associated with the property have been determined to have any architectural or historical significance under any of the established criteria. Little relevant information was revealed regarding the property or the persons and activities associated with it during any phase of its occupation; therefore, the property does not have associative elements for integrity purposes.

### 4.6 - National and California Register Eligibility Evaluation

#### 4.6.1 - Criterion A/1

The property was assessed under NR and CR Criterion 1 for its potential significance in association with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States.

The Santa Clara County Assessor’s Office indicated that the structures on the property were constructed ca. 1900. During the research phase, no archival evidence was found that documented any activity on the property during the early twentieth century. If there were activities that took place on the property or structures built on the property during this era, no evidence remains of these elements. The current structures were constructed in approximately the 1950s–1960s period, and no evidence was found to indicate ownership or activities that may have taken place on the property. Therefore, the buildings, structures, and occupants and/or owners and their activities cannot be considered to have been important in the development of the local Saratoga area, the State of California, or the nation. There is no significant trend or event associated with the property. Therefore, the property does not appear to meet the criteria for significance under Criterion A/1: Event.

#### 4.6.2 - Criterion B/2

The property was assessed under NR and CR Criterion B/2 for its potential significance and association with the lives of persons important to local, California, or national history.

No specific persons or their activities were connected to the subject property. There is no evidence to suggest that any of the persons associated with the construction or development of the property were considered important in the history of the property, the Saratoga area, the State of California, or the nation. None of the persons associated with the property appear to be historically significant at the
level necessary to meet the criteria for the NR, the CR or local listings. Therefore, the property does not appear to meet the criteria for significance under Criterion B/2: Person.

4.6.3 - Criterion C/3

The property was assessed under NR and CR Criterion C/3 for its potential significance as a property that embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master, or possesses high artistic values.

The property contains two residential buildings, one artist’s studio, and other structures such as a swimming pool, tennis court, and a privy. The outbuildings and additional structures were constructed at an unknown time and are simple, functional structures with no discernible style, and they were not constructed by master craftsmen or builders, as they are standard, uniform structures with no unusual or innovative elements.

The three buildings on the north portion of the property appear to have been constructed during the 1950s to 1960s from visual observation and comparison with architectural styles common to the region and the era. The buildings are simple Vernacular-style structures and do not appear to have been designed by an architect or any type of master craftsman/builder. The buildings’ designs do not appear to be a particular type or reflect a regional influence. The buildings are not good examples of any particular method of construction or any of the Modern or Vernacular styles common to the period. The buildings do not possess high artistic or aesthetic values, as they are simple structures designed in a Vernacular style with no innovative or unusual elements. Therefore, the buildings do not appear to meet the criteria for significance under Criterion C/3: Architecture as good examples of Vernacular-style architecture.

4.6.4 - Criterion D/4

The property was assessed under NR and CR Criterion D/4 as a property that has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

The property does not yield, nor is it likely to yield, information important in prehistory or history due to the lack of information that was found regarding the subject property. In order for buildings, structures, or objects to be significant under Criterion 4, they need to “be, or must have been, the principal source of information.” This is not the case with this property. Therefore, the property does not appear to meet the criteria for significance under Criterion 4: Information Potential.

In summary, the property does not appear to qualify for the NR, the CR, or any local listings under any of the above criteria. Therefore, the property is not considered a historic resource.
4.7 - Individual Building Evaluations

4.7.1 - Cottage #1
Cottage #1 is not eligible for the NR, the CR, or local listings under any of the established criteria for designation. The building is not eligible under Criterion A/1: Event, because the building was not connected to significant events in the Saratoga area, the State of California, or the nation. The building is not eligible under Criterion B/2: Person, because none of the persons connected with the property played a significant role in the development of the Saratoga area, the State of California or the nation. The building is not eligible under Criterion C/3, because it is not a good example of Vernacular architecture; it is not a good example of a type, period, or method of construction; and it is not the work of a master architect/builder. The building is not eligible under Criterion D/4, because it does not have the potential to yield information important in prehistory or history. Therefore, the building is not eligible for the local Saratoga register, the CR, or the NR, since the building does not meet any of the established criteria.

4.7.2 - Cottage #2
Cottage #2 is not eligible for the NR, CR, or local listings under any of the established criteria for designation. The building is not eligible under Criterion A/1: Event, because the building was not connected to significant events in the Saratoga area, the State of California or the nation. The building is not eligible under Criterion B/2: Person, because none of the persons connected with the property played a significant role in the development of the Saratoga area, the State of California or the nation. The building is not eligible under Criterion C/3, because it is not a good example of Vernacular architecture; it is not a good example of a type, period, or method of construction; and it is not the work of a master architect/builder. The building is not eligible under Criterion D/4, because it does not have the potential to yield information important in prehistory or history. Therefore, the building is not eligible for the local Saratoga register, the NR, or CR, since the building does not meet any of the established criteria.

4.7.3 - Artist's Studio
The Artist's Studio/Building #3 is not eligible for the NR, CR, or local listings under any of the established criteria for designation. The building is not eligible under Criterion A/1: Event, because the building was not connected to significant events in the Saratoga area, the State of California or the nation. The building is not eligible under Criterion B/2: Person, because none of the persons connected with the property played a significant role in the development of the Saratoga area, the State of California or the nation. The building is not eligible under Criterion C/3, because it is not a good example of Vernacular architecture; it is not a good example of a type, period, or method of construction; and it is not the work of a master architect/builder. The building is not eligible under Criterion D/4, because it does not have the potential to yield information important in prehistory or history. Therefore, the building is not eligible for the local Saratoga register, the NR or the CR, since the building does not meet any of the established criteria.
4.7.4 - Privy

The Privy structure is not eligible for the NR, CR, or local listings under any of the established criteria for designation. The structure is not eligible under Criterion A/1: Event, because the structure was not connected to significant events in the Saratoga area, the State of California or the nation. The structure is not eligible under Criterion B/2: Person, because none of the persons connected with the property played a significant role in the development of the Saratoga area, the State of California, or the nation. The structure is not eligible under Criterion C/3, because it is not a good example of Vernacular architecture; it is not a good example of a type, period, or method of construction; and it is not the work of a master architect/builder. The structure is not eligible under Criterion D/4, because it does not have the potential to yield information important in prehistory or history. Therefore, the structure is not eligible for the local Saratoga register, the NR, or CR, since the structure does not meet any of the established criteria.
SECTION 5: SUMMARY, RECOMMENDATIONS, INADVERTENT DISCOVERIES

5.1 - Summary

In accordance with the NHPA and CEQA, MBA assessed the effects of development of the project within the project APE. As the project is located within an undeveloped area, the APE was determined to consist of the approximately 170-acre project area.

The NWIC results indicated that three cultural resource sites have been previously recorded within and adjacent to the project APE, but none of the three site records evaluated the resources for NR or CR eligibility. Seven cultural resource studies have been conducted within a 0.50-mile radius of the project APE.

Results from the NAHC indicated that the search failed to indicate the presence of Native American cultural resources in the immediate project area. To ensure protection of prehistoric resources, information request letters were sent on November 29, 2012 to the ten representatives on the NAHC list. As of this date, no responses have been received.

A search of the University of California Museum of Paleontology database by Kenneth L. Finger, Ph.D. on March 26, 2009 indicated that the proposed project includes four geologic units of very low paleontological sensitivity; therefore, no further paleontological work is recommended.

During the course of the pedestrian survey of the project APE, the six existing structures were assessed for listing on the NR, the CR, and local Saratoga listings. None of the structures appeared to meet the criteria for listing on the NR, the CR and local Saratoga listings. All six structures were recorded on the appropriate DPR forms. No other historic resources were discovered during the pedestrian survey.

No prehistoric sites, resources, or features have been previously recorded within the project APE and no prehistoric resources were discovered during the course of the pedestrian survey.

5.2 - Recommendations

Since none of the six structures meet any of the four criteria for listing on the NR, CR, or local listings, it is recommended that these structures are not eligible for listing on the CR or NR. Therefore, no historic properties will be affected by the proposed undertaking for the purposes of Section 106 of the NHPA.

Although no prehistoric resources were discovered during the course of the survey, and only one prehistoric resource has been previously recorded within the 0.50-mile radius, the project sensitivity for prehistoric resources is considered moderate, since Saratoga Creek traverses the southwest portion
of the APE. Inadvertent discovery procedures are included that would protect prehistoric resources if discovered during project development.

### 5.3 - Inadvertent Discovery Procedures

The procedures that must be followed if previously unknown cultural or paleontological resources or human remains are discovered during project development are provided below.

#### 5.3.1 - Accidental Discovery of Human Remains

There is always the possibility that ground-disturbing activities may uncover previously unknown human remains. Should this occur, Section 7050.5 of the California Health and Safety Code applies, and the following procedures shall be followed.

In the event of an accidental discovery or recognition of any human remains, Public Resource Code (PRC) Section 5097.98 must be followed. In this instance, once project-related earthmoving begins and if there is accidental discovery or recognition of any human remains, the following steps shall be taken:

1. There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until the County Coroner is contacted to determine if the remains are Native American and if an investigation of the cause of death is required. If the coroner determines the remains to be Native American, the coroner shall contact the NAHC within 24 hours, and the NAHC shall identify the person or persons it believes to be the “most likely descendant” (MLD) of the deceased Native American. The MLD may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in PRC Section 5097.98, or

2. Where the following conditions occur, the landowner or his authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity either in accordance with the recommendations of the most likely descendant or on the project in a location not subject to further subsurface disturbance:
   - The NAHC is unable to identify a most likely descendent or the most likely descendent failed to make a recommendation within 48 hours after being notified by the commission;
   - The descendent identified fails to make a recommendation; or
   - The landowner or his authorized representative rejects the recommendation of the descendent, and the mediation by the NAHC fails to provide measures acceptable to the landowner.
5.3.2 - Accidental Discovery of Cultural Resources

As mandated by Section 106 of the NHPA, federal agencies must take into account the effects of their undertakings on historic properties and seek ways to avoid, minimize, or mitigate adverse effects on such properties [36 CFR 800.1(a)]. Likewise, CEQA regulations state, “a project that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment” (PRC Section 21084.1). “Substantial adverse change” means “demolition, destruction, relocation, or alteration such that the significance of an historical resource would be impaired” (PRC Section 5020.1(q)).

If an archaeological site qualifies for listing on the NR or CR, the provisions in Section 106 and CEQA mandate that the lead agencies further determine whether the proposed undertaking will have an “effect” and “adverse effect” upon the site (36 CFR 800.4(d)(1)). According to federal regulations, “Effect means alteration to the characteristics of a historic property qualifying it for inclusion in or eligibility for the National Register” (36 CFR 800.16(i)). The criteria of adverse effect are:

An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property’s location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property’s eligibility for the National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative (36 CFR 800.5(a)(1)).

In accordance with PRC Section 21082 and Section 15064.5 of the CEQA Guidelines and 36 CFR 800 of Section 106 of the NHPA, if buried cultural resources are discovered during construction, operations shall stop in the immediate vicinity of the find and a qualified archaeologist shall be consulted to determine whether the resource requires further study. The archaeologist shall make recommendations to the lead agency concerning appropriate measures that will be implemented to protect the resources, including but not limited to excavation and evaluation of the finds, consistent with Section 15064.5 of the CEQA Guidelines and 36 CFR 800. Cultural resources could consist of but are not limited to stone, bone, wood, or shell artifacts, or features including hearths, structural remains, or historic dumpsites. In accordance with PRC Section 21082 and Section 15064.5 of the CEQA Guidelines, no further grading or construction activity shall occur within 50 feet of the discovery until the lead agency approves the measures to protect these resources.

In addition, reasonable efforts to avoid, minimize, or mitigate adverse effects to the property will be taken, and the State Historic Preservation Officer (SHPO) and Indian tribes with concerns about the
property, and the Advisory Council on Historic Preservation (Council) will be notified within 48 hours in compliance with 36 CFR 800.13 (b)(3).

5.3.3 - Accidental Discovery of Paleontological Resources and Recommendations

If previously unknown paleontological resources are discovered during excavation activities, operations shall stop in the immediate vicinity of the find and a qualified paleontologist shall be consulted to determine whether the resource requires further study.
SECTION 6: REFERENCES


City of San Jose. Public Library, California Room. Historic maps and documents. San Jose, CA.

City of Saratoga City Directories, 1898-1965. On file at San Jose Public Library, California Room.

City of Saratoga Public Library. Historical files, miscellaneous manuscript, and various books on Santa Clara Valley history. On file at Public Library, Saratoga, CA.

City of Saratoga, Building Department. Building Permits. On file at City Hall, Saratoga, CA.


County of Santa Clara, Assessor’s Office. Property Records for 24103 Congress Springs Road, San Jose, CA.

County of Santa Clara, County Archives. Property Records for 24103 Congress Springs Road, San Jose, CA.

County of Santa Clara, Surveyor’s Office. Historic School and Survey Maps, San Jose, CA.


Garrod, R.V., “Saratoga History,” typed manuscript, located in the Historical Files, City of Saratoga Public Library.


Appendix A: Cultural Resources Correspondence
A-1: Native American Heritage Commission
Response Letter
November 6, 2012

Carrie Wills  
Michael Brandman Associates  
2633 Camino Ramon  
San Ramon, CA 94583

Sent by Fax: 925-830-2715  
Number of Pages: 2

Re: Saratoga Wildlife Project PN 4202.0001, Santa Clara County

Dear Ms. Wills:

A record search of the sacred land file has failed to indicate the presence of Native American cultural resources in the immediate project area. The absence of specific site information in the sacred lands file does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Enclosed is a list of Native Americans individuals/organizations who may have knowledge of cultural resources in the project area. The Commission makes no recommendation or preference of a single individual, or group over another. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated, if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe or group. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from any of these individuals or groups, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact me at (916) 653-4038.

Sincerely,

Debbie Pilas-Treadway  
Environmental Specialist III
Native American Contacts
Santa Clara County
November 9, 2012

Jakki Kehl
720 North 2nd Street
Patterson, CA 95363
(209) 892-1060

Amah/Mutsun Tribal Band
Jean-Marie Feyling
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jmfgmc@sbcglobal.net
530-243-1633

Katherine Erolinda Perez
PO Box 717
Linden, CA 95236
canutes@verizon.net
(209) 887-3415

Indian Canyon Mutsun Band of Costanoan
Ann Marie Sayers, Chairperson
P.O. Box 28
Hollister, CA 95024
ams@indiancanyon.org
831-637-4238

Amah Mutsun Tribal Band
Valentin Lopez, Chairperson
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tlopez@amahmutsun.org
916-743-5833

Muwekma Ohlone Indian Tribe of the SF Bay Area
Rosemary Cambra, Chairperson
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muwekma@muwekma.org
408-205-9714
510-581-5194

Amah Mutsun Tribal Band
Edward Ketchum
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The Ohlone Indian Tribe
Andrew Galvan
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Fremont, CA 94539
chochenyo@AOL.com
(510) 882-0527 - Cell
(510) 687-9393 - Fax

Amah/Mutsun Tribal Band
Irene Zwierlein, Chairperson
789 Canada Road
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(650) 851-7747 - Home
650-400-4806 cell preferred
(650) 851-7489 - Fax

Trina Marine Ruano Family
Ramona Garibay, Representative
30940 Watkins Street
Union City, CA 94587
510-972-0645-home

This list is current only as of the date of this document.
Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.
This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed Saratoga Wildlife project, Santa Clara County.
A-2: Native American Information Request Representative Letter
November 28, 2012

Trina Marine Ruano Family
Ramona Garibay, Representative
30940 Watkins Street
Union City, CA 94587

Subject: Proposed Saratoga Wildlife Project, Santa Clara County

Dear Ramona Garibay:

At the request of the City of Saratoga, Michael Brandman Associates is conducting a Cultural Resources Assessment for a proposed project outside the City of Saratoga, CA. The proposed project consists of development of a wildlife rehabilitation facility. The project would be constructed in phases and is depicted on the attached topographic map.

The project area was surveyed on September 28, 2012, and no prehistoric resources or features were found.

Consultation

The California Environmental Quality Act (CEQA) requires the City to consider the effect this project may have on historic properties. The definition of “historic properties” includes, in some cases, properties of traditional religious and cultural significance to Native American tribes. To determine whether any historic properties may be affected by the project, MBA has reviewed archival maps and historic documents and consulted with the Native American Heritage Commission (NAHC). The NAHC response letter indicated that there may be additional information to be gained from individual tribal members and/or tribal organizations. MBA is sending this letter to give you the opportunity to provide any additional knowledge you may have about the project area. Because public involvement is a key ingredient in successful CEQA consultation, we are soliciting your input as part of this process.

Please feel free to contact me at 925.788.9097 or via email at cwills@brandman.com if you have any questions or would like to discuss the project in more detail.

Sincerely,

Carrie D. Wills
Carrie D. Wills, MA, RPA
Senior Project Archaeologist
Michael Brandman Associates
Bishop Ranch 3
2633 Camino Ramon, Suite 460
San Ramon, CA 94583
Phone 925.830.2733

Enclosures: Topo Map of Project Area
Appendix B: Project Photographs
Photograph 1: Cottage #1; west elevation, facing east.

Photograph 2: Cottage #2; south, facing north.

Photograph 3: Cottage #2; north elevation with double door that completely opens the kitchen to the patio area, facing south.

Photograph 4: Artist's studio; east elevation, facing west.

Photograph 5: Privy/change room; north elevation, facing south.

Photograph 6: Tennis court, facing north.


Appendix B
Project Photographs 5 and 6
Photograph 7: Swimming pool; facing south.

Photograph 8: Portion of Saratoga Creek; facing south.

Photograph 9: Depicts terrain and old logging road; facing east.

Photograph 10: Shows hilly terrain; facing southeast.


Appendix B
Project Photographs 9 and 10
Photograph 11: Portion of Proposed Wildlife Medical Facility; west elevation, facing northwest.

Photograph 12: Public Wildlife Intake Building; facing north.

Photograph 13: Proposed Endangered Species Captive Breeding Facility; facing east.

Photograph 14: Caretaker’s Residence (Cottage #1), other residences are beyond this view, facing north.

Appendix B
Project Photographs 15 and 16

Photograph 17: Overview, facing north.

Photograph 18: Front entrance; west elevation, facing east.

Appendix C: DPR Primary and BSO Forms
P1. Other Identifier:

*P2. Location: [ ] Not for Publication  [X] Unrestricted
   a. County: Santa Clara and (P2b and P2c or P2d. Attach a Location Map as necessary.)
   b. USGS 7.5' Quad: Cupertino (1991) and Castle Rock Ridge (1997) Date: T 8S; R 2W; Sec 9; M.D.B.M.
   c. Address: 24103 Congress Springs Road City Saratoga Zip 95070
   d. UTM: Zone: 10; 580977mE / 4123184mN (G.P.S.)
   e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate)

P5a. Photo or Drawing (Photo required for buildings, structures, and objects.)

Cottage #1 is located approximately 2.7 miles west of the City of Saratoga, east of SR9 within a grouping of three other small buildings (Cottage #2, Privy, Artist’s Studio) and adjacent tennis court and swimming pool.

*P3a. Description: (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

Cottage #1 is a one-story, ca. 1950s Vernacular style residence is an irregular shaped, asymmetrical structure sited on a sloping, wooded lot. The building has both concrete and wood pier foundation elements. The building has painted wood horizontal shiplap siding and a hipped roof with a wide eave overhang and composition roofing. Portions of the roofing system have front gable sections. The residence has multiple entrances that include pairs of wood and glass doors. The building contains a rectangular shaped extension on the south elevation. This portion of the structure appears to be a later addition. The single wood and glass door entrance contains a small wood porch. The south and west walls of the extension portion of the building are shielded by a wood wall which enclose the junction of the two elevations. Windows vary in size, shape, and placement around the facades and include wood framed, double hung sash style, fixed pane and casement style windows. A small patio and rock walls are located at the rear of the building. Wood French doors provide access to the patio from the house. The building appears to be in good condition but it has been altered by the addition on the south elevation. Sections of the wall on the north elevation indicate that doors or other elements were located at those points and removed at an unknown time. The wall has been infilled and windows added in the spaces. The building is currently unoccupied.

*P3b. Resource Attributes: HP2 and HP3

*P4. Resources Present: [X] Building  [ ] Structure  [ ] Object  [ ] Site  [ ] District  [ ] Element of District  [ ] Other (Isolates, etc.)

P5b. Description of Photo: (View, date, accession #)

*P6. Date Constructed/Age and Sources: [X] Historic  [ ] Prehistoric  [ ] Both ca. 1950s

*P7. Owner and Address: Unknown

*P8. Recorded by: (Name, affiliation, and address)

Kathy Crawford/Carrie D. Wills; First Carbon Solutions 2633 Camino Ramon, San Ramon, CA 94583

*P9. Date Recorded: 11/6/2012 and Evaluated 08/2013

*P10. Survey Type: (Describe)

Reconnaissance

*P11. Report Citation: Section 106 Cultural Resources Assessment, Campus for Wildlife Care and Rehabilitation Project, City of Saratoga, Santa Clara County, California

*Attachments: [ ] NONE  [X] Location Map  [ ] Sketch Map  [ ] Continuation Sheet  [X] Building, Structure, and Object Record  [ ] Archaeological Record  [ ] District Record  [ ] Linear Feature Record  [ ] Milling Station Record  [ ] Rock Art Record  [ ] Artifact Record  [ ] Photograph Record  [ ] Other (List):
B1. Historic Name: Unknown
B2. Common Name: Unknown
B3. Original Use: Residence
*Resource Name or #: Cottage #1
B4. Present Use: Residence (Abandoned)
B5. Architectural Style: Vernacular
*B6. Construction History: (Construction date, alterations, and date of alterations)
The exact construction date is currently unknown but the construction style suggest a ca. 1950s date. There have been two additions to the original building: an extensive addition on the south elevation and another addition on the north elevation. The southern addition appears to be more recent – possibly constructed in the last 10 years. The northern addition was possibly constructed in the last 20 years. Some of the wood sash windows have been replaced with aluminum sliders.

*B7. Moved? ☐ No ☐ Yes ☐ Unknown Date: Original Location:

*B8. Related Features:
Stone patio with built in BBQ, water feature at the southern elevation, rock walls, and a second stone patio.

B9a. Architect: Unknown
b. Builder: Unknown
*B10. Significance: N/A Theme: N/A
Area:
Period of Significance: N/A Property Type: Residential
Applicable Criteria: N/A

Cottage #1 is not eligible for the National Register of Historic Places or the California Register of Historical Resources under any of the established criteria for designation. The building is not eligible under Criterion A/1: Event as the building was not connected to significant events in the Saratoga area, the state of California or the nation. The building is not eligible under Criterion B/2: Person as none of the person connected with the property played a significant role in the development of the Saratoga area, the state of California or the nation. The building is not eligible under Criterion C/3 as it is not a good example of Vernacular architecture, is not a good example of a type, period, or method of construction and is not the work of a master architect/builder. The building is not eligible under Criterion D/4 as it does not have the potential to yield information important in prehistory or history. Therefore, the building is not eligible for the local Saratoga register, the California register or the National Register of Historic Places as the building does not meet any of the established criteria.

For full historic significance statement of the property, see associated Report.
Cottage #2 is located approximately 2.7 miles west of the City of Saratoga, east of SR9 within a grouping of 3 other small buildings (Cottage #1, Privy, Artist’s Studio) and adjacent tennis court and swimming pool.

The Cottage #2, ca. 1960s Vernacular style, two-story residence is sited on a sloping lot and is basically rectangular in shape. The building has a concrete pad foundation, and a side gabled roof with composition roofing. The roof has a small eave overhang on the front and rear facades. The siding is composed of unpainted, weathered, vertical boards. The front and side facades contain a horizontal board placed at the junction of the first and second floors, extending across the connecting areas of the vertical boards. The main entrance is centered on the south façade and contains a single wood and glass door. The door is flanked by two, rectangular shaped, metal framed, slider style windows framed by wood strips. Wood shutters are present on the sides of these windows. The second floor contains four windows that are of the same style as the first floor windows but are larger in size. Four wood flower boxes are located directly below the four second-floor windows.

The east façade contains a large metal framed bay window on the second floor. The west façade contains two small, rectangular shaped windows. The rear, north elevation of the building contains a large wood double door that appears to lift up and allow access to the kitchen area. A single wood and glass door is located west of the foldup door.

The residence is surrounded by large trees and a small walkway extends up the hillside on the west side of the structure. A wood trellis fence is present on the west side of the house. A stone patio and rock walls have been added to the site surrounding the house. The east side of the site contains a steep slope down to Saratoga Creek. The building appears to be in good condition with no major alterations noted to the original structure. The building is currently unoccupied.

*P3a. Description: (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

*P3b. Resource Attributes: HP2 and HP3

*P4. Resources Present: ☒Building ☐Structure ☐Object ☐Site ☐District ☐Element of District ☐Other (Isolates, etc.)

*P6. Date Constructed/Age and Sources: Historic ca. 1960s

*P7. Owner and Address:

Unknown

*P8. Recorded by: (Name, affiliation, and address)

Kathy Crawford/Carr D. Wills; First Carbon Solutions 2633 Camino Ramon, San Ramon, CA 94583

*P9. Date Recorded: 11/6/2012 and Evaluated 08/2013

*P10. Survey Type: (Describe)

Reconnaissance

*P11. Report Citation: Section 106 Cultural Resources Assessment, Campus for Wildlife Care and Rehabilitation Project, City of Saratoga, Santa Clara County, California
Cottage #2

**B1. Historic Name:** Unknown

**B2. Common Name:** Unknown

**B3. Original Use:** Residence

**B4. Present Use:** Residence (Abandoned)

**B5. Architectural Style:** Vernacular

**B6. Construction History:** (Construction date, alterations, and date of alterations)

The exact construction date is currently unknown but the construction style suggests a ca. 1960s date. The building is constructed with unpainted, weathered, vertical boards, and has a composite shingle side gable roof. The majority of the windows are wood sash some with shutters and some with window boxes. The windows flanking the main entrance door on the southern elevation are replacement aluminum sliders.

**B7. Moved?** ☒No ☐Yes ☐Unknown Date:

**B8. Related Features:**

A small vertical board artist’s studio is approximately 40ft north of Cottage #2 and is believed to be associated with it. There are numerous small rock walls and stone features surrounding the Cottage as well as flagstone patios on the north, south and west elevations.

**B9a. Architect:** Unknown

**B9b. Builder:** Unknown

**B10. Significance:** N/A

**Theme:** N/A

**Period of Significance:** N/A

**Property Type:** Residential

**Applicable Criteria:** N/A

Cottage #2 is not eligible for the National Register of Historic Places or the California Register of Historical Resources under any of the established criteria for designation. The building is not eligible under Criterion A/1: Event as the building was not connected to significant events in the Saratoga area, the state of California or the nation. The building is not eligible under Criterion B/2: Person as none of the person connected with the property played a significant role in the development of the Saratoga area, the state of California or the nation. The building is not eligible under Criterion C/3 as it is not a good example of Vernacular architecture, is not a good example of a type, period, or method of construction and is not the work of a master architect/builder. The building is not eligible under Criterion D/4 as it does not have the potential to yield information important in prehistory or history. Therefore, the building is not eligible for the local Saratoga register, the California register or the National Register of Historic Places as the building does not meet any of the established criteria.

For full historic significance statement of the property, see associated Report.

(Sketch Map with north arrow required.)

(This space reserved for official comments.)
State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Page 1 of 2

*Resource Name or #: Artist's Studio Building #3

P1. Other Identifier:

*P2. Location: ☐ Not for Publication ☑ Unrestricted

a. County: Santa Clara (P2b and P2c or P2d. Attach a Location Map as necessary.)

b. USGS 7.5' Quad: Cupertino (1991) and Castle Rock Ridge (1997) Date: T 8S; R 2W; Sec 9; M.D. B.M.

c. Address: 24103 Congress Springs Road City Saratoga Zip 95070

d. UTM: Zone: 10 580977mE / 4123184mN (G.P.S.)

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate) Elevation:

Cottage #2 is located approximately 2.7 miles west of the City of Saratoga, east of SR9 within a grouping of 3 other small buildings (Cottage #1 and #2, Privy) and adjacent tennis court and swimming pool.

*P3a. Description: (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

The Building #3, ca. 1960s, Vernacular style, one-story Artist's Studio structure is located north of the two-story building on a sloping lot. The rectangular shaped structure has a wood foundation, weathered vertical wood siding, and a front gable roof with composition roofing. The main entrance has a pair of wood, multilite glass doors. Small windows serve as a transom over the doors. The east façade contains two large, wood framed, multilite window sections. The rear of the structure has large wood trellis walls that enclose the rear of the structure. The building is surrounded by large trees. No major alterations to the structure were noted and it appears to be in good condition. The building is currently unoccupied.

*P3b. Resource Attributes: HP2 and HP3*P4. Resources Present: ☐ Building ☑ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5a. Photo or Drawing (Photo required for buildings, structures, and objects.)

P5b. Description of Photo: (View, date, accession #) Artist’s Studio; facing north. Date 02/12/13.

*P6. Date Constructed/Age and Sources: ☐ Historic ☐ Prehistoric ☐ Both ca. 1960s

*P7. Owner and Address:

Unknown

*P8. Recorded by: (Name, affiliation, and address)

Kathy Crawford/Carrie D. Wills; First Carbon Solutions 2633 Camino Ramon, San Ramon, CA 94583

*P9. Date Recorded: 11/6/2012 and Evaluated 08/2013

*P10. Survey Type: (Describe) Reconnaissance

*P11. Report Citation: Section 106 Cultural Resources Assessment, Campus for Wildlife Care and Rehabilitation Project, City of Saratoga, Santa Clara County, California

*Attachments: ☐ NONE ☑ Location Map ☐ Sketch Map ☐ Continuation Sheet ☑ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other (List):
*Resource Name or #  Artist's Studio, Building #3

B1. Historic Name: Unknown
B2. Common Name: Unknown
B3. Original Use: Artist's Studio
B4. Present Use: Artist's Studio (Abandoned)

*B5. Architectural Style: Vernacular
*B6. Construction History: (Construction date, alterations, and date of alterations)
The exact construction date is currently unknown but the construction style suggests a ca. 1960s date. The rectangular shaped structure has a wood foundation, weathered vertical wood siding, and a front gable roof with composition roofing. The main entrance has a pair of wood, multilite glass doors. Small windows serve as a transom over the doors. The east façade contains two large, wood framed, multi-lite window sections. The rear of the structure has large wood trellis walls that enclose the rear of the structure.

*B7. Moved? ☐ No ☑ Yes ☐ Unknown Date: Original Location:

*B8. Related Features: Cottage’s #1 and 2, Privy, Tennis Court and Pool

B9a. Architect: Unknown  
b. Builder: Unknown
*B10. Significance: Theme:

Period of Significance: Property Type: Applicable Criteria:

The #3 Building/Artist’s Studio is not eligible for the California Register under any of the established criteria for designation. The building is not eligible under Criterion A/1: Event, as the building was not connected to significant events in the Saratoga area, the state of California or the nation. The building is not eligible under Criterion B/2: Person, as none of the person connected with the property played a significant role in the development of the Saratoga area, the state of California or the nation. The building is not eligible under Criterion C/3, as it is not a good example of Vernacular architecture is not a good example of a type, period, or method of construction and is not the work of a master architect/builder. The building is not eligible under Criterion D/4, as it does not have the potential to yield information important in prehistory or history. Therefore, the building is not eligible for the local Saratoga register, the California register or the National Register of Historic Places as the building does not meet any of the established criteria.

For full historic significance statement of the property, see associated Report.

(Sketch Map with north arrow required.)

(This space reserved for official comments.)
Privy

P1. Other Identifier:

P2. Location: ☑ Not for Publication ☑ Unrestricted
   ☑ a. County: Santa Clara and (P2b and P2c or P2d. Attach a Location Map as necessary.)
   ☑ b. USGS 7.5' Quad: Cupertino (1991) and Castle Rock Ridge (1997) Date: T 8S ; R 2W ; Sec 9 ; M.D. B.M.
   ☑ c. Address: 24103 Congress Springs Road City Saratoga Zip 95070
   ☑ d. UTM: Zone: 10 ; 580977mE/ 4123184mN (G.P.S.)
   ☑ e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate) Elevation:

   Cottage #2 is located approximately 2.7 miles west of the City of Saratoga, east of SR9 within a grouping of 3 other small buildings (Cottage #1 and #2, Artists Studio) and adjacent tennis court and swimming pool.

P3a. Description:

   The privy is a single-story structure constructed of horizontal wood, with a composite shingle shed style roof, and a single small toilet inside. The subsurface chamber for waste from the toilet had been roughly excavated relatively recently, presumably by bottle hunters or artifact collectors. This small structure may have also been used as a change room for swimmers changing into bathing suits before going to the nearby swimming pool.

   The original construction date is unknown and the lack of any construction style or details made dating the building, even with a rough estimate, infeasible. However, it is reasonable to assume that the privy/change room was built at the same time as the nearby buildings, 1950s or 1960s. The south elevation has a small wood sash window at the top of the wall and the wood entrance step and door are at the north elevation. There are two water wells/fountains constructed of rocks and mortar located to the southeast and southwest of the privy.

P3b. Resource Attributes: AH4

P4. Resources Present: ☑ Building ☑ Structure ☑ Object ☑ Site ☑ District ☑ Element of District ☑ Other (Isolates, etc.)

P5a. Photo or Drawing: (Photo required for buildings, structures, and objects.)

P5b. Description of Photo: (View, date, accession #)
   Privy; facing north. 11/6/2012

P6. Date Constructed/Age and Sources:
   ☑ Historic ☑ Prehistoric ☑ Both
   ca. 1950-1960s

P7. Owner and Address:
   Unknown

P8. Recorded by: (Name, affiliation, and address)
   Kathy Crawford/Carrie D. Wills; First Carbon Solutions 2633 Camino Ramon, San Ramon, CA 94583


P10. Survey Type: (Describe)
   Reconnaissance

P11. Report Citation: Section 106 Cultural Resources Assessment, Campus for Wildlife Care and Rehabilitation Project, City of Saratoga, Santa Clara County, California

*Attachments: ☑ NONE ☑ Location Map ☑ Sketch Map ☑ Continuation Sheet ☑ Building, Structure, and Object Record ☑ Archaeological Record ☑ District Record ☑ Linear Feature Record ☑ Milling Station Record ☑ Rock Art Record ☑ Artifact Record ☑ Photograph Record ☑ Other (List):
**Resource Name or #** Privy

<table>
<thead>
<tr>
<th>B1. Historic Name:</th>
<th>Unknown</th>
</tr>
</thead>
<tbody>
<tr>
<td>B2. Common Name:</td>
<td>Unknown</td>
</tr>
<tr>
<td>B3. Original Use:</td>
<td>Privy/change room</td>
</tr>
<tr>
<td>B4. Present Use:</td>
<td>Privy (Abandoned)</td>
</tr>
<tr>
<td>B5. Architectural Style:</td>
<td>Vernacular</td>
</tr>
<tr>
<td>B6. Construction History:</td>
<td>(Construction date, alterations, and date of alterations) The exact construction date is currently unknown but is presumed to have been constructed at the same time as nearby buildings so probably ca. 1950s to 1960s. No apparent alterations or additions.</td>
</tr>
<tr>
<td>B7. Moved?</td>
<td>No</td>
</tr>
<tr>
<td>B8. Related Features:</td>
<td>There are two water wells/fountains roughly constructed of rocks and mortar located to the southeast and southwest of the privy.</td>
</tr>
</tbody>
</table>

| B9a. Architect: | Unknown |
| B9b. Builder:  | Unknown |
| B10. Significance: | N/A |
| Theme:          | N/A |
| Period of Significance: | N/A |
| Area:           | N/A |
| Property Type:  | N/A |
| Applicable Criteria: | N/A |

The Privy structure is not eligible for the National Register of Historic Places or the California Register of Historical Resources under any of the established criteria for designation. The structure is not eligible under Criterion A/1: Event as the structure was not connected to significant events in the Saratoga area, the state of California or the nation. The structure is not eligible under Criterion B/2: Person as none of the persons connected with the property played a significant role in the development of the Saratoga area, the state of California or the nation. The structure is not eligible under Criterion C/3 as it is not a good example of Vernacular architecture, is not a good example of a type, period, or method of construction and is not the work of a master architect/builder. The structure is not eligible under Criterion D/4 as it does not have the potential to yield information important in prehistory or history. Therefore, the structure is not eligible for the local Saratoga register, the California register or the National Register of Historic Places as the structure does not meet any of the established criteria.

(Sketch Map with north arrow required.)
*Resource Name or #: Swimming Pool and Tennis Court

P1. Other Identifier:

*P2. Location: □ Not for Publication  ☒ Unrestricted

*a. County: Santa Clara  and (P2b and P2c or P2d. Attach a Location Map as necessary.)

*b. USGS 7.5' Quad: Cupertino (1991) and Castle Rock Ridge (1997)  Date: T 8S ; R 2W ; Sec 9 ; M.D.  B.M. 

c. Address: 24103 Congress Springs Road  City Saratoga  Zip 95070

d. UTM: Zone:  10;  580977mE/ 4123184mN (G.P.S.)

e. Other Locational Data:  (e.g., parcel #, directions to resource, elevation, etc., as appropriate) Elevation:
The swimming pool and tennis court are located approximately 2.7 miles west of the City of Saratoga, east of SR9 near a grouping of 4 other small buildings (Cottage #1, Cottage #2, privy, artist’s studio).

*P3a. Description: (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)
The tennis court is located approximately 40ft east of SR 9 and the swimming pool is approximately 50ft northeast of the tennis court, immediately adjacent to Saratoga Creek. The tennis court measures approximately 100ft in length and 40ft in width, is within a chain link fence enclosure and is constructed with asphalt. The swimming pool measures approximately 40ft x 20ft but the depth was not able to be determined. The pool is immediately adjacent to Saratoga Creek (Creek) and it appears that part of it may have been submerged by water from the Creek. In addition, further south from the pool is a large dam which partially blocks the Creek but allows the water to flow over the top of it. These two features were undoubtedly built at approximately the same time as the other structures but it is impossible to determine the exact construction dates.

*P3b. Resource Attributes: AH5 for pool; HP25 for tennis court  *P4. Resources Present: □ Building  ☒ Structure  □ Object  □ Site  □ District  □ Element of District  □ Other (Isolates, etc.)

*P5b. Description of Photo: (View, date, accession #)
Swimming Pool, facing south; Tennis Court, facing north. Date 02/12/13

*P6. Date Constructed/Age and Sources:  ☐ Historic
☐ Prehistoric  ☐ Both
Possibly ca. 1950-1960s

*P7. Owner and Address: Unknown

*P8. Recorded by: (Name, affiliation, and address) Kathy Crawford/Carrie D. Wills; First Carbon Solutions 2633 Camino Ramon, San Ramon, CA 94583


*P10. Survey Type: (Describe) Reconnaissance

*P11. Report Citation: Section 106 Cultural Resources Assessment, Campus for Wildlife Care and Rehabilitation Project, City of Saratoga, Santa Clara County, California

*Attachments: □ NONE  ☒ Location Map  □ Sketch Map  ☒ Continuation Sheet  □ Building, Structure, and Object Record  □ Archaeological Record  □ District Record  □ Linear Feature Record  □ Milling Station Record  □ Rock Art Record  □ Artifact Record  □ Photograph Record  □ Other (List):
P5a. Photo or Drawing

Tennis Court; facing northwest
Appendix D: Paleontological Summary Report
September 24, 2012

Ms. Carrie Wills
Michael Brandman Associates
2633 Camino Ramon, Ste. 460
San Ramon, CA  94583

Re: Paleontological Records Search for Records Search for Saratoga Wildlife Facility (MBA Project 4202.0001), Santa Clara County, California

Dear Carrie:

As per your request, I have perused the geological literature the University of California Museum of Paleontology (UCMP) database for the proposed Saratoga Wildlife Facility in Santa Clara County. The project site is located in the San Andreas Rift Zone, on the southwest slope of Table Mountain. It ranges in elevation from 1930' below the summit to 1120' in Saratoga Creek. Aerial imagery shows the slope to be heavily forested, with the exception of a borrow pit near the creek, the terrain appears to be undisturbed. The project site is almost equivalent to the eastern half of Section 9, T7S, R2W, at the northern boundary of the Castle Rock Ridge Quadrangle (USGS 7.5' series topographic map).

The geologic map shows five units within the confines of the project site: jv = Great Valley Complex volcanic rocks (Jurassic); Kjfs = Franciscan Complex sedimentary rocks (late Jurassic or Early Cretaceous); fc = Franciscan Complex melange (sheared rock; Cretaceous, Paleocene, or Eocene); Tu = unnamed Eocene sedimentary rocks; Qpa = Pleistocene alluvium. Also mapped within a half-mile radius of the site are: fg = Franciscan greenstone; fsr = Franciscan sedimentary rocks, Tvr = Vaqueros Formation late Eocene–early Miocene), Tmb = Mendago basalt & volcanics (Oligocene–Miocene), Tsl = San Lorenzo Fm. (Eocene–Oligocene, and Q = Quaternary alluvium. In general, fossils are restricted to Pleistocene and older sedimentary rocks.

Mailing Address: 18208 Judy Street, Castro Valley, CA 94546
Phone: 510.885.1585
E-mail: klfpaleo@comcast.net
A thorough records search for Santa Clara County in the UCMP database found 15 vertebrate fossil localities in three geologic units: three in the Miocene Briones Formation, five in the early Pleistocene Santa Clara Formation, and seven in unnamed late Pleistocene alluvium. Although another 70 vertebrate localities are recorded in south-adjacent Santa Cruz County, none are from any of these three units or any of those mapped in the vicinity of the proposed project site. Hence, the only paleontologically sensitive unit of concern here is the undifferentiated Pleistocene alluvium (Qpa). For Santa Clara County, the UCMP database records four early Pleistocene (Irvingtonian, 1.8-0.15 Ma) and six late Pleistocene (Rancholabrean, 150-10 Ka) vertebrate fossil localities. The early Pleistocene fossils are Osteichthyes (boney fish), Equus (horse), and camelid (camel); those of the Irvingtonian include Bison latifrons (giant bison), Platygonus (peccary), and Mammuthus columbi (Columbian mammoth).

The results of this records search indicate that earth-disturbing construction activities for this project could impact significant paleontological resources if excavations are in the late Pleistocene alluvium exposed along Saratoga Creek. Vertebrate fossils in alluvium are typically the result of downstream transport and deposition, so they are usually disarticulated elements (bones and teeth) that have a very spotty and, therefore, unpredictable occurrence. The Pleistocene alluvium in the vicinity of the project site is thus considered to have a high paleontological sensitivity but a low paleontological potential.

No fossils recorded in the UCMP database are from the project site, including its borrow pit in the alluvium. Considering this and the few fossils recovered from Pleistocene alluvium in Santa Clara County, an onsite paleontological survey will not be necessary prior to construction, nor do I recommend paleontological monitoring of excavations of the alluvium. However, should any significant paleontological resources be discovered during project activities, all work is to cease in the vicinity of the find until a professional paleontologist has assessed it for possible salvage and determined if monitoring would be prudent. Any recovered specimens deemed significant should be deposited in an accredited and permanent scientific institution such as the UCMP in order for them to be properly curated and made available for the benefit of current and future generations.

Sincerely,

Ken Terrian

References Cited


Appendix E: Regulatory Framework
REGULATORY FRAMEWORK

Government agencies, including federal, state, and local agencies, have developed laws and regulations designed to protect significant cultural resources that may be affected by projects regulated, funded, or undertaken by the agency. Federal and state laws that govern the preservation of historic and archaeological resources of national, state, regional, and local significance include the National Environmental Policy Act (NEPA), the National Historic Preservation Act (NHPA), and the California Environmental Quality Act (CEQA). In addition, laws specific to work conducted on federal lands includes the Archaeological Resources Protection Act (ARPA), the American Antiquities Act, and the Native American Graves Protection and Repatriation Act (NAGPRA).

The following federal or CEQA criteria were used to evaluate the significance of potential impacts on cultural resources for the proposed project. An impact would be considered significant if it would affect a resource eligible for listing to the National Register of Historic Places (NR), the California Register of Historical Resources (CR), or if it is identified as a unique archaeological resource.

FEDERAL-LEVEL EVALUATIONS

Federal agencies are required to consider the effects of their actions on historic properties and affords the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment on such undertakings under Section 106 of the NHPA. Federal agencies are responsible for initiating NEPA Section 106 review and completing the steps in the process that are outlined in the regulations. They must determine if NHPA Section 106 applies to a given project and, if so, initiate review in consultation with the State Historic Preservation Officer (SHPO) and/or Tribal Historic Preservation Officer (THPO). Federal agencies are also responsible for involving the public and other interested parties. Furthermore, NHPA S106 requires that any federal or federally assisted undertaking, or any undertaking requiring federal licensing or permitting, consider the effect of the action on historic properties listed in or eligible for the NR. Under the Code of Federal Regulations (CFR), 36 CFR Part 800.8, federal agencies are specifically encouraged to coordinate compliance with Section 106 of the NHPA and the NEPA process. The implementing regulations “Protection of Historic Properties” are found in 36 CFR Part 800. Resource eligibility for listing on the NR is detailed in 36 CFR Part 63 and the criteria for resource evaluation are found in 36 CFR Part 60.4 [a-d].

The NHPA established the NR as the official federal list for cultural resources that are considered important for their historical significance at the local, state, or national level. To be determined eligible for listing in the NR, properties must meet specific criteria for historic significance and possess certain levels of integrity of form, location, and setting. The criteria for listing on the NR are significance in American history, architecture, archaeology, engineering, and culture as present in districts, sites, buildings, structures and objects that possess integrity of location, design, setting,
materials, workmanship, feeling, and association. In addition, a resource must meet one or all of these eligibility criteria:

A. Is associated with events that have made a significant contribution to the broad patterns of our history

B. Is associated with the lives of persons significant in our past

C. Embodies the distinctive characteristics of a type, period, or method of construction; represent the work of a master; possess high artistic values, represent a significant and distinguishable entity whose components may lack individual distinction

D. That have yielded, or may be likely to yield, information important in prehistory or history

Criterion D is usually reserved for archaeological resources. Eligible properties must meet at least one of the criteria and exhibit integrity, measured by the degree to which the resource retains its historical properties and conveys its historical character.

Criteria Considerations

Ordinarily cemeteries, birthplaces, graves of historical figures, properties owned by religious institutions or used for religious purposes, buildings that have been moved from their original locations, reconstructed historic buildings, properties primarily commemorative in nature, and properties that have achieved significance within the past 50 years shall not be considered eligible for the NR. However, such properties will qualify if they are integral parts of districts that do meet the criteria or if they fall within the following categories:

A. A religious property deriving primary significance from architectural or artistic distinction or historical importance

B. A building or structure removed from its original location but which is primarily significant for architectural value, or which is the surviving structure most importantly associated with a historic person or event

C. A birthplace or grave of a historical figure of outstanding importance if there is no appropriate site or building associated with his or her productive life

D. A cemetery that derives its primary importance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events

E. A reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other building or structure with the same association has survived
F. A property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own exceptional significance

G. A property achieving significance within the past 50 years if it is of exceptional importance

**THRESHOLDS OF SIGNIFICANCE**

In consultation with the SHPO/THPO and other entities that attach religious and cultural significance to identified historic properties, the federal lead agency shall apply the criteria of adverse effect to historic properties within the Area of Potential Effect (APE). The agency official shall consider the views of consulting parties and the public when considering adverse effects.

**Federal Criteria of Adverse Effects**

Under federal regulations, 36 Code of Federal Regulations (CFR) Part 800.5, an adverse effect is found when an undertaking alters, directly or indirectly, any of the characteristics of a historic property that qualifies the property for inclusion in the NR in a manner that diminishes the integrity of the property’s location, design, setting, materials, workmanship, feeling, or association.

Consideration will be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property’s eligibility for listing in the NR. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance, or be cumulative.

Pursuant to 36 CFR Part 800.5, adverse effects on historic properties include, but are not limited to, those listed below:

- Physical destruction of or damage to all or part of the property
- Alteration of a property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation, and provision of handicapped access, that is not consistent with the U.S. Secretary of the Interior’s Standards for the Treatment of Historic Properties in accordance with 36 CFR Part 68 and applicable guidelines
- Removal of the property from its historic location
- Change of the character of the property’s use or of physical features within the property’s setting that contribute to its historic significance
- Introduction of visual, atmospheric, or audible elements that diminish the integrity of the property’s significant historic features
- Neglect of a property that causes its deterioration, except where such neglect and deterioration are recognized qualities of a property of religious and cultural significance to an Indian tribe or Native Hawaiian organization
• Transfer, lease, or sale of property out of federal ownership or control without adequate and
legally enforceable restrictions or conditions to ensure long term preservation of the property’s
historic significance

If Adverse Effects Are Found

If adverse effects are found, the agency official shall continue consultation as stipulated at 36 CFR
Part 800.6. The agency official shall consult with the SHPO/THPO and other consulting parties to
develop alternatives to the undertaking that could avoid, minimize, or mitigate adverse effects to
historic resources. Pursuant to 36 CFR Part 800.14(d), if adverse effects cannot be avoided then
standard treatments established by the ACHP maybe used as a basis for Memorandum of Agreement
(MOA).

Pursuant to 36 CFR Part 800.11(e) the filing of an approved MOA, and appropriate documentation as
specified, concludes the Section 106 process. The MOA must be signed by all consulting parties and
approved by the ACHP prior to construction activities. If no adverse affects are found and the
SHPO/THPO or the ACHP do not object within 30 days of receipt, the agencies responsibilities under
Section 106 will be satisfied upon completion of report and documentation as stipulated in 36 CFR
Part 800.11. The information must be made available for public review upon request, excluding
information covered by confidentiality provisions.

STATE-LEVEL EVALUATION PROCESSES

An archaeological site may be considered a historical resource if it is significant in the architectural,
engineering, scientific, economic, agricultural, educational, social, political, military or cultural
annals of California in accordance with Public Resources Code PRC Section 5020.1(j) or if it meets
the criteria for listing on the CR that are consistent with California Code of Regulations (CCR) at
Title 14 CCR Section 4850.

The most recent amendments to the CEQA guidelines direct lead agencies to first evaluate an
archaeological site to determine if it meets the criteria for listing in the CR. If an archaeological site
is a historical resource, in that it is listed or eligible for listing in the CR, potential adverse impacts to
it must be considered, in accordance with PRC Sections 21084.1 and 21083.2(l). If an archaeological
site is considered not to be a historical resource, but meets the definition of a “unique archeological
resource” as defined in PRC Section 21083.2, then it would be treated in accordance with the
provisions of that section.

With reference to PRC Section 21083.2, each site found within a project will be evaluated to
determine if it is a unique archaeological resource. A unique archaeological resource is described as
an archaeological artifact, object, or site about which it can be clearly demonstrated that, without
merely adding to the current body of knowledge, there is a high probability that it meets one or more of the following criteria:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information

2. Has a special and particular quality such as being the oldest of its type or the best available example of its type

3. Is directly associated with a scientifically recognized important prehistoric or historic event or person

As used in this report, “non-unique archaeological resource” means an archaeological artifact, object, or site that does not meet the criteria for eligibility for listing on the CR, as noted in subdivision (g) of PRC Section 21083.2. A non-unique archaeological resource requires no further consideration, other than simple recording of its components and features. Isolated artifacts are typically considered non-unique archaeological resources. Historic structures that have had their superstructures demolished or removed can be considered historic archaeological sites and are evaluated following the processes used for prehistoric sites. Finally, OHP recognizes an age threshold of 45 years. Cultural resources built less than 45 years ago may qualify for consideration, but only under the most extraordinary circumstances.

Title 14, CCR, Chapter 3 Section 15064.5 is associated with determining the significance of impacts to archaeological and historical resources. Here, the term historical resource includes the following:

1. A resource listed in, or determined eligible by the State Historical Resources Commission, for listing in the CR (PRC Section 5024.1; Title 14 CCR, Section 4850, et seq.).

2. A resource included in a local register of historical resources, as defined in PRC Section 5020.1(k) or identified as significant in an historical resource survey meeting the PRC Section 5024.1(g) requirements, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.

3. Any object, building, structure, site, area, place, record, or manuscript, which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered an historical resource, provided the lead agency’s determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be historically significant if the resource meets the criteria for listing on the California Register of Historical Resources (PRC Section 5024.1; Title 14 CCR Section 4852) including the following:
A. Is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage

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

C. 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

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

Typically, archaeological sites exhibiting significant features qualify for the CR under Criterion D because such features have information important to the prehistory of California. A lead agency may determine that a resource may be a historical resource as defined in PRC Section 5020.1(j) or 5024.1 even if it is:

- Not listed in or determined to be eligible for listing in the CR
- Not included in a local register of historical resources pursuant to PRC Section 5020.1(k)
- Identified in an historical resources survey in accordance with PRC Section 5024.1(g)

**Threshold of Significance**

If a project will have a significant impact on a cultural resource, several steps must be taken to determine if the cultural resource is a “unique archaeological resource” under CEQA. If analysis and/or testing determine that the resource is a unique archaeological resource and therefore subject to mitigation prior to development, a threshold of significance should be developed. The threshold of significance is a point where the qualities of significance are defined and the resource is determined to be unique under CEQA. A significant impact is regarded as the physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the resource will be reduced to a point that it no longer meets the significance criteria. Should analysis indicate that project development will destroy the unique elements of a resource; the impacts to the resource must be mitigated for under CEQA regulations. The preferred form of mitigation is to preserve the resource in-place, in an undisturbed state. However, as that is not always possible or feasible, appropriate mitigation measures may include, but are not limited to:

1. Planning construction to avoid the resource
2. Deeding conservation easements
3. Capping the site prior to construction

If a resource is determined to be a “non-unique archaeological resource,” no further consideration of the resource by the lead agency is necessary.
SB 18 TRIBAL CONSULTATION

The following serves as an overview of the procedures and timeframes for the Tribal Consultation process, for the complete Tribal Consultation Guidelines, please refer to the State of California Office of Planning and Research website.

Prior to the amendment or adoption of general or specific plans, local governments must notify the appropriate tribes of the opportunity to conduct consultation for the purpose of preserving or mitigating impacts to cultural places located on land within the local government’s jurisdiction that is affected by the plan adoption or amendment. Tribal contacts for this list are maintained by the NAHC, which is distinct from the Most Likely Descendent (MLD) list. It is suggested that local governments send written notice by certified mail with return receipt requested. The tribes have 90 days from the date they receive notification to request consultation. In addition, prior to adoption or amendment of a general or specific plan, local government must refer the proposed action to tribes on the NAHC list that have traditional lands located within the city or county’s jurisdiction. Notice must be sent regardless of prior consultation. The referral must allow a 45-day comment period.

In brief, notices from government to the tribes should include:

- A clear statement of purpose
- A description of the proposed General or Specific Plan, or amendment, the reason for the proposal, and the specific geographic areas affected
- Detailed maps to accompany the description
- Deadline date for the tribes to respond
- Government representative(s) contact information
- Contact information for project proponent/applicant, if applicable

The basic schedule for this process is:

- 30 days - time NAHC has to provide tribal contact information to the local government; this is recommended not mandatory.
- 90 days - time tribe has to respond indicating whether they want to consult. Note: tribes can agree to a shorter timeframe. In addition, consultation does not begin until/unless requested by the tribe within 90 days of receiving notice of the opportunity to consult. The consultation period, if requested, is open-ended. The tribes and local governments can discuss issues for as long as necessary, or productive, and need not result in agreement.
• 45 days - time local government has to refer proposed action, such as adoption or amendment to General Plan or Specific Plan, to agencies, including the tribes. Referral required even if there has been prior consultation. This opens the 45-day comment period.

• 10 days - time local government has to provide tribes of notice of public hearing.
Appendix F: Personnel Qualification
Carrie D. Wills, RPA, M.A.
Senior Project Archaeologist

Overview

- 17 Years Experience
- Master’s degree, Anthropology – California State University, Hayward
- Bachelor’s degree, Anthropology – California State University, Hayward
- Registered Professional Archaeologist #11138

Carrie Wills, RPA, possesses 17 years of experience in the area of prehistoric and historic archaeology. Her expertise includes conducting pre-field assessments, archival research, pedestrian field surveys, site evaluation and testing, and data recovery and analysis. She has extensive experience preparing documents that comply with the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) and evaluating and assessing historic structures located on mining, ranching, and military facilities for inclusion on the National Register of Historic Places and California Register of Historical Resources.

Related Experience

Historical, Archaeological, and Paleontological Resources

KB Home Monte Vista, Historic American Buildings Survey, City of San Jose. Served as project manager for the KB Home Monte Vista Project. Conducted Historic American Buildings Survey Level III documentation for a large multi-structure canning facility, Del Monte Plant #3, in San Jose. Tasks included producing over 200 large-format, black and white photographs of exterior and interior views of the existing structures. The MBA historic report augments the photographic documentation by placing the structures within the appropriate historic context and addressing both the architectural and historical aspects of the site’s significance. Specifically, the historical report focused on the Plant’s contribution to the growth of the canning industry in San José. The plant was also assessed for historic significance and was found to meet the criteria for listing on the National Register of Historic Places as a District along with two other local Del Monte canneries. MBA coordinated with state, federal, and city agencies, including but not limited to City of San Jose Department of Planning and the National Park Service HABS/Historic American Engineering Record coordinator.

Costco’s Warehouse Project, City of San Francisco. Served as project manager for Costco’s Warehouse Project. Surveyed, excavated, and monitored the proposed site, located in downtown San Francisco, for a new Costco store. Supervised lab procedures and analysis of over 1,400 artifacts.

Montezuma Wetlands Project, County of Solano. Served as project manager for Solano County’s Montezuma Wetlands Project. Provided technical direction of a 4,700-acre archaeological survey in Solano County, resulting in recording and subsurface testing of 12 sites. Co-authored the technical report that included extensive impacts and mitigation measures.

Lake Solano Regional Park Visitor’s Center Project, County of Solano. As project archaeologist, conducted a cultural resource investigation that included record search reviews and a pedestrian field survey. The record searches included records at the Northwest Information Center, Rohnert Park, and at the Native American Heritage Commission in Sacramento.

Off-road Vehicle Park, City of Bakersfield. As senior project archaeologist, conducted an intensive field survey of 2,500 acres outside the City of Bakersfield. The project area included rolling hills, large flat valleys, and steep ravines. The survey resulted in discovery of over 150 prehistoric resources including bedrock mortars,
grinding slicks, and rock art. The resources were recorded and evaluated for eligibility for listing on the National Register of Historic Places and the California Register of Historical Resources. Following the evaluation, a comprehensive report detailing the findings was produced.

**Bel Lago Project, City of Moreno Valley.** As senior project archaeologist, conducted a site-specific field assessment of the Kerr Ranch and recorded all extant buildings and structures on Department of Parks and Recreation forms; both Primary and Building, Structure and Object forms. Detailed descriptions and measurements were taken as part of the assessment process, and each building and structure was evaluated individually for listing to the California Register of Historical Places or local registers or landmarks.

**Westlake Shopping Center, City of Daly City.** As senior project archaeologist for this major refurbishing effort for a shopping center located in Daly City, assessed the shopping center for historic significance under CEQA Section 15064 by reviewing historic maps, photos, and record and archival search results obtained from the Northwest Information Center and the Daly City Planning Department. Scope included conducting a visual appraisal of the existing buildings, structures, and signage.

**San Demas Project, City of Sacramento.** As senior project archaeologist, conducted a record search and field investigation for a built environment covering one city block in downtown Sacramento. As this was a built environment, there was no native ground surface to be surveyed; the investigation consisted of comprehensive research to determine the possibility of historic structures.

**Cabrillo Corners Commercial Project, City of Half Moon Bay.** As cultural resources specialist, conducted a record search at the Northwest Information Center and a pedestrian field survey of the proposed project area that borders Pilarcitos Creek in Half Moon Bay to determine the presence or absence of cultural resources prior to project development.

**Gustine Municipal Airport Project, County of Merced.** As senior project archaeologist, conducted a record search and pedestrian field survey of a 45-acre parcel located in Merced County to determine the presence or absence of cultural resources prior to improvements to the Airport.

**Scheiber/White Projects, County of El Dorado.** As senior project archaeologist, conducted record searches and field investigations for a 226-acre parcel and a 286-acre parcel of undeveloped land with gentle to steep rolling hills and open valleys.

**Protzel Project, County of El Dorado.** As senior project archaeologist, conducted a record search and field investigation for a 35-acre parcel of land. The field survey resulted in discovery of a site that contained both prehistoric and historic components located adjacent to one another.

**Miller Ranch Property, City of Lincoln.** As senior project archaeologist for this 130-acre residential development, reviewed record search results from the North Central Information Center, Sacramento and conducted a pedestrian field survey. The record search results indicated no cultural resources had been previously recorded within a 0.25-mile radius of the project area nor were any discovered during the field survey. A negative survey report was prepared detailing the record search and survey results to meet CEQA requirements.

**Fahren’s Creek Development Project, County of Merced.** As senior project archaeologist, conducted a record search and field investigation on a parcel of undeveloped land, a portion of which was immediately adjacent to Fahren’s Creek.
McBride R.V. and Self Storage Project, City of Chino. As senior project archaeologist, conducted a record search and pedestrian field survey of a 21.15-acre parcel of land to determine the presence or absence of cultural resources prior to project development. Prepared a negative survey report detailing the record search and survey results to meet CEQA requirements.

Brehm Communities, City of Chino. As senior project archaeologist for this 35-acre residential development, conducted a record search at the San Bernardino Archaeological Information Center and a modified field survey. Performed a visual assessment from various vantage points rather than a typical pedestrian survey and prepared a negative survey report detailing the record search and survey results to meet CEQA requirements.

Albers Barnes & Kohler LLP’s Palm Ranch Dairy Project, County of Kern. As senior project archaeologist, was responsible for CEQA compliance issues related to cultural resources on a 120-acre parcel. Conducted a Phase I survey to determine the presence or absence of cultural resources within the project area, resulting in the discovery of artifactual material on the ground surface. Conducted a Phase II testing program to determine the presence or absence of subsurface cultural resources, resulting in inconclusive findings. Provided mitigation measures to protect any previously undiscovered resources during project excavation activities.

Albers Barnes & Kohler LLP’s Bonanza Farm Dairy Project, County of Kern. As cultural resources specialist, conducted a record search and pedestrian field survey of two 200-acre parcels to determine the presence or absence of cultural resources prior to project development. Prepared a negative survey report detailing the record search and survey results to meet CEQA requirements.

Cypress Lakes Project, County of Contra Costa. As project manager, performed archival and records review, subsurface testing, and technical direction of an 850-acre archaeological survey that included two well-known and significant prehistoric burial mounds.

Mills Associates’ Tassajara Valley Project, County of Solano. As project manager, provided technical direction of a 2,500-acre archaeological survey that resulted in recording and subsurface testing of 14 historic and one prehistoric archaeological site. Analyzed artifacts and prepared technical reports.

Future Urban Areas, Mundie and Associates, County of Contra Costa. As field director, conducted a 4,500-acre archaeological survey that resulted in recording of 11 historic archaeological sites, including the previously unrecorded historic town sites of West Hartley, Empire, and Star Mine associated with the Mount Diablo coalfield developments of 1850-1885. Recorded features including foundations, privies, cisterns, basements, and dumps. Hundreds of surface artifacts were examined. Also directed artifact analysis and prepared technical reports.

Energy, Utilities & Pipelines

Santa Cruz Water District’s Pipeline Project, County of Santa Cruz. Served as resource team leader for this project that proposed modifications to the current operation and maintenance of an existing pipeline through implementation of the Santa Cruz North Coast Pipeline Rehabilitation Project. Reviewed compliance issues related to cultural resources found along four major waterways in Santa Cruz County and prepared a CEQA Initial Study to determine environmental impact associated with project implementation. Also provided necessary details to aid in the decision-making process for the project’s next phase.

Federal Energy Regulatory Commission (FERC) Relicensing Project, County of Kern. As resource team leader, reviewed cultural resources to meet the requirements of Section 106 of the National Historic Preservation Act in preparation of a new FERC license application. Directed the Section 106 review and
prepared the preliminary draft of the license application, evaluated project impacts, and authored the Historic Properties Management Plan and a Programmatic Agreement.

**Federal Energy Regulatory Commission (FERC) Relicensing Project, Kilarc-Cow Creek.** As resource team leader, provided NHPA Section 106 compliance review in preparation of a new FERC license application. Following the survey effort, prepared the preliminary draft of the license application, evaluated the project impacts, prepared a comprehensive report, and finalized the Historic Properties Management Plan and a Programmatic Agreement.

**Calypso Project Environmental Impact Statement, Fort Lauderdale, Florida.** Served as resource team leader for Tractebel North America, Inc.’s Calypso Project Environmental Impact Statement (EIS) for a new natural gas pipeline extending from the Exclusive Economic Zone in the Atlantic Ocean to Port Everglades. Conducted the NHPA Section 106 review of both offshore and onshore cultural resources and prepared the preliminary drafts of the third-party EIS for the jurisdictional portion of the pipeline.

**Rock Creek Hydroelectric Project, Oregon.** Served as project archaeologist for Oregon Trail Electric Consumer Cooperative’s Rock Creek Hydroelectric Project. Conducted a reconnaissance survey and evaluation of archaeological and historic resources to meet the requirements of NHPA Section 106.

**Patriot Natural Gas Pipeline Project, Tennessee, Virginia, and North Carolina.** Served as resource team leader for a project consisting of the Mainline Expansion and Patriot Extension three states. The Mainline Expansion involved improvement along East Tennessee Natural Gas Company’s existing pipeline in Tennessee and Virginia, including approximately 187 miles of new pipeline, replacement of old pipeline, additional compression at existing facilities, and five new compressor stations. The Patriot Extension involves approximately 100 miles of new pipeline in Virginia and North Carolina, including three new meter stations. Provided third-party review of cultural resources reports and prepared third-party EIS.

**Northwest Transmission Line Project, Oregon and Washington.** Served as project archaeologist for Wallula Generation, LLC’s Northwest Transmission Line Project. Conducted a 28-mile reconnaissance survey in Oregon and Washington along the Columbia River, evaluated and recorded archaeological sites, and completed appropriate forms for submittal to Washington

**El Paso Energy’s and Broadwing Communications’ Fiber Optic Line, Texas and California.** Served as resource team leader for a proposed fiber-optic transmission line reaching from El Paso, Texas, to Los Angeles, California. Prepared a Proponent’s Environmental Assessment demonstrating CEQA compliance that was submitted with an application to the California Public Utilities Commission.

**Fiber Optic Project, Cities of San Jose, San Francisco, and Los Angeles.** Served as project manager for a Level Three Communications Fiber Optic Project. Conducted cultural resources studies and supervised construction monitoring to address CPUC mitigation measures during the “city build” portions of the project in San Jose, San Francisco, and the Los Angeles Basin. Prepared workbooks for each construction spread in each city to address potential cultural resources impacts and necessary mitigation required to preclude significant impacts.

**Fiber Network Project, Northern and Southern California.** Served as project manager for 360 Networks’ Fiber Network Project. Responsible for all aspects of project management for this linear project spanning the length of California, including coordination, budget, consultation, and compliance issues.

**Santa Fe Pacific Pipeline, State of California.** As field supervisor for Santa Fe Pacific Pipeline’s Concord-to-Colton Project, performed records search and intensive archaeological survey of a corridor stretching from
Fresno, through Bakersfield and Mojave, to San Bernardino. Recorded and evaluated for eligibility for listing on National Register of Historic Places more than 150 historic properties.

**CPUC Alturas Transmission Line Project, California and Nevada.** As archaeological monitor, documented compliance with mandated mitigation measures during the construction of this high-voltage power line reaching from Alturas, California, to Reno, Nevada.

**Environmental Impact Reports for General Plan Updates**

**General Plan Update, County of Monterey.** As senior project archaeologist, assisted in updating the General Plan with new policies including archaeological, historical, and paleontological resources. Tasks included a review of existing policies and suggestions for alternatives and updates relevant to current trends. Worked closely with Monterey County staff, agency personnel, and sub-consultants to ensure a high quality, timely Plan Update.

**Trails Specific Plan Project, City of Livermore.** As senior project archaeologist, conducted archival and record searches, including review of the 2000 North Livermore Specific Plan Draft Environmental Impact Report and the 2003 City of Livermore General Plan Update Master Environmental Assessment that specifically focuses on cultural resources within the proposed project area. Conducted a 235-acre pedestrian survey to determine the significance of previously recorded cultural resources and the presence or absence of previously unknown cultural resources, resulting in the recording of five historic resources using California Department of Parks and Recreation forms with context analysis and detailed maps. Prepared a comprehensive report including a detailed setting section with impacts and mitigation measures to ensure protection of significant cultural resources.

**Educational Facility Environmental Analysis**

**Delta View and Kit Carson Schools Project, Kings County Office of Education.** As senior project archaeologist, conducted archaeological and historical resource assessment at two proposed telecommunication tower sites located at two school sites. Conducted a record search at the Southern San Joaquin Valley Information Center and pedestrian surveys at both schools to determine the presence or absence of cultural resources. Determined negative survey results, and prepared a report detailing the record search and survey results that was presented to the Kings County Office of Education.

**Mine Reclamation Plans and Environmental Analysis**

**Abandoned Mine Inventory Project, Washington Bureau of Land Management.** As project manager, managed a five-person survey crew who conducted an intensive archaeological survey of 1,700 acres of difficult terrain and conditions in the City of Spokane. Recorded mining features and archaeological properties on appropriate State of Washington forms and prepared Determination of Eligibility forms for submittal to Washington’s State Historic Preservation Officer.

**High Desert Power Plant Project, County of San Bernardino.** As project manager, conducted an approximately 2,000-acre field inventory of block and linear project areas located near the City of Victorville. Recorded and evaluated more than 30 historic and prehistoric sites.

**Military Projects**

**Cultural Resources Overview Project, Concord Naval Weapons Station.** As project manager, tasks included review of archival records and record search results for previously recorded sites within the Station. In addition, more than 500 World War II buildings and structures were evaluated for National Register of Historical Places eligibility and documented on appropriate Department of Parks and Recreation forms. An archaeological site
prediction model was developed to determine the likelihood of the presence of cultural resources within specific areas of the Station. An extensive context document was prepared to facilitate a comprehensive understanding of the Naval Weapons Station in terms of its historic presence within Contra Costa County and the City of Concord. Following assessment of the Station and its historic components, a Cultural Resource Overview Report for the 13,000-acre facility was developed.

**NAVFAC Centerville Beach and Point Sur Projects, Humboldt and Monterey Counties.** As project archaeologist, responsibilities included reviewing archival and site records prior to pedestrian field surveys at each of the locations. Following the surveys, documentation on Department of Parks and Recreation forms was prepared for each of the World War II buildings/structures located within the Station boundaries. Subsequent efforts included development and submittal of a historic context report and structural assessments of the buildings to determine National Register of Historic Places eligibility status. Prepared a preliminary Historic and Archeological Resource Protection Plan evaluating known archaeological site locations and preparing maps depicting areas of archaeological sensitivity.

**Civil Engineering Laboratory Archaeological and Historic Resources Assessment Project, Port Hueneme.** As project manager, scope included reviewing archival records and historic Port Hueneme documents at the base, reviewing previously recorded sites records from the South Central Coastal Information Center, CSU, Fullerton, and researching at Ventura Historical Society. Architectural documentation was prepared for nine World War II buildings on appropriate Department of Parks and Recreation forms and a single prehistoric site located within the base was assessed. A historic context report was developed and each of the buildings/structures was individually evaluated for National Register of Historic Places eligibility. Following assessment and documentation, an EIR/EIS technical report including a detailed historic setting, an overview of each of the types of buildings within the project area, an impacts assessment section, and appropriate mitigation for the impacts was prepared.

**Navy Construction Battalion Center Historic and Archaeological Resources Protection Plan Project, Port Hueneme.** As project manager, tasks included archival research of Battalion Center documents a record search review at the South Central Coastal Information Center, CSU, Fullerton, and a pedestrian field survey. Subsequent to the archival research, architectural documentation of 130 World War II buildings/structures was completed on appropriate Department of Parks and Recreation (DPR) forms. The forms typically included DPR Primary forms for each building or structure although in some instances, e.g., for large non-descript warehouse structures, a representative building was documented and identical buildings were listed on the form as having identical attributes. In addition to the Primary forms, a Building, Structure, Object (BSO) form providing additional descriptive and evaluative information was completed when appropriate. Following the archival research for previously recorded cultural resource sites and the field survey, an archaeological site prediction model was developed for the Battalion Center. Following documentation, a historic context for the Battalion Center was prepared. In addition, each building was assessed for National Register of Historic Places (NRHP) eligibility and a Historic and Archaeological Resources Protection (HARP) Plan was prepared.

**H Street Extension Project, Lockheed Missiles and Space Company Property.** The project consisted of an extension of H Street within the western portion of the Lockheed Missiles and Space Company facilities. Archaeological efforts were part of mitigation for construction within a National Register listed prehistoric shell mound. As project archaeologist, the work included pre-construction site testing using various means including shovel and backhoe investigations, surface collection for the entire project area, and a Phase III data recovery program in coordination with the Most Likely Descendant (MLD). Disposition of human remains found within the site was decided upon an agreement with the MLD. A construction-monitoring program was conducted during initial grading activities at the site to ensure protection of previously unknown cultural resources and/or additional human remains.
Naval Fuel Depot Point Molate Historic Resources Assessment Project, City of Rohnert Park. As project manager, conducted an archival records review at various repositories as well as a record search at the Northwest Information Center in Rohnert Park for previously recorded cultural resource sites. Conducted a field survey and general site reconnaissance of the project area. Subsequent to the archival research and survey, documentation of ten World War II buildings/structures was completed on appropriate Department of Parks and Recreation forms. The buildings and structures were evaluated for eligibility for listing on the National Register of Historic Places. In addition, one prehistoric archaeological site was assessed within the project area. A preliminary Historic and Archeological Resource Protection Plan was prepared evaluating known archaeological site locations with maps depicting areas of archaeological sensitivity. A historic context was prepared for the project area and a technical report detailing all of the research, field survey, building and structure evaluations, and the assessment of the prehistoric site was provided to the client.

Maya Caves Project, Punta Gorda, Belize, Central America. As excavation team member, worked two field seasons examining prehistoric cave deposits. Conducted surveys and excavations, analyzed and cataloged artifacts, and prepared technical report sections.

Professional Affiliations

- Society for Historical Archaeology
- Society for California Archaeology
- Register of Professional Archaeologists
Overview

Kathleen Crawford has over 26 years of experience in the preparation of a wide range of historical and architectural projects. She meets the Secretary of the Interior Standards for Architectural History and History (36 CFR Part 61). She has extensive experience with 19th- and 20th-century architecture in California and has prepared over 12,000 historic and architectural assessments of structures in California for a variety of historical projects conducted for various types of city, state, and federal agencies. The majority of these projects required compliance with Section 106 of the National Historic Preservation Act. Ms. Crawford has extensive experience in the implementation of Section 106 in reference to historic buildings from all historic periods and architectural styles. The vast majority of these projects required preparation of California Department of Parks and Recreation (DPR) 523 forms for submittal to the State Historic Preservation Office. She has prepared several Historic American Building Survey (HABS) surveys and documentation over the years and has worked with the Secretary of the Interior’s Standards for the Treatment of Historic Properties in the course of the historic and architectural evaluations. In addition, Ms. Crawford has participated in the production of numerous cultural resources reports and assessments, environmental impact reports, and historic building surveys of potential historic districts in California, Arizona, and Kentucky. She has been a Lecturer in the History Department at San Diego State University since 1989, and her extensive teaching experience in U.S. History has aided her understanding of the historical assessment and evaluation process.

HISTORIC AND HISTORIC ARCHITECTURAL WORK EXPERIENCE

Sole proprietor of historical projects consulting service with clients including:

Michael Brandman and Associates, Irvine, California. 2001–Present

Ms. Crawford meets the Secretary of the Interior’s Standards as an Architectural Historian and has prepared over 750 Section 106 Compliance Reports for Historical and Architectural Assessments for Cell Tower sites in California, Nevada, Arizona, and New Mexico. All projects required Section 106 compliance level assessments and preparation of DPR 523 forms for the project sites and submittal to the State Historic Preservation Office for concurrence with the findings of effect. Clients include AT&T, T-Mobile, Verizon, Cingular. Assessments include 19th- to 20th-century historic buildings (civic, hospitals, private residences, businesses, churches, schools), cemeteries, structures, telephone poles, water tanks, and steel lattice towers. Over 75 of the projects have taken place in Northern California in Alameda, San Francisco, Sacramento, and San Jose counties.

Selected projects include:


HABS Survey of Niven Nursery, Larkspur. Preparation of Historic American Building Survey (HABS) documentation of circa 1940s Niven Nursery, Larkspur, California, July 2011

Leamington Hotel, Oakland. Preparation of Historic and Architectural Assessment of circa 1920s National Register-eligible hotel in downtown Oakland – July 2010

East Bay Alliance Chinese Church, Oakland. Preparation of Historic and Architectural Assessment of circa 1940s church complex – September 2010

Piedmont Apartments, Oakland. Historic and Architectural Assessment of circa 1930s apartment complex, Oakland – December 2010

Oakland Coliseum, Oakland. Preparation of Historic and Architectural Assessment of circa 1960s sports stadium – May 2010

Sheraton Palace Hotel, San Francisco. Preparation of Historic and Architectural Assessment of circa 1900 National Register-listed landmark historic hotel for cell tower construction, November 2010

University of San Jose Stadium, San Jose. Preparation of Historic and Architectural Assessment of circa 1950s sports stadium – July 2010

University of Santa Clara, Swig Hall, San Jose. Preparation of Historic and Architectural Assessment of circa 1960s residence hall – May 2010

Swedish American Hall, San Francisco. Preparation of Historic and Architectural Assessment of circa 1890s National Register-eligible building for proposed cell tower placement – May 2010

Seton Medical Center, San Francisco. Preparation of Historic and Architectural Assessment of circa 1950s Seton Medical Center for cell tower construction – August 2010

United Pipe Foundry, Union City. Historic and Architectural Assessment of circa 1930s historic water tank on historic foundry property – August 2010

Palo Alto Apartment Complex, Palo Alto. Historic and Architectural Assessment of circa 1950s apartment complex – October 2010

Petaluma Hotel, Petaluma. Historic and Architectural Assessment of circa 1920s hotel in National Register-listed historic downtown business district – May 2011

Paramount Studios, Los Angeles. Preparation of Historic and Architectural Assessment of several buildings on Paramount Studios lot that dated to earliest development of the Paramount Studios Corporation in the 1920s – April 2010

St. Mary’s Hospital, Tucson, Arizona. Historic and Architectural Assessment of circa 1930s hospital in Tucson – July 2011

Historic Hotel, Elko, Nevada. Preparation of Historic and Architectural Assessment of circa 1930s hotel in Elko, Nevada – October 2010

Sunwest Building, Roswell, New Mexico. Preparation of Historic and Architectural Assessment of potentially circa 1950s National Register-eligible building in Roswell, New Mexico – December 2010

KP Environmental LLC, Tempe, Arizona and Carlsbad, California. 2011

Borrego Springs, California. Preparation of Cultural Resources Report for CA-SDI-20016 and Historic Assessment of former circa 1940s DiGiorgio Fruit Corporation property in Borrego Springs, California for County of San Diego – October 2011

Hell, California. Preparation of Cultural Resources Report and Historic Assessment of Hell, California for historic documentation of circa 1950s P-33-18794 archaeological site for County of Riverside – September 2011
C&S Environmental Services. 1999–2007

**Federal Aviation Administration, Quieter Home Program.** Historical and Architectural Assessment of approximately 1,000 circa 1910–1960 historic homes in Point Loma and San Diego for sound retrofitting program conducted by the Federal Aviation Administration. State of California DPR 523 forms were prepared for each property for submittal to City of San Diego Planning Department and San Diego Historical Resources Board.

**Ogden Environmental and Energy Services, Inc.**

- **1990–1997, Senior Historian**
- **1997–2001, Historical Consultant**

Responsible for all phases of research, analysis and preparation of cultural resources reports, environmental impact reports, and historic building surveys for compliance with federal, state, and local agencies and regulations. Section 106 compliance assessments were conducted for all properties and preparation of DPR 523 forms were completed for all properties. Selected projects included:

**San Diego Naval Training Center** – Preparation of National Register nomination for property including approximately 400 buildings

**Chollas Heights Radio Station** – Preparation of Historic American Buildings Survey for radio station for approximately 100 buildings

**Seal Beach Naval Weapons Station** – Preparation of Historical and Architectural Assessment of properties including approximately 300 buildings

**Long Beach Naval Station and Shipyard** – Preparation of Historical and Architectural Assessment of properties including approximately 750 buildings

**Marine Corps Air Station, Camp Pendleton** – Preparation of History of Air Station

**Hickam Air Force Base, Hawaii** – Preparation of History of Air Base

**Naval Air Station, Guam** – Preparation of Base Closure Documentation for approximately 150 structures

**San Diego Naval Air Station, Coronado** – Preparation of Historical and Architectural Assessment of selected air base facilities

**Naval Air Station, El Centro** – Preparation of Historical and Architectural Assessment of air base properties, including approximately 100 buildings

**San Diego Naval Station, 32nd Street** – Preparation of Historical and Architectural Assessment of properties including approximately 350 buildings

**Caltrans** – Preparation of Historical and Architectural Assessments for approximately 200 properties in San Diego and Riverside counties

**Kentucky Department of Transportation (KDOT)** – Preparation of Historical and Architectural Assessments of approximately 100 properties in Louisville, Kentucky

**Miramar Naval Air Station** – Preparation of Historical and Architectural Assessment of properties including approximately 250 buildings

**Marie Burke Lia, Attorney at Law, San Diego, California. 1988–Present**

Preparation of Historical and Architectural Assessments for over 800 circa 1880–1965 properties in San Diego, La Jolla, and County of San Diego. These projects required preparation of historic and architectural
assessments, preparation of DPR 523 forms, and final reports for submittal to City of San Diego Planning Department and San Diego Historic Resources Board.

Scott Moomjian, Attorney at Law, San Diego, California. 1993–Present
Preparation of Historical and Architectural Assessments for over one hundred circa 1880–1965 properties in San Diego, La Jolla, and County of San Diego. These projects required preparation of historic and architectural assessments, preparation of DPR 523 forms, and final reports for submittal to City of San Diego Planning Department and San Diego Historic Resources Board.

Archaeos, Incirca, San Diego, California. 1999–2009
Preparation of Historical and Architectural Assessments of properties in San Diego, Chula Vista, Orange County, and Riverside County dating from 1900–1960. These projects required preparation of historic and architectural assessments, preparation of DPR 523 forms, and final reports for submittal to City of San Diego Planning Department and San Diego Historic Resources Board.

Wright and L’Estrange, Robert Wright, Attorney at Law, San Diego, California. 2004–2008
Preparation of Historical and Architectural Assessments for properties in San Diego County. These projects required preparation of historic and architectural assessments, preparation of DPR 523 forms, and final reports for submittal to City of San Diego Planning Department and San Diego Historic Resources Board.

Matthew Peterson, Attorney at Law, San Diego, California. 2003–2004
Preparation of Historical and Architectural Assessments for properties in San Diego County. These projects required preparation of historic and architectural assessments, preparation of DPR 523 forms, and final reports for submittal to City of San Diego Planning Department and San Diego Historic Resources Board.

Island Architects, La Jolla, California. 2004
Preparation of Historical and Architectural Assessments for properties in San Diego County. These projects required preparation of historic and architectural assessments, preparation of DPR 523 forms, and final reports for submittal to City of San Diego Planning Department and San Diego Historic Resources Board.

Preparation of Historical and Architectural Assessments for Properties in San Diego; Historical assistance with Naval Training Center Historic District issues.

County of San Diego, San Diego, California. 1990
Preparation of Historic Survey of Sweetwater/Bonita area for over 300 properties. These projects required preparation of historic and architectural assessments, preparation of DPR 523 forms, and final reports for submittal to County of San Diego Planning Department and San Diego Historic Resources Board.

Jennings, Engstrand and Henrickson law firm, San Diego, California. 1986
Preparation of research for San Diego County water rights case for successful presentation to U.S. Supreme Court.
MUSEUM EXPERIENCE:

Women’s Museum of California, San Diego, California. 2011

**Historical Consultant.** Preparation of Research and Exhibit Panels for 1911–2011 Women’s Suffrage Exhibit

Coronado Historical Association, Coronado, California. 2009–2010

**Historical and Architectural Consultant** conducting research for:
- 2009–2010 Annual Historic Home Tours
- “Wings of Gold, 100 Years of Naval Aviation” exhibit
- “Coronado We Remember” exhibit, 2009–2010.

Coronado Historical Association, Coronado, California. 2010

**Interim Registrar and Archivist**

La Jolla Historical Society, La Jolla, California. 2006

**Archivist** for historical collection


**Assistant Education Coordinator.** Responsible for all phases of Education Department activities including teaching anthropology courses, preparation of newsletter, lecture and film series, trips, and overall programs for museum visitors.


**Assistant Curator of Collections.** Responsible for all phases of collection management and administration, research and exhibition for 20,000+ piece collection of San Diego history displayed in four local museums; supervision and management of Facade Easement Program for donation of historic building facades to Society; served as Museum Registrar, which included documentation and management of all curatorial files, archival materials, object documentation, photograph collection, and art collection; supervision of volunteer program, student interns, and preparation of visitor materials and tours.

TEACHING EXPERIENCE:

**History, Anthropology and Political Science Lecturer.** 1987–Present

San Diego State University – 1989–Present
- Early/Modern World History
- Early/Modern U.S. History
- Early/Modern Latin American History
- Early/Modern Western Civilization

University of San Diego – 1987–2006
- Early/Modern World History
- Early/Modern U.S. History
- Renaissance History
Early/Modern Western Civilization
History of San Diego
Historian’s Methods

United States International University – 1990–2000
  The American Presidency
  Introduction to Political Science
  Early/Modern History of Asia
  Early/Modern Western Civilization
  Early/Modern World History
  Intercultural Communication
  American Culture

  Early/Modern History of Women in Western Civilization
  Early/Modern Western Civilization
  Early/Modern World History
  Early/Modern Latin American History

Cuyamaca College – 1995–1996
  United States History, Early and Modern

COMMUNITY INVOLVEMENT:

San Diego Historical Society – Volunteer in Education Department, Planning programs, assistance with newsletter and docent training, 1987–1996.
San Diego Museum of Man – Volunteer in Education Department, Planning programs, assistance with newsletter and docent training, 1993–1996.
University of San Diego – Co-Chair of Native American Arts Festival, annual festival held on university campus showcasing Native American art and culture, 2003–2005.
Confucius Institute – Board Member/San Diego State University
San Diego State University – Volunteer, Prepared grant for Dean Paul Wong, for funding for ethnomusic teacher in Music Department. Grant was for Artist in Residence Program in the department, 2007.
San Diego State University – Mentor to students from China brought to SDSU as part of Chinese Studies Institute, Fall 2007–Spring 2008

PUBLICATIONS:


San Diego Transit Corporation – Preparation of 100th Anniversary of corporation, 1986.

**EDUCATION:**

University of San Diego

**Master of Arts, History, 1987**

- Valedictorian/Summa cum laude
- Thesis: History of San Diego Transit Corporation

**Bachelor of Arts, History, 1984**

- California and Latin American emphasis
- Magna cum laude

**Bachelor of Arts, Anthropology, 1984**

- California and Latin American emphasis
- Magna cum laude

Grossmont College

**Associate of Arts, General, 1982**

- With Honors
Appendix D

Recommendations of the Site-Specific Geotechnical Reports
The following recommendations are excerpts from Treadwell & Rollo, 2012. Geotechnical Investigation, PHS Campus for Wildlife Care and Rehabilitation, 24103 Congress Springs Road, Saratoga, California. 20\textsuperscript{th} December.
7.0 RECOMMENDATIONS

Our recommendations regarding site preparation, foundations, retaining walls, seismic design, and other geotechnical aspects of this project are presented in the following sections.

7.1 Site Grading

Site grading will generally consist of minor cuts and fills to create the building pads and roadways, and a large cut into the quarry face to facilitate expansion of the lower terrace for the three-story portion of the WMFEC. Additionally, we recommend that the existing fill slope in the area of the cottages be flattened to a 2:1 (horizontal to vertical) inclination or flatter, and the fill slope near the entrance above the pond be flattened to a 3:1 gradient, as discussed in section 6.4.5. Additionally, special grading provisions are included in the remainder of this section to mitigate the effects of expansive soil in the ESCBF area. As described above in the introduction, we anticipate that all excess spoils will be transported to the ridge-top near the northeastern corner of the property, and will be placed as engineered fill to fill-in a natural depression.

7.1.1 Site Clearing

Any vegetation and organic topsoil should be stripped in areas to receive new site improvements. Stripped organic soil can be stockpiled for later use in landscaped areas, if approved by the owner and architect; organic topsoil should not be used as compacted fill.

7.1.2 Temporary and Permanent Slopes

Excavations deeper than five feet entered by workers should be shored or sloped for safety in accordance with the Occupational Safety and Health Administration (OSHA) standards (29 CFR Part 1926). Inclinations of temporary slopes should not exceed those specified in local, state or federal safety regulations. As a minimum, the requirements of the current OSHA Health and Safety Standards for Excavations (29 CFR Part 1926) should be followed. The Contractor should determine temporary slope inclinations based on the subsurface conditions exposed at the time of construction. However, temporary slopes less than 5 feet high exposing soil or fill should be inclined no steeper than ½:1 (horizontal to vertical). Temporary slopes exposing sandstone bedrock that are less than 5 feet high may be cut vertical.

If temporary slopes are open for extended periods of time, exposure to weather and rain could result in sloughing and erosion. If permanent, cut and fill slopes are constructed, they should be no steeper than
2:1 (horizontal to vertical). Fill slopes that are greater than 5 feet in height should be properly keyed and benched. Subsurface drainage should be included. We would be pleased to provide recommendations for these slopes once the final configuration is determined.

### 7.1.3 Subgrade Preparation and Fill Placement

Existing on-site fill, native soil or imported soil to be used as fill should meet the following criteria:

- be free of organic material
- contain no rocks or lumps larger than three inches in greatest dimension
- have a low expansion potential (defined by a liquid limit of less than 40 and a plasticity index lower than 12)
- be non-corrosive
- be non-hazardous

Soil meeting the above criteria is suitable for use as select fill, if in addition it includes at least 20 percent fines to reduce infiltration of water. Topsoil should not be used as fill. High plasticity surficial soil was encountered in the ESCBF and is not suitable as general or select fill. The high plasticity soil may be used in landscape areas. During construction, we should check that the onsite soil and any proposed import material are suitable for use as fill.

General fill outside the limits of the building footprint should be placed in lifts not exceeding eight inches in loose thickness and compacted to at least 90 percent relative compaction. Fill deeper than five feet or containing less than 10 percent fines should be compacted to at least 95 percent relative compaction. The grading subcontractor should also provide analytical test results or other suitable environmental documentation to the project environmental engineer for approval prior to importing fill to the site.

Fill placed in the fill spoils area in the northeastern portion of the property should be keyed and benched into the underlying bedrock. The geotechnical engineer should be present during grading operations to provide field recommendations for key and bench widths, depths, and the need for subdrains. In general, benches shall be at least 12 feet wide, and shall expose bedrock across their entire base.

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7 Relative compaction refers to the in-place dry density of soil expressed as a percentage of the maximum dry density of the same material, as determined by the ASTM D1557-07 laboratory compaction procedure.
We recommend at least 24 inches of select fill be placed beneath the slab-on-grade for the ESCBF and 12 inches of select fill beneath proposed exterior concrete flatwork in the area of the ESCBF; the select fill should extend at least five beyond the limits of the building and two feet beyond the edges of the exterior slabs. Prior to placing the select fill, the upper 12 inches of exposed subgrade should be moisture-conditioned to at least three percent above optimum moisture content and compacted to between 88 and 93 percent relative compaction.

Where expansive soil is present in roadway subgrades, it should be scarified, moisture-conditioned to at least three percent above optimum moisture content, and recompacted to between 88 and 93 percent relative compaction to reduce its expansion potential. If site grading occurs in late summer or in fall, the surface soil may be dry to depths exceeding 12 inches. Therefore, prior to grading, we should perform moisture content tests on the upper three feet of soil in areas of the structures. Surface soil that has a moisture content of less than 20 percent (the approximate plastic limit of the soil) should be scarified and/or over-excavated, moisture-conditioned to at least three percent above optimum moisture content, and recompacted to between 88 and 93 percent relative compaction to reduce its expansion potential.

All fill should be placed in lifts not exceeding eight inches in loose thickness, moisture-conditioned to above optimum moisture content, and compacted to at least 90 percent relative compaction. The upper six inches of fill placed in pavement areas should be compacted to at least 95 percent relative compaction.

Retaining wall backfill should be compacted using light compaction equipment. If heavy equipment is used, the wall should be appropriately designed to withstand loads exerted by the equipment and/or temporarily braced.

Samples of proposed select fill material should be submitted to the geotechnical engineer at least three business days prior to use at the site.

7.1.4 Utility Trenches

Excavations for utility trenches can be made with a backhoe. Despite careful site preparation, unexpected obstructions may make some of the trenching operations difficult. All trenches should conform to the current CAL-OSHA requirements.

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8 Relative compaction refers to the in-place dry density of soil expressed as a percentage of the maximum dry density of the same material, as determined by the ASTM D1557 laboratory compaction procedure.
Backfill for utility trenches and other excavations is also considered fill, and it should be compacted according to the recommendations presented in Section 7.1.3. If imported clean sand or gravel is used as backfill, it should be compacted to at least 95 percent relative compaction. Jetting of trench backfill should not be permitted. Special care should be taken when backfilling utility trenches in pavement areas. Poor compaction may cause excessive settlements, resulting in damage to the pavement section.

Where utility trenches backfilled with sand or gravel enter the ESCBF building pads, an impermeable plug consisting of native clay or lean concrete, at least five feet in length, should be installed at the building line. Furthermore in the vicinity of the ESCBF, where sand- or gravel-backfilled trenches cross planter areas and pass below asphalt or concrete pavements, a similar plug should be placed at the edge of the pavement. The purpose of these plugs is to reduce the potential for water to become trapped in trenches beneath the building or pavements, where expansive soil may be an issue.

7.2 Foundation Support

As discussed in Section 6.8, the proposed buildings should be supported on either shallow foundations or cast-in-place drilled piers, or a combination of both. Detailed recommendations for design of these foundation types are presented in the remainder of this section.

7.2.1 Spread Footings

The proposed WMFEC can be supported on shallow foundations (or a combination of shallow foundations and piers) bearing in the underlying colluvium or bedrock. Continuous perimeter and isolated interior footings should be embedded at least 12 inches into the colluvium or bedrock. Footing width should be at least 18 inches for continuous footings and 24 inches for isolated footings. Footings adjacent to utility trenches should bear below an imaginary 1.5:1 (horizontal to vertical) plane projected upward from the bottom edge of the utility trench.

Footings supported on colluvium or bedrock may be designed using an allowable bearing pressure of 6,000 per square foot (psf), respectively, for dead plus live loads, with a one-third increase for total loads, including wind and/or seismic loads.

Lateral loads on shallow footings can be resisted by a combination of passive resistance acting against the vertical faces of the footings and friction along the bases of the footings. Passive resistance may be calculated using an equivalent fluid pressure of 300 pounds per cubic foot (pcf). The upper one foot should be ignored unless confined by a slab or asphalt. Footings should have at least seven feet of lateral
confinement from the edge of slope to develop this passive pressure. Footings that have less than seven feet of lateral soil cover between the edge of footing and slope exterior will have reduced passive pressures. Frictional resistance should be computed using a base friction coefficient of 0.35. The passive resistance and base friction values include a factor of safety of about 1.5 and may be used in combination without reduction.

We should check footing excavations prior to placement of reinforcing steel. Footing excavations should be free of standing water, debris, and disturbed materials prior to placing concrete.

Uplift loads may be resisted by the weight of the footing and the overlying soil. If the weight of footings is insufficient and additional uplift resistance is required, drilled piers or soil anchors may be used. If used, we will provide recommendations for these foundation elements.

### 7.2.2 Drilled Piers

The proposed cottages, ESCBF, and outboard edges of the WMFEC can be supported on a drilled pier and grade beam foundation. We recommend that drilled piers have a minimum diameter of 16 inches and be embedded a minimum of 8 feet into the underlying bedrock. Total pier depth will vary across the building site depending on the depth of the non-supportive fill, soil, and colluvium, and the extent of prior grading. Based on our subsurface investigation and the currently proposed development concept, we anticipate pier depths ranging from approximately 10 to 20 feet below proposed building pad grades would provide the 8 feet embedment; however the length of the piers will depend on the loads and diameter.

The portion of the piers in the bedrock may be designed using an allowable skin friction value of 1,200 psf for dead plus live loads, with a 1/3 increase for transient loads, including wind and seismic. The portion of the piers in fill and non-supportive soil and any end-bearing resistance should be neglected.

Where drilled piers are installed within 10 feet of a downhill slope, an active pressure should be applied to the upper portion of the piers. The active pressure should be calculated using an equivalent fluid weight equal to 80 pounds per cubic foot (pcf) active over the pier diameter.
Lateral loads can be resisted using a passive pressure equal to an equivalent fluid weight of 300 pcf applied over 3 pier diameters for the portions of the pier in colluvium or rock (below the depth where there is at least seven feet of horizontal separation between the downhill face of the pier and the surface of the fill slope). The maximum passive pressure should not exceed 3,000 psf.

The bottoms of the pier excavations should be free of all loose cuttings and soil fall-in prior to the installation of the reinforcing steel and the placement of the concrete. Any accumulated water in the excavations should also be removed prior to the placement of the steel and concrete. If, because of high groundwater, it is not possible to dewater the pier holes, the concrete may be placed underwater by the tremie method. In this case, the concrete must be placed by a contractor experienced in the tremie method.

Drilled piers should be installed by a qualified contractor with demonstrated experience in this type of foundation. Potentially caving sand or silt may be encountered during drilling. Therefore, casing and/or drilling fluid may be required to prevent caving. Concrete placement in drilled piers should start upon completion of the drilling and clean out. Concrete should be placed from the bottom up in a single operation. As the concrete is placed, casing used to stabilize the hole can be withdrawn. The bottom of the casing should be maintained at least three feet below the surface of the concrete.

The bedrock at the site has variable consistency and locally can be very hard. We recommend that a high-powered well-maintained drill rig equipped with rock teeth be used to drill the pier excavations. The contractor should plan for this condition in choosing the appropriate means and methods of drilling.

As a minimum, piers should be reinforced with a full length cage of four No. 5 steel reinforcing bars. The actual number, size, location, depth, spacing, and reinforcement of the piers must be determined by the structural engineer based on the anticipated building loads and the soil engineering design parameters provided above.

To verify that the piers are founded in material of sufficient supporting capacity, are of sufficient depth, and have been properly installed, it is essential that we observe the piers as they are being drilled.

Grade beams should be used to connect all of the pier heads around the perimeter and the interior. Grade beams should be reinforced with top and bottom reinforcement to provide structural continuity and to permit the spanning of local irregularities.
7.3 Cottage Area Stitch Piers

Stitch piers for the downslope edge of the cottages and any associated hardscape should be designed as cantilevered piers that resist seismic lateral loads imposed by the upslope fill, and any surcharge loads from the building. We recommend the stitch piers be at least 30-inch diameter, with a maximum pier spacing of 3 pier-diameters to permit soil arching. Stitch piers should be drilled a minimum of 12 feet into the underlying bedrock, or a greater depth to achieve cantilevered lateral resistance. Because of variations in thickness of existing fill, the depths of the active loads will vary between approximately 14 and 18 feet deep depending on location of the wall. The structural engineer should provide a table for embedment and total depth requirements for 1-foot increments for active loads between 14 and 18 feet.

For the seismic loading condition, figure active loads on the upper portion of the piers in the fill using an equivalent fluid weight of 80 pcf taken over 3 times the pier diameter. Lateral loads may be resisted by passive pressure acting on the piers. We recommend a passive pressure equal to an equivalent fluid weight of 300 pcf to a maximum of 3,000 psf taken over 3 times the pier diameter for the length of the piers in the bedrock.

For support of the building loads from above, the stitch piers may be designed using a skin friction value of 1,200 psf for dead plus live loads, with a 1/3 increase for transient loads, including wind and seismic for the portions of the piers in bedrock. Any portion of the stitch piers in fill and any end-bearing resistance should be neglected for support.

We recommend the piers be installed in two stages to reduce the risk of caving between piers. We recommend drilling and installing every other pier, and once concrete has set, drilling and installing intermediate piers. The bottoms of the pier excavations should be cleared of loose cuttings and soil fall-in prior to the installation of the reinforcing steel and the placement of concrete. Any accumulated water in the excavations should be removed prior to the placement of the steel and concrete.

The structural engineer should determine the actual number, size, location, depth, spacing, and reinforcement of the piers, based on the anticipated loads and the soil engineering design parameters provided above. If the design engineer wishes to shorten the length of piers by utilizing tiebacks for additional lateral restraint, we should be contacted to provide appropriate design recommendations.
We should observe the piers as they are being drilled and down-hole log several of the pier excavations to verify that the piers are founded in material of sufficient supporting capacity.

### 7.4 Site and Building Retaining Walls

Site retaining walls or building basement walls should be designed to resist lateral pressures imposed by the adjacent soil or rock and any surcharge loads. We recommend concrete retaining walls be designed using the equivalent fluid pressures presented in Table 6 for active (un-restrained) or at-rest (restrained) conditions.

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<thead>
<tr>
<th>Material Behind Wall</th>
<th>Active Pressure (pcf)</th>
<th>At-Rest Pressure (pcf)</th>
<th>Active Pressure Plus Seismic Increment (pcf)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colluvium</td>
<td>35</td>
<td>50</td>
<td>80</td>
</tr>
<tr>
<td>Bedrock</td>
<td>35</td>
<td>50</td>
<td>70</td>
</tr>
</tbody>
</table>

The values presented above are for walls with a level backfill. For site walls with sloping backfill, we recommend designing the wall for an additional surcharge of 1 pcf for every 3 degrees of slope inclination.

The preceding pressures assume that sufficient drainage is provided behind the walls to prevent the buildup of hydrostatic pressures from surface or subsurface water infiltration. Drainage may be provided by means of a backdrain system consisting of an approximately 1-foot thick curtain of drainrock (crushed rock or gravel) placed behind the wall. A one foot thick cap of native soil should be placed atop the drainrock to prevent surface runoff from infiltrating the backdrain. The drainrock should be separated from the backfill, soil cap, and native cut by a geotextile filter fabric, such as Mirafi 140NC or an alternate, approved by the soil engineer. A 4-inch diameter heavy-duty rigid perforated subdrain pipe (Schedule 40, SDR 21, or equivalent), approved by the soil engineer, should be placed with the perforations down on a 2- to 3-inch layer of drainrock at the base of the drain.
As an alternative, back drainage may consist of an approved drainage mat placed directly against the wall. The bottom of the drainage mat should be in contact with the rigid 4-inch perforated drainpipe surrounded by at least six inches of gravel. The mat’s filter fabric should be placed around the gravel and between the pipe and the soil.

The depth of the backdrain for any cast-in-place retaining wall adjacent to interior space should be at least 2 feet deeper than the top of the adjacent interior slab-on-grade.

Perforated retaining wall subdrain pipes should be dedicated pipes that drain to a suitable outlet but should not connect to the surface drain system. The subdrain pipes should be installed with a positive gradient of at least 2% and should be provided with clean-out risers at their up-gradient ends, at intervals not greater than 100 feet for long straight runs of pipes, and at all sharp changes (90 degrees or greater) in direction. Changes in pipe direction should be made with "sweep" elbows to facilitate future inspection and cleanout. The perforated pipes should be connected to buried solid pipes to convey collected runoff to discharge onto an energy dissipater at an appropriate downslope location approved by the soil engineer. Energy dissipaters may consist of a short "T" fitting on the end of the discharge pipe and a fan of cobble riprap.

We recommend that annual maintenance of retaining wall backdrain systems be performed. This maintenance should include inspection and flushing to make sure that subdrain pipes are free of debris and are in good working order; and inspection of subdrain outfall locations to verify that introduced water flows freely through the discharge pipes and that no excessive erosion has occurred. If erosion is detected, we should be contacted to evaluate its extent and to provide mitigation recommendations, if needed.

7.5 Tiebacks

7.5.1 Tieback Design and Installation

Tiebacks may be used to provide lateral support for the northeastern abutment of the existing bridge over Saratoga Creek. Tiebacks should be installed, proof-tested, and locked off at design loads prior to decoupling the bridge deck from this abutment. Because of space constraints, the contractor may need to provide portable equipment capable of working beneath the existing bridge deck.
Tiebacks should derive their load-carrying capacity from the rock behind an imaginary line sloping upward from a point H/5 feet away from the base of the bridge abutment and sloping upwards at 60 degrees from the horizontal, where H is the height of the abutment wall in feet. Tiebacks should have a minimum unbonded length of 15 feet. All tiebacks should have a minimum bonded length of 15 feet and spaced at least four feet on center.

Tieback allowable capacity will depend upon the drilling method, hole diameter, grout pressure, and workmanship. We recommend designing the tiebacks using a skin friction value of 1,000 psf for the bonded portion of the tieback. This value includes a factor of safety of about 1.5. A higher skin friction value may be used if confirmed with pre-production performance tests.

### 7.5.2 Tieback Testing

We should observe tieback testing. The tiebacks should be proof-tested to at least 1.25 times the design load. The movement of each tieback should be monitored with a free-standing, tripod-mounted dial gauge during proof testing.

A proof test is a simple test used to measure the total movement of the tieback during one cycle of incremental loading. The maximum test load should be held for a minimum of 10 minutes, with readings taken at 0, 1, 2, 3, 6, and 10 minutes. If the difference between the 1- and 10-minute reading is less than 0.04 inch, the test is discontinued. If the difference is more than 0.04 inch, the holding period is extended by 50 minutes to 60 minutes, and the movements should be recorded at 15, 20, 25, 30, 45, and 60 minutes.

We should evaluate the tieback test results and determine whether the tiebacks are acceptable. A proof-tested tieback with a ten-minute hold is acceptable if the tieback carries the maximum test load with less than 0.04 inch movement between one and 10 minutes, and total movement at the maximum test load exceeds 80 percent of the theoretical elastic elongation of the unbonded length.

A proof-tested tieback with a 60-minute hold is acceptable if the tieback carries the maximum test load with less than 0.08 inch movement between six and 60 minutes, and total movement at the maximum test load exceeds 80 percent of the theoretical elastic elongation of the unbonded length. Tiebacks that failed to meet the first criterion will be assigned a reduced capacity.
If the total movement of the tiebacks at the maximum test load does not exceed 80 percent of the theoretical elastic elongation of the unbonded length, the contractor should replace the tiebacks.

7.6 Concrete Slabs-On-Grade

Concrete slab floors for the WMFEC, PWDF, or cottages can be supported on the existing fill or colluvium, provided the upper 12 inches of material is scarified, moisture conditioned and recompacted to at least 90 percent relative compaction. Slab-on-grade floor in the ESCBF area should be underlain by a minimum of 24 inches of select fill. Prior to placing the select fill, the exposed subgrade should be scarified, moisture conditioned to at least three percent above optimum moisture content and compacted to between 88 and 93 percent relative compaction.

Moisture is likely to condense on the underside of the slabs, even though they will be above the groundwater table. Consequently, a moisture barrier should be installed beneath interior slabs in areas that are sensitive to moisture. A typical moisture barrier consists of a capillary moisture break and a water vapor retarder.

The capillary moisture break should consist of at least four inches of clean, free-draining gravel or crushed rock. The vapor retarder should meet the requirements for Class C vapor retarders stated in ASTM E1745-97. The vapor retarder should be placed in accordance with the requirements of ASTM E1643-98. These requirements include overlapping seams by six inches, taping seams, and sealing penetrations in the vapor retarder. The vapor retarder should be covered with two inches of sand to aid in curing the concrete and to protect the vapor retarder during slab construction. The particle size of the gravel/crushed rock and sand should meet the gradation requirements presented in Table 7.
TABLE 7
Gradation Requirements for Capillary Moisture Break

<table>
<thead>
<tr>
<th>Sieve Size</th>
<th>Percentage Passing Sieve</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gravel or Crushed Rock</strong></td>
<td></td>
</tr>
<tr>
<td>1 inch</td>
<td>90 – 100</td>
</tr>
<tr>
<td>3/4 inch</td>
<td>30 – 100</td>
</tr>
<tr>
<td>1/2 inch</td>
<td>5 – 25</td>
</tr>
<tr>
<td>3/8 inch</td>
<td>0 – 6</td>
</tr>
<tr>
<td><strong>Sand</strong></td>
<td></td>
</tr>
<tr>
<td>No. 4</td>
<td>100</td>
</tr>
<tr>
<td>No. 200</td>
<td>0 – 5</td>
</tr>
</tbody>
</table>

The sand overlying the membrane should be dry at the time concrete is cast. Excess water trapped in the sand could eventually be transmitted as vapor through the slab. If rain is forecast prior to pouring the slab, the sand should be covered with plastic sheeting to avoid wetting. If the sand becomes wet, concrete should not be placed until the sand has been dried or replaced.

Concrete mixes with high water/cement (w/c) ratios result in excess water in the concrete, which increases the cure time and results in excessive vapor transmission through the slab. Therefore, concrete for the floor slab should have a low w/c ratio - less than 0.50. If approved by the project structural engineer, the sand can be eliminated and the concrete can be placed directly over the vapor retarder, provided the w/c ratio of the concrete does not exceed 0.45 and water is not added in the field. If necessary, workability should be increased by adding plasticizers. In addition, the slab should be properly cured. Before the floor covering is placed, the contractor should check that the concrete surface and the moisture emission levels (if emission testing is required) meet the manufacturer’s requirements.

### 7.7 Pool Shells

We understand that small pools will be constructed near the southeast end of the WMFEC building for rehabilitation of water-birds. The pools will be sited in an area of colluvium overlying the bedrock. We recommend the pool shell be designed to be capable of resisting an internal pressure equivalent to a fluid weight of 65 pcf. Because the downslope edges of the pools may be constructed above grade, we recommend that the pool shell walls be designed as free-standing structures capable of cantilevering from the base of the shell. In addition, pool shells should be designed and constructed with a pressure relief valve at the base or, alternatively, a gravity subdrain system to prevent the pool shell from heaving out of the ground.
7.8 Flexible Pavement

The State of California flexible pavement design method was used to develop the recommended asphalt concrete pavement sections. We expect the final soil subgrade in asphalt-paved areas will generally consist of expansive sandy silt to silty clay with gravel. In our analyses, we have assumed the sandy silt to silty clay with gravel will have an R-value of at least 8.

Although the proposed roadways will seldom see much traffic, the wheel loading of the vehicles may be heavy. Recommended pavement sections for several traffic indices are presented in Table 6. The appropriate traffic indices (TIs) for the new roadway can be selected by the project civil engineer.

<table>
<thead>
<tr>
<th>TI</th>
<th>Asphaltic Concrete (inches)¹</th>
<th>Class 2 Aggregate Base² (inches)³</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.5</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>5.5</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td>6.5</td>
<td>4.5</td>
<td>12</td>
</tr>
</tbody>
</table>

Notes:
1. Asphaltic Concrete should have a minimum thickness of 2.5 inches
2. Class 2 Aggregate Base material should have a minimum R-Value of 78
3. Class 2 Aggregate Base should have a minimum thickness of 6 inches

Pavement components should conform to the current Caltrans Standard Specifications. Where expansive soil is present the subgrade should be scarified a depth of 12 inches, moisture-conditioned to at least 3 percent above optimum and compacted to at least 92 to 95 percent relative compaction and rolled to provide a smooth non-yielding surface. Where non-expansive soil is present the subgrade should be scarified a depth of 6 inches moisture conditioned to near optimum and compacted to at least 95 percent relative compaction. Aggregate base should be compacted to at least 95 percent relative compaction.

We should be contacted to observe excavated subgrades during construction to identify areas where expansive soil is exposed.

The presence and accumulation of water in either the subgrade or baserock portions of the pavement should be avoided. Positive surface gradients should be maintained for all pavements to avoid ponding of water.
7.9 Surface Drainage Control

Control of surface drainage is critical to the successful development of the project. The results of improperly controlled runoff may include foundation heave and/or settlement, erosion, gullying, ponding, and potential slope instability. Surface water should be prevented from ponding in pavement areas and adjacent to the foundations of the structures. Pavement areas should be constructed for proper drainage by sloping them away from the buildings and downhill slope edges and by providing area drains.

To mitigate ponding water adjacent to the buildings, we recommend that the ground surface around the structure be provided with a positive gradient of at least 2 percent sloping away from structures for a minimum distance of 5 feet or, as an alternative, area drains could be installed to collect surface runoff. We recommend that the proposed structures be provided with roof gutters and downspouts. Water collected in the gutters should not be allowed to discharge freely onto the ground surface adjacent to the foundation and should be conveyed away from the buildings via buried closed conduits to an appropriate discharge point selected by the project geotechnical consultant during construction. Where downspouts are connected to buried pipes, they should be provided with slip-joint connectors or cleanouts to facilitate maintenance. As an alternative, storm water may be collected and stored in storage tanks and used as gray-water for irrigation.

If crawl spaces will be present beneath structures, then surface drainage should be designed to prevent water from ponding in the crawl space areas beneath structures. We also recommend that crawlspace areas be graded to slope to one or more low areas. These low areas should be provided with area drains to collect any water that may accumulate in the crawlspace.

We recommend that annual maintenance of the surface drainage systems be performed. This maintenance should include:

- inspection and testing to make sure that roof gutters and downspouts are in good working order and do not leak
- inspection and flushing of area drains to make sure that they are free of debris and are in good working order, and
- inspection of surface drainage outfall locations to verify that introduced water flows freely through the discharge pipes and that no excessive erosion has occurred.
If erosion is detected, we should be contacted to evaluate its extent and to provide mitigation recommendations, if needed.

7.10 2010 California Building Code Mapped Values

For seismic design in accordance with the provisions of 2010 California Building Code (CBC) we recommend the following:

- Maximum Considered Earthquake (MCE) $S_s$ and $S_1$ values of 2.23 g and 1.28g, respectively.
- Site Class C
- Site Coefficients $F_a$ and $F_v$ of 1.0 and 1.3
- Maximum Considered Earthquake (MCE) spectral response acceleration parameters at short periods, $S_{MS}$, and at one-second period, $S_{M1}$, of 2.23g and 1.66g, respectively.
- Design Earthquake (DE) spectral response acceleration parameters at short period, $S_{DS}$, and at one-second period, $S_{D1}$, of 1.49g and 1.11g, respectively.

8.0 ADDITIONAL GEOTECHNICAL SERVICES

During final design we should be retained to consult with the design team as geotechnical and foundation questions arise. Prior to construction, we should review the project plans to check their conformance with the intent of our recommendations. During any grading activities we should observe and test during select fill placement. During construction of the improvements, we should observe the excavations for spread footing foundations, installation of drilled piers, and compaction of any fill or retaining wall backfill, and observe all surface and subsurface drainage systems being installed. These observations will allow us to compare the actual with the anticipated soil conditions and to check that the contractors’ work conforms to the geotechnical aspects of the plans and specifications.

9.0 LIMITATIONS

The conclusions and recommendations presented in this report result from limited engineering studies based on our interpretation of the geotechnical conditions existing at the site at the time of this investigation. Actual subsurface conditions may vary. If any variations or undesirable conditions are encountered during construction, or if the proposed construction will differ from that described in this report, Treadwell & Rollo, A Langan Company should be notified to make supplemental recommendations, as necessary.
The following recommendations are excerpts from Treadwell & Rollo, 2013a. Supplemental Geotechnical Study, Improvements to Graded Road, PHS Campus for Wildlife Care and Rehabilitation, 24103 Congress Springs Road, Saratoga, California. 2nd July.
CONCLUSIONS AND RECOMMENDATIONS

On the basis of the results of the available subsurface information we conclude that all three areas should be provided with improvements to mitigate damage to the road in these areas from erosion or slope movements. We have developed specific recommendations for each of the three areas, which include:

- **Constructing a row of below-grade stitch piers to support the material and fill along the road’s edge and protect the road from downslope instability in Area A**;
- **Placing a subdrain and rip-rap within the keyway at Area B**; and
- **Constructing a soldier-beam and lagging retaining wall downslope of the edge of the roadway in Area C**.

Our interpretations of the subsurface conditions in each of the three areas are presented on the idealized cross-sections provided in Figures 2 through 4. In addition, these idealized cross-sections depict the recommendations for the repairs in each of the areas. The following sections provide the detailed geotechnical recommendations for each of the three repair areas.

**Area A — Stitch Piers**

Stitch piers for the downslope edge of the road in Area A should be designed as cantilevered piers that resist lateral earth pressures and seismic lateral loads imposed by the upslope fill, and any surcharge loads from vehicles that may be parked on the road. We recommend the stitch piers be at least 30-inch diameter, with a maximum pier spacing of three pier-diameters to permit soil arching. Stitch piers should be drilled a minimum of 12 feet into the underlying bedrock, or a greater depth to achieve cantilevered lateral resistance.

Because of variations in thickness of existing fill and colluvium, the depths over which lateral earth pressures will act upon the piers will vary between approximately 4 and 14 feet deep. The length of the stitch piers will be determined in the field, based on the thickness of fill and colluvium encountered in each pier hole. The structural engineer should provide a table for embedment and total depth requirements for 1-foot increments for active loads between 4 and 14 feet. In addition, a uniform surcharge load of 100 pounds per square foot (psf) should be added to the earth pressures in the upper 10 feet to account for surcharge from traffic loads on the road.

We recommend designing for a lateral earth pressure including a seismic increment on the upper portion of the piers in the fill using an equivalent fluid weight of 55 pounds per cubic foot (pcf) taken over 3 times the pier diameter. Lateral loads may be resisted by passive pressure acting on the piers. We recommend a passive pressure equal to an equivalent fluid weight of 450 pcf to a maximum of 4,000 psf
taken over 3 times the pier diameter for the length of the piers in the bedrock below the depth where there is at least seven feet of horizontal separation between the downhill face of the pier and the surface of the slope. The preceding pressures include a Factor of Safety of 1.5. Piers must be no more than 3 diameters apart to promote soil arching. Please note, if the piers are spaced closer than 3 times the pier diameter, a reduction in passive capacity for each pier will be applied. For this scenario, contact us with the anticipated pier spacing for appropriate passive pressure recommendations.

For support axial loads, the stitch piers may be designed using a skin friction value of 1,200 psf for dead plus live loads, with a 1/3 increase for transient loads, including wind and seismic for the portions of the piers in bedrock. Any portion of the stitch piers in fill and any end-bearing resistance should be neglected for support.

We recommend the piers be installed in two stages to reduce the risk of caving between piers. We recommend drilling and installing every other pier, and once concrete has set, drilling and installing intermediate piers. The bottoms of the pier excavations should be cleared of loose cuttings and soil fall-in prior to the installation of the reinforcing steel and the placement of concrete. Any accumulated water in the excavations should be removed prior to the placement of the steel and concrete.

The structural engineer should determine the actual number, size, location, depth, spacing, and reinforcement of the piers, based on the anticipated loads and the soil engineering design parameters provided above. If the design engineer wishes to shorten the length of piers by utilizing tiebacks for additional lateral restraint, we should be contacted to provide appropriate design recommendations.

We should observe the piers as they are being drilled and down-hole log several of the pier excavations to verify that the piers are founded in material of sufficient supporting capacity.

**Area B – Rip-rap**

We recommend that the previously recommended repair in Area B consisting of rip-rap placement into the existing keyway excavation be performed. The finished slope of the rip-rap should be no steeper than 1:1. We anticipate that about 6 to 7 feet of rip-rap will be placed in the excavation, overlain by 4 to 5 feet of on-site soil placed as engineered fill. The engineered fill should be compacted in lifts not exceeding 8 inches in loose thickness to at least 90 percent relative compaction¹. The engineered fill should have a finished slope gradient no steeper than 2:1.

We recommend that the rip-rap be 8-inches in diameter or larger, and be dropped/free-fall into the keyway to interlock. The rip-rap should be separated from the native soil and bedrock on the sides and bottom of the keyway by a geotextile filter fabric, such as Mirafi 140N, or equivalent.

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¹ Relative compaction refers to the in-place dry density of soil expressed as a percentage of the maximum dry density of the same material, as determined by the ASTM D1557-07 laboratory compaction procedure.
Prior to placement of the filter fabric or rip-rap, any loose material that has accumulated in the keyway should be removed to expose the firm native bedrock. A 4-inch diameter, perforated PVC drain-pipe should be placed in a narrow trench in the base of the excavation to collect any subsurface water and keep the rip-rap drained. The pipe should daylight onto an energy dissipater on the slope downhill of the toe of the rip-rap.

**Area C – Soldier Beam and Lagging Retaining Wall**

We recommend that erosion in Area C be mitigated by constructing a pier-supported, soldier beam and wood timber or concrete panel lagging retaining wall. We estimate that the retained height of the wall may be up to 9 to 10 feet. If the wall is determined to be a Seismic Design Category D, E, or F structure, an additional lateral pressure from seismic loading will be required for the wall. Please contact us to provide the seismic loading parameters.

**Retaining Wall**

We recommend that the wall be designed for a lateral earth pressure equal to an equivalent fluid weight of 55 pcf.

The preceding pressure assumes that sufficient drainage is provided behind the walls to prevent the buildup of hydrostatic pressures from surface or subsurface water infiltration. We recommend that drainage consist of a backdrain system consisting of an approximately 1-foot thick curtain of drainrock (crushed rock or gravel) placed behind the wall. The drainrock should be separated from the backfill by a geotextile filter fabric, such as Mirafi 140 or an alternate, approved by the soil engineer. The wood or concrete lagging members should be provided with ½-inch spaces between members to facilitate weeping of water and hydrostatic pressure from the backdrain.

Backfill placed behind the walls should be compacted to at least 90 percent relative compaction, using light compaction equipment. Fill should be moisture conditioned to above optimum, and placed in loose lifts not exceeding 8 inches. If heavy compaction equipment is used, the walls should be temporarily braced, as the situation requires. If backfill consists entirely of drainrock, it should be placed in approximately 2-foot lifts and should be compacted with several passes of a vibratory plate compactor.

**Drilled Piers**

Drilled piers for the retaining wall should have a minimum diameter of 16 inches and be embedded a minimum of 8 feet into the underlying bedrock. Total pier depth along the wall length will vary depending on the depth of any non-supportive fill, soil, or colluvium acting on piers below the base of the wall. Based on our subsurface investigation and the currently proposed development concept, we anticipate up to 4 feet of non-supportive material below the base of the wall; therefore we anticipate pier depths ranging from approximately 8 to 12 feet below the base of the wall; however the length of the piers will depend on the loads and diameter. The length of the piers will be determined in the field,
based on the height of the wall and thickness of fill and colluvium encountered at each pier location. The structural engineer should provide a table for embedment and total depth requirements for 1-foot increments for active loads between 0 and 4 feet acting on the piers below the base of the wall.

The lateral earth pressure on portions of the wall in contact with fill, soil, or colluvium should be calculated using an equivalent fluid weight equal to 55 pcf active over the tributary area of the portions of the piers below the base of the wall above supportive bedrock.

Lateral loads can be resisted using a passive pressure equal to an equivalent fluid weight of 450 pcf applied; this value is applicable to piers spaced at least 3 pier diameters, for the portions of the pier in colluvium or rock (below the depth where there is at least seven feet of horizontal separation between the downhill face of the pier and the surface of the fill slope); for design purposes, the upper three feet of bedrock should be neglected to achieve this horizontal separation. The maximum passive pressure should not exceed 4,000 psf. The preceding pressures assume a Factor of Safety of 1.5.

The portion of the piers in the bedrock may be designed using an allowable skin friction value of 1,200 psf for dead plus live loads, with a 1/3 increase for transient loads, including wind and seismic. The portion of the piers in fill and non-supportive soil and any end-bearing resistance should be neglected.

As a minimum, piers should be reinforced with a full length cage of four No. 5 steel reinforcing bars or a wide-flange H-beam. The actual number, size, location, depth, spacing, and reinforcement of the piers must be determined by the structural engineer based on the anticipated building loads and the soil engineering design parameters provided above.

To verify that the piers are founded in material of sufficient supporting capacity, are of sufficient depth, and have been properly installed, it is essential that we observe the piers as they are being drilled.

**Drilled Pier Construction Considerations for Areas A and C**

The bottoms of the pier excavations should be free of all loose cuttings and soil fall-in prior to the installation of the reinforcing steel and the placement of the concrete. Any accumulated water in the excavations should also be removed prior to the placement of the steel and concrete. If, because of high groundwater, it is not possible to dewater the pier holes, the concrete may be placed underwater by the tremie method. In this case, the concrete must be placed by a contractor experienced in the tremie method.

Drilled piers should be installed by a qualified contractor with demonstrated experience in this type of foundation. Potentially caving sand or silt may be encountered during drilling. Therefore, casing and/or drilling fluid may be required to prevent caving. Concrete placement in drilled piers should start upon completion of the drilling and clean out. Concrete should be placed from the bottom up in a single operation. As the concrete is placed, casing used to stabilize the hole can be withdrawn. The bottom of the casing should be maintained at least three feet below the surface of the concrete.
The bedrock at the site has variable consistency and locally can be very hard. We recommend that a high-powered well-maintained drill rig equipped with rock teeth be used to drill the pier excavations. The contractor should plan for this condition in choosing the appropriate means and methods of drilling.

**Drainage**

Control of surface drainage is critical to the successful development of the project. The results of improperly controlled runoff may include erosion, gullying, ponding, and potential slope instability, as evidenced by the prior erosion and landsliding. Surface water should be prevented from on the roadway; the road should be graded to promote drainage away from the edge of slope and into a drainage swale and periodic drain inlets. We understand that the project Civil engineer is addressing this by developing a drainage plan for the roadway. We recommend that drainage improvements in at least these three areas (A, B, and C), be designed and constructed prior to the coming winter rains.

**Maintenance**

We recommend that inspections and maintenance of the roadway and engineered measures be performed on an annual basis or after periods of intense rainfall. This maintenance should include:

- inspection and flushing to make sure that subdrain pipes are free of debris and are in good working order
- inspection of subdrain outfall locations to verify that introduced water flows freely through the discharge pipes and that no excessive erosion has occurred
- removal of any debris that falls on the road from the unsupported cuts on the uphill side of the road that may impact drainage.
- Clean v-ditches, swales, or drainage inlets and outfalls to maintain drainage

If erosion, or damage to the road or structures is detected, we should be contacted to evaluate the extent and to provide mitigation recommendations, if needed.

**LIMITATIONS**

Our conclusions and recommendations result from limited engineering studies and are based on our interpretation of the geotechnical conditions existing at the site at the time of investigation. Actual subsurface conditions may vary. If any variations or undesirable conditions are encountered during construction, or if any remedial construction will use different foundation types or involve site grading, Treadwell & Rollo, A Langan Company should be notified to make supplemental recommendations, as necessary.
The following recommendations are excerpts from Treadwell & Rollo, 2013b. Supplemental Geotechnical Study, Existing Earth Dam, PHS Campus for Wildlife Care and Rehabilitation, 24103 Congress Springs Road, Saratoga, California. 16th July.
CONCLUSIONS AND RECOMMENDATIONS

On the basis of the results of the available subsurface information and our slope stability analyses, we conclude that an effective means to mitigate large displacements of the dam embankment during loading major earthquake is by constructing a geogrid-reinforced, engineered fill buttress downslope and adjacent to the dam. The following subsections provide the detailed geotechnical recommendations for the repair.
Site Clearing

Areas to be graded should initially be cleared of all obstructions and vegetation. Holes or depressions resulting from the removal of underground obstructions or vegetation below proposed finished subgrade levels should be cleared, and backfilled with suitable material compacted to the requirements for engineered fill given below.

After clearing, the site should be stripped to a sufficient depth to remove all surface vegetation and organic-laden topsoil. At the time of our field investigation, we estimated that a stripping depth of approximately 2 to 4 inches would be required on natural and existing fill slope areas. This material should not be used as engineered fill; however, with the approval of the architect, it may be used for landscaping purposes.

Temporary and Permanent Slopes

Excavations deeper than five feet entered by workers should be shored or sloped for safety in accordance with the Occupational Safety and Health Administration (OSHA) standards (29 CFR Part 1926). Inclinations of temporary slopes should not exceed those specified in local, state or federal safety regulations. As a minimum, the requirements of the current OSHA Health and Safety Standards for Excavations (29 CFR Part 1926) should be followed. The Contractor should determine temporary slope inclinations based on the subsurface conditions exposed at the time of construction. However, temporary slopes exposing soil or fill should be inclined no steeper than ½:1 (horizontal to vertical).

If temporary slopes are open for extended periods of time, exposure to weather and rain could result in sloughing and erosion. Permanent cut and fill slopes should be no steeper than 1½:1 (horizontal to vertical) within the area of grading.

Subgrade Preparation and Fill Placement

Existing on-site fill, colluvium or bedrock materials may be used as fill provided they meet the following criteria:

- be free of organic material
- contain no rocks or lumps larger than three inches in greatest dimension
- have a low expansion potential (defined by a liquid limit of less than 40 and a plasticity index lower than 12)
- be non-corrosive
- be non-hazardous

Topsoil should not be used as fill. During construction, we should check that the onsite soil and any proposed import material are suitable for use as fill.
Initially a minimum 12-foot wide keyway should be excavated through the alluvium below the toe of the dam, a minimum of 5 feet deep into the alluvium, measured along the downslope side of the excavation. The surface of the keyway should expose competent alluvium or weathered melange bedrock. The alluvium or melange at the base of the keyway should be scarified to a depth of 8 inches, moisture conditioned to the material’s optimum moisture content, and recompacted to 90 percent relative compaction².

Fill should be placed in lifts not exceeding eight inches in loose thickness and compacted to at least 90 percent relative compaction. Fill containing less than 10 percent fines should be compacted to at least 95 percent relative compaction. Following fill placement into the keyway, one or more benches at least 10 feet wide should be excavated uphill of the keyway, stair-stepped to the uphill limits of the proposed fill. Each bench should be excavated so that all the benches have a positive slope of at least 2 percent towards the cut.

**Geogrid Reinforcement**

Geogrid reinforcement should be placed at 1-foot intervals in the fill, as shown on Figure 4. The geogrid should consist of two types that alternate: structural, longer uniaxial grids between 16 and 24 feet long placed full width across the fill every 2 to 3 feet, and shorter biaxial grids that are 5 feet long placed at the outside edge of the fill in between the longer uniaxial grids resulting in grid every 1-foot. The structural grid should be comprised of Tensar UX1400, or equivalent, and the biaxial grid should be comprised of Tensar BX1100 or equivalent.

**Subdrains**

Subdrains should be installed within fills to reduce the potential for buildup of hydrostatic pressures in the fills. Full curtain subdrains should be provided along the back of all benches, with the exception of the keyway and uppermost bench, as shown on Figure 4. The actual locations of subdrains should be determined in the field by the geotechnical consultant.

Subdrains should consist of a 4-inch diameter perforated Schedule 80 PVC pipe (perforations down) surrounded by 3/4-inch drain rock wrapped in filter fabric (Mirafi 140N or equivalent). The perforated pipe should be sloped to drain at a minimum gradient of two percent to a collector pipe for discharge to a suitable discharge point. Cleanouts should be placed at each upgradient end of the subdrain pipes. The outlet pipe can daylight on the slope below the repair, and continue as an above ground pipe to discharge onto an energy dissipater above high water line on the bank of Saratoga Creek. A schematic subdrain detail is provided on Figure 11.

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² Relative compaction refers to the in-place dry density of soil expressed as a percentage of the maximum dry density of the same material, as determined by the ASTM D1557-07 laboratory compaction procedure.
Surface Drainage and Erosion Control

The finished slope gradient within the area of repair should be no steeper than 2:1 (horizontal to vertical). The face of each fill slope should be over-built and trimmed back to provide a dense, smooth surface free of loose material. Following grading, we recommend protecting the fill slope against erosion by hydro-seeding with deeply rooted, fast growing vegetation. To protect the slope until the ground cover has germinated, a biodegradable erosion control mat with a minimum 2-year design life should be placed over the seeds.

Dam Overflow Repair

Following completion of the buttress, a new dam overflow pipe shall be constructed to replace the existing deteriorated corrugated steel pipe. The inlet elevation should correspond with the existing pipe’s inlet elevation. We recommend that the new pipe be constructed out of a flexible HDPE or other plastic material, secured to the face of the dam with hoops and spikes. The pipe should extend all the way down the face of the dam, to discharge into Saratoga Creek below.

Maintenance

We recommend that inspections and maintenance of the repaired fill and subdrains be performed. This maintenance should include:

- inspection and flushing to make sure that subdrain pipes are free of debris and are in good working order,
- inspection of subdrain and dam overflow pipe outfall locations to verify that introduced water flows freely through the discharge pipes and that no excessive erosion has occurred,
- and inspection of the dam face for surface erosion.

If erosion, or damage is detected, we should be contacted to evaluate the extent and to provide mitigation recommendations, if needed.

LIMITATIONS

Our conclusions and recommendations result from limited engineering studies and are based on our interpretation of the geotechnical conditions existing at the site at the time of investigation. Actual subsurface conditions may vary. If any variations or undesirable conditions are encountered during construction, or if any remedial construction will use different foundation types or involve site grading, Treadwell & Rollo, A Langan Company should be notified to make supplemental recommendations, as necessary.
The following recommendations are excerpts from Treadwell & Rollo, 2013c. Supplemental Fault Hazard Study, Proposed Cottages, PHS Campus for Wildlife Care and Rehabilitation, 24103 Congress Springs Road, Saratoga, California. 28th August.
CONCLUSIONS AND RECOMMENDATIONS

On the basis of the results of the available subsurface information we conclude that the fault identified in Trench 2 is an active fault trace, evidenced by shearing and offsets to historic fill layers. The orientation of the fault is similar to the orientation of faults F1 and F2 previously identified; however, the proximity of Saratoga Creek inhibited the ability to trench further northeast. Because of the slight variation in orientation, and lack of encountering two faults within our trenches, it is not possible to conclusively conclude that the trench encountered is either F1 or F2. It is possible that the fault encountered in our trench could be CSA's fault F2, however without seeing two traces in our trenches to compare orientations, geometry, etc., we cannot conclusively state that the fault we encountered was F2. Consequently, we have designated this fault as F3. For reference, the locations of F1, F2, F3, along with CSA's trench locations and the location of the geophysical survey are shown on Figure 1.

As discussed previously, the County is requiring a setback of 25 feet southwest, and parallel to the fault, and 25 feet northeast of the southwestern explored limit (southwest end of Trench 1). We have plotted the setbacks and the resulting building envelope on Figure 1. We recommend that all foundations for the proposed cottages be constructed within the building envelope between the setbacks; however we understand that upper levels can cantilever over the setback areas. Additionally we understand that the County may allow construction of driveways, or non-habitable structures within the setback limits.

LIMITATIONS

Our conclusions and recommendations result from limited geologic studies and are based on our interpretation of the geologic conditions existing at the site at the time of investigation. Actual subsurface conditions may vary. If any variations or undesirable conditions are encountered during construction, Treadwell & Rollo, A Langan Company should be notified to make supplemental recommendations, as necessary.