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## Memorandum

**To:** City of Oakland  
c/o Robert Zhan, Tree Supervisor II  
Giacomo Damonte, Arborist Inspector

**From:** Chris Gurney  
gurney@wra-ca.com

**Subject:** Oak Knoll Mixed Use Development Project Tree Removal Impact Mitigation Plan

**Date:** November 25, 2015

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### Introduction

The purpose of this memorandum is to describe the proposed tree mitigation plan that has been developed to compensate for tree removal impacts associated with the proposed Oak Knoll Mixed Use Development Project (Project) in Oakland, Alameda County, California (Project Area). Oak Knoll is a Master Planned Residential Community Development Project that would develop up to 935 residential units, including a range of single-family housing types, townhomes, and multifamily units that would be developed throughout the Project Area. A Village Center would provide a variety of neighborhood-serving retail of approximately 72,000 square feet of locally serving commercial uses and the highest density housing. The Project would also create approximately 75 to 85 acres of publicly accessible open space comprising an extensive network of parks, trails, and walkways that would weave through the Project Area, connecting various neighborhoods within the Project Area with adjacent open space areas and neighborhoods.

The Project would result in the removal of approximately 4,500 trees, most of which are protected under the City of Oakland's (City's) Tree Protection Ordinance. The Project proponent (Applicant) will obtain a tree removal permit from the City prior to the removal of these trees. Additional mitigation measures proposed by the Applicant to compensate for the loss of protected trees and oak woodland are summarized below.

### Tree Impacts

WRA, Inc. (WRA) ISA-Certified Arborists, Erich Schickenberg (#WE-10211A) and Scott Yarger (#WE-9300A), conducted a tree survey throughout the months of April, May and October 2015 (see WRA 2015a for detailed methodology). The tree survey included an inventory and basic assessment of all trees within the Project Area and surrounding areas potentially impacted by the Project. All trees greater than 9 inches in diameter at breast height (DBH) were surveyed and all coast live oak (*Quercus agrifolia*) trees greater than 4 inches in DBH were surveyed, in accordance with the City of Oakland Tree Ordinance. Although *Eucalyptus* spp. and Monterey pine (*Pinus radiata*) are not protected by the City Ordinance, these species were also surveyed for a more complete analysis. Data relevant to the tree removal permitting process, including

species, size (DBH), protection status, and condition rating (ranging from poor to excellent) were collected. Each surveyed tree location was recoded using a GPS with sub-meter accuracy, and each tree was given a unique, numbered aluminum tree tag.

The survey identified 4,469 trees within the limits of disturbance (LOD), of which 3,534 are protected under the City Tree Ordinance, and 2,494 are native species (see Table 1 and Appendix A). For the purpose of this analysis it is assumed that trees located within a 50-foot buffer of the LOD would be preserved; however, a small number of these trees may be impacted depending on the extent of adjacent disturbance as well as the extent of the root zone and canopy. If additional trees are impacted, they will also be mitigated for in accordance with the City Tree Ordinance.

Project impacts are generally concentrated in previously developed, in-fill areas, and disturbed areas. The trees proposed for removal are disproportionately non-native, invasive species. In total, the Project would impact approximately 52% of the native trees within the Project Area and 84% of the non-native trees in the project area. Most of the highest quality habitats within the Project Area including the Hardenstine parcel in the southeast, the knoll in the east, and the Rifle Range Creek corridor would either be preserved or restored as part of the project. The majority of non-native trees being impacted are invasive species such as blue gum (*Eucalyptus globulus*), Monterey pine, and blackwood acacia (*Acacia melanoxyton*) which have colonized portions of the site and have converted native grasslands and oak woodlands to invasive-dominated woodlands. As such, the removal of invasive trees and, in some cases, conversion to native oak woodlands is expected to result in improved habitat quality for native plants and wildlife over time.

Of the native trees proposed for removal, 816 (33%) are less than 9 inches in DBH and 460 (18%) are currently in poor condition, defined as being in moderate to severe decline (see Tables 2 and 3). The remaining native trees are greater than 9 inches in DBH and are in fair to excellent condition.

**Table 1.** Summary of Trees Within the Limits of Disturbance, 50-Foot Disturbance Buffer, and Preserved Areas.

| Species  | Location              |              |                | Total        |
|--|-----------------------|--------------|----------------|--------------|
|  | Limits of Disturbance | 50-ft buffer | Preserved Area |              |
| <b>Native</b>                                  | <b>2,494</b>          | <b>604</b>   | <b>1,710</b>   | <b>4,808</b> |
| <i>Quercus agrifolia</i> <sup>1</sup>          | 2,290                 | 553          | 1,525          | 4,368        |
| <i>Umbellularia californica</i> <sup>1</sup>   | 55                    | 19           | 153            | 227          |
| <i>Salix laevigata</i> <sup>1</sup>            | 40                    | 11           | 5              | 56           |
| <i>Salix lasiolepis</i> <sup>1</sup>           | 37                    | 5            |                | 42           |
| Other <sup>1</sup>                             | 72                    | 16           | 27             | 115          |
| <b>Non-native</b>                              | <b>1,975</b>          | <b>253</b>   | <b>134</b>     | <b>2,362</b> |
| <i>Eucalyptus globulus</i> <sup>2,3</sup>      | 497                   | 153          | 41             | 691          |
| <i>Acacia melanoxylon</i> <sup>3</sup>         | 309                   | 34           | 24             | 367          |
| <i>Pinus radiata</i> <sup>2</sup>              | 224                   | 3            | 25             | 252          |
| <i>Cedrus deodara</i>                          | 159                   | 11           | -              | 170          |
| <i>Eucalyptus camaldulensis</i> <sup>2,3</sup> | 137                   | 1            | 1              | 139          |
| <i>Acacia baileyana</i>                        | 56                    | 8            | 1              | 65           |
| <i>Quercus ilex</i>                            | 55                    | 2            | 3              | 60           |
| <i>Pinus ponderosa</i>                         | 29                    | 18           | 5              | 52           |
| <i>Eucalyptus sideroxylon</i>                  | 52                    | 0            |                | 52           |
| <i>Acacia longifolia</i>                       | 26                    | 9            | 8              | 43           |
| Other (protected)                              | 406                   | 14           | 26             | 446          |
| Other (non-protected)                          | 25                    | 0            | 0              | 25           |
| <b>Total</b>                                   | <b>4,469</b>          | <b>857</b>   | <b>1,844</b>   | <b>7,170</b> |

<sup>1</sup>Require mitigation under the City of Oakland Tree Ordinance.

<sup>2</sup>Not protected under City of Oakland Tree Ordinance.

<sup>3</sup>Listed is invasive by the California Invasive Plant Council.

**Table 2.** Summary of Impacted Native Trees by Size Class

| Species                                    | Size Class |            |            |            | Total        |
|--|------------|------------|------------|------------|--------------|
|  | 4.0-8.9    | 9.0-17.9   | 18.0-35.9  | >36.0      |              |
| <b>Native</b>                              |            |            |            |            |              |
| <i>Quercus agrifolia</i>                   | 816        | 811        | 509        | 154        | 2,290        |
| <i>Umbellularia californica</i>            | -          | 40         | 14         | 1          | 55           |
| <i>Salix laevigata</i>                     | -          | 8          | 19         | 13         | 40           |
| <i>Salix lasiolepis</i>                    | -          | 12         | 16         | 9          | 37           |
| <i>Alnus rhombifolia</i>                   | -          | 16         | 7          | 2          | 25           |
| <i>Sequoia sempervirens</i>                | -          | 2          | 7          | 2          | 11           |
| <i>Sambucus nigra</i> ssp. <i>caerulea</i> | -          | 5          | 4          | 1          | 10           |
| <i>Prunus ilicifolia</i>                   | -          | 6          | 4          | -          | 10           |
| <i>Aesculus californica</i>                | -          | 3          | 3          | -          | 6            |
| <i>Arbutus menziesii</i>                   | -          | 1          | 4          | -          | 5            |
| <i>Platanus racemosa</i>                   | -          | 3          | 1          | -          | 4            |
| <i>Heteromeles arbutifolia</i>             | -          | 1          | -          | -          | 1            |
| <b>Total</b>                               | <b>816</b> | <b>908</b> | <b>588</b> | <b>182</b> | <b>2,494</b> |

**Table 3.** Summary of Impacted Native Trees by Condition

| Species                                    | Condition Rating |              |            |           | Total        |
|--|------------------|--------------|------------|-----------|--------------|
|  | Poor             | Fair         | Good       | Excellent |              |
| <b>Native</b>                              |                  |              |            |           |              |
| <i>Quercus agrifolia</i>                   | 386              | 1,220        | 634        | 50        | 2,290        |
| <i>Umbellularia californica</i>            | 5                | 14           | 33         | 3         | 55           |
| <i>Salix laevigata</i>                     | 24               | 9            | 6          | 1         | 40           |
| <i>Salix lasiolepis</i>                    | 22               | 13           | 2          | -         | 37           |
| <i>Alnus rhombifolia</i>                   | 10               | 12           | 3          | -         | 25           |
| <i>Sequoia sempervirens</i>                | -                | 4            | 2          | 5         | 11           |
| <i>Sambucus nigra</i> ssp. <i>caerulea</i> | 4                | 4            | 2          | -         | 10           |
| <i>Prunus ilicifolia</i>                   | 4                | 3            | 2          | 1         | 10           |
| <i>Aesculus californica</i>                | 2                | 3            | 1          | -         | 6            |
| <i>Arbutus menziesii</i>                   | 1                | 1            | -          | 3         | 5            |
| <i>Platanus racemosa</i>                   | 1                | 1            | 2          | -         | 4            |
| <i>Heteromeles arbutifolia</i>             | 1                | -            | -          | -         | 1            |
| <b>Total</b>                               | <b>460</b>       | <b>1,284</b> | <b>687</b> | <b>63</b> | <b>2,494</b> |

## Proposed Mitigation Plan

### *Mitigation Requirements per the City of Oakland Tree Ordinance*

The City of Oakland Tree Protection Ordinance requires replacement plantings to mitigate for the loss of functions provided by protected trees including shade, erosion control, groundwater replenishment, visual screening, and wildlife habitat. Preliminary mitigation criteria have been agreed upon in consultation with the City during a pre-application design conference and subsequent correspondence with between the City and the Applicant. Preliminary mitigation criteria are as follows:

1. Mitigation in the form of replacement trees is only required for native, protected trees. Replacement planting is not required for non-native protected trees (i.e. any non-native species 9 inches DBH or greater, excluding *Eucalyptus* spp. and Monterey pine).
2. Any native replacement tree will count towards mitigation for native protected tree removal.
3. Mitigation credits for replacement trees will be calculated at the following ratios (replacement trees to removed trees), with larger sized replacement trees receiving greater mitigation credit:
  - 5:1 for 5-gallon pot size;
  - 3:1 for 15-gallon;
  - 1:1 for 24-inch box size;
  - 1:1.5 for 36-inch box
  - 1:2 for 48-inch box
  - 1:3 for 60-inch box.

Details of the proposed tree replacement plan are described below.

### *Conceptual Tree Replacement Plan*

The proposed tree replacement/mitigation plan designed by Hart Howerton, Ltd. and WRA, entails replanting more than 5,000 native trees across more than 40 acres of the Project Area to compensate for the removal of 2,494 protected trees, for a greater than 2:1 overall mitigation ratio. The proposed mitigation planting palette, tree counts, and conceptual plan are shown on the preliminary tree mitigation map (Hart Howerton 2015; Appendix B). Replacement tree species include more than 10 native tree species, all of which are found to occur naturally within the vicinity of the Project Area. As described above, the Project Area contains significant stands of non-native invasive species, particularly blue gum, Monterey pine, and blackwood acacia. In addition to the tree impacts associated with grading, the Project proposes to remove several hundred non-native, invasive, and fire-prone tree species from several preserved areas with the Project Area. These invasive tree removal areas would then be restored and re-planted with native tree species. This restoration would ultimately improve habitat quality for native species and reduce the risk of fire.

The preliminary tree mitigation map (Appendix B) includes four conceptual planting areas including: open space/woodland slope areas, street tree planting areas, community center, and in-tract areas. In addition, the mitigation areas would include a proposed riparian planting palette in accordance with the proposed Rifle Range Creek Riparian Restoration Plan (WRA 2015b). Replacement trees sizes will vary from five-gallon pot size up to 60" box trees, with most replacement trees being 15-gallon pot size. Proposed spacing for replacement trees will range from grouped plantings 10 to 14 feet on center per 700 square feet for small 5- to 15-gallon pot sizes, to 23 to 26 feet on center for larger box trees. The final spacing of replacement

trees will be determined in consultation with the City Arborist and will be dependent on available space, slope, aspect and soil conditions.

### *Mature Tree Transplantation*

In addition to planting replacement trees from local nursery stock, the Project proposes to save and transplant mature, healthy, native trees from within the proposed LOD where feasible. The Project Applicant is currently assessing the feasibility of transplanting indigenous coast live oak trees from within the proposed LOD to the proposed mitigation areas. Transplanting mature, healthy coast live oak trees, indigenous to the Project Area, instead of removing and replacing with nursery stock would help to reduce the number of trees impacted by removal and would preserve healthy, locally adapted specimens, that in many cases are larger than any commercially available replacement trees.

Potential candidates for transplantation and preservation within the proposed mitigation area are currently being assessed based on the following criteria:

1. The tree is a native coast live oak within the proposed impact area/LOD.
2. The tree is in moderate to excellent condition, exhibiting no significant defect or health issue.
3. The tree is generally open-grown, and exhibits good form typical of the species. The tree is located on a negligible to mild slope, as trees growing in this topography typically develop stable root systems amenable to transplantation.

Although trees growing within closed canopy environments and on steep slopes may often be healthy and in good condition, these trees are often poor candidates for transplanting, as they are adapted to growing in closed canopy environments and will not fare well when transplanted into a new environment. Following the criteria listed above, it is estimated that approximately 30 to 60 indigenous coast live oak trees will be potentially transplanted into the proposed mitigation area.

In addition to transplanting potentially impacted native coast live oak trees, the Project Applicant is also assessing the feasibility of transplanting potentially impacted mature, healthy, non-native ornamental trees such as holly oak (*Quercus ilex*), and Deodar cedar (*Cedrus deodara*). As per the Ordinance described above, mitigation is not required for removal of non-native species; however, the Project Applicant is interested in reducing overall tree removal impacts where feasible, and transplanting trees off-site where feasible. Potential candidates for transplantation off-site are currently being assessed based on criteria 2 and 3 outlined above, except that these trees will be desirable non-invasive, ornamental species such as holly oak, and Deodar cedar. Non-native, invasive species such as *Eucalyptus* spp. and *Acacia* spp. will not be considered for transplantation. Potential off-site transplantation could include privately-owned land owners purchasing trees for use on private landscapes and/or donation of trees to the City for use on public lands such as City-owned parks.

### **Additional Considerations and Recommendations**

#### *Fire Prevention and Defensible Space Requirements*

Fire prevention and defensible space requirements are important considerations in regards to the conceptual tree mitigation/replanting plan. The California Department of Forestry and Fire Protection (CAL FIRE) has identified the Project Area as a Very High Fire Hazard Severity Zone (VHFHSZ) based on data and models of potential fuels and their expected fire behavior (CAL

FIRE 2008). Within areas designated as VHFHSZs, California Building Codes require that hazardous vegetation and fuels be managed to reduce the severity of potential for wildfire. Homeowners are required to maintain defensible fuel space, or areas of reduced vegetation intended to reduce the potential for wildfire to spread, within 100 feet of occupied structures.

In order to comply with defensible fuel space requirements, mitigation areas located within 100 feet of proposed structures would be maintained with a sparse understory and well-pruned, well-spaced trees.

#### *Sudden Oak Death Prevention*

Preventing the potential spread of *Phytophthora ramorum*, the pathogen that causes sudden oak death (SOD), is another factor to consider in the conceptual tree mitigation/replanting plan. Verified occurrences of SOD occur in the vicinity of the Project Area (Kelly and Tuxen 2003; Kelley et al. 2004). Laboratory testing of plant material is required for confirmation of the pathogen, and although this was not done, the presence of the disease within the Project Area is assumed based on the proximity of the nearest verified occurrence and observations of symptoms of the disease on susceptible species within the Project Area. Coast live oak is one of the primary true oak (*Quercus*) species killed by SOD, and within coast live oak woodland, California bay foliage is the primary vector of the pathogen (Swiecki and Bernhardt 2013). California bay is deliberately omitted from the replanting plant list due its role in spreading SOD. Additional measures recommended to prevent the spread of SOD during tree removal and replanting activities are described below.

Before working:

- Provide crews with sanitations kits. (Sanitation kits should contain the following: Chlorine bleach [10/90 mixture bleach to water], or Clorox Clean-up®, scrub-brush, metal scraper, boot brush and plastic gloves).
- Ensure that work crews have properly cleaned and sanitized pruning gear, trucks and chippers prior to entering the Project Area.
- Clean and sanitize shoes, pruning gear and other equipment before working in an area with susceptible species
- Susceptible species present within the Project Area include: coast live oak, canyon live oak, and California bay.

While working:

- When possible, conduct all tree work on *P. ramorum*-infected and susceptible species during the dry season (June - October). The pathogen is most likely to spread during periods of high rainfall especially in Spring (April and May). Working during wet conditions should be avoided.
- If working in wet conditions cannot be avoided, keep equipment on paved or dry surfaces and avoid mud.
- Work in disease-free areas before proceeding to suspected-infestation areas.

- All debris from California bay trees, the primary vector of the pathogen, shall be mulched and spread in place, moved to a sunny dry area free of coast live oak, or disposed of off-site in a permitted disposal facility in accordance with state and federal regulations.
- When removing California bay trees, all mulch and debris shall be segregated from other species when chipping, and all pruning gear and equipment, including chippers and trucks shall be cleaned and sanitized before working on coast live oaks.

After working:

- Use all reasonable methods to clean and sanitize personal gear and crew equipment before leaving a *P. ramorum*-infested site. Scrape, brush and/or hose off accumulated soil and mud from clothing, gloves, boots and shoes. Remove mud and plant debris, especially California bay, by blowing it out or power washing chipper trucks, chippers, buckets trucks, fertilization and soil aeration equipment, cranes, and other vehicles.
- Restrict the movement of soil and leaf litter under California bay trees as spores are most abundant on California bay leaves. Contaminated soil, particularly mud, and plant debris on vehicle tires, workers boots, shovels, chippers, stump grinders, trenchers, etc., may result in pathogen spread if moved to a new, uninfested site. Thoroughly clean all equipment and remove or wash off soil, mud, and plant debris from these items before use at another site. If complete on-site sanitation is not possible, complete the work at a local power wash facility.
- Tools used in tree removal/pruning may become contaminated and should be cleaned thoroughly with a scrub brush and disinfected with Lysol® spray, a 70% or greater solution of alcohol, or a Clorox® solution (1 part Chlorox® to 9 parts water or Clorox Clean-up®).

When planting:

- Replanting should occur in the early fall when the pathogen is less active, and in order to take advantage of seasonal rains. Replanting activities should avoid late winter and spring.
- Planting sites for susceptible species including coast live oak and canyon live oak should be selected in areas that are at least 20 yards away from California bay trees, brush and/or plant material.
- California bay shall not be used as mulch for new plantings.
- Small, non-protected (less than 9 inches diameter) California bay trees and brush should be cleared within a 20-yard or greater buffer where feasible to protect susceptible oak trees that are selected for preservation.

## Conclusions

The Project would remove approximately 2,494 native trees and 1,975 non-native trees from within the Project Area. As mitigation, the Project would plant more than 5,000 native trees across more than 40 acres of the Project Area. In addition, the project would preserve 2,314 native trees and would restore the entire Rifle Range Creek corridor as well as several native oak woodland areas. Overall, the project would result in a net increase in the number of trees



and acres of woodland currently present within the Project Area, including a substantial net increase in the number of native trees and native oak woodland areas (Table 4).

**Table 4.** Summary of Proposed Changes in Tree Counts and Woodland Acreages as a Result of the Project

| Metric                     | Existing | Proposed | Approximate Change |
|----------------------------|----------|----------|--------------------|
| Number of Trees            | 7,170    | >8,000   | +830 (+12%)        |
| Native Trees               | 4,808    | >7,500   | +2,692 (+56%)      |
| Non-native Trees           | 2,362    | ~500     | -1862 (-79%)       |
| Acres of Oak Woodland      | 28.9     | ~45.0    | +16.1 (+56%)       |
| Acres of Riparian Woodland | 7.3      | ~16.0    | +8.7 (+119%)       |

## References

- California Department of Forestry and Fire Protection (CAL Fire). 2008. Very High Fire Hazard Severity Zones in LRA as Recommended by CAL Fire. CAL Fire-FRAP, PO Box 944246, Sacramento, California. Available online at <http://frap.cdf.ca.gov>. Accessed November 2015.
- Kelly, NM, and K Tuxen. 2003. WebGIS for sudden oak in coastal California. *Computers, Environment and Urban Systems* 27(5): 527-547
- Kelly, M, KA Tuxen, and FR Kearns. 2004. Geospatial informatics for management of a new forest disease: Sudden Oak Death. *Photogrammetric Engineering and Remote Sensing* 70(9): 1001-1004.
- Swiecki, T. J. and E. A. Bernhardt. 2013. A reference manual for managing sudden oak death in California. Gen. Tech. Rep. PSW-GTR-242. Albany, California: U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station. 129 p.
- WRA, Inc. 2015a. Rifle Range Creek Riparian Restoration Plan. 24 pp.
- WRA, Inc. 2015b. Tree Survey Report for the Oak Knoll Project. 8 pp.



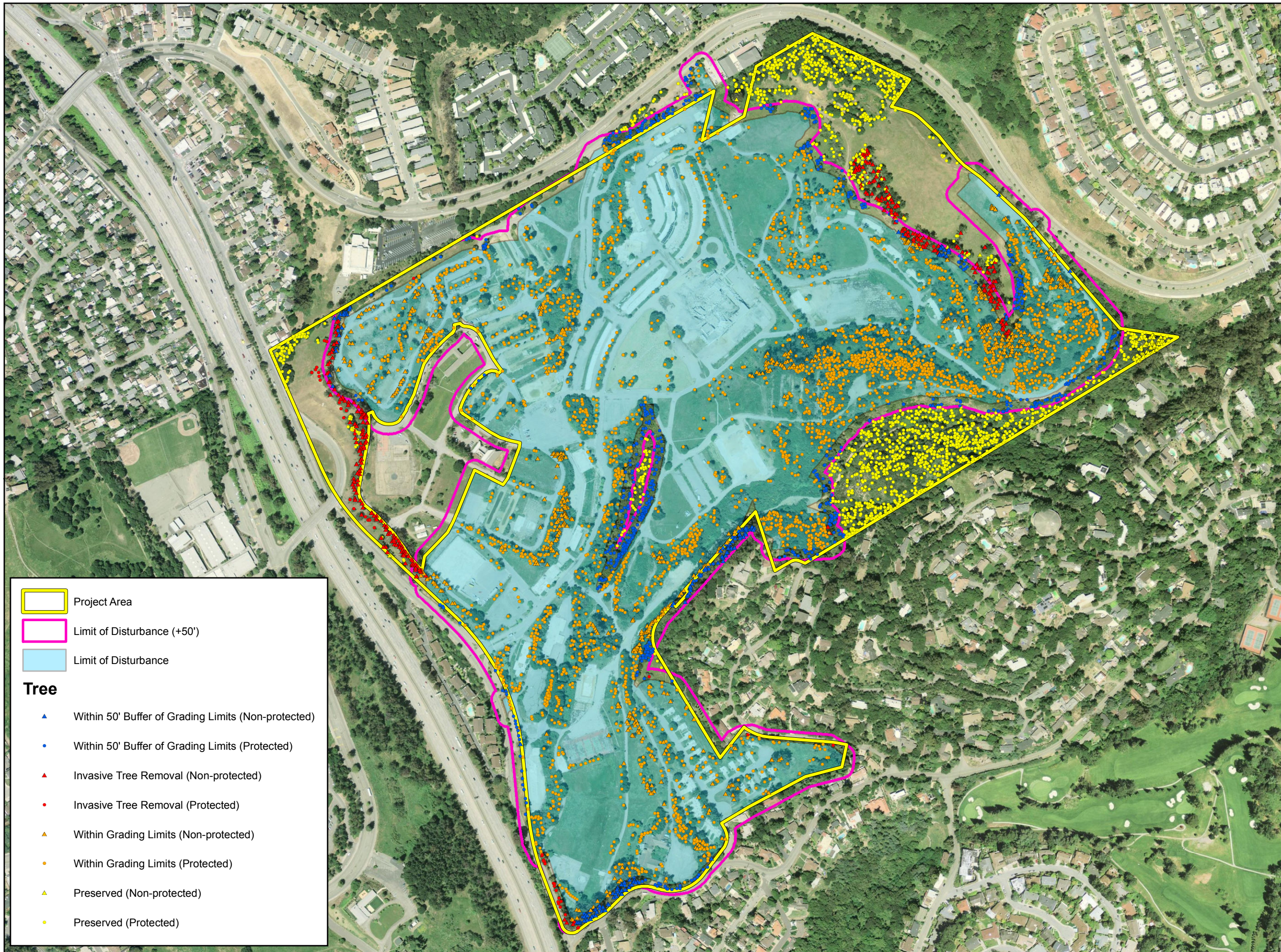
**APPENDIX A. TREE REMOVAL PLAN**














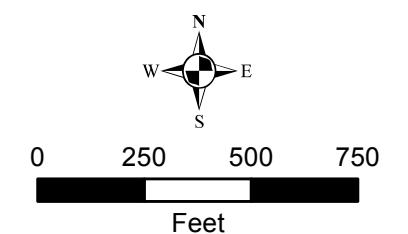
Oak Knoll Mixed Use  
Community  
Development Project

Alameda County,  
California

Tree Removal Plan



-  Project Area
  -  Limit of Disturbance (+50')
  -  Limit of Disturbance
- Tree**
-  Within 50' Buffer of Grading Limits (Non-protected)
  -  Within 50' Buffer of Grading Limits (Protected)
  -  Invasive Tree Removal (Non-protected)
  -  Invasive Tree Removal (Protected)
  -  Within Grading Limits (Non-protected)
  -  Within Grading Limits (Protected)
  -  Preserved (Non-protected)
  -  Preserved (Protected)



Map Prepared Date: 11/23/2015  
Map Prepared By: czumwalt  
Base Source: USGS EROS  
Data Source(s): WRA



**APPENDIX B. CONCEPTUAL MITIGATION PLAN**





**DRAFT**

Note: Location of proposed trees shown is approximate and may vary based on site conditions.



OAK KNOLL MITIGATION PLANT LIST

| Area   | Tree Size              | Tree Species                           | Tree Count | Mitigation Credit |
|--|------------------------|--|------------|-------------------|
| Open Space/<br>Woodland<br>Slope Areas/<br>Parks | 24" box                | Quercus agrifolia / Coast Live Oak     | (600)      | 1:1               |
|  | 15 gal.                | Quercus agrifolia / Coast Live Oak     | (1500)     | 3:1               |
|  | 5 gal.                 | Quercus agrifolia / Coast Live Oak     | (600)      | 5:1               |
|  | 15 gal.                | Quercus wislizenii / Interior Live Oak | (50)       | 3:1               |
|  | 15 gal.                | Quercus chrysolepis / Canyon Live Oak  | (150)      | 3:1               |
|  | 15 gal.                | Heteromeles arbutifolia / Toyon        | (300)      | 3:1               |
|  | 15 gal.                | Aesculus californica / Buckeye         | (350)      | 3:1               |
|  | 15 gal.                | Garrya / Silktassel                    | (300)      | 3:1               |
|  | 5 gal.<br>(or 15 gal.) | Arbutus menziesii / Madrone            | (50)       | 5:1 (3:1)         |
|  | 5 gal.                 | Heteromeles arbutifolia / Toyon        | (300)      | 5:1               |
|  | 5 gal.                 | Aesculus californica / Buckeye         | (300)      | 5:1               |
|  | 5 gal.                 | Garrya / Silktassel                    | (295)      | 5:1               |

MITIGATION CREDIT **1,792 trees**

Notes: Spacing of trees to be determined with City Arborist. 24" box trees to be spaced 23'-26' o.c., 15 gallon trees to be planted in groups of (3) with varied spacing of 13'-14' o.c. with (3) trees per 700 sq.ft and 5 gallon trees to be planted in groups of (5) with varied spacing of 10'-11' o.c. with (5) trees per 700 sq.ft  
\*Riparian Area tree species per WRA - proposed palette for Riparian Upper Bank & Buffer areas include Coast Live Oak, California Buckeye, and Toyon.

| Area   | Tree Size | Tree Species                       | Tree Count | Mitigation Credit |
|--|-----------|------------------------------------|------------|-------------------|
| Typical Secondary Street Tree Planting: Level Street Planter | 36" box   | Quercus agrifolia / Coast Live Oak | 350        | 1:1.5             |

MITIGATION CREDIT **525 trees**

Notes: Spacing (1) per lot, approximately 40'-60' apart.

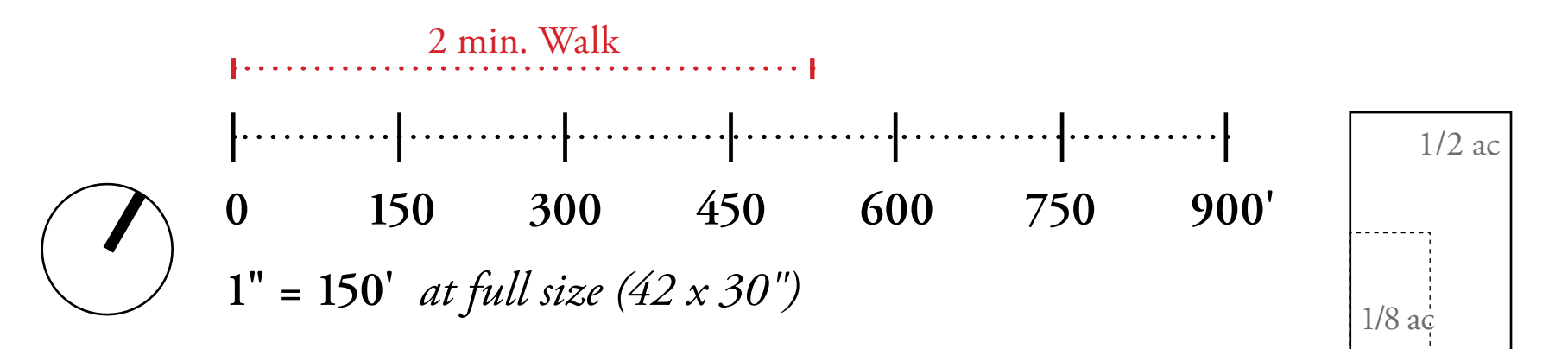
| Area             | Tree Size | Tree Species  | Tree Count | Mitigation Credit |
|------------------|-----------|---|------------|-------------------|
| Community Center | 60" box   | Quercus lobata / Valley Oak                           | (12)       | 1:3               |
|                  | 60" box   | Quercus agrifolia / Coast Live Oak                    | (23)       | 1:3               |
|                  | 60" box   | Sequoia sempervirens / Coast Redwood (near lawn area) | (18)       | 1:3               |

MITIGATION CREDIT **159 trees**

Notes: Spacing per plan, minimum 40' apart

| Area           | Tree Size | Tree Species                          | Tree Count | Mitigation Credit |
|----------------|-----------|---------------------------------------|------------|-------------------|
| In-Tract Areas | 48" box   | Quercus agrifolia / Coast Live Oak    | (95)       | 1:2               |
|                | 48" box   | Quercus lobata / Valley Oak           | (25)       | 1:2               |
|                | 24" box   | Aesculus californica / Buckeye        | (10)       | 1:1               |
|                | 48" box   | Quercus chrysolepis / Canyon Live Oak | (30)       | 1:2               |
|                | 48" box   | Acer macrophyllum / Big Leaf Maple    | (20)       | 1:2               |

MITIGATION CREDIT **350 trees**



OFFICE OF HISTORIC PRESERVATION  
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May 31, 1994

USN9409228A

Louis S. Wall  
Cultural Resources Coordinator  
Department of the Navy  
Western Division, NFEC  
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Re: Naval Medical Center, Oakland, Alameda County.

Dear Mr. Wall:

Thank you for submitting to our office your February 23, 1994 letter and supporting documentation regarding the Naval Medical Center, and the Oak Knoll Golf and Country Club, Oakland, Alameda County. The Naval Medical Center complex, in its existing form, consists of 45 buildings. These buildings are identified as:

- o Building 8 - Laundry
- o Building 9 - Unknown
- o Building 10 - Public Works Building
- o Building 11 - Public Works Storehouse
- o Building 13 - Storage Garage
- o Building 14 - Autopsy Building and Animal House
- o Building 19 - Garage
- o Building 20B - Unknown
- o Building 20C - Unknown
- o Building 22 - Heating Plant
- o Building 36 - Fire House
- o Building 37 - Storage Garage
- o Building 38 - Community Service Building
- o Building 58 and L63 - Garages
- o Buildings 62, 63, 65 - Ward Buildings
- o Building 66, 67 - S. O. Q.
- o Building 69 - O. P. D.
- o Building 70, 73, 75 - Ward Buildings
- o Building 85 - Unknown
- o Building 101 - Administration Building
- o Building 102 - Occupational Therapy
- o Building 103 - Bowling Alley
- o Building 107 - Unknown
- o Building 110 - Public Works Storage
- o Building 111-113 Garage Office, Shop and Storage
- o Building 114 - Unknown
- o Building 115 - Unknown
- o Building 116 - Unknown

- o Building 131 - Chapel
- o Building 133 - Marine Storage
- o Building 137/138 - Filtration Plant/Swimming Pool
- o Buildings A, B, and C - Officer's Quarters
- o Buildings D and E - Executive Officer's Quarters and  
Commanding Officer's Quarters


The Oak Knoll Golf and Country Club consists of the Clubhouse and a two-car garage.

You are seeking our comments on your determination of the eligibility of structures located within the boundaries of the Naval Medical Center Complex and the Oak Knoll Golf and Country Club for inclusion on the National Register of Historic Places (NRHP) in accordance with Section 106 of the National Historic Preservation Act. Our review of the submitted documentation leads us to concur with your determination that none of the aforementioned properties are eligible for inclusion on the NRHP under any of the criteria established by 36 CFR 60.4. The Naval Medical Center complex as a whole has undergone a number of significant changes including demolition of 60% of its World War II era hospital buildings, and the addition of non-historic features that have contributed to a major loss of structural and design integrity.

The Oak Knoll Golf and Country Club has lost much of its integrity through the loss of the actual golf course. This loss severely compromises the facility's historic associations with golfer Mark Fry and course designer William Watson under Criterion B as defined in 36 CFR 60.4. In addition, the Clubhouse has not been shown to be an outstanding example of its type, given the fact that the Spanish Colonial revival style was common for Bay Area clubhouses built in the 1920s.

Thank you again for seeking our comments on your project. If you have any questions, please contact staff historian Clarence Caesar at (916) 653-8902.

Sincerely,



Cherilyn Widell  
State Historic Preservation Officer



## DEPARTMENT OF THE NAVY

WESTERN DIVISION  
NAVAL FACILITIES ENGINEERING COMMAND  
900 COMMODORE DRIVE  
SAN BRUNO, CALIFORNIA 94086-2402

IN REPLY REFER TO:

5090.1A  
09F2LW/EP-462  
February 23, 1994

Steade R. Craigo, A.I.A.  
Acting State Historic Preservation Officer  
Department of Parks and Recreation  
P.O. Box 942896  
Sacramento, CA 94296-0001

Dear Mr. Craigo:

The Department of the Navy retained the firm of Page & Turnbull of San Francisco to prepare a brief historical overview of Naval Medical Center, Oakland, California. The overview develops the historic context which has been used to evaluate the buildings and structures of the former Naval Hospital for inclusion in the National Register of Historic Places. A copy of this document entitled "Context Statement and Historic Resource Inventory" is enclosed. It also includes Department of Parks and Recreation (DPR) forms 523 for the remaining hospital buildings and structures built during World War II. We agree with our consultant's findings that these buildings have been altered and their setting greatly changed, and therefore, they do not qualify for inclusion in the National Register.

Also enclosed is a completed National Register Nomination Form for the Former Oak Knoll Golf and Country Club Clubhouse, currently the Officer's Club at the medical center. We initially believed that the building would qualify for the National Register because of its architectural design. However, after researching the structure our consultant had reservations about this possibility. The design, Spanish Colonial, is representative of the period in which it was built. But there are better examples of clubhouses in this style at other golf and country clubs in the Bay area. Many of those were designed by well known architects of that period. The same can not be said for the designer of the Oak Knoll Clubhouse. He was a relatively unknown architect, whose only commission in the Bay area may have been this building. Because its association with the World War II was peripheral and the rest of the World War II base is either altered or destroyed it does not appear to qualify for its association with important events in American history, architecture, nor culture.

Our consultant's research led to the local golf pro, who set many club records, and was well known in the Bay area in the 1930s and early 1940s. If anything she believed the clubhouse might qualify for its association with this local golf pro, or perhaps because of this association and its architectural design. We question whether the local golf pro was important enough to qualify the former Oak Knoll Golf and Country Club Clubhouse for inclusion in the National Register. We do not believe the clubhouse without the golf course, the site of the pro's triumphs that made his fame, will qualify for this association. Furthermore, we question whether the property qualifies for the National Register for its architecture.

The Naval Medical Center, Oakland is included on the list of Naval shore facilities closed by the Base Realignment and Closure Commission in 1993. Therefore, pursuant to the regulations (36 CFR Part 800), implementing Section 106 of the National Historic Preservation Act of 1966, as amended, we are

seeking your opinion as to the eligibility of the clubhouse, and your opinion on our determination that the remaining World War II buildings have lost their integrity and will not qualify for inclusion in the National Register. Please contact me at (415) 244-3719, if you require additional information or wish to inspect the property before providing comment.

Your continued assistance and cooperation are appreciated.

Sincerely,



LOUIS S. WALL  
Cultural Resources Coordinator  
Environmental Planning Branch

Enclosures

Copy to:  
Claudia Nissley, ACHP, Golden, CO, w/encl



## Historic Resource Inventory

Final

### Oak Knoll

(Former U.S. Naval Hospital)

Oakland, California

October 26, 2006

Prepared for  
SunCal Oak Knoll, LLC  
Oakland, California

Prepared by  
**PAGE & TURNBULL, INC.**  
724 Pine Street, San Francisco, California 94108  
415.362.5154 / [www.page-turnbull.com](http://www.page-turnbull.com)



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## I. INTRODUCTION

This Historic Resources Inventory and Assessment Report has been prepared at the request of SunCal Oak Knoll, LLC for the former U.S. Naval Hospital in Oakland, California. The former U.S. Naval Hospital (also known as the Naval Medical Center, Oakland, the Oakland Naval Hospital or Oak Knoll) is located on an approximately 193-acre, L-shaped parcel bounded by Keller Avenue to the north and east, Sequoyah Road and a residential neighborhood to the south, and the MacArthur Freeway (I-580) and Mountain Boulevard to the west. Prior historic evaluation work on this site has included the *Context Statement and Historic Resources Inventory* (1994 Historic Resources Inventory) completed by Page & Turnbull in January 1994.<sup>1</sup> The 1994 Historic Resources Inventory determined that the only resource identified as having historical value was Building No. 18 – the former base clubhouse and only remnant of the Oak Knoll Golf Course. This resource was considered eligible for listing in the National Register of Historic Places (National Register). The National Register nomination forms completed in the mid-1990s included both Building No. 18 and its WWII-era garage (Building No. 19), which was identified as a contributing structure to Building No. 18. Later consultation with the Navy and California State Office of Historic Preservation (SHPO) determined that Buildings No. 18 and 19 were not eligible for listing in the National Register.

This report updates the findings of Page & Turnbull's former survey and provides an inventory of all buildings and structures currently located on the site. This inventory includes an evaluation of the significance of each extant property on the Oak Knoll site according to National Register standards for evaluating historic resources. Based upon these findings, this report provides an additional analysis of those properties that appear to be eligible for listing in the California Register of Historic Resources (California Register) and the City of Oakland's Local Register of Historic Resources. Also included is the existing historical status of the buildings that were previously surveyed, an annotated version of the conclusions of the 1994 Historic Resources Inventory, building data for the extant buildings, and images of the site.

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<sup>1</sup> Page & Turnbull, *Context Statement and Historic Resources Inventory: Naval Medical Center, Oakland, California*, Contract No. N62474-93-M-2193 (January 1994).

### *Abbreviated History*

Founded on July 1, 1942, the U.S. Naval Hospital in Oakland was the fourth major hospital built on the West Coast and was the 48<sup>th</sup> naval hospital out of sixty-five built to date.<sup>2</sup> This hospital complemented the Navy's other facilities at Mare Island and San Diego in California and Bremerton in Washington. Designed by the San Francisco firm of Frick and Weihe with assistance from Blanchard and Maher, the hospital complex was located on the site of the Oak Knoll Country Club, which was acquired by the Navy through eminent domain. The first buildings completed on the site included the Administration Building (Building No. 101), a "subsistence building," surgical suites, laboratories, a powerhouse, ward buildings and living quarters. By 1943, the hospital's capacity had increased to approximately 3,500 beds through the construction of additional wards, laboratories and hospital buildings. During the wartime years, the hospital complex had evolved from a collection of medical buildings to a full-fledged hospital community, complete with staff residences and recreational facilities. By the end of war in September 1945, the campus had approximately 111 hospital buildings, consisting of seventy-nine ward buildings, nine service buildings, two commissaries, twelve barracks for staff, an administration building, a library, a chapel, and recreation facilities. After the war, from the late 1940s to 1950s, the hospital continued as one of the Navy's main medical facilities on the West Coast and the largest naval treatment and training facility in commission.<sup>3</sup> During this time period, the hospital became home to the Navy's Prosthetic Research Laboratory and psychiatric treatment center and participated in the treatment of Korean War veterans. By the 1960s, many of the hospital's facilities and departments had been condensed and consolidated into a large Moderne hospital (Building No. 500), completed in 1968. By this time, many of the World War II-era buildings had either been demolished or altered by the addition of cement asbestos shingles. In 1993, the Oakland Naval Hospital was listed as part of the Base Re-Alignment and Closure Commission's recommendations for closure. On September 30, 1996, the former U.S. Naval Hospital in Oakland closed its doors after fifty-four years of service.

The U.S. Naval Hospital in Oakland represents one of three military installations in the City of Oakland. The other two bases, the Naval Supply Center and the Oakland Army Base, have either been demolished (Naval Supply Center) or are in the process of being closed (Oakland Army Base). The closure of the U.S. Naval Hospital in 1996 represents a continual loss of Oakland's military heritage.

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<sup>2</sup> *Naval Medical Center Oakland: History of 54 Years of Dedicated Service to the Fleet, 1942-1996* (Naval Medical Center Oakland Public Affairs Department, 1996) pg. 1.

<sup>3</sup> *Ibid.*, pg. 24.

For additional information, refer to the *Context Statement* prepared for the 1994 Historic Resources Inventory (**refer to VII. APPENDIX**).

### *Methodology*

From February 23 to February 24, 2006, Page & Turnbull staff completed a reconnaissance-level survey, digital photography, and inventory of all extant properties on the Oak Knoll site (**III. RECONNAISSANCE SURVEY**).<sup>4</sup> As part of this survey, the properties were evaluated and categorized as: “Eligible,” “Requires Further Research,” or “Not Historic.”<sup>5</sup> This categorization was utilized by Page & Turnbull in defining the reconnaissance-level survey of the site and does not constitute the evaluation of the property for eligibility on any national, state or local historical register. In addition to the survey, Page & Turnbull performed research at the U.S. National Archives and Records Administration in San Bruno, California. Utilizing this information, the reconnaissance-level survey, and previous evaluations and documentation work on the site, Page & Turnbull completed an assessment of the properties remaining on the Oak Knoll site for their eligibility for listing in the National Register of Historic Places (provided in **IV. EVALUATION**). On July 27, 2006, additional research was completed at the site’s former facilities records and maintenance offices (Building 505). During this research visit, historic architectural drawings were uncovered for some of the properties under review. In August 2006, Page & Turnbull completed an additional assessment of properties that warranted further review and evaluation. This assessment evaluated sixteen properties for their eligibility for listing in the California Register of Historic Resources and the City of Oakland’s Local Register of Historic Resources and Cultural Heritage Survey Evaluation. The conclusions of the evaluation are summarized in **Table 3. Evaluation of Oak Knoll Properties for Listing in National, State, or Local Historical Registers**.

---

<sup>4</sup> Page & Turnbull staff included J. Gordon Turnbull (principal-in-charge), Richard Sucré (project manager), Elizabeth Milnarik (Designer/Architectural Historian), Cora Palmer (Architectural Historian), Michael Tornabene (Designer), Christopher VerPlanck (Principal Historian), and Eileen Wilde (Architectural Historian).

<sup>5</sup> See **Table 2. Evaluation Summary of Reconnaissance-level Survey of Oak Knoll site**.

## II. PRIOR HISTORIC RESOURCES INVENTORIES & DETERMINATIONS

The following examines the existing historical status and previous historic resource inventories and determinations performed at the former U.S. Naval Hospital in Oakland.

### *Existing Historical Status*

According to the State of California Office of Historic Preservation's *Historic Property Data File for Alameda County*, several buildings and structures at the Oakland Naval Hospital were previously evaluated and assigned California Historical Resource Status Codes (**refer to Table 1**). Properties listed or under review by the State of California Office of Historic Preservation are assigned a California Historical Resource Status Code (Status Code) of "1" to "7," to establish their historical significance in relation to the National Register of Historic Places (National Register or NR) or California Register of Historical Resources (California Register or CR). Properties with a Status Code of "1" or "2" are either eligible for listing in the California Register or the National Register, or are already listed on one or two of the registers. Properties assigned Status Codes of "3" or "4" appear to be eligible for listing in either register, but normally require more research to support this rating. Properties assigned a "5" have typically been determined to be locally significant or to have contextual importance. Properties with a Status Code of "6" are not eligible for listing in either register or are not of historical importance. Finally, a Status Code of "7" means that the resource has not been evaluated for the National Register or the California Register, or needs reevaluation.

All of the resources, surveyed as part of the U.S. Naval Hospital in Oakland, were assigned a National Register Status Code of "6Y2" (**refer to Table 1**). According to the State of California Office of Historic Preservation, equivalent California Register Status Code is "6Y," which means it "Determined ineligible for NR by consensus through Section 106 process – Not evaluated for CR or Local Listing."

**Table 1. Resources on the U.S. Naval Hospital in Oakland listed in the *Historic Property Data File* for Alameda County.**

| <b>Building No.</b> | <b>Name (if listed)</b>                     | <b>National Register<br/>Status Code</b> | <b>California Register<br/>Status Code<sup>6</sup></b> | <b>Date<br/>Evaluated</b> |
|---------------------|---|--|--|---------------------------|
| 8                   | Laundry                                     | 6Y2                                      | 6Y   | 05/31/94                  |
| 9                   |   | 6Y2                                      | 6Y   | 05/31/94                  |
| 10                  | Public Works Building                       | 6Y2                                      | 6Y   | 05/31/94                  |
| 11                  | Public Works Storehouse                     | 6Y2                                      | 6Y   | 05/31/94                  |
| 13                  | Storage Garage                              | 6Y2                                      | 6Y   | 05/31/94                  |
| 14                  | Autopsy Building                            | 6Y2                                      | 6Y   | 05/31/94                  |
| [18]                | Oak Knoll Golf Course<br>Clubhouse          | 6Y2                                      | 6Y   | 05/31/94                  |
| [19]                | Garage – Oak Knoll Golf<br>and Country Club | 6Y2                                      | 6Y   | 05/31/94                  |
| 19                  | Garage                                      | 6Y2                                      | 6Y   | 05/31/94                  |
| 20B                 |   | 6Y2                                      | 6Y   | 05/31/94                  |
| 20C                 |   | 6Y2                                      | 6Y   | 05/31/94                  |
| 22                  | Heating Plant                               | 6Y2                                      | 6Y   | 05/31/94                  |
| 36                  | Fire House                                  | 6Y2                                      | 6Y   | 05/31/94                  |
| 37                  | Storage Garage                              | 6Y2                                      | 6Y   | 05/31/94                  |
| 38                  | Community Service Bldg                      | 6Y2                                      | 6Y   | 05/31/94                  |
| 58                  | Garage                                      | 6Y2                                      | 6Y   | 05/31/94                  |
| 62                  | Ward Building                               | 6Y2                                      | 6Y   | 05/31/94                  |
| 63                  | Ward Building                               | 6Y2                                      | 6Y   | 05/31/94                  |
| 65                  | Ward Building                               | 6Y2                                      | 6Y   | 05/31/94                  |
| 66                  | S.O.Q.                                      | 6Y2                                      | 6Y   | 05/31/94                  |
| 67                  | S.O.Q.                                      | 6Y2                                      | 6Y   | 05/31/94                  |
| 69                  | O.P.D.                                      | 6Y2                                      | 6Y   | 05/31/94                  |
| 70                  | Ward Building                               | 6Y2                                      | 6Y   | 05/31/94                  |
| 73                  | Ward Building                               | 6Y2                                      | 6Y   | 05/31/94                  |
| 75                  | Ward Building                               | 6Y2                                      | 6Y   | 05/31/94                  |
| 85                  |   | 6Y2                                      | 6Y   | 05/31/94                  |
| 101                 | Administration Building                     | 6Y2                                      | 6Y   | 05/31/94                  |
| 102                 | Occupational Therapy                        | 6Y2                                      | 6Y   | 05/31/94                  |
| 103                 | Bowling Alley                               | 6Y2                                      | 6Y   | 05/31/94                  |
| 107                 |   | 6Y2                                      | 6Y   | 05/31/94                  |
| 110                 | Public Works Storage                        | 6Y2                                      | 6Y   | 05/31/94                  |
| 111                 | Garage Office                               | 6Y2                                      | 6Y   | 05/31/94                  |
| 112                 | Shop  | 6Y2                                      | 6Y   | 05/31/94                  |
| 113                 | Storage                                     | 6Y2                                      | 6Y   | 05/31/94                  |
| 114                 |   | 6Y2                                      | 6Y   | 05/31/94                  |
| 115                 |   | 6Y2                                      | 6Y   | 05/31/94                  |
| 116                 |   | 6Y2                                      | 6Y   | 05/31/94                  |
| 131                 | Chapel                                      | 6Y2                                      | 6Y   | 05/31/94                  |
| 133                 | Marine Storage                              | 6Y2                                      | 6Y   | 05/31/94                  |

<sup>6</sup> In August 2003, the former National Register Status Codes were revised to reflect the standards of the California Register, thus creating the California Historical Resource Status Codes classification system.

**Table 1. (conti nued)**

| <b>Building No.</b> | <b>Name (if listed)</b>          | <b>National Register<br/>Status Code</b> | <b>California Register<br/>Status Code</b> | <b>Date<br/>Evaluated</b> |
|---------------------|----------------------------------|--|--|---------------------------|
| 137                 | Filtration Plant                 | 6Y2                                      | 6Y   | 05/31/94                  |
| 138                 | Swimming Pool                    | 6Y2                                      | 6Y   | 05/31/94                  |
| A                   | Officer's Quarters               | 6Y2                                      | 6Y   | 05/31/94                  |
| B                   | Officer's Quarters               | 6Y2                                      | 6Y   | 05/31/94                  |
| C                   | Officer's Quarters               | 6Y2                                      | 6Y   | 05/31/94                  |
| D                   | Executive Officer's<br>Quarters  | 6Y2                                      | 6Y   | 05/31/94                  |
| E                   | Commanding Officer's<br>Quarters | 6Y2                                      | 6Y   | 05/31/94                  |
| L63                 | Garage                           | 6Y2                                      | 6Y   | 05/31/94                  |

### *Prior Historic Resources Inventories & Nominations*

In January 1994, Page & Turnbull published the final draft of the *Context Statement and Historic Resources Inventory: Naval Medical Center, Oakland, California* (hereafter referred to as the 1994 Historic Resources Inventory). This document provided a historic context and National Register-eligibility evaluation of all properties built before World War II. This evaluation included an analysis of the site for its eligibility as a historic district and an analysis of the WWII-era properties for their individual eligibility. Therefore, only properties constructed prior to 1945 were surveyed. Additionally inventory forms, modeled after the State of California's DPR 523 Historic Resource Inventory Forms, were completed for the three major building/property types and submitted to the California Office of Historic Preservation (OHP). The three major building/property types were:

1. Sheds, utility and storage buildings, fire station and heating plant
2. Ward, therapy, and administration buildings, swimming pool and filtration plant community service building, chapel and bowling alley;
3. Single-family dwellings and garages

The 1994 Historic Resources Inventory grouped the WWII-era buildings into three building types based upon their functional relationships to the activities at the hospital. All of the WWII-era properties at the hospital were commissioned by the Navy's Bureau of Yards and Docks (BUDOCKS, later known as the Naval Facilities Engineer Command - NAVFAC), designed by the firm of Frick & Weihe and constructed by builders K.E. Parker Co. between 1942 and 1945. The following provides a brief description of the three building types and buildings listed within each group:<sup>7</sup>

- **Type I – Industrial, utility and ancillary resources**

The resources listed in this category include sheds, utility and storage buildings, the fire station, the heating plant, and a single ancillary garage. These buildings can be characterized by a long, narrow, rectangular plan, gable-roofed building module. The basic module was widened to accommodate specific uses (such as the heating plant) or expanded with a variety of shed-roofed projections. Most of the buildings featured similar construction characteristics: reinforced concrete perimeter footings; slabs-on-grade or concrete pier foundation; wood-frame construction consisting of stud wall framing with wood floors and trussed roofs; painted cement asbestos shingles on building paper over the original beveled

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<sup>7</sup> This classification system has been excerpted from the 1994 Historical Resources Inventory. Edited by the author.



redwood siding; composition roof shingles; boxed eaves with hung, ogee-shaped metal gutters; multi-light, double-hung wood windows (typical light pattern of six-over-six); multi-light over multi-panel wood doors (typical four-light over three-panel); and thin, trabeated wood doors and window surrounds. A total of twenty-two buildings and structures are listed in this group:

- No. 8 Laundry
- No. 9
- No. 10 Public Works Building
- No. 11 Public Works Storehouse
- No. 13 Storage Garage
- No. 14 Autopsy Building & Animal House
- No. 19 Garage
- No. 20B
- No. 20C
- No. 22 Heating Plant
- No. 36 Fire House
- No. 37 Storage Garage (demolished)
- No. 85 (demolished)
- No. 107 (demolished)
- No. 110 Public Works Storage
- No. 111 Garage Office Shop & Storage
- No. 112 Garage Office Shop & Storage
- No. 113 Garage Office Shop & Storage
- No. 114
- No. 115
- No. 116 Covered Vehicle Parking
- No. 133 Marine Storage

- **Type II – Administrative, recreational and medical resources**

The resources listed in this category include the ward, therapy and administration buildings, swimming pool (and filtration plant), community service building, chapel and bowling alley. These buildings and structures share many of the same characteristics as the Type I buildings. Type II buildings are characterized by long, narrow, gable-roofed building modules. In several instances, this module was configured into an H-shaped plan. Type II buildings share similar construction characteristics and materials as Type I buildings, including: reinforced concrete perimeter footings; slab-on-grade or concrete pier foundations; wood-frame construction consisting of stud-frame walls with wood floors and trussed roofs; painted cement asbestos shingles on building paper over the original beveled redwood siding; composition roof shingles; boxed eaves with hung, ogee-shaped metal gutters; multi-light, double-hung wood windows (typical light configuration of six-over-six); multi-light over multi-panel wood doors (typical four-light over three-panel); and thin, trabeated wood doors and window surrounds. Although the Type I and Type II buildings and structures share common materials and construction features, the dimension and quality of finish vary greatly from one type to the other. Due to their public use, the Type II buildings often feature higher quality interior finishes, including plaster walls and ceilings, wood trim and linoleum flooring. A total of sixteen buildings and structures are listed in this group:

- No. 38 Community Service Building
- No. 62 Ward Building
- No. 63 Ward Building
- No. 65 Ward Building
- No. 66 S.O.Q.
- No. 67 S.O.Q.
- No. 69 O.P.D.
- No. 70 Ward Building
- No. 73 Ward Building (demolished)
- No. 75 Ward Building
- No. 101 Administration Building
- No. 102 Occupational Therapy
- No. 103 Bowling Alley
- No. 131 Chapel
- No. 137 Filtration Plant
- No. 138 Swimming Pool

- **Type III – Residential**

The resources listed in this category include residences and associated garages. These buildings are located in the eastern portion of the campus and can be subdivided into three distinct groups based upon their architectural characteristics and location: 1) Buildings No. A, B, and C; 2) Buildings No. D and E; and 3) Garages No. 58 and L63. Buildings No. A, B, and C are simple, one-story gable-roofed dwellings with porches and projections. They feature composition shingle roofs, boxed eaves, beveled wood siding and six-over-six light, double-hung wood-sash windows. Buildings No. D and E are two-story dwellings with concrete foundations, wood-frame construction, beveled wood siding, composition roof shingles, boxed eaves and six-over-six, double-hung wood-sash windows. Finally, Buildings No. 58 and L63 are associated with their respective single-family dwellings and are one-story, two-car garages with composition roof shingles. A total of seven buildings are listed in this group:

- No. A Officer's Quarters
- No. B Officer's Quarters
- No. C Officer's Quarters
- No. D Executive Officer's Quarters
- No. E Commanding Officer's Quarters
- No. 58 Garage
- No. L63 Garage

The conclusions of the 1994 Historic Resources Inventory are summarized here:<sup>8</sup>

- The remaining forty-five buildings and structures do not possess sufficient integrity as a whole to convey the architectural and historical significance of the hospital during World War II, due to the demolition of approximately seventy-six WWII-era buildings. Therefore, the former U.S. Naval Hospital, comprised of approximately 193 acres and approximately forty-five WWII-era buildings and structures, does not qualify as a National-Register-eligible historic district, due to the loss of resources and integrity.
- Thirty-nine of the forty-five extant WWII-era building and structures lack sufficient historic integrity, due to application of cement asbestos siding over the original redwood siding.

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<sup>8</sup> Page & Turnbull, *Context Statement and Historic Resources Inventory: Naval Medical Center, Oakland, California*, Contract No. N62474-93-M-2193 (January 1994) pg. 12.

- The five single-family dwellings (Buildings No. A, B, C, D & E) and one of the associated garages retain integrity, but were ineligible for the National Register because of their ancillary function in relation to the hospital's significance.
- Building No. 18 was determined eligible for the National Register of Historic Places under Criteria B and C for the period of significance from 1927 to 1941.

*Past Correspondence with the State Office of Historic Preservation*

From 1995 to 1996, representatives from the Oakland Naval Hospital corresponded with the State of California Office of Historic Preservation regarding their compliance with Section 106 of the National Historic Preservation Act and its subsequent regulations.<sup>9</sup> Correspondence between Louis S. Wall (Cultural Resources Coordinator from the Environmental Planning Branch, Naval Facilities Engineering Command, Engineering Field Activity West, Department of the Navy) and Cheryl Widell (State Historic Preservation Officer) determined that none of the WWII-era buildings, nor the former Oak Knoll Golf and Country Club Clubhouse (also known as Club Knoll and Building No. 18), qualified for inclusion in the National Register of Historic Places. The correspondence from Louis S. Wall concluded:

Although there is local interest in preserving Club Knoll because of its Spanish Colonial/Mission Revival Style of architecture, the Navy has not reconsidered its position because the building's design is more of a collection of elements of those styles than a good example of the style, and its association with a locally famous golf-pro is too tenuous, considering that the golf course where his records were set was destroyed to provide space for the Navy hospital buildings, most of which have subsequently been removed and replaced with newer structures and paving.<sup>10</sup>

The representative from the State Office of Historic Preservation also concluded that:

You are seeking our comments on your determination of the eligibility of structures located within the boundaries of the Naval Medical Center Complex and the Oak Knoll Golf and Country Club for inclusion on the National Register of Historic Places (NRHP) in accordance with Section 106 of the National Historic Preservation Act. Our review of the submitted documentation leads us to concur with your determination that none of the aforementioned properties are eligible for inclusion on the NRHP under any of the criteria established by 36 CFR 60.4. The Naval Medical Center complex as a whole has undergone a number of significant changes including demolition of 60% of its World War II-era hospital buildings, and the addition of Not Historic features that have contributed to a major loss of structural and design integrity.

The Oak Knoll Golf and Country Club has lost much of its integrity through the loss of the actual golf course. This loss severely compromises the facility's historic

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<sup>9</sup> Code of Federal Regulations, Title 36, Part 800.

<sup>10</sup> Louis S. Wall to Cheryl Widell, December 12, 1995. National Archives and Records Administration, Pacific Region Branch. See **VII. APPENDIX**.

associations with golfer Mark Fry and course designer William Watson under Criterion B as defined in 36 CFR 60. 4. In addition, the Clubhouse has not been shown to be an outstanding example of its type, given the fact that the Spanish Colonial revival style was common for Bay Area clubhouses built in the 1920s.<sup>11</sup>

Therefore, the 1994 Historic Resources Inventory was determined by the Navy and the State Office of Historic Preservation to have not yielded any resources that qualified for inclusion in the National Register of Historic Places.

*City of Oakland, Preservation Study List/Heritage Properties*

The City of Oakland Landmarks Board maintains a Preservation Study List of properties that are likely Landmarks or Landmark candidates that are in danger of demolition.<sup>12</sup> Properties on this list will be designated a “Heritage Property,” if they have at least a C (“secondary”) rating or could contribute to a preservation district. Heritage Properties are considered a less exclusive form of Landmark designation with less extensive regulations and incentives. This list is maintained by the City of Oakland Landmarks Board and Planning Department staff.

In 1995, Club Knoll was placed on the City of Oakland’s Preservation Study List with a “B” rating. Pending the disposal of the former U.S. Naval Hospital in Oakland, Club Knoll will be evaluated as part of this list after it leaves federal ownership.<sup>13</sup> Community interest in Club Knoll is still apparent, and the building still appears on this list.

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<sup>11</sup> Cheryl Widell to Louis S. Wall, May 31, 1994. National Archives and Records Administration, Pacific Region Branch. See **VII. APPENDIX**.

<sup>12</sup> City of Oakland, “CEDA – Planning & Zoning, Preservation Study List/Heritage Properties,” <http://www.oaklandnet.com/government/ceda/revised/planningzoning/HistoricPreservation/designating.html>, accessed March 17, 2006.

<sup>13</sup> Nancy A. MacDowell (Oak Knoll Heritage Committee Chair) to Gary Munekawa (Environmental Planning Branch Code 185, Naval Facilities Engineering Command, Engineering Field Activity West, United States Navy), October 20, 1995. National Archives and Records Administration, Pacific Region Branch.

### III. RECONNAISSANCE SURVEY

The following provides an inventory of all extant resources on the site of the former U.S. Naval Hospital in Oakland. From February 23 to February 24, 2006, Page & Turnbull undertook a reconnaissance-level survey of all of the remaining buildings. In completing this reconnaissance survey, Page & Turnbull photographed each building, completed survey forms, and analyzed its potential eligibility for listing in the National Register. In total, 115 resources were surveyed. Of these resources, a total of sixty-five resources were found to be more than fifty years old. Forty-one resources had been included as part of the 1994 Historic Resources Inventory, since they were constructed during World War II.

A total of twelve properties have been demolished since the previous survey. These properties include:

- Building No. 37
- Building No. 73
- Building No. 85
- Building No. 88
- Building No. 105
- Building No. 107
- Building No. 117
- Building No. 125
- Building No. 136
- Building No. 214
- Building No. 217
- Building No. 218

#### *Inventory*

The following section provides the inventory and survey information for each of the buildings located within the boundaries of the U.S. Naval Hospital in Oakland. The survey is organized into a series of categories, which are defined as follows:

- **Building No. /Identifier** – denotes the building number(s) assigned by the Navy. Also identifies historical designation (if applicable).
- **Date of Construction (if known)** – denotes the date of completion or occupation.
- **Type (I, II or III)** – denotes the building's property/building type assigned in the 1994 Historic Resources Inventory. This designation only applies to those properties covered in the 1994 Historic Resources Inventory. According to the 1994 Historic Resources Inventory, the majority of the buildings were classified into one of three types (described in **II. PRIOR HISTORIC RESOURCES INVENTORIES & DETERMINATIONS**):

- Type I: Industrial, utility and ancillary resources
- Type II: Administrative, recreational and medical resources
- Type III: Residential
- **Evaluation** – denotes the building’s significance, which has been categorized as either “Eligible,” “Requires Further Research,” or “Not Historic.” These categories are solely for the purpose of interpreting the reconnaissance-level survey data and do not constitute formal evaluations of the properties for listing in national, state or local historical registers.<sup>14</sup> The evaluation categories are defined as follows:
  - **Eligible:** Resources are of the highest level of significance in comparison to the other properties on the site. These resources are older than fifty-years old and appear to retain historic integrity. These resources may be eligible for listing in the National Register of Historic Places.
  - **Requires Further Research:** Resources are of secondary significance and do not appear to be individually eligible for listing in the National Register of Historic Places. These resources are important for their contextual value and are excellent representations of the hospital’s significance and history. These resources are more than fifty-years old with varying levels of integrity. These resources require further research and may be eligible for listing in state or local historical registers.

It should be noted that the prior Page & Turnbull evaluation has already determined that the site is ineligible for listing in the National Register as a historic district, due to integrity issues.<sup>15</sup>

- **Not Historic** resources are not eligible for listing in the National Register and/or do not meet the fifty-year old threshold for historic resources. The significance and history of these resources do not appear to represent the significance and history of the U.S. Naval Hospital in Oakland. Additionally, these resources may suffer from integrity issues.

For conclusions, refer to evaluation summary (**Table 2**) and **IV. EVALUATION** for discussion of the history and significance of the Oak Knoll. The historic context statement for the site has been included in the **VII. APPENDIX**.

- **Height (in stories)** – denotes the height of the building in stories. Each story is defined as approximately fifteen feet. Also included are garages (G) and basement (B) areas.
- **1949 Use** – denotes the function of the property according to the *Map of U.S. Naval Hospital, Oakland, California, Twelfth Naval District* (June 30, 1949) by the U.S. Department of the Navy, Public Works Officer (**See Figure 1**).
- **1989 Use** – denotes the last use of the property according to the *Detailed Inventory of Naval Shore Facilities* (September 30, 1989).
- **Notes** – provides important historical features or noteworthy architectural characteristics.

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<sup>14</sup> The evaluation of the Oak Knoll properties for listing in national, state or local historical registers has been provided in **IV. EVALUATION**.

<sup>15</sup> Page & Turnbull, *Context Statement and Historic Resources Inventory: Naval Medical Center, Oakland, California*, Contract No. N62474-93-M-2193 (January 1994).

**Building No./Identifier: 8**

*Date of Construction (if known):* 1942  
*1994 Survey (Y/N):* Y  
*Type (I, II, or III.):* I  
*Evaluation:* Not Historic  
*Height (in stories):* 1  
*1949 Use:* Laundry  
*1989 Use:* Miscellaenous Medical Storage  
*Notes:*

Original features include the redwood siding on a portion of the building and the six-over-six, wood sash double-hung windows.



**Building No./Identifier: 9**

*Date of Construction (if known):* 1942  
*1994 Survey (Y/N):* Y  
*Type (I, II, or III.):* I  
*Evaluation:* Not Historic  
*Height (in stories):* 1  
*1949 Use:* Storehouse  
*1989 Use:* General Storage Shed  
*Notes:*

Building No. 9 has a gable-roof and cement asbestos siding. It is located adjacent to Building No. 8, along the nearby creek.



**Building No./Identifier: 10**

*Date of Construction (if known):* 1942  
*1994 Survey (Y/N):* Y  
*Type (I, II, or III.):* I  
*Evaluation:* Not Historic  
*Height (in stories):* 1  
*1949 Use:* Public Works Shop  
*1989 Use:* Industrial (Shop)  
*Notes:*

Original features include the wood sash windows and paneled doors.



**Building No./Identifier: 11**

*Date of Construction (if known):* 1942

*1994 Survey (Y/N):* Y

*Type (I, II, or III.):* I

*Evaluation:* Not Historic

*Height (in stories):* 1

*1949 Use:* Public Works Shop

*1989 Use:* Industrial (Shop)

*Notes:*

Original features include wood panel doors and windows.



**Building No./Identifier: 13**

*Date of Construction (if known):* 1942

*1994 Survey (Y/N):* Y

*Type (I, II, or III.):* I

*Evaluation:* Not Historic

*Height (in stories):* 1

*1949 Use:* Public Works Shop

*1989 Use:* Industrial (Shop)

*Notes:*

Attached to the building is a shed roof addition, clad with cement asbestos shingles. Original features include the original sliding doors and double-hung windows.



**Building No./Identifier: 14**

*Date of Construction (if known):* 1942

*1994 Survey (Y/N):* Y

*Type (I, II, or III.):* II

*Evaluation:* Not Historic

*Height (in stories):* 2

*1949 Use:* Autopsy Building

*1989 Use:* Animal Hospital

*Notes:*

Building No. 14 has a gable-roof with a flat-roof addition, and a shed overhang/cage storage area clad with corrugated metal and featuring a steel-frame structural system.





**Building No./Identifier: 17**

*Date of Construction (if known):* 1949

*1994 Survey (Y/N):* N

*Type (I, II, or III.):* n/a

*Evaluation:* Not Historic

*Height (in stories):* 1

*1949 Use:* Inflammable Stores

*1989 Use:* Haz. Waste Storage

*Notes:*

Building No. 17 is a concrete structure with a flat roof. It is built in two parts and is surrounded by a concrete retaining wall and gully. The building is utilitarian in design.



**Building No./Identifier: 18**

*Date of Construction (if known):* 1924

*1994 Survey (Y/N):* Y

*Type (I, II, or III.):* II

*Evaluation:* Eligible

*Height (in stories):* 2

*1949 Use:* Commissioned Officer's Mess

*1989 Use:* Golf Clubhouse

*Notes:*

Building No. 18 is the only property on the site that has been determined to be individually eligible for listing in the National Register of Historic Places by the 1994 Historic Resources Inventory. As noted in the nomination forms prepared by Page & Turnbull, the building is significant in the areas of architecture, military and entertainment/recreation for its association with the former U.S. Naval Hospital in Oakland, the Oak Knoll Country Club and golf professional Mary Fry. Later correspondence with the CA-OHP determined this building to be ineligible for listing in the National Register of Historic Places.



**Building No./Identifier: 19**

*Date of Construction (if known):* 1942

*1994 Survey (Y/N):* Y

*Type (I, II, or III.):* III

*Evaluation:* Eligible

*Height (in stories):* 1

*1949 Use:* Garage

*1989 Use:* Garage

*Notes:* Notable features include the log lintel over the garage openings (identified in 1994), and the paneled roll-up garage doors. This structure was identified as a contributing resource to Building No. 18.



**Building No./Identifier: 20B**

*Date of Construction (if known):* 1942

*1994 Survey (Y/N):* Y

*Type (I, II, or III.):* I

*Evaluation:* Not Historic

*Height (in stories):* 1

*1949 Use:* Gardener's Group - Office

*1989 Use:* Grounds

*Notes:* Notable architectural features include vent louvers in the gable and original six-light windows.



**Building No./Identifier: 20C**

*Date of Construction (if known):* 1945

*1994 Survey (Y/N):* Y

*Type (I, II, or III.):* I

*Evaluation:* Not Historic

*Height (in stories):* 2

*1949 Use:* Gardener's Group - Tool Shed

*1989 Use:* Grounds

*Notes:* Building No. 20C is on a steeply sloping site and features a sliding track warehouse door and a wood walkway leading into the second story.



**Building No./Identifier: 22**

*Date of Construction (if known):* 1942

*1994 Survey (Y/N):* Y

*Type (I, II, or III.):* I

*Evaluation:* Not Historic

*Height (in stories):* 1

*1949 Use:* Central Heating Plant

*1989 Use:* Heating Plant

*Notes:* Building No. 22 features wood trusses, metal panels over redwood siding, and wood and steel-sash windows.



**Building No./Identifier: 36**

*Date of Construction (if known):* 1943

*1994 Survey (Y/N):* Y

*Type (I, II, or III.):* I

*Evaluation:* Not Historic

*Height (in stories):* 1

*1949 Use:* Fire House

*1989 Use:* Fire Station

*Notes:*

Architectural features include portions of original exposed redwood siding and a back porch canopy/shed.



**Building No./Identifier: 38**

*Date of Construction (if known):* 1944

*1994 Survey (Y/N):* Y

*Type (I, II, or III.):* II

*Evaluation:* Requires Further Research

*Height (in stories):* 2

*1949 Use:* Community Service Building

*1989 Use:* Gymnasium/Recreation Center

*Notes:* Building No. 38 has a large gable-roof and an irregular footprint that follows the curve of the road. A large entry porch is located on the east façade and includes simple wood posts, railings, and steps.



**Building No./Identifier: 58**

*Date of Construction (if known):* 1943  
*1994 Survey (Y/N):* Y  
*Type (I, II, or III.):* III  
*Evaluation:* Requires Further Research  
*Height (in stories):* 1  
*1949 Use:* Storehouse  
*1989 Use:* Detached garage  
*Notes:* Building No. 58 is a garage containing four spaces for Buildings Nos. A, B, C, and D; the openings are on the south side. The garage is set on a concrete slab and has wood trusses. It is clad in asbestos shingles but the original redwood siding is visible on the interior.



**Building No./Identifier: 62**

*Date of Construction (if known):* 1942  
*1994 Survey (Y/N):* Y  
*Type (I, II, or III.):* II  
*Evaluation:* Requires Further Research  
*Height (in stories):* 1  
*1949 Use:* Medical Ward  
*1989 Use:* Administrative Office  
*Notes:* Building No. 62 has a typical H-shaped floor plan. Character-defining features include an enclosed front porch with eight-light casement windows.



**Building No./Identifier: 63**

*Date of Construction (if known):* 1942  
*1994 Survey (Y/N):* Y  
*Type (I, II, or III.):* II  
*Evaluation:* Requires Further Research  
*Height (in stories):* 1  
*1949 Use:* Medical Ward  
*1989 Use:* Administrative Office  
*Notes:* Building No. 63 has a typical H-shaped floor plan. It features a metal garage door, wood-paneled doors, and six-over-six double-hung wood sash windows.



**Building No./Identifier: 65**

*Date of Construction (if known):* 1942  
*1994 Survey (Y/N):* Y  
*Type (I, II, or III.):* II  
*Evaluation:* Requires Further Research  
*Height (in stories):* 1  
*1949 Use:* Ward  
*1989 Use:* Laboratory  
*Notes:* This building has a typical H-shaped floor plan. It contains large exposed mechanical equipment on metal frames within its courtyard.



**Building No./Identifier: 66**

*Date of Construction (if known):* 1942  
*1994 Survey (Y/N):* Y  
*Type (I, II, or III.):* II  
*Evaluation:* Requires Further Research  
*Height (in stories):* 1  
*1949 Use:* Sick Officer's Quarters  
*1989 Use:* Medical Ward  
*Notes:* Building No. 66 features a typical H-shaped plan and is located on a sloping site. The building is accessed from wood ramps.



**Building No./Identifier: 67**

*Date of Construction (if known):* 1942  
*1994 Survey (Y/N):* Y  
*Type (I, II, or III.):* II  
*Evaluation:* Requires Further Research  
*Height (in stories):* 1  
*1949 Use:* Sick Officer's Quarters  
*1989 Use:* Dental Clinic and Office  
*Notes:* Building No. 67 is H-shaped in plan and is located on a sloping site. The building features double-hung, six-over-six wood-sash windows and paneled wood doors. Enclosed porches are located on the west façades of the wings.



**Building No./Identifier: 69**

*Date of Construction (if known):* 1943

*1994 Survey (Y/N):* Y

*Type (I, II, or III.):* II

*Evaluation:* Requires Further Research

*Height (in stories):* 1

*1949 Use:* Out Patient's Ward

*1989 Use:* Medical Ward

*Notes:*

Building No. 69 has a typical H-shaped plan and a two-story south wall due to the slope of the site. This building is currently occupied, and has been altered; the original wood-sash windows and wood doors have been replaced with double-hung, one-over-one, aluminum windows and aluminum doors.



**Building No./Identifier: 70**

*Date of Construction (if known):* 1943

*1994 Survey (Y/N):* Y

*Type (I, II, or III.):* II

*Evaluation:* Requires Further Research

*Height (in stories):* 1

*1949 Use:* Surgical & Plastic Ward

*1989 Use:* Rehab Center

*Notes:*

As with many of the surrounding buildings, Building No. 70 has an H-shaped plan. Architectural features include enclosed porches on the north side of the building and a two-story stair tower with metal stairs on the east side of the building.



**Building No./Identifier: 75**

*Date of Construction (if known):* 1943

*1994 Survey (Y/N):* Y

*Type (I, II, or III.):* II

*Evaluation:* Requires Further Research

*Height (in stories):* 1

*1949 Use:* Urological Ward

*1989 Use:* Medical Ward

*Notes:*

Building No. 75 has a typical H-shaped plan. Architectural features include a flat-roofed entry porches on the north side and enclosed hipp-roof porches on the south.



**Building No./Identifier: 89**

*Date of Construction (if known):* 1953

*1994 Survey (Y/N):* N

*Type (I, II, or III.):* n/a

*Evaluation:* Not Historic

*Height (in stories):* 1

*1949 Use:* n/a

*1989 Use:* Maintenance/Storage

*Notes:*

Architectural features include the original full-length loading dock with concrete stairs. The building is raised off the ground and has a gable roof.



**Building No./Identifier: 90**

*Date of Construction (if known):* 1954

*1994 Survey (Y/N):* N

*Type (I, II, or III.):* n/a

*Evaluation:* Not Historic

*Height (in stories):* 1

*1949 Use:* n/a

*1989 Use:* Filling Station

*Notes:*

Building No. 90 is a small concrete structure with a corrugated metal shed roof. Original features include six-light windows.



**Building No./Identifier: 101**

*Date of Construction (if known):* 1943

*1994 Survey (Y/N):* Y

*Type (I, II, or III.):* II

*Evaluation:* Requires Further Research

*Height (in stories):* 2

*1949 Use:* Administration Building

*1989 Use:* Post Office/Library

*Notes:*

Building No. 101 is two stories in height and features an open covered walkway in the interior of the building that connects three major sections of the building.



**Building No./Identifier: 102**

*Date of Construction (if known):* 1945

*1994 Survey (Y/N):* Y

*Type (I, II, or III.):* I

*Evaluation:* Not Historic

*Height (in stories):* 2

*1949 Use:* Recreation Building

*1989 Use:* Police Station

*Notes:*

This building is two-stories in height with minimal fenestration on the first floor. Architectural elements include concrete bunkers and a shed-roof addition.



**Building No./Identifier: 103**

*Date of Construction (if known):* 1944

*1994 Survey (Y/N):* Y

*Type (I, II, or III.):* II

*Evaluation:* Not Historic

*Height (in stories):* 1

*1949 Use:* Recreation Building

*1989 Use:* Bowling Alley

*Notes:*

Architectural features include a double gable roof, louvred gable openings, and a raised entry porch. Handmade wood signs reading “Oak Knoll’s Bowl Cue recreation center” are still extant on the north and east façades.



**Building No./Identifier: 108**

*Date of Construction (if known):* 1947

*1994 Survey (Y/N):* N

*Type (I, II, or III.):* n/a

*Evaluation:* Not Historic

*Height (in stories):* 1

*1949 Use:* Laundry/Water Treatment Plant

*1989 Use:* Storage Shed

*Notes:*

Building No. 108 appears to have been heavily altered over its lifetime, as seen by the concrete exterior and large metal doors.





**Building No./Identifier: 110**

*Date of Construction (if known):* 1945  
*1994 Survey (Y/N):* Y  
*Type (I, II, or III.):* I  
*Evaluation:* Not Historic  
*Height (in stories):* 1  
*1949 Use:* Public Works Storehouse  
*1989 Use:* Storage  
*Notes:*  
Building No. 110 has a gable roof and is clad in cement asbestos shingles. Features include six-over-six double-hung windows and a roll-up garage door.



**Building No./Identifier: 111**

*Date of Construction (if known):* 1945  
*1994 Survey (Y/N):* Y  
*Type (I, II, or III.):* II  
*Evaluation:* Not Historic  
*Height (in stories):* 1  
*1949 Use:* Public Works Garage Office  
*1989 Use:* Administrative Office  
*Notes:*  
Building No. 111 features three entries under a front porch, a louvered vent in the gable, and intact original glazed wood panel doors.



**Building No./Identifier: 112**

*Date of Construction (if known):* 1945  
*1994 Survey (Y/N):* Y  
*Type (I, II, or III.):* I  
*Evaluation:* Not Historic  
*Height (in stories):* 1  
*1949 Use:* Public Works Garage  
*1989 Use:* Auto Shop/Rentals  
*Notes:*  
Notable features include a sliding track garage door, exposed rafters, and glazed wood panel doors.



**Building No./Identifier: 113**

*Date of Construction (if known):* 1945

*1994 Survey (Y/N):* Y

*Type (I, II, or III.):* I

*Evaluation:* Not Historic

*Height (in stories):* 1

*1949 Use:* Public Works Garage

*1989 Use:* Auto Shop/Rentals

*Notes:*

Building No. 113 is part of the 112, 113, 113A, and 116 auto rental and repair complex.



**Building No./Identifier: 113A**

*Date of Construction (if known):* 1945

*1994 Survey (Y/N):* N

*Type (I, II, or III.):* I

*Evaluation:* Not Historic

*Height (in stories):* 1

*1949 Use:* Public Works Garage Storage Shelter

*1989 Use:* Auto Shop/Rentals

*Notes:*

Building No. 113 is part of the 112, 113, 113A, and 116 auto rental and repair complex.



**Building No./Identifier: 114**

*Date of Construction (if known):* 1945

*1994 Survey (Y/N):* Y

*Type (I, II, or III.):* I

*Evaluation:* Not Historic

*Height (in stories):* 1

*1949 Use:* Public Works Storehouse

*1989 Use:* Storage

*Notes:*

Building 114 features a carport, original redwood doors, and a gas pump.



**Building No./Identifier: 115**

*Date of Construction (if known):* 1943  
*1994 Survey (Y/N):* Y  
*Type (I, II, or III.):* I  
*Evaluation:* Not Historic  
*Height (in stories):* 1  
*1949 Use:* Animal House & P.W. Storehouse  
*1989 Use:* Animal Hospital  
*Notes:* This building is L-shaped in plan and has been altered. Architectural elements include a roll-up metal utility door and a hip-roof addition.



**Building No./Identifier: 116**

*Date of Construction (if known):* 1943  
*1994 Survey (Y/N):* Y  
*Type (I, II, or III.):* I  
*Evaluation:* Not Historic  
*Height (in stories):* 1  
*1949 Use:* Garage Storage Shelter  
*1989 Use:* Emergency Vehicle Shelter  
*Notes:*  
Building No. 113 is part of the 112, 113, 113A, and 116 auto rental and repair complex.



**Building No./Identifier: 131**

*Date of Construction (if known):* 1945  
*1994 Survey (Y/N):* Y  
*Type (I, II, or III.):* II  
*Evaluation:* Requires Further Research  
*Height (in stories):* 1  
*1949 Use:* Chapel  
*1989 Use:* Chapel  
*Notes:*  
This building features a Classical Revival portico entry with a pediment supported by four square columns. The chapel has two shed-roofed additions.



**Building No./Identifier: 133**

*Date of Construction (if known):* 1945  
*1994 Survey (Y/N):* N  
*Type (I, II, or III.):* II  
*Evaluation:* Not Historic  
*Height (in stories):* 2  
*1949 Use:* Property Acct'ing Off., Storehouse & Class Rooms  
*1989 Use:* Storage and Classrooms  
*Notes:* Architectural features include double-hung one-over-one and six-over-six wood-sash windows, paneled doors with transoms, a roll-up garage doors, and a loading dock.



**Building No./Identifier: 138**

*Date of Construction (if known):* 1944  
*1994 Survey (Y/N):* Y  
*Type (I, II, or III.):* II  
*Evaluation:* Not Historic  
*Height (in stories):* 2  
*1949 Use:* Swimming Pool Bath House  
*1989 Use:* Pool  
*Notes:*  
This building has a shed-roof addition, redwood siding (partially obscured by cement-asbestos shingles), a concrete bunker, and an interior pool.



**Building No./Identifier: 141**

*Date of Construction (if known):* 1953  
*1994 Survey (Y/N):* N  
*Type (I, II, or III.):* n/a  
*Evaluation:* Not Historic  
*Height (in stories):* n/a  
*1949 Use:* n/a  
*1989 Use:* Filling Station  
*Notes:*  
Only the concrete slab remains from the filling station.



**Building No./Identifier: 143**

*Date of Construction (if known):* 1945

*1994 Survey (Y/N):* N

*Type (I, II, or III.):* II

*Evaluation:* Not Historic

*Height (in stories):* 1

*1949 Use:* n/a

*1989 Use:* playing field (dugout)

*Notes:* This building is a baseball dugout with redwood siding. The dugout contains a snack shack and wood bleachers with steel supports.



**Building No./Identifier: 144**

*Date of Construction (if known):* 1945

*1994 Survey (Y/N):* N

*Type (I, II, or III.):* II

*Evaluation:* Not Historic

*Height (in stories):* n/a

*1949 Use:* n/a

*1989 Use:* Playing Field (baseball)

*Notes:*

Building No. 144 is a baseball field surrounded by a chain link fence. It is located adjacent to the handball court and tennis court.



**Building No./Identifier: 146**

*Date of Construction (if known):* 1937

*1994 Survey (Y/N):* N

*Type (I, II, or III.):* II

*Evaluation:* Not Historic

*Height (in stories):* n/a

*1949 Use:* n/a

*1989 Use:* Playing Court

*Notes:*

Building No. 146 consists of heavily altered tennis courts bounded by a chain link fence.



**Building No./Identifier: 147**

*Date of Construction (if known):* 1945

*1994 Survey (Y/N):* N

*Type (I, II, or III.):* II

*Evaluation:* Not Historic

*Height (in stories):* 1

*1949 Use:* n/a

*1989 Use:* Handball Court

*Notes:*

Building No. 147 is a handball court with four large windowless walls that have perpendicular sides tapering to the ground. Exterior courts are built off the large wall, as seen in the photograph.



**Building No./Identifier: 148**

*Date of Construction (if known):* 1945

*1994 Survey (Y/N):* N

*Type (I, II, or III.):* II

*Evaluation:* Not Historic

*Height (in stories):* n/a

*1949 Use:* n/a

*1989 Use:* playing court (basketball)

*Notes:*

Building No. 148 is a basketball court. It consists of a flat asphalt slab with two basketball hoops.



**Building No./Identifier: 149**

*Date of Construction (if known):* 1955

*1994 Survey (Y/N):* N

*Type (I, II, or III.):* n/a

*Evaluation:* Not Historic

*Height (in stories):* n/a

*1949 Use:* n/a

*1989 Use:* Low Brick Wall and Grill

*Notes:*

Predominantly a landscape feature, Building No. 149 is a BBQ adjacent to a playground and swing set. It is composed of brick masonry with metal doors.



**Building No./Identifier: 150**

*Date of Construction (if known):* 1959  
*1994 Survey (Y/N):* N  
*Type (I, II, or III.):* n/a  
*Evaluation:* Not Historic  
*Height (in stories):* 1  
*1949 Use:* n/a  
*1989 Use:* Recreation Grounds  
*Notes:* Building No. 150 has a hip-roof gazebo with open sides, and contains picnic tables.



**Building No./Identifier: 215**

*Date of Construction (if known):* 1976  
*1994 Survey (Y/N):* N  
*Type (I, II, or III.):* n/a  
*Evaluation:* Not Historic  
*Height (in stories):* 1  
*1949 Use:* n/a  
*1989 Use:* Storage  
*Notes:*  
Building No. 215 is a shed supported on a metal frame with a corrugated metal hip roof. The walls are composed of chain link fencing.



**Building No./Identifier: 216**

*Date of Construction (if known):* 1976  
*1994 Survey (Y/N):* N  
*Type (I, II, or III.):* n/a  
*Evaluation:* Not Historic  
*Height (in stories):* 1  
*1949 Use:* n/a  
*1989 Use:* Storage  
*Notes:*  
Building No. 216 is a shed supported on a metal frame with a corrugated metal hip roof. The walls are composed of chain link fencing.



**Building No./Identifier: 223**

*Date of Construction (if known):* 1968

*1994 Survey (Y/N):* N

*Type (I, II, or III.):* n/a

*Evaluation:* Not Historic

*Height (in stories):* 1

*1949 Use:* n/a

*1989 Use:* Paved Area

*Notes:*

This is an open-air paved area enclosed by chain link fence.



**Building No./Identifier: 500**

*Date of Construction (if known):* 1968

*1994 Survey (Y/N):* Y

*Type (I, II, or III.):* n/a

*Evaluation:* Not Historic

*Height (in stories):* 8

*1949 Use:* n/a

*1989 Use:* Main Hospital Building

*Notes:*

Building No. 500 is a Modernist structure with multiple projecting wings of varying heights. The design is attributed to San Francisco architect Milton Pflueger.



**Building No./Identifier: 501**

*Date of Construction (if known):* 1970

*1994 Survey (Y/N):* N

*Type (I, II, or III.):* n/a

*Evaluation:* Not Historic

*Height (in stories):* 3

*1949 Use:* n/a

*1989 Use:* Bachelor's Enlisted Quarters (beq e1/e4)

*Notes:*

This reinforced concrete structure has an H-shaped plan with exterior stairways. The building is rendered in an International Modern style and was utilized as an residence hall/dormitory.





**Building No./Identifier: 502**

*Date of Construction (if known):* 1972  
*1994 Survey (Y/N):* N  
*Type (I, II, or III.):* n/a  
*Evaluation:* Not Historic  
*Height (in stories):* n/a  
*1949 Use:* n/a  
*1989 Use:* helicopter landing pad  
*Notes:* This is a flat asphalt slab previously used as a landing pad for helicopters.



**Building No./Identifier: 503**

*Date of Construction (if known):* 1980  
*1994 Survey (Y/N):* N  
*Type (I, II, or III.):* n/a  
*Evaluation:* Not Historic  
*Height (in stories):* n/a  
*1949 Use:* n/a  
*1989 Use:* Oil Storage  
*Notes:* The former oil storage tanks have been removed and only the concrete foundations remain.



**Building No./Identifier: 504**

*Date of Construction (if known):* 1973  
*1994 Survey (Y/N):* N  
*Type (I, II, or III.):* n/a  
*Evaluation:* Not Historic  
*Height (in stories):* n/a  
*1949 Use:* n/a  
*1989 Use:* Distilled Oil Storage  
*Notes:* The former oil storage tanks have been removed and only the concrete foundations remain.



**Building No./Identifier: 505**

*Date of Construction (if known):* 1975

*1994 Survey (Y/N):* N

*Type (I, II, or III.):* n/a

*Evaluation:* Not Historic

*Height (in stories):* 1

*1949 Use:* n/a

*1989 Use:* Warehouse

*Notes:*

Building No. 505 is a reinforced concrete, windowless structure with a flat roof. It is built in an excavated site against a steep slope.



**Building No./Identifier: 506**

*Date of Construction (if known):* 1980

*1994 Survey (Y/N):* N

*Type (I, II, or III.):* n/a

*Evaluation:* Not Historic

*Height (in stories):* 1

*1949 Use:* n/a

*1989 Use:* Gate House

*Notes:* The small gatehouse is constructed of concrete blocks and has a flat roof with a projecting canopy. Features include aluminum sash and glazed doors in aluminum frames.



**Building No./Identifier: 507**

*Date of Construction (if known):* 1979

*1994 Survey (Y/N):* N

*Type (I, II, or III.):* n/a

*Evaluation:* Not Historic

*Height (in stories):* 1

*1949 Use:* n/a

*1989 Use:* Public Toilet

*Notes:*

This bathroom features concrete block construction with a standing seam aluminum hip roof. It has metal doors and aluminum sash casement windows.



**Building No./Identifier: 508**

*Date of Construction (if known):* 1975

*1994 Survey (Y/N):* N

*Type (I, II, or III.):* n/a

*Evaluation:* Not Historic

*Height (in stories):* 1

*1949 Use:* n/a

*1989 Use:* Gate House

*Notes:*

This gatehouse is of brick construction, and has a flat roof with a projecting canopy and metal flashing. It has an aluminum door and sash.



**Building No./Identifier: 509**

*Date of Construction (if known):* 1981

*1994 Survey (Y/N):* N

*Type (I, II, or III.):* n/a

*Evaluation:* Not Historic

*Height (in stories):* n/a

*1949 Use:* n/a

*1989 Use:* Helicopter Landing Pad

*Notes:*

Building No. 509 is a large flat concrete slab previously used as a helicopter landing pad. Remnants of a previous structure on the site - including tile floors and framing members - are visible adjacent to the landing pad.



**Building No./Identifier: 510**

*Date of Construction (if known):* 1982

*1994 Survey (Y/N):* N

*Type (I, II, or III.):* n/a

*Evaluation:* Not Historic

*Height (in stories):* 1

*1949 Use:* n/a

*1989 Use:* Food Store and Gas Station

*Notes:*

Building No. 510 consists of two adjacent one-story flat-roof structures: a gas pump canopy and a repair shop. The canopy shelters four gas pumps and is supported by metal posts that have been stuccoed. The shop has two aluminum roll-up garage doors on the east façade.



**Building No./Identifier: 511**

*Date of Construction (if known):* 1977

*1994 Survey (Y/N):* N

*Type (I, II, or III.):* n/a

*Evaluation:* Not Historic

*Height (in stories):* 1

*1949 Use:* n/a

*1989 Use:* Credit Union

*Notes:*

This reinforced concrete structure has large plate glass wood-frame windows and exposed rafter ends.



**Building No./Identifier: 512**

*Date of Construction (if known):* 1990

*1994 Survey (Y/N):* N

*Type (I, II, or III.):* n/a

*Evaluation:* Not Historic

*Height (in stories):* 1

*1949 Use:* n/a

*1989 Use:* Heat Plant

*Notes:*

This structure is a concrete rectangle with concrete pilasters and mechanical equipment on the roof. There does not appear to be any windows on this building.



**Building No./Identifier: 519**

*Date of Construction (if known):* 1991

*1994 Survey (Y/N):* N

*Type (I, II, or III.):* n/a

*Evaluation:* Not Historic

*Height (in stories):* 1

*1949 Use:* n/a

*1989 Use:* Storage

*Notes:*

The building consists of a shed with standing seam aluminum siding and a corrugated metal roof.



**Building No./Identifier: 520**

*Date of Construction (if known):* 1991

*1994 Survey (Y/N):* N

*Type (I, II, or III.):* n/a

*Evaluation:* Not Historic

*Height (in stories):* 1

*1949 Use:* n/a

*1989 Use:* Storage

*Notes:*

Building No. 520 consists of two adjacent sheds with standing seam aluminum siding and a corrugated metal roof.



**Building No./Identifier: 4000**

*Date of Construction (if known):* 1974

*1994 Survey (Y/N):* N

*Type (I, II, or III.):* n/a

*Evaluation:* Not Historic

*Height (in stories):* 2+G

*1949 Use:* n/a

*1989 Use:* Housing

*Notes:*

Building No. 4000 is a two-story residential building with plywood sheathing and a shed roof.



**Building No./Identifier: 4001**

*Date of Construction (if known):* 1974

*1994 Survey (Y/N):* N

*Type (I, II, or III.):* n/a

*Evaluation:* Not Historic

*Height (in stories):* 2+G

*1949 Use:* n/a

*1989 Use:* Housing

*Notes:*

Building No. 4001 is a two-story residential building with wood board sheathing and a gable roof.



**Building No./Identifier: 4002**

*Date of Construction (if known):* 1974

*1994 Survey (Y/N):* N

*Type (I, II, or III.):* n/a

*Evaluation:* Not Historic

*Height (in stories):* 2+G

*1949 Use:* n/a

*1989 Use:* Housing

*Notes:*

Building No. 4002 is a two-story residential building with plywood sheathing and a shed roof.



**Building No./Identifier: 4003**

*Date of Construction (if known):* 1974

*1994 Survey (Y/N):* N

*Type (I, II, or III.):* n/a

*Evaluation:* Not Historic

*Height (in stories):* 2+G

*1949 Use:* n/a

*1989 Use:* Housing

*Notes:*

Building No. 4003 is a two-story residential building with wood board sheathing and a gable roof.



**Building No./Identifier: 4004**

*Date of Construction (if known):* 1974

*1994 Survey (Y/N):* N

*Type (I, II, or III.):* n/a

*Evaluation:* Not Historic

*Height (in stories):* 2+G

*1949 Use:* n/a

*1989 Use:* Housing

*Notes:*

Building No. 4004 is a two-story residential building with plywood sheathing and a shed roof.



**Building No./Identifier: 4005**

*Date of Construction (if known):* 1974

*1994 Survey (Y/N):* N

*Type (I, II, or III.):* n/a

*Evaluation:* Not Historic

*Height (in stories):* 2+G

*1949 Use:* n/a

*1989 Use:* Housing

*Notes:*

Building No. 4005 is a two-story residential building with wood board sheathing and a gable roof.



**Building No./Identifier: 4006**

*Date of Construction (if known):* 1974

*1994 Survey (Y/N):* N

*Type (I, II, or III.):* n/a

*Evaluation:* Not Historic

*Height (in stories):* 2+G

*1949 Use:* n/a

*1989 Use:* Housing

*Notes:*

Building No. 4006 is a two-story residential building with plywood sheathing and a shed roof.



**Building No./Identifier: 4007**

*Date of Construction (if known):* 1974

*1994 Survey (Y/N):* N

*Type (I, II, or III.):* n/a

*Evaluation:* Not Historic

*Height (in stories):* 2+G

*1949 Use:* n/a

*1989 Use:* Housing

*Notes:*

Building No. 4007 is a two-story residential building with wood board sheathing and a gable roof.



**Building No./Identifier: 4009**

*Date of Construction (if known):* 1974

*1994 Survey (Y/N):* N

*Type (I, II, or III.):* n/a

*Evaluation:* Not Historic

*Height (in stories):* 2+G

*1949 Use:* n/a

*1989 Use:* Housing

*Notes:*

Building No. 4009 is a two-story residential building with wood board sheathing and a gable roof.



**Building No./Identifier: 9001-03-05-07**

*Date of Construction (if known):* 1974

*1994 Survey (Y/N):* N

*Type (I, II, or III.):* n/a

*Evaluation:* Not Historic

*Height (in stories):* 2+G

*1949 Use:* n/a

*1989 Use:* Housing

*Notes:*

Buildings No. 9001-9007 consists of four units connected in a staggered plan. The buildings have shed roofs, aluminum sash casement windows, shingle-clad first floors, plywood-clad second floors, and second-floor balconies.



**Building No./Identifier: 9009-11-13-15**

*Date of Construction (if known):* 1974

*1994 Survey (Y/N):* N

*Type (I, II, or III.):* n/a

*Evaluation:* Not Historic

*Height (in stories):* 2+G

*1949 Use:* n/a

*1989 Use:* Housing

*Notes:*

Buildings No. 9009-9015 consists of four units connected in a staggered plan. The buildings have shed roofs, aluminum sash casement windows, shingle-clad first floors, plywood-clad second floors, and second-floor balconies.





**Building No./Identifier: 9017-19-21-23**

*Date of Construction (if known):* 1974

*1994 Survey (Y/N):* N

*Type (I, II, or III.):* n/a

*Evaluation:* Not Historic

*Height (in stories):* 2+G

*1949 Use:* n/a

*1989 Use:* Housing

*Notes:*

Buildings No. 9017-9023 are a set of four units in a single building. The buildings have plywood siding, multiple shed roofs clad in composite shingles, and aluminum sash casement windows.



**Building No./Identifier: 9020**

*Date of Construction (if known):* 1974

*1994 Survey (Y/N):* N

*Type (I, II, or III.):* n/a

*Evaluation:* Not Historic

*Height (in stories):* 2+G

*1949 Use:* n/a

*1989 Use:* Housing

*Notes:*

Building No. 9020 is a two-story residential building with wood board sheathing, a gable roof, and single-hung aluminum sash windows.



**Building No./Identifier: 9022**

*Date of Construction (if known):* 1974

*1994 Survey (Y/N):* N

*Type (I, II, or III.):* n/a

*Evaluation:* Not Historic

*Height (in stories):* 2+G

*1949 Use:* n/a

*1989 Use:* Housing

*Notes:*

Building No. 9022 is a two-story residential building with wood board sheathing, a gable roof, and single-hung aluminum sash windows.



**Building No./Identifier: 9024**

*Date of Construction (if known):* 1974

*1994 Survey (Y/N):* N

*Type (I, II, or III.):* n/a

*Evaluation:* Not Historic

*Height (in stories):* 2+G

*1949 Use:* n/a

*1989 Use:* Housing

*Notes:*

Building No. 9024 is a two-story residential building with wood board sheathing, a gable roof, and single-hung aluminum sash windows.



**Building No./Identifier: 9026**

*Date of Construction (if known):* 1974

*1994 Survey (Y/N):* N

*Type (I, II, or III.):* n/a

*Evaluation:* Not Historic

*Height (in stories):* 2+G

*1949 Use:* n/a

*1989 Use:* Housing

*Notes:*

Building No. 9026 is a two-story residential building with wood board sheathing, a gable roof, and single-hung aluminum sash windows.



**Building No./Identifier: 9028**

*Date of Construction (if known):* 1974

*1994 Survey (Y/N):* N

*Type (I, II, or III.):* n/a

*Evaluation:* Not Historic

*Height (in stories):* 2+G

*1949 Use:* n/a

*1989 Use:* Housing

*Notes:*

Building No. 9028 is a two-story residential building with wood board sheathing, a gable roof, and single-hung aluminum sash windows.



**Building No./Identifier: 9030**

*Date of Construction (if known):* 1974

*1994 Survey (Y/N):* N

*Type (I, II, or III.):* n/a

*Evaluation:* Not Historic

*Height (in stories):* 2+G

*1949 Use:* n/a

*1989 Use:* Housing

*Notes:*

Building No. 9030 is a two-story residential building with wood board sheathing, a gable roof, and single-hung aluminum sash windows.



**Building No./Identifier: 9032**

*Date of Construction (if known):* 1974

*1994 Survey (Y/N):* N

*Type (I, II, or III.):* n/a

*Evaluation:* Not Historic

*Height (in stories):* 2+G

*1949 Use:* n/a

*1989 Use:* Housing

*Notes:*

Building No. 9032 is a two-story residential building with wood board sheathing, a gable roof, and single-hung aluminum sash windows.



**Building No./Identifier: 9034**

*Date of Construction (if known):* 1974

*1994 Survey (Y/N):* N

*Type (I, II, or III.):* n/a

*Evaluation:* Not Historic

*Height (in stories):* 2+G

*1949 Use:* n/a

*1989 Use:* Housing

*Notes:*

Building No. 9034 is a two-story residential building with wood board sheathing, a gable roof, and single-hung aluminum sash windows.



**Building No./Identifier: 9036**

*Date of Construction (if known):* 1974

*1994 Survey (Y/N):* N

*Type (I, II, or III.):* n/a

*Evaluation:* Not Historic

*Height (in stories):* 2+G

*1949 Use:* n/a

*1989 Use:* Housing

*Notes:*

Building No. 9036 is a two-story residential building with wood board sheathing, a gable roof, and single-hung aluminum sash windows.



**Building No./Identifier: A**

*Date of Construction (if known):* 1943

*1994 Survey (Y/N):* Y

*Type (I, II, or III.):* III

*Evaluation:* Requires Further Research

*Height (in stories):* 1

*1949 Use:* Single-Family Officer's Quarters

*1989 Use:* Pre-1950 Housing

*Notes:*

Building No. A is a one-story residential building with original redwood channel siding, a gable roof with a wood fascia, paneled wood doors, double-hung wood sash windows, a stucco-clad chimney, and an enclosed porch with a shed roof.



**Building No./Identifier: B**

*Date of Construction (if known):* 1943

*1994 Survey (Y/N):* Y

*Type (I, II, or III.):* III

*Evaluation:* Requires Further Research

*Height (in stories):* 1

*1949 Use:* Single-Family Officer's Quarters

*1989 Use:* Pre-1950 Housing

*Notes:*

Building No. B is a one-story residential building with original redwood channel siding, a gable roof with a wood fascia, paneled wood doors, double-hung wood sash windows, a stucco-clad chimney, and an enclosed porch with a shed roof.



**Building No./Identifier: C**

*Date of Construction (if known):* 1943  
*1994 Survey (Y/N):* Y  
*Type (I, II, or III.):* III  
*Evaluation:* Requires Further Research  
*Height (in stories):* 1  
*1949 Use:* Single-Family Officer's Quarters  
*1989 Use:* Pre-1950 Housing

*Notes:*

Building No. C is a one-story residential building with original redwood channel siding, a gable roof with a wood fascia, paneled wood doors, double-hung wood-sash windows, a stucco-clad chimney, and an enclosed porch with a shed roof.



**Building No./Identifier: D**

*Date of Construction (if known):* 1944  
*1994 Survey (Y/N):* Y  
*Type (I, II, or III.):* III  
*Evaluation:* Requires Further Research  
*Height (in stories):* 2+B  
*1949 Use:* Not listed  
*1989 Use:* Pre-1950 Housing

*Notes:*

Building No. D is on the ridge above the main hospital area. It is a two-story residential building with original redwood channel siding, six-over-six double-hung wood-sash windows, and paneled wood doors. Other features include a chamfered chimney, a second-story porch, and a redwood deck. At the rear is a brick patio.



**Building No./Identifier: E**

*Date of Construction (if known):* 1944  
*1994 Survey (Y/N):* Y  
*Type (I, II, or III.):* III  
*Evaluation:* Requires Further Research  
*Height (in stories):* 2+B  
*1949 Use:* Not listed  
*1989 Use:* Pre-1950 Housing

*Notes:*

Building No. E is on the ridge above the main hospital area. It is a two-story residential building with original redwood channel siding, six-over-six double-hung wood-sash windows, and wood paneled doors. At the rear is a two-story enclosed porch.



**Building No./Identifier: F-G**

*Date of Construction (if known):* 1956

*1994 Survey (Y/N):* N

*Type (I, II, or III.):* n/a

*Evaluation:* Not Historic

*Height (in stories):* 1

*1949 Use:* n/a

*1989 Use:* Housing

*Notes:* Buildings No. F and G are part of a series of one-story duplex buildings. Each building is bilaterally symmetrical with a carport under the gable ends. The wood-frame structures have cement asbestos shingle siding and steel casement or fixed windows.



**Building No./Identifier: H-I**

*Date of Construction (if known):* 1956

*1994 Survey (Y/N):* N

*Type (I, II, or III.):* n/a

*Evaluation:* Not Historic

*Height (in stories):* 1

*1949 Use:* n/a

*1989 Use:* Housing

*Notes:*

Building Nos. H and I are part of a series of one-story duplex buildings. Each building is bilaterally symmetrical with a carport under the gable ends. The wood-frame structures have cement asbestos shingle siding and steel casement or fixed windows.



**Building No./Identifier: J-K**

*Date of Construction (if known):* 1956

*1994 Survey (Y/N):* N

*Type (I, II, or III.):* n/a

*Evaluation:* Not Historic

*Height (in stories):* 1

*1949 Use:* n/a

*1989 Use:* Housing

*Notes:*

Building Nos. J and K are part of a series of one-story duplex buildings. Each building is bilaterally symmetrical with a carport under the gable ends. The wood-frame structures have cement asbestos shingle siding and steel casement or fixed windows.



**Building No./Identifier: L-M**

*Date of Construction (if known):* 1956

*1994 Survey (Y/N):* N

*Type (I, II, or III.):* n/a

*Evaluation:* Not Historic

*Height (in stories):* 1

*1949 Use:* n/a

*1989 Use:* Housing

*Notes:*

Building Nos. L and M are part of a series of one-story duplex buildings. Each building is bilaterally symmetrical with a carport under the gable ends. The wood-frame structures have cement asbestos shingle siding and steel casement or fixed windows.



**Building No./Identifier: L63**

*Date of Construction (if known):* 1945

*1994 Survey (Y/N):* Y

*Type (I, II, or III.):* III

*Evaluation:* Requires Further Research

*Height (in stories):* 1

*1949 Use:* Not listed

*1989 Use:* Detached Garage

*Notes:*

Building No. L63 serves as the garage for Building Nos. D and E. The building has channel redwood siding, a gable roof, six-light fixed wood windows, and two roll-up non-original garage doors.



**Building No./Identifier: N-O**

*Date of Construction (if known):* 1956

*1994 Survey (Y/N):* N

*Type (I, II, or III.):* n/a

*Evaluation:* Not Historic

*Height (in stories):* 1

*1949 Use:* n/a

*1989 Use:* Housing

*Notes:*

Buildings No. N and O are part of a series of one-story duplex buildings. Each building is bilaterally symmetrical with a carport under the gable ends. The wood-frame structures have cement asbestos shingle siding and steel casement or fixed windows.



**Building No./Identifier: P**

*Date of Construction (if known):* 1969

*1994 Survey (Y/N):* N

*Type (I, II, or III.):* n/a

*Evaluation:* Not Historic

*Height (in stories):* 2

*1949 Use:* n/a

*1989 Use:* Housing

*Notes:*

Buildings No. P through W are eight buildings placed in a circle around a playground. Each building contains two-story apartment units with flat and shed roofs, wood plank siding, aluminum casement or sliding windows, and carports with roof decks.



**Building No./Identifier: Q**

*Date of Construction (if known):* 1969

*1994 Survey (Y/N):* N

*Type (I, II, or III.):* n/a

*Evaluation:* Not Historic

*Height (in stories):* 2

*1949 Use:* n/a

*1989 Use:* Housing

*Notes:*

Buildings No. P through W are eight buildings placed in a circle around a playground. Each building contains two-story apartment units with flat and shed roofs, wood plank siding, aluminum casement or sliding windows, and carports with roof decks.



**Building No./Identifier: R**

*Date of Construction (if known):* 1969

*1994 Survey (Y/N):* N

*Type (I, II, or III.):* n/a

*Evaluation:* Not Historic

*Height (in stories):* 2

*1949 Use:* n/a

*1989 Use:* Housing

*Notes:*

Buildings No. P through W are eight buildings placed in a circle around a playground. Each building contains two-story apartment units with flat and shed roofs, wood plank siding, aluminum casement or sliding windows, and carports with roof decks.





**Building No./Identifier: S**

*Date of Construction (if known):* 1969

*1994 Survey (Y/N):* N

*Type (I, II, or III.):* n/a

*Evaluation:* Not Historic

*Height (in stories):* 2

*1949 Use:* n/a

*1989 Use:* Housing

*Notes:*

Buildings No. P through W are eight buildings placed in a circle around a playground. Each building contains two-story apartment units with flat and shed roofs, wood plank siding, aluminum casement or sliding windows, and carports with roof decks.



**Building No./Identifier: T**

*Date of Construction (if known):* 1969

*1994 Survey (Y/N):* N

*Type (I, II, or III.):* n/a

*Evaluation:* Not Historic

*Height (in stories):* 2

*1949 Use:* n/a

*1989 Use:* Housing

*Notes:*

Buildings No. P through W are eight buildings placed in a circle around a playground. Each building contains two-story apartment units with flat and shed roofs, wood plank siding, aluminum casement or sliding windows, and carports with roof decks.



**Building No./Identifier: U**

*Date of Construction (if known):* 1969

*1994 Survey (Y/N):* N

*Type (I, II, or III.):* n/a

*Evaluation:* Not Historic

*Height (in stories):* 2

*1949 Use:* n/a

*1989 Use:* Housing

*Notes:*

Buildings No. P through W are eight buildings placed in a circle around a playground. Each building contains two-story apartment units with flat and shed roofs, wood plank siding, aluminum casement or sliding windows, and carports with roof decks.



**Building No./Identifier: V**

*Date of Construction (if known):* 1969

*1994 Survey (Y/N):* N

*Type (I, II, or III.):* n/a

*Evaluation:* Not Historic

*Height (in stories):* 2

*1949 Use:* n/a

*1989 Use:* Housing

*Notes:*

Buildings No. P through W are eight buildings placed in a circle around a playground. Each building contains two-story apartment units with flat and shed roofs, wood plank siding, aluminum casement or sliding windows, and carports with roof decks.



**Building No./Identifier: W**

*Date of Construction (if known):* 1969

*1994 Survey (Y/N):* N

*Type (I, II, or III.):* n/a

*Evaluation:* Not Historic

*Height (in stories):* 2

*1949 Use:* n/a

*1989 Use:* Housing

*Notes:*

Buildings No. P through W are eight buildings placed in a circle around a playground. Each building contains two-story apartment units with flat and shed roofs, wood plank siding, aluminum casement or sliding windows, and carports with roof decks.



**Building No./Identifier: X**

*Date of Construction (if known):* 1969

*1994 Survey (Y/N):* N

*Type (I, II, or III.):* n/a

*Evaluation:* Not Historic

*Height (in stories):* N/A

*1949 Use:* n/a

*1989 Use:* Not listed

*Notes:*

Building No. X is a series of storage bins located next to Building Nos. P through W.



**Table 2. Evaluation Summary of Reconnaissance-level Survey of Oak Knoll site<sup>16</sup>**

| <b>Building No./Identifier</b>  | <b>Evaluation</b>         | <b>Notes</b>  |
|---------------------------------|---------------------------|---|
| 8                               | Not Historic              |   |
| 9                               | Not Historic              |   |
| 10                              | Not Historic              |   |
| 11                              | Not Historic              |   |
| 13                              | Not Historic              |   |
| 14                              | Not Historic              |   |
| 17                              | Not Historic              |   |
| 18: Club Knoll                  | Eligible                  | As set forth in the 1994 Historic Resources Inventory, Building No. 18 appears eligible for listing in the National Register for its high artistic values and as one of the only extant golf clubhouses from the 1920s. Building No. 19 is only eligible as a contributing resource to Building No. 18. |
| 19: Club Knoll Garage           | Eligible                  |   |
| 20B                             | Not Historic              |   |
| 20C                             | Not Historic              |   |
| 22                              | Not Historic              |   |
| 36                              | Not Historic              |   |
| 38: Community Services Building | Requires Further Research | Classified as “Requires Further Research” for its relationship to the former hospital and community.  |
| 58: Garage                      | Requires Further Research | Refer to Bldgs No. A, B and C.  |
| 62: Ward Building               | Requires Further Research | Buildings No. 58 thru 75 have been identified as “Requires Further Research” because they are the last remaining vestiges of the ward buildings that once dominated the hospital site. The majority of these buildings have been demolished.  |
| 63: Ward Building               | Requires Further Research |   |
| 65: Ward Building               | Requires Further Research |   |
| 66: Ward Building               | Requires Further Research |   |
| 67: Ward Building               | Requires Further Research |   |
| 69: Ward Building               | Requires Further Research |   |
| 70: Ward Building               | Requires Further Research |   |
| 75: Ward Building               | Requires Further Research |   |
| 89                              | Not Historic              |   |
| 90                              | Not Historic              |   |
| 101: Administration Building    | Requires Further Research | Classified as “Requires Further Research” for its relationship to the former hospital and community.  |
| 102                             | Not Historic              |   |
| 103                             | Not Historic              |   |
| 108                             | Not Historic              |   |
| 110                             | Not Historic              |   |
| 111                             | Not Historic              |   |
| 112                             | Not Historic              |   |
| 113                             | Not Historic              |   |

<sup>16</sup> For the formal evaluation of the properties for listing in national, state or local historical registers, refer to **IV. EVALUATION.**

**Table 2. (continued)**

| <b>Building No./Identifier</b> | <b>Evaluation</b>         | <b>Notes</b>  |
|--------------------------------|---------------------------|---|
| 113A                           | Not Historic              |   |
| 114                            | Not Historic              |   |
| 115                            | Not Historic              |   |
| 116                            | Not Historic              |   |
| 131: Chapel                    | Requires Further Research | Classified as "Requires Further Research" for its relationship to the hospital and former community.                                    |
| 133                            | Not Historic              |   |
| 138                            | Not Historic              |   |
| 141                            | Not Historic              |   |
| 143                            | Not Historic              |   |
| 144                            | Not Historic              |   |
| 146                            | Not Historic              |   |
| 147                            | Not Historic              |   |
| 148                            | Not Historic              |   |
| 149                            | Not Historic              |   |
| 150                            | Not Historic              |   |
| 215                            | Not Historic              |   |
| 216                            | Not Historic              |   |
| 223                            | Not Historic              |   |
| 500                            | Not Historic              |   |
| 501                            | Not Historic              |   |
| 502                            | Not Historic              |   |
| 503                            | Not Historic              |   |
| 504                            | Not Historic              |   |
| 505                            | Not Historic              |   |
| 506                            | Not Historic              |   |
| 507                            | Not Historic              |   |
| 508                            | Not Historic              |   |
| 509                            | Not Historic              |   |
| 510                            | Not Historic              |   |
| 511                            | Not Historic              |   |
| 512                            | Not Historic              |   |
| 519                            | Not Historic              |   |
| 520                            | Not Historic              |   |
| 4000 thru 4009                 | Not Historic              |   |
| 9001-03-05-07                  | Not Historic              |   |
| 9009-11-13-15                  | Not Historic              |   |
| 9017-19-21-23                  | Not Historic              |   |
| 9020 thru 9036                 | Not Historic              |   |
| A: Single-Family Residence     | Requires Further Research | Buildings No. A thru E have been classified as "Requires Further Research" for their relationship to the former hospital and community. |
| B: Single-Family Residence     | Requires Further Research |   |
| C: Single-Family Residence     | Requires Further Research |   |
| D: Single-Family Residence     | Requires Further Research |   |
| E: Single-Family Residence     | Requires Further Research |   |

**Table 2. (continued)**

| <b>Building No./Identifier</b> | <b>Evaluation</b>            | <b>Notes</b>                           |
|--------------------------------|------------------------------|--|
| F-G                            | Not Historic                 |  |
| H-I                            | Not Historic                 |  |
| J-K                            | Not Historic                 |  |
| L-M                            | Not Historic                 |  |
| L63: Garage                    | Requires Further<br>Research | Associated with Buildings No. D and E. |
| N-O                            | Not Historic                 |  |
| P thru X                       | Not Historic                 |  |

#### IV. EVALUATION

The following provides an evaluation of the Oak Knoll site and its extant resources for listing in the National Register of Historic Places, California Register of Historic Resources and the City of Oakland's Local Register of Historic Resources and Cultural Heritage Survey Evaluation. Further information may be obtained from the National Park Service's *National Register Bulletin #15: How to Apply the National Register Criteria for Evaluation*; State of California's Office of Historic Preservation, *OHP Technical Assistance Bulletin 7: How to Nominate a Resource to the California Register*; and the City of Oakland's *City of Oakland Historic Preservation: An Element of the Oakland General Plan*.

##### *National Register of Historic Places*

The National Register of Historic Places is the nation's most comprehensive inventory of historic resources. The National Register is administered by the National Park Service and includes buildings, structures, sites, objects and districts that possess historic, architectural, engineering, archaeological, or cultural significance at the national, state or local level. Typically, resources over fifty years of age are eligible for listing in the National Register if they meet any of four criteria of significance and retain historic integrity. However, resources under fifty years of age can be determined eligible if it can be demonstrated that they are of "exceptional importance," or if they are contributors to a potential historic district. A resource can be considered significant on a national, state or local level to American history, architecture, archaeology, engineering or culture. The four criteria under which a structure, site, building, district or object can be considered eligible for listing in the National Register are:

**Criterion A (Event):** Buildings that are associated with events that have made a significant contribution to the broad patterns of our history;

**Criterion B (Person):** Buildings that are associated with the lives of persons significant in our past;

**Criterion C (Design/Construction):** Buildings that embody the distinctive characteristics of a type, period or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant distinguishable entity whose components lack individual distinction; and

**Criterion D (Information Potential):** Buildings that have yielded, or may be likely to yield, information important in prehistory or history.

The National Register Criteria for Evaluation are described in full in Code of Federal Regulation, Title 36, Part 60.

The former site of the U.S. Naval Hospital in Oakland appears to be eligible for listing in the National Register under Criterion A (Events) and Criterion C (Design/Construction) for its contribution to the wartime efforts of World War II as one of four major naval hospitals located on the West Coast, and as the only one built as a semi-permanent hospital. As identified in the 1994 Historic Resources Inventory, the hospital's period of significance spans from 1942 to 1945. It is significant within the areas of architecture, the military and health/medicine. The hospital was responsible for the treatment of many World War II soldiers, and veterans and patients from the Korean War, Vietnam War and Persian Gulf War. It became the center of the Navy's Prosthetic Research Laboratory and was one of its centers for psychiatric treatment. The WWII-era buildings represent a common military hospital building type with their H-shaped plans, wood-frame construction and redwood siding. These buildings exemplify the type of semi-permanent construction found among many naval bases along the West Coast. In order to qualify for listing in the National Register, however, the site must also show that it retains sufficient historical integrity. Most of the remaining WWII-era buildings appear to have questionable historic integrity (discussed below).

The only extant property on the former site of the U.S. Naval Hospital in Oakland that appears eligible for individual listing in the National Register is Building No. 18, which qualifies for listing under Criterion B (Person) and Criterion C (Design/Construction). Building No. 19 also appears eligible only as a contributing resource to Building No. 18. See 1994 Historic Resource Inventory and analysis below, *Summary: National Register Individual Resource Determination*.

Aside from Buildings No. 18 and 19, none of the other buildings on the site, including those defined in the aforementioned reconnaissance survey as "Requires Further Research," appear to be eligible for individual listing in the National Register (See below discussion).<sup>17</sup> The reconnaissance survey of the extant properties identified sixteen resources as "Requires Further Research." These resources are the surviving WWII-era single-family residences and their garages (Buildings No. A, B, C, D, E, 58 and L63), the extant ward buildings (Buildings No. 62, 63, 65, 66, 67, 69, 70 and 75), Administration Building (Building No. 101), Community Service Building (Building No. 38), and Chapel (Building No. 131).

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<sup>17</sup> This categorization noted that these resources are of secondary significance; are important for their contextual value; and may be eligible for listing in state or local historical registers.

### *Integrity*

In addition to qualifying for listing under at least one of the National Register criteria, a resource must also retain sufficient historic integrity. The concept of integrity is essential to identifying the important physical characteristics of historical resources and, in evaluating adverse changes to these characteristics. Integrity is defined as “the authenticity of an historical resource’s physical identity as evidenced by the survival of characteristics that existed during the resource’s period of significance.”<sup>18</sup> According to *National Register Bulletin #15: How to Apply the National Register Criteria for Evaluation*, the seven characteristics of integrity are defined as follows:

- *Location* is the place where the historic property was constructed.
- *Design* is the combination of elements that creates the form, plans, space, structure and style of the property.
- *Setting* addresses the physical environment of the historic building inclusive of the landscape and spatial relationships.
- *Materials* refer to the physical elements that were combined or deposited during a particular period of time and in a particular pattern of configuration to form the historic property.
- *Workmanship* is the physical evidence of the crafts of a particular culture or people during any given period in history.
- *Feeling* is the property’s expression of the aesthetic or historic sense of a particular period of time.
- *Association* is the direct link between an important historic event or person and a historic property.

As a whole, the former site of U.S. Naval Hospital in Oakland does not appear to retain sufficient historical integrity to qualify for listing as a historic district. The majority of the WWII-era hospital buildings and structures have been demolished and the extant buildings and structures do not constitute a viable historic district (**See V. IMAGES, Figure 1**).

As noted in the 1994 Historic Resources Inventory, the majority of the WWII-era properties have questionable historic integrity, due to the application of cement asbestos shingles on the exterior. In general, the extant properties appear to have had few major alterations on the exterior aside from the alterations to the exterior cladding. These alterations have affected the integrity of design, workmanship and feeling. The setting of the hospital, which is considered to be a major aspect of its



integrity, has been severely altered, due to the demolition of the majority of the WWII-era buildings. Therefore, in general, the site and its individual components do not appear to retain historic integrity, due to the demolition and alteration of the majority of the components. Note, this determination was limited by the type of survey performed on the site and does not include full information on construction chronology and interior spaces.

*Summary: National Register District Determination*

Due to the loss of the majority of the WWII-era hospital buildings and integrity issues with the remaining WWII-era hospital buildings, the site of the former U.S. Naval Hospital in Oakland does not appear to qualify for listing as a National Register Historic District. This determination is consistent with the 1994 Historic Resource Inventory.

*Summary: National Register Individual Resource Determination*

In the opinion of Page & Turnbull, the only resources appearing eligible for listing in the National Register are Buildings No. 18 and 19. As determined in a previous evaluation, the buildings lack integrity of setting, due to the loss of the surrounding golf course. However, the buildings are significant for more than their association with the former Oak Knoll Golf Course. The buildings' exterior design, eclectic architectural style, and high artistic value are superior in relation to many other buildings in the immediate vicinity and within the city of Oakland. As set forth in the 1994 Historic Resources Inventory, Club Knoll, Building No. 18 appears to be eligible under National Register Criterion B (Person) and Criterion C (Design/Construction).

Building No. 19 is a freestanding one-story garage adjacent to Club Knoll (Building No. 18). In the National Register nomination prepared by Page & Turnbull in 1994, Building No. 19 was considered a contributing structure to Building No. 18. Although Building No. 19 was constructed in 1942, nearly twenty years after Club Knoll, it has gained significance for its association with the former clubhouse (Building No. 18).

*California Register of Historical Resources*

The California Register of Historical Resources (California Register) is an inventory of significant architectural, archaeological, and historical resources in the State of California. Resources can be listed in the California Register through a number of methods. State Historical Landmarks and

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<sup>18</sup> California Code of Regulations, Title 14, Chapter 11.5.

National Register-eligible properties are automatically listed in the California Register.<sup>19</sup> Properties can also be nominated to the California Register by local governments, private organizations, or citizens. This includes properties identified in historical resource surveys with California Historical Resource Status Codes of “1” to “5,” and resources designated as local landmarks through city or county ordinances. The evaluative criteria used by the California Register for determining eligibility are closely based on those developed by the National Park Service for the National Register of Historic Places. In order for a property to be eligible for listing in the California Register, it must be found significant under one or more of the following criteria:

- *Criterion 1 (Events):* Resources that are associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States.
- *Criterion 2 (Persons):* Resources that are associated with the lives of persons important to local, California, or national history.
- *Criterion 3 (Architecture):* Resources that embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of a master, or possess high artistic values.
- *Criterion 4 (Information Potential):* Resources or sites that have yielded or have the potential to yield information important to the prehistory or history of the local area, California, or the nation.

As identified previously, the former site of the U.S. Naval Hospital in Oakland appears to be eligible for its contribution to the wartime efforts of World War II as one of four major naval hospitals located on the West Coast and the only one of these built as a semi-permanent hospital. Therefore, the site also appears eligible for listing in the California Register under Criterion 1 (Events) and Criterion 3 (Architecture). However in order to qualify for listing in the California Register, the site must also show that it retains sufficient historical integrity.

The sixteen properties identified as “Requires Further Research” do not appear to be eligible for individual listing in the California Register under any of the aforementioned criteria. Although the site and these buildings have a long history associated with World War II-era home front hospitals, these properties, by themselves, do not have sufficient historical significance to qualify for individual listing.

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<sup>19</sup> National Register-eligible properties include properties that have been listed on the National Register and properties that have formally been found eligible for listing.

### *Integrity*

In addition to being significant under one of the aforementioned criteria, a resource must retain sufficient integrity to be eligible for listing in the California Register of Historical Resources. The definition of integrity for the California Register is similar to the definition of integrity for the National Register. As defined by the Office of Historic Preservation: “Integrity is the authenticity of an historical resource’s physical identity evidenced by the survival of characteristics that existed during the resource’s period of significance.<sup>20</sup> The seven aspects of integrity are location, design, setting, materials, workmanship, feeling and association. These aspects have been defined above in the analysis of the site for listing in the National Register (See *National Register of Historic Places, Integrity*).

### *Distinctions between California Register and National Register*

The California Register of Historical Resources is modeled after the National Register of Historic Places. The critical distinction between the National and California registers is the degree of integrity that a property can retain and still be considered eligible for listing. According to the California Office of Historic Preservation:

It is possible that historical resources may not retain sufficient integrity to meet the criteria for listing in the National Register, but they may still be eligible for listing in the California Register. A resource that has lost its historic character or appearance may still have sufficient integrity for the California Register if it maintains the potential to yield significant or historical information or specific data.<sup>21</sup>

### *Summary: California Register Evaluation*

Even with the lesser integrity threshold established by the California Register, the Oak Knoll site does not appear to qualify for listing in the California Register as a district, due to the lack of historic integrity caused by the demolition of the majority of the WWII-era hospital and community buildings.

The only resources eligible for individual listing in the California Register is Building No. 18. This property appears to be eligible under Criterion 3 (Architecture) as a strong example of a type and as a resource that possesses high artistic values. Building No. 19 (the WWII-era garage) has been

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<sup>20</sup> State of California, Office of Historic Preservation, *California Office of Historic Preservation Technical Assistance Series #6: California Register and National Register: A Comparison (for purposes of determining eligibility for the California Register)*, March 14, 2006. [http://ohp.parks.ca.gov/pages/1069/files/06calreg&natreg\\_031406.pdf](http://ohp.parks.ca.gov/pages/1069/files/06calreg&natreg_031406.pdf). Accessed August 2, 2006.

<sup>21</sup> California Office of Historic Preservation, *California Register and National Register: A Comparison* (Technical Assistance Series #6).

associated with the former Club Knoll and has been identified as a contributing outbuilding to Building No. 18.

*City of Oakland's Local Register of Historic Resources & Cultural Heritage Survey Evaluation*

In March 1994, the Oakland City Council adopted a Historic Preservation Element of the General Plan (amended July 21, 1998). The Historic Preservation Element sets out a graduated system of ratings and designations resulting from the Oakland Cultural Heritage Survey (OCHS) and Oakland Zoning Regulations. The following properties constitute the City of Oakland's Local Register of Historic Resources:

1. All Designated Historic Properties (Landmarks, Heritage Properties, Study List Properties, Preservation Districts, and S-7 and S-20 Preservation Combining Zone Properties); and
2. Those Potential Designated Historic Properties (PDHPs) that have an existing rating of "A" or "B" or are located within an Area of Primary Importance.

Also included within this register are properties within Areas of Primary Importance (API). An API is a district that appears eligible for the National Register of Historic Places.

The Oakland Cultural Heritage Survey uses a five-tier rating system for individual properties, ranging from "A" (highest importance) and "B" (major importance) to "E" (of no particular interest).

Resources identified in this survey are rated accordingly:

- **A – Highest Importance:** Properties of exceptional historical or architectural value which are clearly eligible individually for the National Register of Historic Places. Properties generally appropriate for an "A" rating include those which are outstanding examples of an important style, type, or convention, or which are intimately associated with a person, organization, event, or historical pattern of extreme importance at the local level or of major importance at the state or national level.
- **B – Major Importance:** Properties of major historical or architectural value, but less important than those rated "A." Although most Bs are individually eligible for the National Register, they may be somewhat marginal candidates. Properties generally appropriate for a "B" rating include those which are especially fine examples of an important style, type, or convention or which are intimately associated with a person, organization, event, or historical pattern of major importance at the local level or of moderate importance at the state or national level.
- **C – Secondary Importance:** Properties having sufficient historical or visual/architectural value to warrant limited recognition but which do not appear individually eligible for the National Register. Properties generally appropriate for a "C" rating include those which are superior or visually important examples of a particular style, type, or convention and most buildings which were constructed prior to 1906.

- **D – Minor Importance:** Properties which are not individually distinctive but which are typical or representative examples of an important, style, type, convention or historical pattern. The great majority of the Oakland’s pre-1946 properties fall into the “D” category.
- **E – Of No Particular Interest:** Properties which are not representative of any important style, type, convention, or historical pattern and are visually indistinguishable.<sup>22</sup>

This letter rating is termed the “Individual Property Rating” of a building and is based on the following criteria:

- **Visual Quality/Design:** Architectural significance of a property is evaluated in six areas: exterior design (composition, detailing, artistic merit); interior design (public interior are evaluated); construction (methods of construction, materials, workmanship), style and type (significance as an example of a type or style, considering both quality and rarity), supportive elements (contributing setting such as landscaping and outbuildings; sometimes aspects of feeling and association, such as old signs or long-term uses); and importance of architect, designer, or builder.
- **History/Association:** Historical importance of a property is evaluated for its age (rated by 3 milestones, the arrival of the transcontinental railroad in 1869, the 1906 earthquake, and the end of World War II in 1945), and for association with individuals, organizations, events, or patterns of neighborhood, citywide, state, or national importance. The importance of the person, organization, event, or pattern is assessed (primary, secondary, tertiary or none), and then the degree of the property’s connection with it (“intimately” or “loosely connected,” measured by such things as the length of a person’s or organization’s occupancy, degree of influence on or from a pattern, number of surviving examples, etc.).
- **Context:** “Familiarity” measures a property’s general prominence and recognition and “Continuity” evaluates its role in a district, if any (contributor, noncontributory, or contributor if restored), in a National Register eligible district (Area of Primary Importance – API) or locally important district (Area of Secondary Importance - ASI).
- **Integrity/Reversibility:** Loss of integrity is evaluated under the headings of condition (integrity of materials), exterior and interior alterations (integrity of design, materials, workmanship), structural removals (large scale components), and site (location, setting). The feasibility of reversing the alterations is estimated. The rating for exterior alterations is designed to parallel the guidelines in National Register Bulletin 15, so that properties rated excellent or good (“minor alterations which do not change the overall character”) may be individually eligible for the National Register if they otherwise qualify, while those rated fair (“overall character changed”) or poor (“altered beyond recognition) normally would not be eligible, though exceptions might occur for extremely rare or extremely important properties.<sup>23</sup>

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<sup>22</sup> City of Oakland, *City of Oakland Historic Preservation, An Element of the Oakland General Plan* (February 1994) pg. 3-2.

<sup>23</sup> *Ibid.*, pg. C-4.

These criteria constitute the evaluation categories used in the Oakland Cultural Heritage Survey Evaluation Sheet. As part of the evaluation process, properties with conditions or circumstances that could change substantially in the future are assigned both an “existing” and a “contingency” rating. The existing rating describes the property under its present condition, while the contingency rating, describes it under possible future circumstances.

The Oak Knoll site does not appear to constitute a viable local historic district, known as an Area of Primary Importance (API). Due to the demolition of the majority of the WWII-era buildings, the Oak Knoll site no longer retains sufficient integrity to convey its history as a semi-permanent WWII-era home front hospital.

As discussed previously, Building No. 18 was placed on the City of Oakland’s Preservation Study List with a “B” rating in 1995. Building No. 19 may be considered a contributing resource to Building No. 18 under local standards.

As identified in the reconnaissance survey of the extant properties, sixteen resources were identified as “Requires Further Research.” These resources are the surviving WWII-era single-family residences and their garages (Buildings No. A, B, C, D, E, 58 and L63), the extant ward buildings (Buildings No. 62, 63, 65, 66, 67, 69, 70 and 75), Administration Building (Building No. 101), Community Service Building (Building No. 38), and Chapel (Building No. 131). This categorization noted that these resources are of secondary significance; are important for their contextual value; and may be eligible for listing in state or local historical registers. In order to assess the eligibility of these resources for listing in the City of Oakland’s local register of historic resources, Page & Turnbull evaluated each of the sixteen resources according to the Oakland Cultural Heritage Survey’s Evaluation Sheet (see **APPENDIX**).

The sixteen resources identified in the reconnaissance-level survey evaluation as “Requires Further Research” all appear to fall within the existing rating category of “D – Minor Importance,” and contingency rating category of “C – Secondary Importance.” In general, the visual quality/design of these resources is undistinguished (FP) or good (G). The resources are associated with either the WWII-era home-front military healthcare system or WWII-era military single-family housing. The context can also be classified as somewhat identifiable, while the integrity and reversibility appears to be fair; although many of the buildings exhibit significant surface wear. Ultimately, none of these resources appear to be individually eligible as Designated Historic Properties and therefore, do not appear eligible for listing in the City of Oakland’s Local Register of Historic Resources. With a

contingency rating of “C – Secondary Importance,” these sixteen resources are considered by the City of Oakland to be Potential Designated Historic Properties (PDHPs) and are opportunities for restoration. It should be noted that PDHP is not a designation and is considered to be a category based upon the survey rating.<sup>24</sup> These sixteen buildings do not appear to constitute one of the higher levels of PDHPs in the City of Oakland.

### *Cultural Landscape*

The prior surveys of the site do not address culturally significant landscape elements, such as topography, water features, vegetation, etc. One of the most distinctive parts of the former U.S. Naval Hospital in Oakland is its landscaping and site topography, which features a wide variety of vegetation, long greenspaces, picturesque view corridors, and several water features (**Figure 6**). During the reconnaissance survey, several significant landscape features were noted including creeks, viaducts, retaining walls, and vegetation. Based on a reconnaissance-level survey, it can be ascertained from the gathered information that the site does not appear to qualify for listing as a cultural landscape, as identified in the *Secretary of the Interior’s Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*.<sup>25</sup> As determined previously, the Oak Knoll site does not qualify as a National Register-eligible historic district, due to integrity issues caused by the loss of the majority of the WWII-era buildings. The evaluation of the site as a historic district can also be applied to the evaluation of the site as a cultural landscape. As noted previously, the site has lost a number of important historical buildings, which has affected the ability of the site to convey its historical significance. In addition to the loss of buildings, the site has suffered from numerous alterations to the landscape and topography (as evidenced by comparative analyses of historic aerial photographs), consisting of new circulation paths and parking areas, substantial alterations to the site’s natural grade, and re-routing of natural resources. These alterations have caused the site to lose its integrity of setting, and subsequently, it does not appear eligible for listing as a cultural landscape.

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<sup>24</sup> City of Oakland, “CEDA – Planning, Summary of the Historic Preservation Element of the Oakland General Plan, Adopted 1994” <<http://www.oaklandnet.com/government/ceda/revised/planningzoning/HistoricPreservation/HP-overviewH.html>>, accessed August 7, 2006.

<sup>25</sup> Charles Birnbaum, ed. *The Secretary of the Interior’s Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes* (1996).

**Table 3. Evaluation of Oak Knoll Properties for Listing in National, State, or Local Historical Registers**

| <b>Building No./Identifier</b>  | <b>National Register of Historic Places</b> | <b>California Register of Historical Resources</b> | <b>City of Oakland's Local Register of Historic Resources</b> |
|---------------------------------|---|--|---|
| 8                               | Ineligible                                  | Ineligible   | Ineligible  |
| 9                               | Ineligible                                  | Ineligible   | Ineligible  |
| 10                              | Ineligible                                  | Ineligible   | Ineligible  |
| 11                              | Ineligible                                  | Ineligible   | Ineligible  |
| 13                              | Ineligible                                  | Ineligible   | Ineligible  |
| 14                              | Ineligible                                  | Ineligible   | Ineligible  |
| 17                              | Ineligible                                  | Ineligible   | Ineligible  |
| <b>18: Club Knoll</b>           | <b>Eligible</b>                             | <b>Eligible</b>                                    | <b>Eligible</b>   |
| <b>19: Club Knoll Garage</b>    | <b>Eligible as contributing resource</b>    | <b>Eligible as contributing resource</b>           | <b>Eligible as contributing resource</b>                      |
| 20B                             | Ineligible                                  | Ineligible   | Ineligible  |
| 20C                             | Ineligible                                  | Ineligible   | Ineligible  |
| 22                              | Ineligible                                  | Ineligible   | Ineligible  |
| 36                              | Ineligible                                  | Ineligible   | Ineligible  |
| 38: Community Services Building | Ineligible                                  | Ineligible   | Ineligible  |
| 58: Garage                      | Ineligible                                  | Ineligible   | Ineligible  |
| 62: Ward Building               | Ineligible                                  | Ineligible   | Ineligible  |
| 63: Ward Building               | Ineligible                                  | Ineligible   | Ineligible  |
| 65: Ward Building               | Ineligible                                  | Ineligible   | Ineligible  |
| 66: Ward Building               | Ineligible                                  | Ineligible   | Ineligible  |
| 67: Ward Building               | Ineligible                                  | Ineligible   | Ineligible  |
| 69: Ward Building               | Ineligible                                  | Ineligible   | Ineligible  |
| 70: Ward Building               | Ineligible                                  | Ineligible   | Ineligible  |
| 75: Ward Building               | Ineligible                                  | Ineligible   | Ineligible  |
| 89                              | Ineligible                                  | Ineligible   | Ineligible  |
| 90                              | Ineligible                                  | Ineligible   | Ineligible  |
| 101: Administration Building    | Ineligible                                  | Ineligible   | Ineligible  |
| 102                             | Ineligible                                  | Ineligible   | Ineligible  |
| 103                             | Ineligible                                  | Ineligible   | Ineligible  |



**Table 3 (cont'd).**

| <b>Building No./Identifier</b> | <b>National Register of Historic Places</b> | <b>California Register of Historical Resources</b> | <b>City of Oakland's Local Register of Historic Resources</b> |
|--------------------------------|---|--|---|
| 108                            | Ineligible                                  | Ineligible   | Ineligible  |
| 110                            | Ineligible                                  | Ineligible   | Ineligible  |
| 111                            | Ineligible                                  | Ineligible   | Ineligible  |
| 112                            | Ineligible                                  | Ineligible   | Ineligible  |
| 113                            | Ineligible                                  | Ineligible   | Ineligible  |
| 113A                           | Ineligible                                  | Ineligible   | Ineligible  |
| 114                            | Ineligible                                  | Ineligible   | Ineligible  |
| 115                            | Ineligible                                  | Ineligible   | Ineligible  |
| 116                            | Ineligible                                  | Ineligible   | Ineligible  |
| 131: Chapel                    | Ineligible                                  | Ineligible   | Ineligible  |
| 133                            | Ineligible                                  | Ineligible   | Ineligible  |
| 138                            | Ineligible                                  | Ineligible   | Ineligible  |
| 141                            | Ineligible                                  | Ineligible   | Ineligible  |
| 143                            | Ineligible                                  | Ineligible   | Ineligible  |
| 144                            | Ineligible                                  | Ineligible   | Ineligible  |
| 146                            | Ineligible                                  | Ineligible   | Ineligible  |
| 147                            | Ineligible                                  | Ineligible   | Ineligible  |
| 148                            | Ineligible                                  | Ineligible   | Ineligible  |
| 149                            | Ineligible                                  | Ineligible   | Ineligible  |
| 150                            | Ineligible                                  | Ineligible   | Ineligible  |
| 215                            | Ineligible                                  | Ineligible   | Ineligible  |
| 216                            | Ineligible                                  | Ineligible   | Ineligible  |
| 223                            | Ineligible                                  | Ineligible   | Ineligible  |
| 500                            | Ineligible                                  | Ineligible   | Ineligible  |
| 501                            | Ineligible                                  | Ineligible   | Ineligible  |
| 502                            | Ineligible                                  | Ineligible   | Ineligible  |
| 503                            | Ineligible                                  | Ineligible   | Ineligible  |
| 504                            | Ineligible                                  | Ineligible   | Ineligible  |
| 505                            | Ineligible                                  | Ineligible   | Ineligible  |
| 506                            | Ineligible                                  | Ineligible   | Ineligible  |
| 507                            | Ineligible                                  | Ineligible   | Ineligible  |
| 508                            | Ineligible                                  | Ineligible   | Ineligible  |

**Table 3 (cont'd).**

| <b>Building No./Identifier</b> | <b>National Register of Historic Places</b> | <b>California Register of Historical Resources</b> | <b>City of Oakland's Local Register of Historic Resources</b> |
|--------------------------------|---|--|---|
| 509                            | Ineligible                                  | Ineligible   | Ineligible  |
| 510                            | Ineligible                                  | Ineligible   | Ineligible  |
| 511                            | Ineligible                                  | Ineligible   | Ineligible  |
| 512                            | Ineligible                                  | Ineligible   | Ineligible  |
| 519                            | Ineligible                                  | Ineligible   | Ineligible  |
| 520                            | Ineligible                                  | Ineligible   | Ineligible  |
| 4000 thru 4009                 | Ineligible                                  | Ineligible   | Ineligible  |
| 9001-03-05-07                  | Ineligible                                  | Ineligible   | Ineligible  |
| 9009-11-13-15                  | Ineligible                                  | Ineligible   | Ineligible  |
| 9017-19-21-23                  | Ineligible                                  | Ineligible   | Ineligible  |
| 9020 thru 9036                 | Ineligible                                  | Ineligible   | Ineligible  |
| A: Single-Family Residence     | Ineligible                                  | Ineligible   | Ineligible  |
| B: Single-Family Residence     | Ineligible                                  | Ineligible   | Ineligible  |
| C: Single-Family Residence     | Ineligible                                  | Ineligible   | Ineligible  |
| D: Single-Family Residence     | Ineligible                                  | Ineligible   | Ineligible  |
| E: Single-Family Residence     | Ineligible                                  | Ineligible   | Ineligible  |
| F-G                            | Ineligible                                  | Ineligible   | Ineligible  |
| H-I                            | Ineligible                                  | Ineligible   | Ineligible  |
| J-K                            | Ineligible                                  | Ineligible   | Ineligible  |
| L-M                            | Ineligible                                  | Ineligible   | Ineligible  |
| L63: Garage                    | Ineligible                                  | Ineligible   | Ineligible  |
| N-O                            | Ineligible                                  | Ineligible   | Ineligible  |
| P thru X                       | Ineligible                                  | Ineligible   | Ineligible  |

### *Conclusions*

As a historic district, the Oak Knoll site does not appear to retain sufficient historical integrity to convey its history as a WWII-era semi-permanent hospital. Therefore, the site does not appear to qualify for listing as a federal, state, or local historic district.

The only surviving resource on the site of Oak Knoll that appears eligible for individual listing in the National Register, California Register, and City of Oakland's Local Register of Historic Resources is Building No. 18. Building No. 19 appears to be eligible as a contributing resource to Building No. 18. The other resources remaining on the site do not appear eligible for individual listing in these registers, due to age (less-than-fifty years old), lack of significance, or lack of integrity.

## **V. IMAGES & MAPS**

- Figure 1 - 1949 Map of the U.S. Naval Hospital in Oakland showing the original site and the extant World War II-era properties (highlighted in red), annotated by Page & Turnbull.
- Figure 2 - Vicinity Map showing the site of the former U.S. Naval Hospital in Oakland.
- Figure 3 - 1945 Aerial Photograph of the former U.S. Naval Hospital in Oakland and the former U.S. Naval Psychiatry Hospital in Oakland
- Figure 4 - 1963 Aerial Photograph of the U.S. Naval Hospital in Oakland
- Figure 5 - 1973 Photograph of U.S. Naval Hospital in Oakland.
- Figure 6 - 1983 Landscape Character Map



Figure 1. 1949 Map of the U.S. Naval Hospital in Oakland showing the original site and the extant World War II-era properties (highlighted in red), annotated by Page & Turnbull.  
(Source: National Archives and Records Administration in San Bruno)

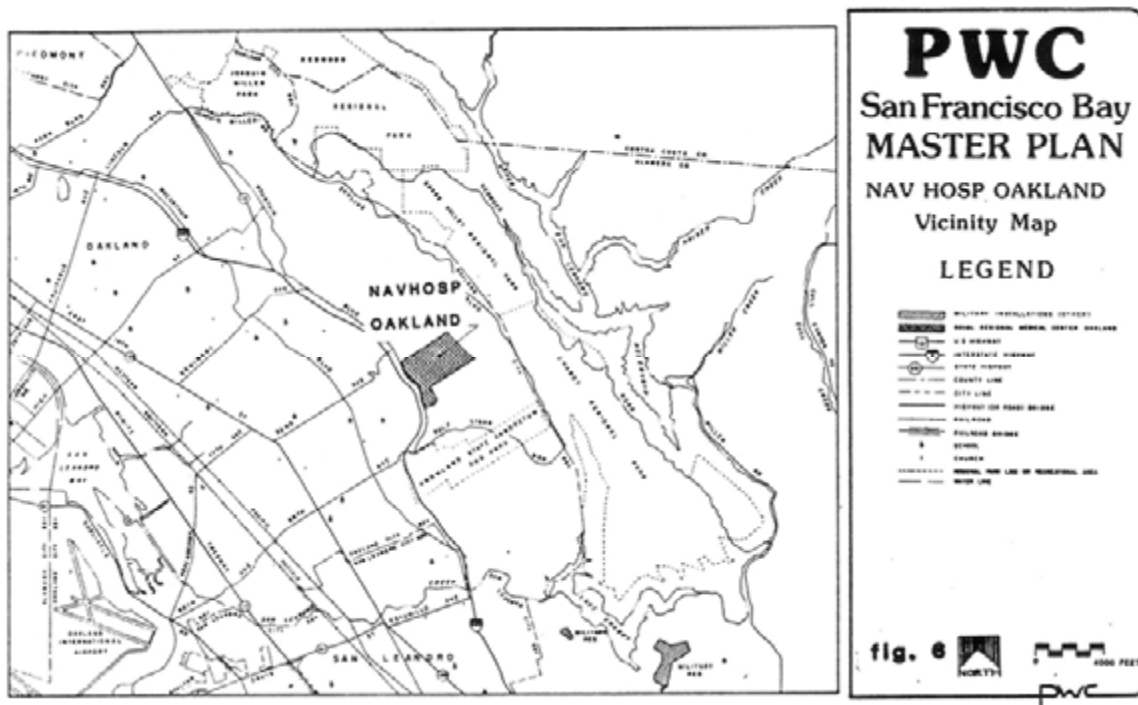


Figure 2. Vicinity Map showing the site of the former U.S. Naval Hospital in Oakland.  
(Source: PWC Master Plan, 1984)



**Figure 3. 1945 Aerial Photograph of the former U.S. Naval Hospital in Oakland and the former U.S. Naval Psychiatry Hospital in Oakland.  
(Source: Master Plan, Oakland Naval Hospital, 1984)**



Figure 4. 1963 Aerial Photograph of the U.S. Naval Hospital in Oakland.  
(Source: University of California Earth Sciences Library)





**Figure 5. 1973 Photograph of U.S. Naval Hospital in Oakland.  
(Source: 1973 Unofficial Guide to the Oakland Naval Hospital)**



Figure 6. 1983 Landscape Character Map.  
(Source: Western Division, Naval Facilities Engineering Command. "Master Plan for Navy Public Works Center, San Francisco Bay, Oakland, California," March 1984)

## VI. BIBLIOGRAPHY

### *Books*

Patmount, Robert E. *The History of Claremount Country Club*. Oakland, California: Claremount County Club, 1988.

Dowlen, Lt. Louise, Dorothy Thompson and Charles Haynes, *U.S. Naval Hospital, Oakland, California, July, 1942 – 1946*. Oakland, California: Welfare and Recreation Department, 1946.

### *Newspapers and Periodicals*

“\$14 Million New Hospital.” *Oakland Tribune*, December 8, 1965.

Bohannon, David. “Great Residential Expansion in Foothills Regions of Eastbay Area is Reviewed.” *Oakland Tribune Year Book*, June 13, 1968.

Burroughs, Jack. “Some See the World as 8-Ball, Others as Golf Ball.” *Oakland Tribune*, November 23, 1952.

Clark, Albert L. “New Golfing Organizations.” *The Fairway 1* (September 1924): 18-19.

“Naval Hospital Plans Draw Praise.” *Oakland Tribune*, June 26, 1963.

“Navy to Build Big Hospital in Oakland.” *San Francisco Chronicle*, February 28, 1942.

“New Spanish Style Home in Oak Knoll.” *Oakland Tribune*, February 27, 1927.

“Oak Knoll in Operation.” *Oakland Post-Enquirer Annual*, December 1945.

“Oak Knoll Rumors Are Exposed; Here Only the Best Is Order of Day.” *San Francisco Chronicle*, November 15, 1942.

*The Oak Leaf*, various articles.

“Pretty Homes Planned.” *Oakland Tribune*, October 13, 1929.

*The Red Rover*, various articles.

“Spanish Type Fairway Home Open to View.” *Oakland Tribune*, March 30, 1930.

“To Bring the 1926 Golf Championship to the Coast Inspiring Course May be Candidate for 1926 National.” *The Fairway 1* (September 1924): 15-16, 32.

“U.S. to Put \$4 Million ‘White Elephant’ on Auction Block – Oakland Naval Hospital Annex,” *Oakland Tribune*, November 10, 1960.

*Other*

Chi Systems. "Economic Analysis of Medical Requirements: Volume III: Construction Analysis," December 1989.

"Dedication Ceremony," Naval Hospital, Oakland, California, June 29, 1968.

EDAW, Inc. *Base Exterior Architecture (BEA) Plan, Naval Hospital, Oakland*. Prepared for Naval Facilities Engineering Command, Western Division, September 1983.

Eusebio, Ethel Anne. "The History of Oakland Naval Hospital," M.A. thesis, College of Holy Names, Oakland, California, May 1961.

Oakland, California, U.S. Naval Hospital, Oakland, Public Affairs Office. *Historical Development. Naval Hospital, Oakland*. (Typescript).

Oakland, California, U.S. Naval Hospital, Oakland, Public Affairs Office. Paul Michael and Harold Merwarth, comp. *History of the United States Naval Hospital*. (Typescript).

National Archives & Records Administration, Pacific Region Office, San Bruno, California

*Naval Medical Center: History of 54 Years of Dedicated Service to the Fleet 1942-1996*, Naval Medical Center Oakland Public Affairs Department, 1996.

*Presidio of San Francisco National Historic Landmark District Historic American Buildings Survey Report*. San Francisco: U.S. Department of the Interior and U.S. Department of Defense, 1985.

Western Division, Naval Facilities Engineering Command. "Master Plan for Navy Public Works Center, San Francisco Bay, Oakland, California," March 1984.

---. "Preliminary Site Evaluation, Hospital Replacement Oak Knoll Site, Oakland, California," July 1989.

**VII. APPENDIX**

*Page & Turnbull, Context Statement: Naval Medical Center, Oakland, California (January 1994)*

#### IV. Context Statement

Although a Medieval sport, golf was not introduced to the United States until the establishment of the St. Andrews Golf Club, Yonkers, New York, on November 12, 1888. The oldest course in the San Francisco Bay Area is the original three-hole course at the Burlingame Country Club, dating to 1894. The first course in Oakland, on the east shore of the bay, was established in 1897 in an effort to enliven the social life of the leisure class of Oakland residents.<sup>1</sup>

The development of the Central Valley Project, intended to provide irrigation, flood control and hydro-electric power to the Central Valley and surrounding areas, removed major impediments to the suburban development of east Oakland, San Leandro and other East Bay land previously unsuitable for this type of land use. The extension of public transportation to southeastern Oakland by 1924 accelerated the development of residential subdivisions in this portion of the City. The warm, fog-free climate, conducive to both recreation and outdoor living, attracted golf course development, a riding academy and tennis courts during and after the 1920s. In addition to mild climate, the rolling hills sparsely populated with oak trees was a terrain naturally suited to challenging golf courses with spectacular views of the bay in addition to room for expansion. Already by 1924, there were approximately twenty-one golf and country clubs and municipal golf courses within a thirty-mile radius of San Francisco, including two in Oakland.<sup>2</sup> After the construction of a third golf course in the southeastern portion of Oakland, the area became known as the "golf and country club district" of the City.<sup>3</sup>

In the southeastern portion of Oakland, the Oak Knoll Land Corporation developed the Oakland's third golf course, the Oak Knoll Golf and Country Club, and the Oak Knoll Tract of residential subdivisions. The concept behind the development was the creation of an "exclusive country club community"<sup>4</sup> in which the residents of the subdivision tracts could choose to participate in a social life and recreational activities provided by the country club. The boundaries of the naval hospital property are similar to the boundaries of the golf course. The entire development, including the golf course and the residential subdivisions, covered the area of Oakland now roughly bounded by 82nd Street on the north, the Alameda county line on the east, the eastern portion of the south boundary of the naval hospital, Golf Links Road, Stearns and Burr on the south and McArthur on the west.

By 1927, The *Oakland Tribune* described the Oak Knoll development as a peaceful and beautiful valley containing greens and fairways and a clubhouse located on the gently sloping side of the hill, streets laid out in subdivision "C" and at least one "Spanish-style bungalow" under construction.<sup>5</sup> As was common in suburban residential development of the 1920s, aesthetic restrictions were placed on houses built in the tract, requiring approval

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<sup>1</sup> Jack Burroughs, "Some See the World as 8-Ball, Others as Golf Ball," *Oakland Tribune*, November 23, 1952.

<sup>2</sup> "To Bring the 1926 Golf Championship to the Coast Inspiring Course May Be Candidate for 1926 National," *The Fairway* 1 (September 1924): 15-16, 32. Albert L. Clark, "New Golfing Organizations," *The Fairway* 1 (September 1924): 18-19.

<sup>3</sup> David Bohannon, "Great Residential Expansion in Foothills Regions of Eastbay Area is Reviewed," *Oakland Tribune Year Book*, June 13, 1938.

<sup>4</sup> "Pretty Homes Planned," *Oakland Tribune*, October 13, 1929.

<sup>5</sup> "New Spanish Style Home in Oak Knoll," *Oakland Tribune*, February 27, 1927.

of all plans to ensure that "everything will be in harmonious good taste."<sup>6</sup> Although a variety of architectural styles were permitted in the residential tract as a whole, only "Spanish architecture," compatible with the clubhouse, was permitted in the subdivision adjacent to the golf course.<sup>7</sup> By placing these restrictions on the property, the development company ensured potential homeowners of a cohesive, stable community of single-family dwellings and a sound economic investment.

Domestic and social changes that gave rise to an increase in leisure time during the first quarter of the 20th century resulted in an increase in popularity of clubs providing organized social and recreational activities. Club buildings were not only more numerous, but they became increasingly complex in order to house specialized programs combining recreation facilities, such as tennis courts, swimming pools, card rooms, billiard rooms, gymnasiums and bowling alleys, with social facilities, such as dining rooms, auditoriums and ball rooms. Frequently, residential facilities for members were also included. While the stylistic inspiration for urban clubhouses built in northern California during the 1920s was similar to the inspiration for urban office and commercial buildings, country clubs of the period were strongly influenced by the Spanish Colonial revival style. The clubhouses of the Olympic Country Club, the Monterey Peninsula Country Club, the El Sobrante Golf Club, the Orinda Country Club, the Sequoyah Country Club in Oakland and the Oak Knoll Golf and Country Club, all Bay Area country clubs dating to the 1920s, are examples of this style.

William Watson, a prolific golf architect who designed major California courses during the 1920s, designed the original seven-hole Oak Knoll course and two subsequent additions of eleven holes. The eighteen-hole course was laid out on the 117-acre club grounds to the north of the clubhouse with the first, ninth and eighteenth holes located in front of the clubhouse. Whereas the real estate company selected a well-known golf architect to design the golf course, they selected William J. McCormack as designer of the clubhouse, an architect about whom there is very little information. The lack of information about McCormack suggests that he may have been an employee of the real estate developer or that he designed the clubhouse as a moonlighting opportunity while working for a Bay Area architectural firm.

Like many speculative developments greatly reliant on borrowed capital, the Oak Knoll Land Corporation defaulted on its mortgage payments during the Depression and the previous owners, Arthur and Florence King, repossessed the golf course. The new owners, Arthur King, president of King Lumber Company and various other oil, real estate and financial institutions, and his wife, Florence, continued to operate the golf course as a public facility in conjunction with Hardy C. Hutchinson, who took control of the real estate company to recoup losses his firm endured on the construction of streets in the subdivisions. Ostensibly, it was a feeling of obligation to the adjacent property owners that led King to perpetuate the relationship between the golf course and the residential property owners.<sup>8</sup> The course was operated as a public facility for approximately nine years. Although research has revealed no specific information about the status of the Oak Knoll Golf Course at the outbreak of the War, it may be inferred from the history of the Claremont country club that the activities of most if not all golf clubs and courses ceased.

At the outbreak of World War II on December 1941, there were only three major naval hospitals on the West Coast. These hospitals, Mare Island and San Diego in California and

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<sup>6</sup> "Oak Knoll Tract Fully Restricted," *Oakland Tribune*, February 20, 1927.

<sup>7</sup> "Spanish Type Fairway Home Open to View," *Oakland Tribune*, March 30, 1930.

<sup>8</sup> Telephone interview of Bill Burch, September 16, 1993.

Bremerton in Washington, were filled to capacity with the first casualties of Pearl Harbor who arrived on Christmas Day 1941. Construction of a second hospital in the Bay Area had been under consideration prior to the war, because Mare Island was deemed to be remote, not easily accessible and lacking room for expansion. Casualties occurred at an alarming rate, making quick construction of an additional hospital necessary. A proposal for a new hospital was made in February 1942. Several sites were examined by Captain Edward U. Reed, District Medical Officer, and Captain Carlson, Engineer Corps and Public Works Corps, including the Phoebe Hearst Ranch in Pleasanton, the Veterans Hospital in Yountville and the Oak Knoll Country Club in Oakland. The Oakland country club site, where Captain Carlson played golf,<sup>9</sup> was selected because it was deemed to be the most accessible in the Bay Area. The approximately 300-acre site, included the golf course and surrounding land, just nine miles southeast of downtown Oakland and eighteen miles east of San Francisco was acquired through eminent domain in 1942 from Arthur D. and Florence L. King for the construction of a \$2,000,000 500-bed temporary hospital.<sup>10</sup> An additional 45.76 acres was subsequently purchased.

Captain Frederick E. Porter was transferred from the U. S. Naval Hospital, San Diego, to the Twelfth Naval District to take charge of planning hospital construction.<sup>11</sup> Working in conjunction with Captain Porter, the San Francisco architectural firm of Frick and Weihe prepared plans for the first and second phases of hospital. Frick and Weihe were employed by the San Francisco architectural firm of Bakewell and Brown during the 1920s. When the nationally-known partnership was dissolved in 1928, Ernest Weihe went into partnership with Bakewell and Edward Frick remained with Brown. When Bakewell retired in 1942, Frick and Weihe established an architectural practice, later taking Lawrence Kruse into partnership. The firm of Frick, Weihe and Kruse are perhaps best known for completing Lewis Hobart's Grace Cathedral in San Francisco.

The hospital site was challenging terrain divided by a creek with steep hillsides and an overall change in elevation from of 125 feet. Construction of roads and grading for building sites kept pace with the design of the hospital buildings. Work began on February 23, 1942.<sup>12</sup> The first buildings, including an administration building, a "subsistence building," a surgery, laboratories, a power house, ward buildings for officers and enlisted men and officers' and enlisted persons' living quarters for medical officers, nurses and hospital corps men, were constructed by the K.E. Parker Co. of San Francisco under the supervision of the Twelfth Naval District's public works officer.<sup>13</sup> The clubhouse of the Oak Knoll Golf Course was retained by the Navy and used for a variety of functions including, a recreation center, a library, the Ships Service Store and Fountain and the Commissioned Officers'

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<sup>9</sup> Oakland, California, U.S. Naval Hospital, Oakland, Public Affairs Office. Paul Michael and Harold Merwarth, comp. , *History of the United States Naval Hospital, Oakland, California*, (typescript, n.d.), 5-6.

<sup>10</sup> Ethel Anne Eusebio, "The History of Oakland Naval Hospital," (M.A. thesis, College of the Holy Names, Oakland, California, May 1961) 12-13. Oakland, California, U.S. Naval Hospital, Oakland, Public Affairs Office. Paul Michael and Harold Merwarth, comp. , *History of the United States Naval Hospital, Oakland, California*, (typescript, n.d.), 2-3.

<sup>11</sup> Ethel Anne Eusebio, "The History of Oakland Naval Hospital," (M.A. thesis, College of the Holy Names, Oakland, California, May 1961), 14.

<sup>12</sup> Oakland, California, U.S. Naval Hospital, Oakland, Public Affairs Office. Paul Michael and Harold Merwarth, comp. , *History of the United States Naval Hospital, Oakland, California*, (typescript, n.d.), 3, 14.

<sup>13</sup> "Navy to Build Big Hospital in Oakland," *San Francisco Chronicle*, February 18, 1942.



Mess.<sup>14</sup> The only substantial building on the site with the exception of the caddy shack and possible miscellaneous service buildings, the clubhouse housed the first hospital employees, who arrived in May 1942 and were responsible for the administration and construction of the hospital. The clubhouse also housed the commanding officer and several bachelor officers, and assorted offices through the second half of 1942 at which time they were relocated to newly completed buildings.<sup>15</sup>

The first medical officer arrived on June 15, 1942. On July 1, 1942, the hospital was commissioned and dedicated to the sick and injured of Navy, Marine Corps and Coast Guard. Captain Porter was appointed the first commanding officer. On July 12, 1942, the Administration Building was completed and some of the offices were relocated to the newly-completed building from temporary quarters in the clubhouse. Ten days later, six H-shaped, double-ward buildings, representing a 204-bed capacity, were completed and, as other buildings were completed, they were readied for occupancy. The first casualties admitted to the hospital arrived from Pacific battlefields on July 30, 1942. During late fall and early winter, the patient census increased rapidly as a result of fighting in Solomon Island and Japanese attempts to recapture Guadalcanal.

The original intent of the administration was to organize the hospital into general and specialized wards. In the summer of 1942, the hospital was organized into independent departments designated for contagious, cardiovascular, chest, gastrointestinal, dermatologic and syphilologic diseases, general medicine and medical S.O.Q. Specialized wards were created later for allergic, tropical medicine and diabetic and acute diseases.<sup>16</sup> The hospital was adequately staffed during 1942, but from 1943 until after V-J Day. The hospital was overwhelmed with patients during this three-year period. There were only nine medical officers, only four of whom were board-certified in specializations, during most of 1943 and by the end of 1944, the number of medical officers increased to thirteen. In an efforts to relieve the medical officers, interns were used as temporary duty officers during 1944 and 1945.

Because the hospital served as an indoctrination center for medical officers, nurses and hospital corpsmen to train personnel for service in hospitals closer to the Pacific battlefields, there was little longevity of hospital staff. Few of the hospital employees remained at the Naval Hospital for the duration of the war. Patients and staff alike were transient because of the training and dispersal of personnel to hospitals closer to battlefields in the Pacific and because of fluctuations in the patient census as the casualties arrived from hospitals located close to the battlefields in Pacific, were stabilized and treated at the Oakland Naval Hospital and transferred out of the hospital to make room for the next wave of casualties. The rapid turn over of medical officers, nurses and corpsmen, the lack of familiarity of the transient staff with hospital procedures, the understaffing and the

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<sup>14</sup> Ethel Anne Eusebio, "The History of Oakland Naval Hospital," (M.A. thesis, College of the Holy Names, Oakland, California, May 1961), 13.

<sup>15</sup> Oakland, California, U.S. Naval Hospital, Oakland, Public Affairs Office. Paul Michael and Harold Merwarth, comp. , *History of the United States Naval Hospital, Oakland, California*, (typescript, n.d.), 4 and Mary Catherine Baker, "Reminiscences of a Librarian," *Ibid.*, 3.

<sup>16</sup> Oakland, California, U.S. Naval Hospital, Oakland, Public Affairs Office. Paul Michael and Harold Merwarth, comp. , "Medical Department of the U.S. Naval Hospital, Oakland, California, A Brief History (1 July 1942-30 January 1946)," *History of the United States Naval Hospital, Oakland, California*, (typescript, n.d.), n.p.

rapid turn over of patients prevented the hospital from undertaking anything more than basic medical care until the latter half of 1945.<sup>17</sup>

Further complicating matters was the physical organization of the hospital buildings. Large hospital departments were spread out among several buildings and small departments were grouped together in one building. By November 1942, five months after the hospital was dedicated, three phases of construction were completed, totaling 1082 beds and representing a five-fold increase over the hospital's original capacity.<sup>18</sup>

In August 1942 Captain Porter was transferred to Santa Cruz, California, to establish a convalescent hospital and Captain Frederick R. Hook assumed command of the hospital. Identifying a need for an outpatient service to treat military dependents, a new surgical unit, new ward buildings and the expansion and alteration of the commissary, the dental facility, the X-Ray department, the laboratory and the physical therapy department, an expansion of the hospital was proposed and approved. The expansion was planned in phases; the first phase added 564 beds, the second phase added 182 beds and the third phase added 292 beds, raising the hospital's capacity to 2000 beds. Drawings were prepared for these phases by the hospital architects, assumed to be Frick and Weihe.<sup>19</sup> By November 1942, sixty buildings had been completed, twenty of which were H-shaped ward buildings representing over 1000 beds.<sup>20</sup> By September 1943, a fourth phase of construction, with an additional 674 beds, had been completed.

Several departments of the hospital are noteworthy, including the neuropsychiatric department. Before the department was established at the Oakland Naval Hospital in September 1942, psychiatric patients were examined and stabilized at the U.S. Naval Hospital at Mare Island and transferred to other institutions for treatment. The large number of casualties inflicted with psychiatric illnesses during World War II led the Federal Bureau of Medicine and Surgery to recommend the construction of a 850-bed psychiatric hospital in the Bay Area. The Federal Board of Hospitalization approved the recommendation on May 13, 1943. Because of differences in administration requirements which prevented the combination of general hospital facilities with those of a neuropsychiatric hospital and because the administrative separation between two portions of hospital permitted their physical separation, the neuropsychiatric hospital was built at the crest of the hill, at the eastern boundary of the hospital property. The hospital property was divided so that the U.S. Naval Hospital, Oakland retained about 180 acres and the neuropsychiatric hospital occupied about 120 acres. Construction of neuropsychiatric hospital was apparently included in fifth phase of hospital construction, underway by September 1943. The neuropsychiatric hospital, was commissioned as an independent

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<sup>17</sup> Oakland, California, U.S. Naval Hospital, Oakland, Public Affairs Office. Paul Michael and Harold Merwarth, comp. , "Medical Department of the U.S. Naval Hospital, Oakland, California, A Brief History (1 July 1942-30 January 1946)," *History of the United States Naval Hospital, Oakland, California*, (typescript, n.d.), 2.

<sup>18</sup> Oakland, California, U.S. Naval Hospital, Public Affairs, Office. "Date of Activation and Early History," *Historical Development. Naval Hospital, Oakland, 1-1* (typescript, n.d.).

<sup>19</sup> Ethel Anne Eusebio, "The History of Oakland Naval Hospital," (M.A. thesis, College of the Holy Names, Oakland, California, May 1961), 14-17. Oakland, California, U.S. Naval Hospital, Oakland, Public Affairs Office. Paul Michael and Harold Merwarth, comp. , *History of the United States Naval Hospital, Oakland, California*, (typescript, n.d.), 4-10. It may be inferred from the lack of a specific reference to the architects that they were the previously-mentioned hospital designers, Frick and Weihe.

<sup>20</sup> "Oak Knoll Rumors Are Exposed; Here Only the Best Is Order of Day," *San Francisco Chronicle*, November 15, 1942.

facility, the San Leandro Naval Hospital, on August 15, 1944. It increased fivefold in size from January 1943 to January 1944, occupying fifty-nine, two-story wood-frame buildings on a manmade plateau at the crest of the hill and buildings at the Oakland Naval Hospital. By the Spring of 1945, all of the neuropsychiatric services were located on the hill except for the services in Building 51A and B of the Oakland Naval Hospital. Initially, the neuropsychiatric hospital stabilized and transferred patients to other facilities for care. The hospital briefly developed specialized departments, but reverted to stabilizing and transferring due to the high volume of patients and the rapid turnover of staff. The neuropsychiatric hospital received approximately 30 to 35% of the patients admitted to both hospitals during the latter part of 1944 and 1945.<sup>21</sup> For a brief period of time during the war, the neuropsychiatric hospital was a separate entity with its own administration, although its construction, early development and demolition were historically intertwined with the history of the U.S. Naval Hospital, Oakland.

During 1944, the peripheral nerve center was greatly expanded under Commander William K. Livingston, who became head of the peripheral Nerve Center in January 1943. A 1917 graduate of Harvard Medical School and Portland, Oregon neurosurgeon, Livingston was interested in peripheral nerve injuries and abnormal nerve physiology in particular, lecturing and writing on these subject throughout his tenure at the U.S. Naval Hospital, Oakland.<sup>22</sup>

The largest increase in the patient census occurred in 1945. By the first half of 1945, the hospital reached maximum patient capacity, many of whom were casualties of Iwo Jima and Okinawa. After Germany's ratification of the conditions of its surrender on April 1, 1945, the war in the Pacific accelerated. At the end of the war in the Pacific on September 2, 1945, the hospital census totaled over 5000 patients cared for by a medical staff of approximately 185. By December, the population declined to about 4500 patients. The U.S. Naval Hospital, Oakland, was designated a reception center for repatriated prisoners of war held captive in Japan and, in December 1945, as a receiving unit for casualties evacuated from overseas hospitals. With the arrival of repatriated prisoners of war and the evacuated patients, the hospital census increased to approximately 6000 patients. The sick and wounded were stabilized and treated and at the Oakland Naval Hospital and transferred or to other naval hospitals or sent home.<sup>23</sup>

At the end of the war, there were one hundred-eleven hospital buildings, including seventy-nine ward buildings, nine service buildings, two large commissaries, twelve barracks for the staff, an administration building, a library, a chapel and recreation and entertainment facilities.<sup>24</sup> Most of the buildings housing non-essential facilities were built during the last two years of the war, including a 1000-person auditorium, a swimming

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<sup>21</sup> Ethel Anne Eusebio, "The History of Oakland Naval Hospital," (M.A. thesis, College of the Holy Names, Oakland, California, May 1961), 19. Oakland, California, U.S. Naval Hospital, Oakland, Public Affairs Office. Paul Michael and Harold Merwarth, comp. , "The History of the N.P. Department," *History of the United States Naval Hospital, Oakland, California*, (typescript, n.d.), [1]-11.

<sup>22</sup> Oakland, California, U.S. Naval Hospital, Oakland, Public Affairs Office. Paul Michael and Harold Merwarth, comp. , *History of the United States Naval Hospital, Oakland, California*, (typescript, n.d.), n.p.

<sup>23</sup> Ethel Anne Eusebio, "The History of Oakland Naval Hospital," (M.A. thesis, College of the Holy Names, Oakland, California, May 1961), 24-26. Oakland, California, U.S. Naval Hospital, Oakland, Public Affairs Office. Paul Michael and Harold Merwarth, comp. , *History of the United States Naval Hospital, Oakland, California*, (typescript, n.d.), 12-13.

<sup>24</sup> "Oak Knoll in Operation," *Oakland Post-Enquirer Annual*, December 1945.

pool, funded by the proceeds of a benefit concert given in Oakland by band leader Kay Kyser, an amphitheater and a bowling alley, a gift of the California Jockey Association. A new non-denominational chapel was completed in early 1945.<sup>25</sup>

In 1946, the neuropsychiatric hospital was closed and the neuropsychiatric department of Oakland Naval Hospital was reopened. Four years later, the U. S. Naval Hospital, Oakland, was declared Navy's West Coast psychiatric treatment center. The center occupied twenty-six wards during the Korean conflict, although records are unclear if the buildings on the crest of hill or buildings at the Oakland Naval Hospital were occupied. Some records indicate the 130-acre site remained unoccupied for fifteen years after the neuropsychiatric hospital closed in 1946. The hilltop complex that housed the San Leandro Naval Hospital was declared surplus in January 1956 and was transferred to the General Services Administration for sale in the early 1960s.<sup>26</sup> The buildings were subsequently demolished.

The second large hospital undertaking of the 1950s was the relocation to Oakland of the Navy Prosthetic Research Laboratory, established at Mare Island in 1943 as the first such facility in the Armed Forces. With the assistance of a retired official of Bakelite, the laboratory designed and built the first plastic artificial limbs in 1943 and 1944, to replace wood prosthetic devices. The purpose of the "Amputee Center" was the reconditioning of stumps, the fitting and construction of prosthetic devices, the education of patients in the use of prosthetic devices, the construction of braces and shoes for non-amputee disabled persons and research into new devices, including a molded foam foot, a variable friction knee mechanism and a simplified artificial leg.<sup>27</sup> Because the program took a comprehensive approach to treating patients, addressing also patients' needs for therapy, vocational testing, counseling and re-training, and job placement, it was acquired an international reputation among prosthetic programs. The school for Orthopedic Appliance Mechanics, housed within the research laboratory, is unique to the Department of Defense. Its purpose is to create a pool of Air Force, Army and Navy personnel trained in patient care and the manufacture of prosthetic devices who could be quickly mobilized in the event of a national emergency.

In early 1950, the U.S. Naval Hospital at Mare Island was reduced in size to fifty beds and the U.S. Naval Hospital at Long Beach was inactivated and closed. The Oakland hospital was consequently designated the Navy's West Coast center for the neurosurgery, neuropsychiatry, cancer and amputee care.<sup>28</sup>

Hospital expansion continued through the mid-1950s, with the construction of Buildings 6, 11, 87, 88, 90, 91 and 96. However by the late 1950s, demolition of a significant number of the World War II hospital buildings and facilities had begun. In 1958, the outdoor amphitheater was demolished. During the two year period, 1959 to 1960, the 130-acre San Leandro Naval Hospital was declared surplus and assigned to the General Services Administration for disposal. During the three year period, from 1960 to 1962, approximately fourteen hospital buildings were disposed of through purchase and removal contracts with private firms. In 1963, cement asbestos shingles were applied over the original redwood siding of ten World War II-period buildings and a preliminary

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<sup>25</sup> Ethel Anne Eusebio, "The History of Oakland Naval Hospital," (M.A. thesis, College of the Holy Names, Oakland, California, May 1961), 22.

<sup>26</sup> "U.S. to Put \$4 Million 'White Elephant' on Auction Block--Oakland Naval Hospital Annex," *Oakland Tribune*, November 10, 1960.

<sup>27</sup> Oakland, California, U.S. Naval Hospital, Oakland, Public Affairs Office. "A Pioneer in the Development of Amputee Research," *The Red Rover*, 4 (July 10, 1992): 5.

<sup>28</sup> *The Oak Leaf*, February 11, 1950.

engineering study for a new fireproof hospital building was prepared. From 1965 through 1970, cement asbestos shingles were installed on approximately twenty-six other buildings.<sup>29</sup>

During the early 1960s, Congress was examining the potential value of consolidating military hospitals in Oakland and San Francisco at one location or, alternatively, the construction of a new hospital at new location. By 1963, a decision had been reached to retain separate hospitals on both sides of the Bay. The easy accessibility of the U.S. Naval Hospital, Oakland, and the perception that two hospitals respond in emergency more rapidly than one resulted in their retention. The plan for retaining the two hospitals called for a reduction in combined bed capacity from 1900 to 1200 and the construction of new permanent mid-rise buildings to replace temporary buildings in both locations.<sup>30</sup> The contract for the first phase of work at the Oakland Naval Hospital, including the conversion of interim facilities and the demolition of World War II-period buildings to clear the site of the new building and parking lots, was awarded on June 29, 1965. The nine-story 650-bed building at the Naval Hospital was completed and dedicated on June 29, 1968. The remaining World War II buildings were used for patients requiring minimum care and for support functions.<sup>31</sup>

In assessing the context of the U.S. Naval Hospital, Oakland a comparison may be drawn with the Letterman General Hospital established at the Presidio of San Francisco on December 1, 1898 as a temporary hospital to care for the sick and wounded arriving from Pacific battlefields during the Spanish-American War. The hospital at the Presidio was the first general hospital established for the Army in the United States. Designed by local architect W.H. Wilcox Wood as a quadrangle of wood buildings, the hospital was built between 1898 and 1902. The hospital was expanded during World War I and, by World War II, it was the second largest military hospital in the United States. Most of the buildings were demolished in 1975, after the completion of a 10-story permanent structure in 1969.<sup>32</sup>

Further comparisons may be drawn between the U.S. Naval Hospital, Oakland and the Hospital Reservation at the Mare Island Naval Shipyard, Vallejo. The first hospital building constructed at Mare Island Naval Shipyard, Vallejo, was completed in 1869, fifteen years after the shipyard was begun. This building was destroyed in an 1898 earthquake and was later replaced. The hospital was expanded during the Spanish American War, the late 1920s and World War II. In 1950, almost all of the hospital departments were relocated to Oakland and consolidated with the U.S. Naval Hospital, Oakland. The Hospital Reservation Historic District at Mare Island contains eleven contributing buildings and sites constructed between 1894 and 1939.

Within the context of Bay Area hospitals, the Letterman Army Medical Center and the hospital reservation of the Mare Island Naval Shipyard, the U. S. Naval Hospital, Oakland, is the only one of these large complexes that was built as a temporary hospital during World War II. A few World War II-period military hospital buildings at Stanford University remain, although the site has lost integrity and its significance dates to the 1950s and 1960s, during which time the buildings were used for research.

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<sup>29</sup> Oakland, California, U.S. Naval Hospital, Oakland, Public Affairs Office. "Alterations in and Additions to Buildings," *Historical Development. Naval Hospital, Oakland (typescript, n.d.)*, n.p.

<sup>30</sup> "Naval Hospital Plans Draw Praise," *Oakland Tribune*, June 26, 1963.

<sup>31</sup> "\$14 Million New Hospital," *Oakland Tribune*, December 8, 1965.

<sup>32</sup> *Presidio of San Francisco National Historic Landmark district Historic American Buildings Survey Report*. (San Francisco: U.S. Department of the Interior and U. S. Department of Defense, 1985).

*Relevant Correspondence between United States Navy and the State Office of Historic Preservation*



**DEPARTMENT OF THE NAVY**

ENGINEERING FIELD ACTIVITY, WEST  
NAVAL FACILITIES ENGINEERING COMMAND  
900 COMMODORE DRIVE  
SAN BRUNO, CALIFORNIA 94066-5006

IN REPLY REFER TO:

5090.1B  
185LW/EP-875

December 12, 1995

Cherilyn Widell  
State Historic Preservation Officer  
Department of Parks and Recreation  
P.O. Box 942896  
Sacramento, CA 94296-0001

Dear Ms. Widell:

As recommended by the 1993 Base Realignment and Closure Commission, created in accordance with the Base Closure and Realignment Act (P.L. 100-526, October 24, 1988) the Department of the Navy has been directed to close and dispose of the Naval Medical Center in Oakland, California. By letter of May 31, 1994 (USN9409228A) you concurred with our determination that none of the remaining structures constructed during World War II, nor the former Oak Knoll Golf and Country Club Clubhouse (Club Knoll), currently serving as the Officers' Club, would qualify for inclusion in the National Register of Historic Places. Although there is local interest in preserving Club Knoll because of its Spanish Colonial/Mission Revival Style of architecture, the Navy has not reconsidered its position because the building's design is more a collection of elements of those styles than a good example of the style, and its association with a locally famous golf-pro is too tenuous, considering that the golf course where his records were set was destroyed to provide space for the Navy hospital buildings, most of which have subsequently been removed and replaced with newer structures and paving.

A literature search and site inspection was conducted by a professional archeologist, William Self and Associates, Inc. of Orinda, in 1990 as a part of the Environmental Impact Statement for "Candidate Base Closures/Realignment in the San Francisco Bay Area." No prehistoric archeological sites were identified on this property or on adjacent land. Subsequent investigations to identify all archeological collections taken from land under Navy control and jurisdiction also failed to identify any material collected from this shore facility. With the exception of the very steep slopes along the north and southern boundaries of this property the land was graded to create the golf course in the 1920s and regraded during the War to create level pads on which the temporary wood frame hospital ward buildings were erected. Much of the base was regraded a third time in the early 1960s for the construction of the main hospital building and the acres of parking and landscaped lawns that surround it. At that time most of Rifle Range Branch, a small creek that

bisects the property in a north to south direction along a fault associated with the Hayward Fault, was channeled and placed in covered culverts. For these reasons it is most unlikely that any prehistoric archeological material will be found on this property.

The Oakland Base Reuse Authority is the local body assigned to develop the reuse plan for this facility. The Preliminary Oak Knoll Reuse Plan describes the following alternatives: senior/community; mixed use village, single use campus, and residential, for the reuse of the property. These alternatives are comprised of overlapping land uses, combined in different acreage configurations of neighborhood retail, community facilities (including for example senior residential, homeless housing, elder hostel, health and social services facility, post office, small professional offices, and daycare facilities), educational, recreation (both active and passive), and residential (including various mixes of market rate housing types). Each of these alternative schemes includes public use of Club Knoll and the preservation of its architectural integrity.

For the reasons stated above the Navy has determined that the pending disposal will not affect any property included in or eligible for inclusion in the National Register of Historic Places. In accordance with the regulations for the "Protection of Historic Properties" (36 CFR Part 800), implementing Section 106 of the National Historic Preservation Act, as amended, we are requesting your concurrence with our determination.

Although detailed information was provided with our previous correspondence, please contact me at (415) 244-3015, should you wish to inspect the property or require additional information.

Your continued assistance and cooperation are appreciated.

Sincerely,



Louis S. Wall  
Cultural Resources Coordinator  
Environmental Planning Branch

Copy to:  
Claudia Nissley, ACHP



## OFFICE OF HISTORIC PRESERVATION

## DEPARTMENT OF PARKS AND RECREATION

P.O. BOX 942896  
SACRAMENTO 94296-0001  
(916) 653-6624  
FAX: (916) 653-9824



(916) 653-6624  
FAX (916) 653-9824

May 31, 1994

USN9409228A

Louis S. Wall  
Cultural Resources Coordinator  
Department of the Navy  
Western Division, NFEC  
900 Commodore Drive  
SAN BRUNO CA 94066-2402

Re: Naval Medical Center, Oakland, Alameda County.

Dear Mr. Wall:

Thank you for submitting to our office your February 23, 1994 letter and supporting documentation regarding the Naval Medical Center, and the Oak Knoll Golf and Country Club, Oakland, Alameda County. The Naval Medical Center complex, in its existing form, consists of 45 buildings. These buildings are identified as:

- o Building 8 - Laundry
- o Building 9 - Unknown
- o Building 10 - Public Works Building
- o Building 11 - Public Works Storehouse
- o Building 13 - Storage Garage
- o Building 14 - Autopsy Building and Animal House
- o Building 19 - Garage
- o Building 20B - Unknown
- o Building 20C - Unknown
- o Building 22 - Heating Plant
- o Building 36 - Fire House
- o Building 37 - Storage Garage
- o Building 38 - Community Service Building
- o Building 58 and L63 - Garages
- o Buildings 62, 63, 65 - Ward Buildings
- o Building 66, 67 - S. O. Q.
- o Building 69 - O. P. D.
- o Building 70, 73, 75 - Ward Buildings
- o Building 85 - Unknown
- o Building 101 - Administration Building
- o Building 102 - Occupational Therapy
- o Building 103 - Bowling Alley
- o Building 107 - Unknown
- o Building 110 - Public Works Storage
- o Building 111-113 Garage Office, Shop and Storage
- o Building 114 - Unknown
- o Building 115 - Unknown
- o Building 116 - Unknown

- o Building 131 - Chapel
- o Building 133 - Marine Storage
- o Building 137/138 - Filtration Plant/Swimming Pool
- o Buildings A, B, and C - Officer's Quarters
- o Buildings D and E - Executive Officer's Quarters and  
Commanding Officer's Quarters

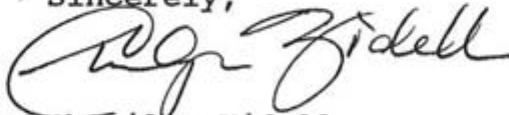
The Oak Knoll Golf and Country Club consists of the Clubhouse and a two-car garage.

You are seeking our comments on your determination of the eligibility of structures located within the boundaries of the Naval Medical Center Complex and the Oak Knoll Golf and Country Club for inclusion on the National Register of Historic Places (NRHP) in accordance with Section 106 of the National Historic Preservation Act. Our review of the submitted documentation leads us to concur with your determination that none of the aforementioned properties are eligible for inclusion on the NRHP under any of the criteria established by 36 CFR 60.4. The Naval Medical Center complex as a whole has undergone a number of significant changes including demolition of 60% of its World War II era hospital buildings, and the addition of non-historic features that have contributed to a major loss of structural and design integrity.

The Oak Knoll Golf and Country Club has lost much of its integrity through the loss of the actual golf course. This loss severely compromises the facility's historic associations with golfer Mark Fry and course designer William Watson under Criterion B as defined in 36 CFR 60.4. In addition, the Clubhouse has not been shown to be an outstanding example of its type, given the fact that the Spanish Colonial revival style was common for Bay Area clubhouses built in the 1920s.

Thank you again for seeking our comments on your project. If you have any questions, please contact staff historian Clarence Caesar at (916) 653-8902.

Sincerely,



Cheryl Widell  
State Historic Preservation Officer



## DEPARTMENT OF THE NAVY

WESTERN DIVISION  
NAVAL FACILITIES ENGINEERING COMMAND  
900 COMMODORE DRIVE  
SAN BRUNO, CALIFORNIA 94066-2402

IN REPLY REFER TO:

5090.1A  
.09F2LW/EP-462  
February 23, 1994

Steady R. Craigo, A.I.A.  
Acting State Historic Preservation Officer  
Department of Parks and Recreation  
P.O. Box 942896  
Sacramento, CA 94296-0001

Dear Mr. Craigo:

The Department of the Navy retained the firm of Page & Turnbull of San Francisco to prepare a brief historical overview of Naval Medical Center, Oakland, California. The overview develops the historic context which has been used to evaluate the buildings and structures of the former Naval Hospital for inclusion in the National Register of Historic Places. A copy of this document entitled "Context Statement and Historic Resource Inventory" is enclosed. It also includes Department of Parks and Recreation (DPR) forms 523 for the remaining hospital buildings and structures built during World War II. We agree with our consultant's findings that these buildings have been altered and their setting greatly changed, and therefore, they do not qualify for inclusion in the National Register.

Also enclosed is a completed National Register Nomination Form for the Former Oak Knoll Golf and Country Club Clubhouse, currently the Officer's Club at the medical center. We initially believed that the building would qualify for the National Register because of its architectural design. However, after researching the structure our consultant had reservations about this possibility. The design, Spanish Colonial, is representative of the period in which it was built. But there are better examples of clubhouses in this style at other golf and country clubs in the Bay area. Many of those were designed by well known architects of that period. The same can not be said for the designer of the Oak Knoll Clubhouse. He was a relatively unknown architect, whose only commission in the Bay area may have been this building. Because its association with the World War II was peripheral and the rest of the World War II base is either altered or destroyed it does not appear to qualify for its association with important events in American history, architecture, nor culture.

Our consultant's research led to the local golf pro, who set many club records, and was well known in the Bay area in the 1930s and early 1940s. If anything she believed the clubhouse might qualify for its association with this local golf pro, or perhaps because of this association and its architectural design. We question whether the local golf pro was important enough to qualify the former Oak Knoll Golf and Country Club Clubhouse for inclusion in the National Register. We do not believe the clubhouse without the golf course, the site of the pro's triumphs that made his fame, will qualify for this association. Furthermore, we question whether the property qualifies for the National Register for its architecture.

The Naval Medical Center, Oakland is included on the list of Naval shore facilities closed by the Base Realignment and Closure Commission in 1993. Therefore, pursuant to the regulations (36 CFR Part 800), implementing Section 106 of the National Historic Preservation Act of 1966, as amended, we are

seeking your opinion as to the eligibility of the clubhouse, and your opinion on our determination that the remaining World War II buildings have lost their integrity and will not qualify for inclusion in the National Register. Please contact me at (415) 244-3719, if you require additional information or wish to inspect the property before providing comment.

Your continued assistance and cooperation are appreciated.

Sincerely,



LOUIS S. WALL  
Cultural Resources Coordinator  
Environmental Planning Branch

Enclosures

Copy to:  
Claudia Nissley, ACHP, Golden, CO, w/encl

*Evaluation Sheets, Oakland Cultural Heritage Survey*



Common (and Historic) Name(s) Building 38 (Community Service Building)

Address/Location Oak Knoll (former U.S. Naval Hospital), Oakland, California

A. VISUAL QUALITY/DESIGN

- |    |                                   |  |   |    |          |           |
|----|-----------------------------------|--|---|----|----------|-----------|
| 1. | Exterior                          | <u>Two-story community building with cement asbestos shingles.</u> | E | VG | G        | <b>FP</b> |
| 2. | Interior (list best spaces first) |  |   |    |          |           |
|    | Space 1                           | <u>Interior not surveyed.</u>                                      | E | VG | G        | FP        |
|    | Space 2                           | <u>n/a</u>   | E | VG | G        | FP        |
|    | Other Spaces                      | <u>n/a</u>   | E | VG | G        | FP        |
| 3. | Construction                      | <u>Wood-frame construction.</u>                                    | E | VG | G        | <b>FP</b> |
| 4. | Designer/Builder                  | <u>Frick &amp; Weihe with Blanchard and Maher.</u>                 | E | VG | <b>G</b> | FP        |
| 5. | Type/Style                        | <u>WWII-era military community building.</u>                       | E | VG | <b>G</b> | FP        |
| 6. | Supportive Elements               | <u>Former U.S. Naval Hospital (questionable integrity).</u>        | E | VG | G        | <b>FP</b> |

B. HISTORY/ASSOCIATION

- |     |                     |   |   |           |          |           |
|-----|---------------------|---|---|-----------|----------|-----------|
| 7.  | Person/Organization | <u>n/a</u>                                    | E | VG        | G        | <b>FP</b> |
| 8.  | Event               | <u>WWII-era home front healthcare system.</u> | E | <b>VG</b> | G        | FP        |
| 9.  | Patterns            | <u>n/a</u>                                    | E | VG        | G        | <b>FP</b> |
| 10. | Age                 | <u>1944</u>                                   | E | VG        | <b>G</b> | FP        |

C. CONTEXT

- |     |             |  |   |    |          |    |
|-----|-------------|--|---|----|----------|----|
| 11. | Continuity  |  | E | VG | <b>G</b> | FP |
| 12. | Familiarity |  | E | VG | <b>G</b> | FP |

D. INTEGRITY

- |     |                      |  |          |   |          |   |
|-----|----------------------|--|----------|---|----------|---|
| 13. | Condition            | <u>Exhibits significant wear.</u>                | E        | G | <b>F</b> | P |
| 14. | Exterior Alterations | <u>Alteration of original exterior cladding.</u> | E        | G | <b>F</b> | P |
| 15. | Interior Alterations |  |          |   |          |   |
|     | Space 1              | <u>n/a</u>                                       | E        | G | F        | P |
|     | Space 2              | <u>n/a</u>                                       | E        | G | F        | P |
|     | Other Spaces         | <u>n/a</u>                                       | E        | G | F        | P |
| 16. | Structural Removals  | <u>None</u>                                      | <b>E</b> | G | F        | P |
| 17. | Site                 | <u>Located on original site.</u>                 | <b>E</b> | G | F        | P |

E. REVERSIBILITY

- |     |                      |   |   |          |   |   |
|-----|----------------------|---|---|----------|---|---|
| 18. | Exterior Alterations | <u>Cement asbestos shingles appear to cover original wood siding.</u> | E | <b>G</b> | F | P |
| 19. | Interior Alterations |   |   |          |   |   |
|     | Space 1              | <u>n/a</u>  | E | G        | F | P |
|     | Other Spaces         |   | E | G        | F | P |

Evaluated by Richard Sucré, Page & Turnbull Date August 7, 2006

- |             |       |      |       |                                   |  |
|-------------|-------|------|-------|-----------------------------------|--|
| Reviewed by | _____ | Date | _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |
| Reviewed by | _____ | Date | _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |
| Reviewed by | _____ | Date | _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |
| Reviewed by | _____ | Date | _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |
| Reviewed by | _____ | Date | _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |

STATUS/RATING

**Rating:** Present status:  A  B  C  D  E  Not rated \_\_\_\_\_  
 Contingency status:  a  b  c  d  e  Not rated  Not applicable \_\_\_\_\_  
 Contingency factor:  1  2  3  Site of opportunity \_\_\_\_\_ Composite rating \_\_\_\_\_

**National Register (Individual):**  Listed (1)  Determined eligible (2)  Appears eligible (3)  Potential if restored (4b)  
 Potential when over 50 years old (4d)  None of the above (6) \_\_\_\_\_  
**National Register (as part of a group or district only):**  Listed (1D)  Determined eligible (2D)  Appears eligible (3D) \_\_\_\_\_  
 Potential if restored (4Db)  Potential when over 50 (4Dd) \_\_\_\_\_ Composite eligibility \_\_\_\_\_  
 ASI (5D)  None of the above (6)  Other \_\_\_\_\_

**SHRI:**  Primary resource (NR #1, 2, or 3)  Contingency Primary (NR #4)  District Contributor (NR #3D)  
 Contingency Contributor (NR #4D)  ASI (NR #5D)  Noncontributor (NR #6)  Ineligible (NR #6)

**City Landmark:**  Listed  In S-7 Zone  On Study List  None of the above



Common (and Historic) Name(s) Building 58 (Garage)  
Address/Location Oak Knoll (former U.S. Naval Hospital), Oakland, California

|                          |   |          |           |          |           |
|--------------------------|---|----------|-----------|----------|-----------|
| A. VISUAL QUALITY/DESIGN |   |          |           |          |           |
| 1.                       | Exterior <u>One-story garge with gable roof and cement asbestos shingles.</u>   | E        | VG        | G        | <b>FP</b> |
| 2.                       | Interior (list best spaces first)   |          |           |          |           |
|                          | Space 1 <u>Interior not surveyed.</u>   | E        | VG        | G        | FP        |
|                          | Space 2 <u>n/a</u>  | E        | VG        | G        | FP        |
|                          | Other Spaces <u>n/a</u>   | E        | VG        | G        | FP        |
| 3.                       | Construction <u>Wood-frame construction.</u>                                    | E        | VG        | G        | <b>FP</b> |
| 4.                       | Designer/Builder <u>Frick &amp; Weihe with Blanchard and Maher.</u>             | E        | VG        | <b>G</b> | FP        |
| 5.                       | Type/Style <u>WWII-era military single-family housing</u>                       | E        | VG        | <b>G</b> | FP        |
| 6.                       | Supportive Elements <u>Former U.S. Naval Hospital (questionable integrity).</u> | E        | VG        | G        | <b>FP</b> |
| B. HISTORY/ASSOCIATION   |   |          |           |          |           |
| 7.                       | Person/Organization <u>n/a</u>  | E        | VG        | G        | <b>FP</b> |
| 8.                       | Event <u>WWII-era home front healthcare community.</u>                          | E        | <b>VG</b> | G        | FP        |
| 9.                       | Patterns <u>n/a</u>   | E        | VG        | G        | <b>FP</b> |
| 10.                      | Age <u>1943</u>   | E        | VG        | <b>G</b> | FP        |
| C. CONTEXT               |   |          |           |          |           |
| 11.                      | Continuity _____  | E        | VG        | <b>G</b> | FP        |
| 12.                      | Familiarity _____   | E        | VG        | <b>G</b> | FP        |
| D. INTEGRITY             |   |          |           |          |           |
| 13.                      | Condition <u>Exhibits significant wear.</u>                                     | E        | G         | <b>F</b> | P         |
| 14.                      | Exterior Alterations <u>Exterior re clad with cement asbestos shingles</u>      | E        | G         | <b>F</b> | P         |
| 15.                      | Interior Alterations <u>Interior not surveyed.</u>                              |          |           |          |           |
|                          | Space 1 <u>n/a</u>  | E        | G         | F        | P         |
|                          | Space 2 <u>n/a</u>  | E        | G         | F        | P         |
|                          | Other Spaces <u>n/a</u>   | E        | G         | F        | P         |
| 16.                      | Structural Removals <u>None</u>   | <b>E</b> | G         | F        | P         |
| 17.                      | Site <u>Located on original site.</u>   | <b>E</b> | G         | F        | P         |
| E. REVERSIBILITY         |   |          |           |          |           |
| 18.                      | Exterior Alterations _____  | E        | G         | <b>F</b> | P         |
| 19.                      | Interior Alterations _____  |          |           |          |           |
|                          | Space 1 <u>n/a</u>  | E        | G         | F        | P         |
|                          | Other Spaces _____  | E        | G         | F        | P         |

Evaluated by Richard Sucré, Page & Turnbull Date August 7, 2006

|                   |            |                                   |  |
|-------------------|------------|-----------------------------------|--|
| Reviewed by _____ | Date _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |
| Reviewed by _____ | Date _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |
| Reviewed by _____ | Date _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |
| Reviewed by _____ | Date _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |
| Reviewed by _____ | Date _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |

STATUS/RATING

Rating: Present status:  A  B  C  D  E  Not rated \_\_\_\_\_

Contingency status:  a  b  c  d  e  Not rated  Not applicable \_\_\_\_\_

Contingency factor:  1  2  3  Site of opportunity \_\_\_\_\_ Composite rating \_\_\_\_\_

National Register (Individual):  Listed (1)  Determined eligible (2)  Appears eligible (3)  Potential if restored (4b)

Potential when over 50 years old (4d)  None of the above (6)

National Register (as part of a group or district only):  Listed (1D)  Determined eligible (2D)  Appears eligible (3D)

Potential if restored (4Db)  Potential when over 50 (4Dd) \_\_\_\_\_ Composite eligibility \_\_\_\_\_

ASI (5D)  None of the above (6)  Other \_\_\_\_\_

SHRI:  Primary resource (NR #1, 2, or 3)  Contingency Primary (NR #4)  District Contributor (NR #3D)

Contingency Contributor (NR #4D)  ASI (NR #5D)  Noncontributor (NR #6)  Ineligible (NR #6)

City Landmark:  Listed  In S-7 Zone  On Study List  None of the above



Common (and Historic) Name(s) Building 62 (Ward)  
Address/Location Oak Knoll (former U.S. Naval Hospital), Oakland, California

|                          |  |          |           |          |           |
|--------------------------|--|----------|-----------|----------|-----------|
| A. VISUAL QUALITY/DESIGN |  |          |           |          |           |
| 1.                       | Exterior <u>One-story office building with H-shaped plan and cement asbestos shingles.</u>       | E        | VG        | G        | <b>FP</b> |
| 2.                       | Interior (list best spaces first)  |          |           |          |           |
|                          | Space 1 <u>Interior not surveyed.</u>  | E        | VG        | G        | FP        |
|                          | Space 2 <u>n/a</u>   | E        | VG        | G        | FP        |
|                          | Other Spaces <u>n/a</u>  | E        | VG        | G        | FP        |
| 3.                       | Construction <u>Wood-frame construction.</u>   | E        | VG        | G        | <b>FP</b> |
| 4.                       | Designer/Builder <u>Frick &amp; Weihe with Blanchard and Maher.</u>                              | E        | VG        | <b>G</b> | FP        |
| 5.                       | Type/Style <u>WWII-era military hospital ward.</u>   | E        | VG        | <b>G</b> | FP        |
| 6.                       | Supportive Elements <u>Former U.S. Naval Hospital (questionable integrity).</u>                  | E        | VG        | G        | <b>FP</b> |
| B. HISTORY/ASSOCIATION   |  |          |           |          |           |
| 7.                       | Person/Organization <u>n/a</u>   | E        | VG        | G        | <b>FP</b> |
| 8.                       | Event <u>WWII-era home front healthcare system.</u>  | E        | <b>VG</b> | G        | FP        |
| 9.                       | Patterns <u>n/a</u>  | E        | VG        | G        | <b>FP</b> |
| 10.                      | Age <u>1942</u>  | E        | VG        | <b>G</b> | FP        |
| C. CONTEXT               |  |          |           |          |           |
| 11.                      | Continuity _____   | E        | VG        | <b>G</b> | FP        |
| 12.                      | Familiarity _____  | E        | VG        | <b>G</b> | FP        |
| D. INTEGRITY             |  |          |           |          |           |
| 13.                      | Condition <u>Exhibits significant wear.</u>  | E        | G         | <b>F</b> | P         |
| 14.                      | Exterior Alterations <u>Alteration of original exterior cladding; addition of exterior ramps</u> | E        | G         | <b>F</b> | P         |
| 15.                      | Interior Alterations   |          |           |          |           |
|                          | Space 1 <u>n/a</u>   | E        | G         | F        | P         |
|                          | Space 2 <u>n/a</u>   | E        | G         | F        | P         |
|                          | Other Spaces <u>n/a</u>  | E        | G         | F        | P         |
| 16.                      | Structural Removals <u>None</u>  | <b>E</b> | G         | F        | P         |
| 17.                      | Site <u>Located on original site.</u>  | <b>E</b> | G         | F        | P         |
| E. REVERSIBILITY         |  |          |           |          |           |
| 18.                      | Exterior Alterations <u>Cement asbestos shingles appear to cover original wood siding.</u>       | E        | <b>G</b>  | F        | P         |
| 19.                      | Interior Alterations   |          |           |          |           |
|                          | Space 1 <u>n/a</u>   | E        | G         | F        | P         |
|                          | Other Spaces _____   | E        | G         | F        | P         |

Evaluated by Richard Sucré, Page & Turnbull Date August 7, 2006

|                   |            |                                   |  |
|-------------------|------------|-----------------------------------|--|
| Reviewed by _____ | Date _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |
| Reviewed by _____ | Date _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |
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| Reviewed by _____ | Date _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |
| Reviewed by _____ | Date _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |

STATUS/RATING  
**Rating:** Present status:  A  B  C  D  E  Not rated \_\_\_\_\_  
 Contingency status:  a  b  c  d  e  Not rated  Not applicable \_\_\_\_\_  
 Contingency factor:  1  2  3  Site of opportunity \_\_\_\_\_ Composite rating \_\_\_\_\_

**National Register (Individual):**  Listed (1)  Determined eligible (2)  Appears eligible (3)  Potential if restored (4b)  
 Potential when over 50 years old (4d)  None of the above (6)  
**National Register (as part of a group or district only):**  Listed (1D)  Determined eligible (2D)  Appears eligible (3D) \_\_\_\_\_  
 Potential if restored (4Db)  Potential when over 50 (4Dd) Composite eligibility \_\_\_\_\_  
 ASI (5D)  None of the above (6)  Other \_\_\_\_\_

**SHRI:**  Primary resource (NR #1, 2, or 3)  Contingency Primary (NR #4)  District Contributor (NR #3D)  
 Contingency Contributor (NR #4D)  ASI (NR #5D)  Noncontributor (NR #6)  Ineligible (NR #6)  
**City Landmark:**  Listed  In S-7 Zone  On Study List  None of the above





Common (and Historic) Name(s) Building 63 (Ward)  
Address/Location Oak Knoll (former U.S. Naval Hospital), Oakland, California

A. VISUAL QUALITY/DESIGN

|    |                                   |   |   |    |          |           |
|----|-----------------------------------|---|---|----|----------|-----------|
| 1. | Exterior                          | <u>One-story office building with H-shaped plan and cement asbestos shingles.</u> | E | VG | G        | <b>FP</b> |
| 2. | Interior (list best spaces first) |   |   |    |          |           |
|    | Space 1                           | <u>Interior not surveyed.</u>   | E | VG | G        | FP        |
|    | Space 2                           | <u>n/a</u>  | E | VG | G        | FP        |
|    | Other Spaces                      | <u>n/a</u>  | E | VG | G        | FP        |
| 3. | Construction                      | <u>Wood-frame construction.</u>   | E | VG | G        | <b>FP</b> |
| 4. | Designer/Builder                  | <u>Frick &amp; Weihe with Blanchard and Maher.</u>                                | E | VG | <b>G</b> | FP        |
| 5. | Type/Style                        | <u>WWII-era military hospital ward.</u>   | E | VG | <b>G</b> | FP        |
| 6. | Supportive Elements               | <u>Former U.S. Naval Hospital (questionable integrity).</u>                       | E | VG | G        | <b>FP</b> |

B. HISTORY/ASSOCIATION

|     |                     |   |   |           |          |           |
|-----|---------------------|---|---|-----------|----------|-----------|
| 7.  | Person/Organization | <u>n/a</u>                                    | E | VG        | G        | <b>FP</b> |
| 8.  | Event               | <u>WWII-era home front healthcare system.</u> | E | <b>VG</b> | G        | FP        |
| 9.  | Patterns            | <u>n/a</u>                                    | E | VG        | G        | <b>FP</b> |
| 10. | Age                 | <u>1942</u>                                   | E | VG        | <b>G</b> | FP        |

C. CONTEXT

|     |             |  |   |    |          |    |
|-----|-------------|--|---|----|----------|----|
| 11. | Continuity  |  | E | VG | <b>G</b> | FP |
| 12. | Familiarity |  | E | VG | <b>G</b> | FP |

D. INTEGRITY

|     |                      |   |          |   |          |   |
|-----|----------------------|---|----------|---|----------|---|
| 13. | Condition            | <u>Exhibits significant wear.</u>   | E        | G | <b>F</b> | P |
| 14. | Exterior Alterations | <u>Alteration of original exterior cladding; addition of exterior ramps</u> | E        | G | <b>F</b> | P |
| 15. | Interior Alterations |   |          |   |          |   |
|     | Space 1              | <u>n/a</u>  | E        | G | F        | P |
|     | Space 2              | <u>n/a</u>  | E        | G | F        | P |
|     | Other Spaces         | <u>n/a</u>  | E        | G | F        | P |
| 16. | Structural Removals  | <u>None</u>   | <b>E</b> | G | F        | P |
| 17. | Site                 | <u>Located on original site.</u>  | <b>E</b> | G | F        | P |

E. REVERSIBILITY

|     |                      |   |   |          |   |   |
|-----|----------------------|---|---|----------|---|---|
| 18. | Exterior Alterations | <u>Cement asbestos shingles appear to cover original wood siding.</u> | E | <b>G</b> | F | P |
| 19. | Interior Alterations |   |   |          |   |   |
|     | Space 1              | <u>n/a</u>  | E | G        | F | P |
|     | Other Spaces         |   | E | G        | F | P |

Evaluated by Richard Sucré, Page & Turnbull Date August 7, 2006

|             |       |      |       |                                   |  |
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| Reviewed by | _____ | Date | _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |
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| Reviewed by | _____ | Date | _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |
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| Reviewed by | _____ | Date | _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |

STATUS/RATING

**Rating:** Present status:  A  B  C  D  E  Not rated \_\_\_\_\_  
Contingency status:  a  b  c  d  e  Not rated  Not applicable \_\_\_\_\_  
Contingency factor:  1  2  3  Site of opportunity \_\_\_\_\_ Composite rating \_\_\_\_\_

**National Register (Individual):**  Listed (1)  Determined eligible (2)  Appears eligible (3)  Potential if restored (4b)  
 Potential when over 50 years old (4d)  None of the above (6) \_\_\_\_\_  
**National Register (as part of a group or district only):**  Listed (1D)  Determined eligible (2D)  Appears eligible (3D) \_\_\_\_\_  
 Potential if restored (4Db)  Potential when over 50 (4Dd) \_\_\_\_\_ Composite eligibility \_\_\_\_\_  
 ASI (5D)  None of the above (6)  Other \_\_\_\_\_

**SHRI:**  Primary resource (NR #1, 2, or 3)  Contingency Primary (NR #4)  District Contributor (NR #3D)  
 Contingency Contributor (NR #4D)  ASI (NR #5D)  Noncontributor (NR #6)  Ineligible (NR #6)

**City Landmark:**  Listed  In S-7 Zone  On Study List  None of the above



Common (and Historic) Name(s) Building 65 (Ward)  
Address/Location Oak Knoll (former U.S. Naval Hospital), Oakland, California

|                          |  |          |           |          |           |
|--------------------------|--|----------|-----------|----------|-----------|
| A. VISUAL QUALITY/DESIGN |  |          |           |          |           |
| 1.                       | Exterior <u>One-story medical ward with H-shaped plan and cement asbestos shingles.</u>          | E        | VG        | G        | <b>FP</b> |
| 2.                       | Interior (list best spaces first)  |          |           |          |           |
|                          | Space 1 <u>Interior not surveyed.</u>  | E        | VG        | G        | FP        |
|                          | Space 2 <u>n/a</u>   | E        | VG        | G        | FP        |
|                          | Other Spaces <u>n/a</u>  | E        | VG        | G        | FP        |
| 3.                       | Construction <u>Wood-frame construction.</u>   | E        | VG        | G        | <b>FP</b> |
| 4.                       | Designer/Builder <u>Frick &amp; Weihe with Blanchard and Maher.</u>                              | E        | VG        | <b>G</b> | FP        |
| 5.                       | Type/Style <u>WWII-era military hospital ward.</u>   | E        | VG        | <b>G</b> | FP        |
| 6.                       | Supportive Elements <u>Former U.S. Naval Hospital (questionable integrity).</u>                  | E        | VG        | G        | <b>FP</b> |
| B. HISTORY/ASSOCIATION   |  |          |           |          |           |
| 7.                       | Person/Organization <u>n/a</u>   | E        | VG        | G        | <b>FP</b> |
| 8.                       | Event <u>WWII-era home front healthcare system.</u>  | E        | <b>VG</b> | G        | FP        |
| 9.                       | Patterns <u>n/a</u>  | E        | VG        | G        | <b>FP</b> |
| 10.                      | Age <u>1942</u>  | E        | VG        | <b>G</b> | FP        |
| C. CONTEXT               |  |          |           |          |           |
| 11.                      | Continuity _____   | E        | VG        | <b>G</b> | FP        |
| 12.                      | Familiarity _____  | E        | VG        | <b>G</b> | FP        |
| D. INTEGRITY             |  |          |           |          |           |
| 13.                      | Condition <u>Exhibits significant wear.</u>  | E        | G         | <b>F</b> | P         |
| 14.                      | Exterior Alterations <u>Alteration of original exterior cladding; addition of exterior ramps</u> | E        | G         | <b>F</b> | P         |
| 15.                      | Interior Alterations   |          |           |          |           |
|                          | Space 1 <u>n/a</u>   | E        | G         | F        | P         |
|                          | Space 2 <u>n/a</u>   | E        | G         | F        | P         |
|                          | Other Spaces <u>n/a</u>  | E        | G         | F        | P         |
| 16.                      | Structural Removals <u>None</u>  | <b>E</b> | G         | F        | P         |
| 17.                      | Site <u>Located on original site.</u>  | <b>E</b> | G         | F        | P         |
| E. REVERSIBILITY         |  |          |           |          |           |
| 18.                      | Exterior Alterations <u>Cement asbestos shingles appear to cover original wood siding.</u>       | E        | <b>G</b>  | F        | P         |
| 19.                      | Interior Alterations   |          |           |          |           |
|                          | Space 1 <u>n/a</u>   | E        | G         | F        | P         |
|                          | Other Spaces _____   | E        | G         | F        | P         |

Evaluated by Richard Sucré, Page & Turnbull Date August 7, 2006

|                   |            |                                   |  |
|-------------------|------------|-----------------------------------|--|
| Reviewed by _____ | Date _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |
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| Reviewed by _____ | Date _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |
| Reviewed by _____ | Date _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |
| Reviewed by _____ | Date _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |

STATUS/RATING

Rating: Present status:  A  B  C  D  E  Not rated \_\_\_\_\_

Contingency status:  a  b  c  d  e  Not rated  Not applicable \_\_\_\_\_

Contingency factor:  1  2  3  Site of opportunity \_\_\_\_\_ Composite rating \_\_\_\_\_

National Register (Individual):  Listed (1)  Determined eligible (2)  Appears eligible (3)  Potential if restored (4b)

Potential when over 50 years old (4d)  None of the above (6)

National Register (as part of a group or district only):  Listed (1D)  Determined eligible (2D)  Appears eligible (3D)

Potential if restored (4Db)  Potential when over 50 (4Dd) \_\_\_\_\_ Composite eligibility \_\_\_\_\_

ASI (5D)  None of the above (6)  Other \_\_\_\_\_

SHRI:  Primary resource (NR #1, 2, or 3)  Contingency Primary (NR #4)  District Contributor (NR #3D)

Contingency Contributor (NR #4D)  ASI (NR #5D)  Noncontributor (NR #6)  Ineligible (NR #6)

City Landmark:  Listed  In S-7 Zone  On Study List  None of the above



Common (and Historic) Name(s) Building 66 (Ward)  
Address/Location Oak Knoll (former U.S. Naval Hospital), Oakland, California

|                          |  |          |           |          |           |
|--------------------------|--|----------|-----------|----------|-----------|
| A. VISUAL QUALITY/DESIGN |  |          |           |          |           |
| 1.                       | Exterior <u>One-story medical ward with H-shaped plan and cement asbestos shingles.</u>          | E        | VG        | G        | <b>FP</b> |
| 2.                       | Interior (list best spaces first)  |          |           |          |           |
|                          | Space 1 <u>Interior not surveyed.</u>  | E        | VG        | G        | FP        |
|                          | Space 2 <u>n/a</u>   | E        | VG        | G        | FP        |
|                          | Other Spaces <u>n/a</u>  | E        | VG        | G        | FP        |
| 3.                       | Construction <u>Wood-frame construction.</u>   | E        | VG        | G        | <b>FP</b> |
| 4.                       | Designer/Builder <u>Frick &amp; Weihe with Blanchard and Maher.</u>                              | E        | VG        | <b>G</b> | FP        |
| 5.                       | Type/Style <u>WWII-era military hospital ward.</u>   | E        | VG        | <b>G</b> | FP        |
| 6.                       | Supportive Elements <u>Former U.S. Naval Hospital (questionable integrity).</u>                  | E        | VG        | G        | <b>FP</b> |
| B. HISTORY/ASSOCIATION   |  |          |           |          |           |
| 7.                       | Person/Organization <u>n/a</u>   | E        | VG        | G        | <b>FP</b> |
| 8.                       | Event <u>WWII-era home front healthcare system.</u>  | E        | <b>VG</b> | G        | FP        |
| 9.                       | Patterns <u>n/a</u>  | E        | VG        | G        | <b>FP</b> |
| 10.                      | Age <u>1942</u>  | E        | VG        | <b>G</b> | FP        |
| C. CONTEXT               |  |          |           |          |           |
| 11.                      | Continuity _____   | E        | VG        | <b>G</b> | FP        |
| 12.                      | Familiarity _____  | E        | VG        | <b>G</b> | FP        |
| D. INTEGRITY             |  |          |           |          |           |
| 13.                      | Condition <u>Exhibits significant wear.</u>  | E        | G         | <b>F</b> | P         |
| 14.                      | Exterior Alterations <u>Alteration of original exterior cladding; addition of exterior ramps</u> | E        | G         | <b>F</b> | P         |
| 15.                      | Interior Alterations   |          |           |          |           |
|                          | Space 1 <u>n/a</u>   | E        | G         | F        | P         |
|                          | Space 2 <u>n/a</u>   | E        | G         | F        | P         |
|                          | Other Spaces <u>n/a</u>  | E        | G         | F        | P         |
| 16.                      | Structural Removals <u>None</u>  | <b>E</b> | G         | F        | P         |
| 17.                      | Site <u>Located on original site.</u>  | <b>E</b> | G         | F        | P         |
| E. REVERSIBILITY         |  |          |           |          |           |
| 18.                      | Exterior Alterations <u>Cement asbestos shingles appear to cover original wood siding.</u>       | E        | <b>G</b>  | F        | P         |
| 19.                      | Interior Alterations   |          |           |          |           |
|                          | Space 1 <u>n/a</u>   | E        | G         | F        | P         |
|                          | Other Spaces _____   | E        | G         | F        | P         |

Evaluated by Richard Sucré, Page & Turnbull Date August 7, 2006

|                   |            |                                   |  |
|-------------------|------------|-----------------------------------|--|
| Reviewed by _____ | Date _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |
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| Reviewed by _____ | Date _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |
| Reviewed by _____ | Date _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |

STATUS/RATING

**Rating:** Present status:  A  B  C  D  E  Not rated \_\_\_\_\_  
 Contingency status:  a  b  c  d  e  Not rated  Not applicable \_\_\_\_\_  
 Contingency factor:  1  2  3  Site of opportunity \_\_\_\_\_ Composite rating \_\_\_\_\_

**National Register (Individual):**  Listed (1)  Determined eligible (2)  Appears eligible (3)  Potential if restored (4b)  
 Potential when over 50 years old (4d)  None of the above (6) \_\_\_\_\_  
**National Register (as part of a group or district only):**  Listed (1D)  Determined eligible (2D)  Appears eligible (3D) \_\_\_\_\_  
 Potential if restored (4Db)  Potential when over 50 (4Dd) \_\_\_\_\_ Composite eligibility \_\_\_\_\_  
 ASI (5D)  None of the above (6)  Other \_\_\_\_\_

**SHRI:**  Primary resource (NR #1, 2, or 3)  Contingency Primary (NR #4)  District Contributor (NR #3D)  
 Contingency Contributor (NR #4D)  ASI (NR #5D)  Noncontributor (NR #6)  Ineligible (NR #6)

**City Landmark:**  Listed  In S-7 Zone  On Study List  None of the above



Common (and Historic) Name(s) Building 67 (Ward)

Address/Location Oak Knoll (former U.S. Naval Hospital), Oakland, California

A. VISUAL QUALITY/DESIGN

- |    |                                   |  |   |    |          |           |
|----|-----------------------------------|--|---|----|----------|-----------|
| 1. | Exterior                          | <u>One-story medical ward with H-shaped plan and cement asbestos shingles.</u> | E | VG | G        | <b>FP</b> |
| 2. | Interior (list best spaces first) |  |   |    |          |           |
|    | Space 1                           | <u>Interior not surveyed.</u>  | E | VG | G        | FP        |
|    | Space 2                           | <u>n/a</u>   | E | VG | G        | FP        |
|    | Other Spaces                      | <u>n/a</u>   | E | VG | G        | FP        |
| 3. | Construction                      | <u>Wood-frame construction.</u>  | E | VG | G        | <b>FP</b> |
| 4. | Designer/Builder                  | <u>Frick &amp; Weihe with Blanchard and Maher.</u>                             | E | VG | <b>G</b> | FP        |
| 5. | Type/Style                        | <u>WWII-era military hospital ward.</u>  | E | VG | <b>G</b> | FP        |
| 6. | Supportive Elements               | <u>Former U.S. Naval Hospital (questionable integrity).</u>                    | E | VG | G        | <b>FP</b> |

B. HISTORY/ASSOCIATION

- |     |                     |   |   |           |          |           |
|-----|---------------------|---|---|-----------|----------|-----------|
| 7.  | Person/Organization | <u>n/a</u>                                    | E | VG        | G        | <b>FP</b> |
| 8.  | Event               | <u>WWII-era home front healthcare system.</u> | E | <b>VG</b> | G        | FP        |
| 9.  | Patterns            | <u>n/a</u>                                    | E | VG        | G        | <b>FP</b> |
| 10. | Age                 | <u>1942</u>                                   | E | VG        | <b>G</b> | FP        |

C. CONTEXT

- |     |             |  |   |    |          |    |
|-----|-------------|--|---|----|----------|----|
| 11. | Continuity  |  | E | VG | <b>G</b> | FP |
| 12. | Familiarity |  | E | VG | <b>G</b> | FP |

D. INTEGRITY

- |     |                      |   |          |   |          |   |
|-----|----------------------|---|----------|---|----------|---|
| 13. | Condition            | <u>Exhibits significant wear.</u>   | E        | G | <b>F</b> | P |
| 14. | Exterior Alterations | <u>Alteration of original exterior cladding; addition of exterior ramps</u> | E        | G | <b>F</b> | P |
| 15. | Interior Alterations |   |          |   |          |   |
|     | Space 1              | <u>n/a</u>  | E        | G | F        | P |
|     | Space 2              | <u>n/a</u>  | E        | G | F        | P |
|     | Other Spaces         | <u>n/a</u>  | E        | G | F        | P |
| 16. | Structural Removals  | <u>None</u>   | <b>E</b> | G | F        | P |
| 17. | Site                 | <u>Located on original site.</u>  | <b>E</b> | G | F        | P |

E. REVERSIBILITY

- |     |                      |   |   |          |   |   |
|-----|----------------------|---|---|----------|---|---|
| 18. | Exterior Alterations | <u>Cement asbestos shingles appear to cover original wood siding.</u> | E | <b>G</b> | F | P |
| 19. | Interior Alterations |   |   |          |   |   |
|     | Space 1              | <u>n/a</u>  | E | G        | F | P |
|     | Other Spaces         |   | E | G        | F | P |

Evaluated by Richard Sucré, Page & Turnbull Date August 7, 2006

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| Reviewed by | _____ | Date | _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |
| Reviewed by | _____ | Date | _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |
| Reviewed by | _____ | Date | _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |
| Reviewed by | _____ | Date | _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |

STATUS/RATING

**Rating:** Present status:  A  B  C  D  E  Not rated \_\_\_\_\_  
 Contingency status:  a  b  c  d  e  Not rated  Not applicable \_\_\_\_\_  
 Contingency factor:  1  2  3  Site of opportunity \_\_\_\_\_ Composite rating \_\_\_\_\_

**National Register (Individual):**  Listed (1)  Determined eligible (2)  Appears eligible (3)  Potential if restored (4b)  
 Potential when over 50 years old (4d)  None of the above (6) \_\_\_\_\_  
**National Register (as part of a group or district only):**  Listed (1D)  Determined eligible (2D)  Appears eligible (3D) \_\_\_\_\_  
 Potential if restored (4Db)  Potential when over 50 (4Dd) \_\_\_\_\_ Composite eligibility \_\_\_\_\_  
 ASI (5D)  None of the above (6)  Other \_\_\_\_\_

**SHRI:**  Primary resource (NR #1, 2, or 3)  Contingency Primary (NR #4)  District Contributor (NR #3D)  
 Contingency Contributor (NR #4D)  ASI (NR #5D)  Noncontributor (NR #6)  Ineligible (NR #6)

**City Landmark:**  Listed  In S-7 Zone  On Study List  None of the above



Common (and Historic) Name(s) Building 69 (Ward)

Address/Location Oak Knoll (former U.S. Naval Hospital), Oakland, California

A. VISUAL QUALITY/DESIGN

- |    |                                   |  |   |    |          |           |
|----|-----------------------------------|--|---|----|----------|-----------|
| 1. | Exterior                          | <u>One-story medical ward with H-shaped plan and cement asbestos shingles.</u> | E | VG | G        | <b>FP</b> |
| 2. | Interior (list best spaces first) |  |   |    |          |           |
|    | Space 1                           | <u>Interior not surveyed.</u>  | E | VG | G        | FP        |
|    | Space 2                           | <u>n/a</u>   | E | VG | G        | FP        |
|    | Other Spaces                      | <u>n/a</u>   | E | VG | G        | FP        |
| 3. | Construction                      | <u>Wood-frame construction.</u>  | E | VG | G        | <b>FP</b> |
| 4. | Designer/Builder                  | <u>Frick &amp; Weihe with Blanchard and Maher.</u>                             | E | VG | <b>G</b> | FP        |
| 5. | Type/Style                        | <u>WWII-era military hospital ward.</u>  | E | VG | <b>G</b> | FP        |
| 6. | Supportive Elements               | <u>Former U.S. Naval Hospital (questionable integrity).</u>                    | E | VG | G        | <b>FP</b> |

B. HISTORY/ASSOCIATION

- |     |                     |   |   |           |          |           |
|-----|---------------------|---|---|-----------|----------|-----------|
| 7.  | Person/Organization | <u>n/a</u>                                    | E | VG        | G        | <b>FP</b> |
| 8.  | Event               | <u>WWII-era home front healthcare system.</u> | E | <b>VG</b> | G        | FP        |
| 9.  | Patterns            | <u>n/a</u>                                    | E | VG        | G        | <b>FP</b> |
| 10. | Age                 | <u>1943</u>                                   | E | VG        | <b>G</b> | FP        |

C. CONTEXT

- |     |             |  |   |    |          |    |
|-----|-------------|--|---|----|----------|----|
| 11. | Continuity  |  | E | VG | <b>G</b> | FP |
| 12. | Familiarity |  | E | VG | <b>G</b> | FP |

D. INTEGRITY

- |     |                      |   |          |   |          |   |
|-----|----------------------|---|----------|---|----------|---|
| 13. | Condition            | <u>Exhibits significant wear.</u>   | E        | G | <b>F</b> | P |
| 14. | Exterior Alterations | <u>Alteration of original exterior cladding; addition of exterior ramps</u> | E        | G | <b>F</b> | P |
| 15. | Interior Alterations |   |          |   |          |   |
|     | Space 1              | <u>n/a</u>  | E        | G | F        | P |
|     | Space 2              | <u>n/a</u>  | E        | G | F        | P |
|     | Other Spaces         | <u>n/a</u>  | E        | G | F        | P |
| 16. | Structural Removals  | <u>None</u>   | <b>E</b> | G | F        | P |
| 17. | Site                 | <u>Located on original site.</u>  | <b>E</b> | G | F        | P |

E. REVERSIBILITY

- |     |                      |   |   |          |   |   |
|-----|----------------------|---|---|----------|---|---|
| 18. | Exterior Alterations | <u>Cement asbestos shingles appear to cover original wood siding.</u> | E | <b>G</b> | F | P |
| 19. | Interior Alterations |   |   |          |   |   |
|     | Space 1              | <u>n/a</u>  | E | G        | F | P |
|     | Other Spaces         |   | E | G        | F | P |

Evaluated by Richard Sucré, Page & Turnbull Date August 7, 2006

- |             |       |      |       |                                   |  |
|-------------|-------|------|-------|-----------------------------------|--|
| Reviewed by | _____ | Date | _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |
| Reviewed by | _____ | Date | _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |
| Reviewed by | _____ | Date | _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |
| Reviewed by | _____ | Date | _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |
| Reviewed by | _____ | Date | _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |

STATUS/RATING

**Rating:** Present status:  A  B  C  D  E  Not rated \_\_\_\_\_  
 Contingency status:  a  b  c  d  e  Not rated  Not applicable \_\_\_\_\_  
 Contingency factor:  1  2  3  Site of opportunity \_\_\_\_\_ Composite rating \_\_\_\_\_

**National Register (Individual):**  Listed (1)  Determined eligible (2)  Appears eligible (3)  Potential if restored (4b)  
 Potential when over 50 years old (4d)  None of the above (6) \_\_\_\_\_  
**National Register (as part of a group or district only):**  Listed (1D)  Determined eligible (2D)  Appears eligible (3D) \_\_\_\_\_  
 Potential if restored (4Db)  Potential when over 50 (4Dd) \_\_\_\_\_ Composite eligibility \_\_\_\_\_  
 ASI (5D)  None of the above (6)  Other \_\_\_\_\_

**SHRI:**  Primary resource (NR #1, 2, or 3)  Contingency Primary (NR #4)  District Contributor (NR #3D)  
 Contingency Contributor (NR #4D)  ASI (NR #5D)  Noncontributor (NR #6)  Ineligible (NR #6)

**City Landmark:**  Listed  In S-7 Zone  On Study List  None of the above



Common (and Historic) Name(s) Building 70 (Ward)  
Address/Location Oak Knoll (former U.S. Naval Hospital), Oakland, California

A. VISUAL QUALITY/DESIGN

|    |                                   |  |   |    |          |           |
|----|-----------------------------------|--|---|----|----------|-----------|
| 1. | Exterior                          | <u>One-story medical ward with H-shaped plan and cement asbestos shingles.</u> | E | VG | G        | <b>FP</b> |
| 2. | Interior (list best spaces first) |  |   |    |          |           |
|    | Space 1                           | <u>Interior not surveyed.</u>  | E | VG | G        | FP        |
|    | Space 2                           | <u>n/a</u>   | E | VG | G        | FP        |
|    | Other Spaces                      | <u>n/a</u>   | E | VG | G        | FP        |
| 3. | Construction                      | <u>Wood-frame construction.</u>  | E | VG | G        | <b>FP</b> |
| 4. | Designer/Builder                  | <u>Frick &amp; Weihe with Blanchard and Maher.</u>                             | E | VG | <b>G</b> | FP        |
| 5. | Type/Style                        | <u>WWII-era military hospital ward.</u>  | E | VG | <b>G</b> | FP        |
| 6. | Supportive Elements               | <u>Former U.S. Naval Hospital (questionable integrity).</u>                    | E | VG | G        | <b>FP</b> |

B. HISTORY/ASSOCIATION

|     |                     |   |   |           |          |           |
|-----|---------------------|---|---|-----------|----------|-----------|
| 7.  | Person/Organization | <u>n/a</u>                                    | E | VG        | G        | <b>FP</b> |
| 8.  | Event               | <u>WWII-era home front healthcare system.</u> | E | <b>VG</b> | G        | FP        |
| 9.  | Patterns            | <u>n/a</u>                                    | E | VG        | G        | <b>FP</b> |
| 10. | Age                 | <u>1943</u>                                   | E | VG        | <b>G</b> | FP        |

C. CONTEXT

|     |             |  |   |    |          |    |
|-----|-------------|--|---|----|----------|----|
| 11. | Continuity  |  | E | VG | <b>G</b> | FP |
| 12. | Familiarity |  | E | VG | <b>G</b> | FP |

D. INTEGRITY

|     |                      |   |          |   |          |   |
|-----|----------------------|---|----------|---|----------|---|
| 13. | Condition            | <u>Exhibits significant wear.</u>   | E        | G | <b>F</b> | P |
| 14. | Exterior Alterations | <u>Alteration of original exterior cladding; addition of exterior ramps</u> | E        | G | <b>F</b> | P |
| 15. | Interior Alterations |   |          |   |          |   |
|     | Space 1              | <u>n/a</u>  | E        | G | F        | P |
|     | Space 2              | <u>n/a</u>  | E        | G | F        | P |
|     | Other Spaces         | <u>n/a</u>  | E        | G | F        | P |
| 16. | Structural Removals  | <u>None</u>   | <b>E</b> | G | F        | P |
| 17. | Site                 | <u>Located on original site.</u>  | <b>E</b> | G | F        | P |

E. REVERSIBILITY

|     |                      |   |   |          |   |   |
|-----|----------------------|---|---|----------|---|---|
| 18. | Exterior Alterations | <u>Cement asbestos shingles appear to cover original wood siding.</u> | E | <b>G</b> | F | P |
| 19. | Interior Alterations |   |   |          |   |   |
|     | Space 1              | <u>n/a</u>  | E | G        | F | P |
|     | Other Spaces         |   | E | G        | F | P |

Evaluated by Richard Sucré, Page & Turnbull Date August 7, 2006

|             |       |      |       |                                   |  |
|-------------|-------|------|-------|-----------------------------------|--|
| Reviewed by | _____ | Date | _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |
| Reviewed by | _____ | Date | _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |
| Reviewed by | _____ | Date | _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |
| Reviewed by | _____ | Date | _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |
| Reviewed by | _____ | Date | _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |

STATUS/RATING

Rating: Present status:  A  B  C  D  E  Not rated \_\_\_\_\_

Contingency status:  a  b  c  d  e  Not rated  Not applicable \_\_\_\_\_

Contingency factor:  1  2  3  Site of opportunity \_\_\_\_\_ Composite rating \_\_\_\_\_

National Register (Individual):  Listed (1)  Determined eligible (2)  Appears eligible (3)  Potential if restored (4b)  
 Potential when over 50 years old (4d)  None of the above (6)

National Register (as part of a group or district only):  Listed (1D)  Determined eligible (2D)  Appears eligible (3D) \_\_\_\_\_  
 Potential if restored (4Db)  Potential when over 50 (4Dd) Composite eligibility \_\_\_\_\_  
 ASI (5D)  None of the above (6)  Other \_\_\_\_\_

SHRI:  Primary resource (NR #1, 2, or 3)  Contingency Primary (NR #4)  District Contributor (NR #3D)  
 Contingency Contributor (NR #4D)  ASI (NR #5D)  Noncontributor (NR #6)  Ineligible (NR #6)

City Landmark:  Listed  In S-7 Zone  On Study List  None of the above



Common (and Historic) Name(s) Building 75 (Ward)  
Address/Location Oak Knoll (former U.S. Naval Hospital), Oakland, California

A. VISUAL QUALITY/DESIGN

|    |                                   |  |   |    |          |           |
|----|-----------------------------------|--|---|----|----------|-----------|
| 1. | Exterior                          | <u>One-story medical ward with H-shaped plan and cement asbestos shingles.</u> | E | VG | G        | <b>FP</b> |
| 2. | Interior (list best spaces first) |  |   |    |          |           |
|    | Space 1                           | <u>Interior not surveyed.</u>  | E | VG | G        | FP        |
|    | Space 2                           | <u>n/a</u>   | E | VG | G        | FP        |
|    | Other Spaces                      | <u>n/a</u>   | E | VG | G        | FP        |
| 3. | Construction                      | <u>Wood-frame construction.</u>  | E | VG | G        | <b>FP</b> |
| 4. | Designer/Builder                  | <u>Frick &amp; Weihe with Blanchard and Maher.</u>                             | E | VG | <b>G</b> | FP        |
| 5. | Type/Style                        | <u>WWII-era military hospital ward.</u>  | E | VG | <b>G</b> | FP        |
| 6. | Supportive Elements               | <u>Former U.S. Naval Hospital (questionable integrity).</u>                    | E | VG | G        | <b>FP</b> |

B. HISTORY/ASSOCIATION

|     |                     |   |   |           |          |           |
|-----|---------------------|---|---|-----------|----------|-----------|
| 7.  | Person/Organization | <u>n/a</u>                                    | E | VG        | G        | <b>FP</b> |
| 8.  | Event               | <u>WWII-era home front healthcare system.</u> | E | <b>VG</b> | G        | FP        |
| 9.  | Patterns            | <u>n/a</u>                                    | E | VG        | G        | <b>FP</b> |
| 10. | Age                 | <u>1943</u>                                   | E | VG        | <b>G</b> | FP        |

C. CONTEXT

|     |             |  |   |    |          |    |
|-----|-------------|--|---|----|----------|----|
| 11. | Continuity  |  | E | VG | <b>G</b> | FP |
| 12. | Familiarity |  | E | VG | <b>G</b> | FP |

D. INTEGRITY

|     |                      |   |          |   |          |   |
|-----|----------------------|---|----------|---|----------|---|
| 13. | Condition            | <u>Exhibits significant wear.</u>   | E        | G | <b>F</b> | P |
| 14. | Exterior Alterations | <u>Alteration of original exterior cladding; addition of exterior ramps</u> | E        | G | <b>F</b> | P |
| 15. | Interior Alterations |   |          |   |          |   |
|     | Space 1              | <u>n/a</u>  | E        | G | F        | P |
|     | Space 2              | <u>n/a</u>  | E        | G | F        | P |
|     | Other Spaces         | <u>n/a</u>  | E        | G | F        | P |
| 16. | Structural Removals  | <u>None</u>   | <b>E</b> | G | F        | P |
| 17. | Site                 | <u>Located on original site.</u>  | <b>E</b> | G | F        | P |

E. REVERSIBILITY

|     |                      |   |   |          |   |   |
|-----|----------------------|---|---|----------|---|---|
| 18. | Exterior Alterations | <u>Cement asbestos shingles appear to cover original wood siding.</u> | E | <b>G</b> | F | P |
| 19. | Interior Alterations |   |   |          |   |   |
|     | Space 1              | <u>n/a</u>  | E | G        | F | P |
|     | Other Spaces         |   | E | G        | F | P |

Evaluated by Richard Sucré, Page & Turnbull Date August 7, 2006

|             |       |      |       |                                   |  |
|-------------|-------|------|-------|-----------------------------------|--|
| Reviewed by | _____ | Date | _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |
| Reviewed by | _____ | Date | _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |
| Reviewed by | _____ | Date | _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |
| Reviewed by | _____ | Date | _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |
| Reviewed by | _____ | Date | _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |

STATUS/RATING

**Rating:** Present status:  A  B  C  D  E  Not rated \_\_\_\_\_  
Contingency status:  a  b  c  d  e  Not rated  Not applicable \_\_\_\_\_  
Contingency factor:  1  2  3  Site of opportunity \_\_\_\_\_ Composite rating \_\_\_\_\_

**National Register (Individual):**  Listed (1)  Determined eligible (2)  Appears eligible (3)  Potential if restored (4b)  
 Potential when over 50 years old (4d)  None of the above (6) \_\_\_\_\_  
**National Register (as part of a group or district only):**  Listed (1D)  Determined eligible (2D)  Appears eligible (3D) \_\_\_\_\_  
 Potential if restored (4Db)  Potential when over 50 (4Dd) \_\_\_\_\_ Composite eligibility \_\_\_\_\_  
 ASI (5D)  None of the above (6)  Other \_\_\_\_\_

**SHRI:**  Primary resource (NR #1, 2, or 3)  Contingency Primary (NR #4)  District Contributor (NR #3D)  
 Contingency Contributor (NR #4D)  ASI (NR #5D)  Noncontributor (NR #6)  Ineligible (NR #6)

**City Landmark:**  Listed  In S-7 Zone  On Study List  None of the above



Common (and Historic) Name(s) Building 101 (Administration Building)

Address/Location Oak Knoll (former U.S. Naval Hospital), Oakland, California

|                          |  |          |           |          |           |
|--------------------------|--|----------|-----------|----------|-----------|
| A. VISUAL QUALITY/DESIGN |  |          |           |          |           |
| 1.                       | Exterior <u>Two-story office building with cement asbestos shingles and open covered walkways.</u> | E        | VG        | G        | <b>FP</b> |
| 2.                       | Interior (list best spaces first)  |          |           |          |           |
|                          | Space 1 <u>Interior not surveyed.</u>  | E        | VG        | G        | FP        |
|                          | Space 2 <u>n/a</u>   | E        | VG        | G        | FP        |
|                          | Other Spaces <u>n/a</u>  | E        | VG        | G        | FP        |
| 3.                       | Construction <u>Wood-frame construction.</u>   | E        | VG        | G        | <b>FP</b> |
| 4.                       | Designer/Builder <u>Frick &amp; Weihe with Blanchard and Maher.</u>                                | E        | VG        | <b>G</b> | FP        |
| 5.                       | Type/Style <u>WWII-era military office building.</u>   | E        | VG        | <b>G</b> | FP        |
| 6.                       | Supportive Elements <u>Former U.S. Naval Hospital (questionable integrity).</u>                    | E        | VG        | G        | <b>FP</b> |
| B. HISTORY/ASSOCIATION   |  |          |           |          |           |
| 7.                       | Person/Organization <u>n/a</u>   | E        | VG        | G        | <b>FP</b> |
| 8.                       | Event <u>WWII-era home front healthcare system.</u>  | E        | <b>VG</b> | G        | FP        |
| 9.                       | Patterns <u>n/a</u>  | E        | VG        | G        | <b>FP</b> |
| 10.                      | Age <u>1943</u>  | E        | VG        | <b>G</b> | FP        |
| C. CONTEXT               |  |          |           |          |           |
| 11.                      | Continuity _____   | E        | VG        | <b>G</b> | FP        |
| 12.                      | Familiarity _____  | E        | VG        | <b>G</b> | FP        |
| D. INTEGRITY             |  |          |           |          |           |
| 13.                      | Condition <u>Exhibits significant wear.</u>  | E        | G         | <b>F</b> | P         |
| 14.                      | Exterior Alterations <u>Alteration of original exterior cladding.</u>                              | E        | G         | <b>F</b> | P         |
| 15.                      | Interior Alterations   |          |           |          |           |
|                          | Space 1 <u>n/a</u>   | E        | G         | F        | P         |
|                          | Space 2 <u>n/a</u>   | E        | G         | F        | P         |
|                          | Other Spaces <u>n/a</u>  | E        | G         | F        | P         |
| 16.                      | Structural Removals <u>None</u>  | <b>E</b> | G         | F        | P         |
| 17.                      | Site <u>Located on original site.</u>  | <b>E</b> | G         | F        | P         |
| E. REVERSIBILITY         |  |          |           |          |           |
| 18.                      | Exterior Alterations <u>Cement asbestos shingles appear to cover original wood siding.</u>         | E        | <b>G</b>  | F        | P         |
| 19.                      | Interior Alterations   |          |           |          |           |
|                          | Space 1 <u>n/a</u>   | E        | G         | F        | P         |
|                          | Other Spaces _____   | E        | G         | F        | P         |

Evaluated by Richard Sucré, Page & Turnbull Date August 7, 2006

|                   |            |                                   |  |
|-------------------|------------|-----------------------------------|--|
| Reviewed by _____ | Date _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |
| Reviewed by _____ | Date _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |
| Reviewed by _____ | Date _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |
| Reviewed by _____ | Date _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |
| Reviewed by _____ | Date _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |

STATUS/RATING

**Rating:** Present status:  A  B  C  D  E  Not rated \_\_\_\_\_

Contingency status:  a  b  c  d  e  Not rated  Not applicable \_\_\_\_\_

Contingency factor:  1  2  3  Site of opportunity \_\_\_\_\_ Composite rating \_\_\_\_\_

**National Register (Individual):**  Listed (1)  Determined eligible (2)  Appears eligible (3)  Potential if restored (4b)  
 Potential when over 50 years old (4d)  None of the above (6) \_\_\_\_\_

**National Register (as part of a group or district only):**  Listed (1D)  Determined eligible (2D)  Appears eligible (3D) \_\_\_\_\_  
 Potential if restored (4Db)  Potential when over 50 (4Dd) \_\_\_\_\_ Composite eligibility \_\_\_\_\_  
 ASI (5D)  None of the above (6)  Other \_\_\_\_\_

**SHRI:**  Primary resource (NR #1, 2, or 3)  Contingency Primary (NR #4)  District Contributor (NR #3D)  
 Contingency Contributor (NR #4D)  ASI (NR #5D)  Noncontributor (NR #6)  Ineligible (NR #6)

**City Landmark:**  Listed  In S-7 Zone  On Study List  None of the above





Common (and Historic) Name(s) Building 131 (Chapel)  
Address/Location Oak Knoll (former U.S. Naval Hospital), Oakland, California

|                          |  |          |           |          |           |
|--------------------------|--|----------|-----------|----------|-----------|
| A. VISUAL QUALITY/DESIGN |  |          |           |          |           |
| 1.                       | Exterior <u>One-story building with cement asbestos shingles, simple detailing.</u>        | E        | VG        | G        | <b>FP</b> |
| 2.                       | Interior (list best spaces first)  |          |           |          |           |
|                          | Space 1 <u>Interior not surveyed.</u>  | E        | VG        | G        | FP        |
|                          | Space 2 <u>n/a</u>   | E        | VG        | G        | FP        |
|                          | Other Spaces <u>n/a</u>  | E        | VG        | G        | FP        |
| 3.                       | Construction <u>Wood-frame construction.</u>   | E        | VG        | G        | <b>FP</b> |
| 4.                       | Designer/Builder <u>Frick &amp; Weihe with Blanchard and Maher.</u>                        | E        | VG        | <b>G</b> | FP        |
| 5.                       | Type/Style <u>WWII-era military chapel.</u>  | E        | VG        | <b>G</b> | FP        |
| 6.                       | Supportive Elements <u>Former U.S. Naval Hospital (questionable integrity).</u>            | E        | VG        | G        | <b>FP</b> |
| B. HISTORY/ASSOCIATION   |  |          |           |          |           |
| 7.                       | Person/Organization <u>n/a</u>   | E        | VG        | G        | <b>FP</b> |
| 8.                       | Event <u>WWII-era home front healthcare system.</u>  | E        | <b>VG</b> | G        | FP        |
| 9.                       | Patterns <u>n/a</u>  | E        | VG        | G        | <b>FP</b> |
| 10.                      | Age <u>1945</u>  | E        | VG        | <b>G</b> | FP        |
| C. CONTEXT               |  |          |           |          |           |
| 11.                      | Continuity _____   | E        | VG        | <b>G</b> | FP        |
| 12.                      | Familiarity _____  | E        | VG        | <b>G</b> | FP        |
| D. INTEGRITY             |  |          |           |          |           |
| 13.                      | Condition <u>Exhibits significant wear.</u>  | E        | G         | <b>F</b> | P         |
| 14.                      | Exterior Alterations <u>Alteration of original exterior cladding.</u>                      | E        | G         | <b>F</b> | P         |
| 15.                      | Interior Alterations   |          |           |          |           |
|                          | Space 1 <u>n/a</u>   | E        | G         | F        | P         |
|                          | Space 2 <u>n/a</u>   | E        | G         | F        | P         |
|                          | Other Spaces <u>n/a</u>  | E        | G         | F        | P         |
| 16.                      | Structural Removals <u>None</u>  | <b>E</b> | G         | F        | P         |
| 17.                      | Site <u>Located on original site.</u>  | <b>E</b> | G         | F        | P         |
| E. REVERSIBILITY         |  |          |           |          |           |
| 18.                      | Exterior Alterations <u>Cement asbestos shingles appear to cover original wood siding.</u> | E        | <b>G</b>  | F        | P         |
| 19.                      | Interior Alterations   |          |           |          |           |
|                          | Space 1 <u>n/a</u>   | E        | G         | F        | P         |
|                          | Other Spaces _____   | E        | G         | F        | P         |

Evaluated by Richard Sucré, Page & Turnbull Date August 7, 2006

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| Reviewed by _____ | Date _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |
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| Reviewed by _____ | Date _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |

STATUS/RATING

**Rating:** Present status:  A  B  C  D  E  Not rated \_\_\_\_\_  
 Contingency status:  a  b  c  d  e  Not rated  Not applicable \_\_\_\_\_  
 Contingency factor:  1  2  3  Site of opportunity \_\_\_\_\_ Composite rating \_\_\_\_\_

**National Register (Individual):**  Listed (1)  Determined eligible (2)  Appears eligible (3)  Potential if restored (4b)  
 Potential when over 50 years old (4d)  None of the above (6) \_\_\_\_\_  
**National Register (as part of a group or district only):**  Listed (1D)  Determined eligible (2D)  Appears eligible (3D) \_\_\_\_\_  
 Potential if restored (4Db)  Potential when over 50 (4Dd) \_\_\_\_\_ Composite eligibility \_\_\_\_\_  
 ASI (5D)  None of the above (6)  Other \_\_\_\_\_

**SHRI:**  Primary resource (NR #1, 2, or 3)  Contingency Primary (NR #4)  District Contributor (NR #3D)  
 Contingency Contributor (NR #4D)  ASI (NR #5D)  Noncontributor (NR #6)  Ineligible (NR #6)

**City Landmark:**  Listed  In S-7 Zone  On Study List  None of the above



Common (and Historic) Name(s) Building A (Single-Family Residence)

Address/Location Oak Knoll (former U.S. Naval Hospital), Oakland, California

|                          |   |          |           |          |           |
|--------------------------|---|----------|-----------|----------|-----------|
| A. VISUAL QUALITY/DESIGN |   |          |           |          |           |
| 1.                       | Exterior <u>One-story building with redwood siding, simple detailing.</u>       | E        | VG        | G        | <b>FP</b> |
| 2.                       | Interior (list best spaces first)   |          |           |          |           |
|                          | Space 1 <u>Interior not surveyed.</u>   | E        | VG        | G        | FP        |
|                          | Space 2 <u>n/a</u>  | E        | VG        | G        | FP        |
|                          | Other Spaces <u>n/a</u>   | E        | VG        | G        | FP        |
| 3.                       | Construction <u>Wood-frame construction.</u>                                    | E        | VG        | G        | <b>FP</b> |
| 4.                       | Designer/Builder <u>Frick &amp; Weihe with Blanchard and Maher.</u>             | E        | VG        | <b>G</b> | FP        |
| 5.                       | Type/Style <u>WWII-era military single-family housing</u>                       | E        | VG        | <b>G</b> | FP        |
| 6.                       | Supportive Elements <u>Former U.S. Naval Hospital (questionable integrity).</u> | E        | VG        | G        | <b>FP</b> |
| B. HISTORY/ASSOCIATION   |   |          |           |          |           |
| 7.                       | Person/Organization <u>n/a</u>  | E        | VG        | G        | <b>FP</b> |
| 8.                       | Event <u>WWII-era home front healthcare system and surrounding community.</u>   | E        | <b>VG</b> | G        | FP        |
| 9.                       | Patterns <u>n/a</u>   | E        | VG        | G        | <b>FP</b> |
| 10.                      | Age <u>1943</u>   | E        | VG        | <b>G</b> | FP        |
| C. CONTEXT               |   |          |           |          |           |
| 11.                      | Continuity _____  | E        | VG        | <b>G</b> | FP        |
| 12.                      | Familiarity _____   | E        | VG        | <b>G</b> | FP        |
| D. INTEGRITY             |   |          |           |          |           |
| 13.                      | Condition <u>Exhibits significant wear.</u>                                     | E        | G         | <b>F</b> | P         |
| 14.                      | Exterior Alterations _____  | E        | <b>G</b>  | F        | P         |
| 15.                      | Interior Alterations <u>Interior not surveyed</u>                               |          |           |          |           |
|                          | Space 1 <u>n/a</u>  | E        | G         | F        | P         |
|                          | Space 2 <u>n/a</u>  | E        | G         | F        | P         |
|                          | Other Spaces <u>n/a</u>   | E        | G         | F        | P         |
| 16.                      | Structural Removals <u>None</u>   | <b>E</b> | G         | F        | P         |
| 17.                      | Site <u>Located on original site.</u>   | <b>E</b> | G         | F        | P         |
| E. REVERSIBILITY         |   |          |           |          |           |
| 18.                      | Exterior Alterations _____  | <b>E</b> | G         | F        | P         |
| 19.                      | Interior Alterations _____  |          |           |          |           |
|                          | Space 1 <u>n/a</u>  | E        | G         | F        | P         |
|                          | Other Spaces _____  | E        | G         | F        | P         |

Evaluated by Richard Sucré, Page & Turnbull Date August 7, 2006

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| Reviewed by _____ | Date _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |
| Reviewed by _____ | Date _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |

STATUS/RATING

**Rating:** Present status:  A  B  C  D  E  Not rated \_\_\_\_\_

Contingency status:  a  b  c  d  e  Not rated  Not applicable \_\_\_\_\_

Contingency factor:  1  2  3  Site of opportunity \_\_\_\_\_ Composite rating \_\_\_\_\_

**National Register (Individual):**  Listed (1)  Determined eligible (2)  Appears eligible (3)  Potential if restored (4b)  
 Potential when over 50 years old (4d)  None of the above (6) \_\_\_\_\_

**National Register (as part of a group or district only):**  Listed (1D)  Determined eligible (2D)  Appears eligible (3D) \_\_\_\_\_  
 Potential if restored (4Db)  Potential when over 50 (4Dd) \_\_\_\_\_ Composite eligibility \_\_\_\_\_  
 ASI (5D)  None of the above (6)  Other \_\_\_\_\_

**SHRI:**  Primary resource (NR #1, 2, or 3)  Contingency Primary (NR #4)  District Contributor (NR #3D)  
 Contingency Contributor (NR #4D)  ASI (NR #5D)  Noncontributor (NR #6)  Ineligible (NR #6)

**City Landmark:**  Listed  In S-7 Zone  On Study List  None of the above



Common (and Historic) Name(s) Building B (Single-Family Residence)

Address/Location Oak Knoll (former U.S. Naval Hospital), Oakland, California

A. VISUAL QUALITY/DESIGN

- |    |                                   |  |   |    |          |           |
|----|-----------------------------------|--|---|----|----------|-----------|
| 1. | Exterior                          | <u>One-story building with redwood siding, simple detailing.</u> | E | VG | G        | <b>FP</b> |
| 2. | Interior (list best spaces first) |  |   |    |          |           |
|    | Space 1                           | <u>Interior not surveyed.</u>                                    | E | VG | G        | FP        |
|    | Space 2                           | <u>n/a</u>   | E | VG | G        | FP        |
|    | Other Spaces                      | <u>n/a</u>   | E | VG | G        | FP        |
| 3. | Construction                      | <u>Wood-frame construction.</u>                                  | E | VG | G        | <b>FP</b> |
| 4. | Designer/Builder                  | <u>Frick &amp; Weihe with Blanchard and Maher.</u>               | E | VG | <b>G</b> | FP        |
| 5. | Type/Style                        | <u>WWII-era military single-family housing</u>                   | E | VG | <b>G</b> | FP        |
| 6. | Supportive Elements               | <u>Former U.S. Naval Hospital (questionable integrity).</u>      | E | VG | G        | <b>FP</b> |

B. HISTORY/ASSOCIATION

- |     |                     |   |   |           |          |           |
|-----|---------------------|---|---|-----------|----------|-----------|
| 7.  | Person/Organization | <u>n/a</u>  | E | VG        | G        | <b>FP</b> |
| 8.  | Event               | <u>WWII-era home front healthcare system and surrounding community.</u> | E | <b>VG</b> | G        | FP        |
| 9.  | Patterns            | <u>n/a</u>  | E | VG        | G        | <b>FP</b> |
| 10. | Age                 | <u>1943</u>   | E | VG        | <b>G</b> | FP        |

C. CONTEXT

- |     |             |  |   |    |          |    |
|-----|-------------|--|---|----|----------|----|
| 11. | Continuity  |  | E | VG | <b>G</b> | FP |
| 12. | Familiarity |  | E | VG | <b>G</b> | FP |

D. INTEGRITY

- |     |                      |                                   |          |          |          |   |
|-----|----------------------|-----------------------------------|----------|----------|----------|---|
| 13. | Condition            | <u>Exhibits significant wear.</u> | E        | G        | <b>F</b> | P |
| 14. | Exterior Alterations |                                   | E        | <b>G</b> | F        | P |
| 15. | Interior Alterations | <u>Interior not surveyed</u>      |          |          |          |   |
|     | Space 1              | <u>n/a</u>                        | E        | G        | F        | P |
|     | Space 2              | <u>n/a</u>                        | E        | G        | F        | P |
|     | Other Spaces         | <u>n/a</u>                        | E        | G        | F        | P |
| 16. | Structural Removals  | <u>None</u>                       | <b>E</b> | G        | F        | P |
| 17. | Site                 | <u>Located on original site.</u>  | <b>E</b> | G        | F        | P |

E. REVERSIBILITY

- |     |                      |            |          |   |   |   |
|-----|----------------------|------------|----------|---|---|---|
| 18. | Exterior Alterations |            | <b>E</b> | G | F | P |
| 19. | Interior Alterations |            |          |   |   |   |
|     | Space 1              | <u>n/a</u> | E        | G | F | P |
|     | Other Spaces         |            | E        | G | F | P |

Evaluated by Richard Sucré, Page & Turnbull Date August 7, 2006

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|-------------|-------|------|-------|-----------------------------------|--|
| Reviewed by | _____ | Date | _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |
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| Reviewed by | _____ | Date | _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |
| Reviewed by | _____ | Date | _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |
| Reviewed by | _____ | Date | _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |

STATUS/RATING

**Rating:** Present status:  A  B  C  D  E  Not rated \_\_\_\_\_  
 Contingency status:  a  b  c  d  e  Not rated  Not applicable \_\_\_\_\_  
 Contingency factor:  1  2  3  Site of opportunity \_\_\_\_\_ Composite rating \_\_\_\_\_

**National Register (Individual):**  Listed (1)  Determined eligible (2)  Appears eligible (3)  Potential if restored (4b)  
 Potential when over 50 years old (4d)  None of the above (6) \_\_\_\_\_  
**National Register (as part of a group or district only):**  Listed (1D)  Determined eligible (2D)  Appears eligible (3D) \_\_\_\_\_  
 Potential if restored (4Db)  Potential when over 50 (4Dd) \_\_\_\_\_ Composite eligibility \_\_\_\_\_  
 ASI (5D)  None of the above (6)  Other \_\_\_\_\_

**SHRI:**  Primary resource (NR #1, 2, or 3)  Contingency Primary (NR #4)  District Contributor (NR #3D)  
 Contingency Contributor (NR #4D)  ASI (NR #5D)  Noncontributor (NR #6)  Ineligible (NR #6)

**City Landmark:**  Listed  In S-7 Zone  On Study List  None of the above



Common (and Historic) Name(s) Building C (Single-Family Residence)

Address/Location Oak Knoll (former U.S. Naval Hospital), Oakland, California

|                          |   |          |           |          |           |
|--------------------------|---|----------|-----------|----------|-----------|
| A. VISUAL QUALITY/DESIGN |   |          |           |          |           |
| 1.                       | Exterior <u>One-story building with redwood siding, simple detailing.</u>       | E        | VG        | G        | <b>FP</b> |
| 2.                       | Interior (list best spaces first)   |          |           |          |           |
|                          | Space 1 <u>Interior not surveyed.</u>   | E        | VG        | G        | FP        |
|                          | Space 2 <u>n/a</u>  | E        | VG        | G        | FP        |
|                          | Other Spaces <u>n/a</u>   | E        | VG        | G        | FP        |
| 3.                       | Construction <u>Wood-frame construction.</u>                                    | E        | VG        | G        | <b>FP</b> |
| 4.                       | Designer/Builder <u>Frick &amp; Weihe with Blanchard and Maher.</u>             | E        | VG        | <b>G</b> | FP        |
| 5.                       | Type/Style <u>WWII-era military single-family housing</u>                       | E        | VG        | <b>G</b> | FP        |
| 6.                       | Supportive Elements <u>Former U.S. Naval Hospital (questionable integrity).</u> | E        | VG        | G        | <b>FP</b> |
| B. HISTORY/ASSOCIATION   |   |          |           |          |           |
| 7.                       | Person/Organization <u>n/a</u>  | E        | VG        | G        | <b>FP</b> |
| 8.                       | Event <u>WWII-era home front healthcare system and surrounding community.</u>   | E        | <b>VG</b> | G        | FP        |
| 9.                       | Patterns <u>n/a</u>   | E        | VG        | G        | <b>FP</b> |
| 10.                      | Age <u>1943</u>   | E        | VG        | <b>G</b> | FP        |
| C. CONTEXT               |   |          |           |          |           |
| 11.                      | Continuity _____  | E        | VG        | <b>G</b> | FP        |
| 12.                      | Familiarity _____   | E        | VG        | <b>G</b> | FP        |
| D. INTEGRITY             |   |          |           |          |           |
| 13.                      | Condition <u>Exhibits significant wear.</u>                                     | E        | G         | <b>F</b> | P         |
| 14.                      | Exterior Alterations _____  | E        | <b>G</b>  | F        | P         |
| 15.                      | Interior Alterations <u>Interior not surveyed</u>                               |          |           |          |           |
|                          | Space 1 <u>n/a</u>  | E        | G         | F        | P         |
|                          | Space 2 <u>n/a</u>  | E        | G         | F        | P         |
|                          | Other Spaces <u>n/a</u>   | E        | G         | F        | P         |
| 16.                      | Structural Removals <u>None</u>   | <b>E</b> | G         | F        | P         |
| 17.                      | Site <u>Located on original site.</u>   | <b>E</b> | G         | F        | P         |
| E. REVERSIBILITY         |   |          |           |          |           |
| 18.                      | Exterior Alterations _____  | <b>E</b> | G         | F        | P         |
| 19.                      | Interior Alterations _____  |          |           |          |           |
|                          | Space 1 <u>n/a</u>  | E        | G         | F        | P         |
|                          | Other Spaces _____  | E        | G         | F        | P         |

Evaluated by Richard Sucré, Page & Turnbull Date August 7, 2006

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| Reviewed by _____ | Date _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |
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| Reviewed by _____ | Date _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |

STATUS/RATING

**Rating:** Present status:  A  B  C  D  E  Not rated \_\_\_\_\_

Contingency status:  a  b  c  d  e  Not rated  Not applicable \_\_\_\_\_

Contingency factor:  1  2  3  Site of opportunity \_\_\_\_\_ Composite rating \_\_\_\_\_

**National Register (Individual):**  Listed (1)  Determined eligible (2)  Appears eligible (3)  Potential if restored (4b)  
 Potential when over 50 years old (4d)  None of the above (6)

**National Register (as part of a group or district only):**  Listed (1D)  Determined eligible (2D)  Appears eligible (3D) \_\_\_\_\_  
 Potential if restored (4Db)  Potential when over 50 (4Dd) Composite eligibility \_\_\_\_\_  
 ASI (5D)  None of the above (6)  Other \_\_\_\_\_

**SHRI:**  Primary resource (NR #1, 2, or 3)  Contingency Primary (NR #4)  District Contributor (NR #3D)  
 Contingency Contributor (NR #4D)  ASI (NR #5D)  Noncontributor (NR #6)  Ineligible (NR #6)

**City Landmark:**  Listed  In S-7 Zone  On Study List  None of the above



Common (and Historic) Name(s) Building D (Single-Family Residence)

Address/Location Oak Knoll (former U.S. Naval Hospital), Oakland, California

A. VISUAL QUALITY/DESIGN

- |    |                                   |  |   |    |          |           |
|----|-----------------------------------|--|---|----|----------|-----------|
| 1. | Exterior                          | <u>Two-story building with redwood siding, simple detailing.</u> | E | VG | G        | <b>FP</b> |
| 2. | Interior (list best spaces first) |  |   |    |          |           |
|    | Space 1                           | <u>Interior not surveyed.</u>                                    | E | VG | G        | FP        |
|    | Space 2                           | <u>n/a</u>   | E | VG | G        | FP        |
|    | Other Spaces                      | <u>n/a</u>   | E | VG | G        | FP        |
| 3. | Construction                      | <u>Wood-frame construction.</u>                                  | E | VG | G        | <b>FP</b> |
| 4. | Designer/Builder                  | <u>Frick &amp; Weihe with Blanchard and Maher.</u>               | E | VG | <b>G</b> | FP        |
| 5. | Type/Style                        | <u>WWII-era military single-family housing</u>                   | E | VG | <b>G</b> | FP        |
| 6. | Supportive Elements               | <u>Former U.S. Naval Hospital (questionable integrity).</u>      | E | VG | G        | <b>FP</b> |

B. HISTORY/ASSOCIATION

- |     |                     |   |   |           |          |           |
|-----|---------------------|---|---|-----------|----------|-----------|
| 7.  | Person/Organization | <u>n/a</u>  | E | VG        | G        | <b>FP</b> |
| 8.  | Event               | <u>WWII-era home front healthcare system and surrounding community.</u> | E | <b>VG</b> | G        | FP        |
| 9.  | Patterns            | <u>n/a</u>  | E | VG        | G        | <b>FP</b> |
| 10. | Age                 | <u>1944</u>   | E | VG        | <b>G</b> | FP        |

C. CONTEXT

- |     |             |  |   |    |          |    |
|-----|-------------|--|---|----|----------|----|
| 11. | Continuity  |  | E | VG | <b>G</b> | FP |
| 12. | Familiarity |  | E | VG | <b>G</b> | FP |

D. INTEGRITY

- |     |                      |                                   |          |          |          |   |
|-----|----------------------|-----------------------------------|----------|----------|----------|---|
| 13. | Condition            | <u>Exhibits significant wear.</u> | E        | G        | <b>F</b> | P |
| 14. | Exterior Alterations |                                   | E        | <b>G</b> | F        | P |
| 15. | Interior Alterations | <u>Interior not surveyed</u>      |          |          |          |   |
|     | Space 1              | <u>n/a</u>                        | E        | G        | F        | P |
|     | Space 2              | <u>n/a</u>                        | E        | G        | F        | P |
|     | Other Spaces         | <u>n/a</u>                        | E        | G        | F        | P |
| 16. | Structural Removals  | <u>None</u>                       | <b>E</b> | G        | F        | P |
| 17. | Site                 | <u>Located on original site.</u>  | <b>E</b> | G        | F        | P |

E. REVERSIBILITY

- |     |                      |            |          |   |   |   |
|-----|----------------------|------------|----------|---|---|---|
| 18. | Exterior Alterations |            | <b>E</b> | G | F | P |
| 19. | Interior Alterations |            |          |   |   |   |
|     | Space 1              | <u>n/a</u> | E        | G | F | P |
|     | Other Spaces         |            | E        | G | F | P |

Evaluated by Richard Sucré, Page & Turnbull Date August 7, 2006

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| Reviewed by | _____ | Date | _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |
| Reviewed by | _____ | Date | _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |
| Reviewed by | _____ | Date | _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |

STATUS/RATING

**Rating:** Present status:  A  B  C  D  E  Not rated \_\_\_\_\_  
 Contingency status:  a  b  c  d  e  Not rated  Not applicable \_\_\_\_\_  
 Contingency factor:  1  2  3  Site of opportunity \_\_\_\_\_ Composite rating \_\_\_\_\_

**National Register (Individual):**  Listed (1)  Determined eligible (2)  Appears eligible (3)  Potential if restored (4b)  
 Potential when over 50 years old (4d)  None of the above (6) \_\_\_\_\_  
**National Register (as part of a group or district only):**  Listed (1D)  Determined eligible (2D)  Appears eligible (3D) \_\_\_\_\_  
 Potential if restored (4Db)  Potential when over 50 (4Dd) \_\_\_\_\_ Composite eligibility \_\_\_\_\_  
 ASI (5D)  None of the above (6)  Other \_\_\_\_\_

**SHRI:**  Primary resource (NR #1, 2, or 3)  Contingency Primary (NR #4)  District Contributor (NR #3D)  
 Contingency Contributor (NR #4D)  ASI (NR #5D)  Noncontributor (NR #6)  Ineligible (NR #6)

**City Landmark:**  Listed  In S-7 Zone  On Study List  None of the above



Common (and Historic) Name(s) Building E (Single-Family Residence)

Address/Location Oak Knoll (former U.S. Naval Hospital), Oakland, California

A. VISUAL QUALITY/DESIGN

- |    |                                   |  |   |    |          |           |
|----|-----------------------------------|--|---|----|----------|-----------|
| 1. | Exterior                          | <u>Two-story building with redwood siding, simple detailing.</u> | E | VG | G        | <b>FP</b> |
| 2. | Interior (list best spaces first) |  |   |    |          |           |
|    | Space 1                           | <u>Interior not surveyed.</u>                                    | E | VG | G        | FP        |
|    | Space 2                           | <u>n/a</u>   | E | VG | G        | FP        |
|    | Other Spaces                      | <u>n/a</u>   | E | VG | G        | FP        |
| 3. | Construction                      | <u>Wood-frame construction.</u>                                  | E | VG | G        | <b>FP</b> |
| 4. | Designer/Builder                  | <u>Frick &amp; Weihe with Blanchard and Maher.</u>               | E | VG | <b>G</b> | FP        |
| 5. | Type/Style                        | <u>WWII-era military single-family housing</u>                   | E | VG | <b>G</b> | FP        |
| 6. | Supportive Elements               | <u>Former U.S. Naval Hospital (questionable integrity).</u>      | E | VG | G        | <b>FP</b> |

B. HISTORY/ASSOCIATION

- |     |                     |   |   |           |          |           |
|-----|---------------------|---|---|-----------|----------|-----------|
| 7.  | Person/Organization | <u>n/a</u>  | E | VG        | G        | <b>FP</b> |
| 8.  | Event               | <u>WWII-era home front healthcare system and surrounding community.</u> | E | <b>VG</b> | G        | FP        |
| 9.  | Patterns            | <u>n/a</u>  | E | VG        | G        | <b>FP</b> |
| 10. | Age                 | <u>1944</u>   | E | VG        | <b>G</b> | FP        |

C. CONTEXT

- |     |             |  |   |    |          |    |
|-----|-------------|--|---|----|----------|----|
| 11. | Continuity  |  | E | VG | <b>G</b> | FP |
| 12. | Familiarity |  | E | VG | <b>G</b> | FP |

D. INTEGRITY

- |     |                      |                                   |          |          |          |   |
|-----|----------------------|-----------------------------------|----------|----------|----------|---|
| 13. | Condition            | <u>Exhibits significant wear.</u> | E        | G        | <b>F</b> | P |
| 14. | Exterior Alterations |                                   | E        | <b>G</b> | F        | P |
| 15. | Interior Alterations | <u>Interior not surveyed</u>      |          |          |          |   |
|     | Space 1              | <u>n/a</u>                        | E        | G        | F        | P |
|     | Space 2              | <u>n/a</u>                        | E        | G        | F        | P |
|     | Other Spaces         | <u>n/a</u>                        | E        | G        | F        | P |
| 16. | Structural Removals  | <u>None</u>                       | <b>E</b> | G        | F        | P |
| 17. | Site                 | <u>Located on original site.</u>  | <b>E</b> | G        | F        | P |

E. REVERSIBILITY

- |     |                      |            |          |   |   |   |
|-----|----------------------|------------|----------|---|---|---|
| 18. | Exterior Alterations |            | <b>E</b> | G | F | P |
| 19. | Interior Alterations |            |          |   |   |   |
|     | Space 1              | <u>n/a</u> | E        | G | F | P |
|     | Other Spaces         |            | E        | G | F | P |

Evaluated by Richard Sucré, Page & Turnbull Date August 7, 2006

- |             |       |      |       |                                   |  |
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| Reviewed by | _____ | Date | _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |
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| Reviewed by | _____ | Date | _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |

STATUS/RATING

**Rating:** Present status:  A  B  C  D  E  Not rated \_\_\_\_\_  
 Contingency status:  a  b  c  d  e  Not rated  Not applicable \_\_\_\_\_  
 Contingency factor:  1  2  3  Site of opportunity \_\_\_\_\_ Composite rating \_\_\_\_\_

**National Register (Individual):**  Listed (1)  Determined eligible (2)  Appears eligible (3)  Potential if restored (4b)  
 Potential when over 50 years old (4d)  None of the above (6) \_\_\_\_\_  
**National Register (as part of a group or district only):**  Listed (1D)  Determined eligible (2D)  Appears eligible (3D) \_\_\_\_\_  
 Potential if restored (4Db)  Potential when over 50 (4Dd) \_\_\_\_\_ Composite eligibility \_\_\_\_\_  
 ASI (5D)  None of the above (6)  Other \_\_\_\_\_

**SHRI:**  Primary resource (NR #1, 2, or 3)  Contingency Primary (NR #4)  District Contributor (NR #3D)  
 Contingency Contributor (NR #4D)  ASI (NR #5D)  Noncontributor (NR #6)  Ineligible (NR #6)

**City Landmark:**  Listed  In S-7 Zone  On Study List  None of the above



Common (and Historic) Name(s) Building L63 (Garage)  
Address/Location Oak Knoll (former U.S. Naval Hospital), Oakland, California

|                          |   |          |           |          |           |
|--------------------------|---|----------|-----------|----------|-----------|
| A. VISUAL QUALITY/DESIGN |   |          |           |          |           |
| 1.                       | Exterior <u>One-story garage with gable roof and channel redwood siding.</u>        | E        | VG        | G        | <b>FP</b> |
| 2.                       | Interior (list best spaces first)   |          |           |          |           |
|                          | Space 1 <u>Interior not surveyed.</u>   | E        | VG        | G        | FP        |
|                          | Space 2 <u>n/a</u>  | E        | VG        | G        | FP        |
|                          | Other Spaces <u>n/a</u>   | E        | VG        | G        | FP        |
| 3.                       | Construction <u>Wood-frame construction.</u>  | E        | VG        | G        | <b>FP</b> |
| 4.                       | Designer/Builder <u>Frick &amp; Weihe with Blanchard and Maher.</u>                 | E        | VG        | <b>G</b> | FP        |
| 5.                       | Type/Style <u>WWII-era military single-family housing</u>                           | E        | VG        | <b>G</b> | FP        |
| 6.                       | Supportive Elements <u>Former U.S. Naval Hospital (questionable integrity).</u>     | E        | VG        | G        | <b>FP</b> |
| B. HISTORY/ASSOCIATION   |   |          |           |          |           |
| 7.                       | Person/Organization <u>n/a</u>  | E        | VG        | G        | <b>FP</b> |
| 8.                       | Event <u>WWII-era home front healthcare community.</u>                              | E        | <b>VG</b> | G        | FP        |
| 9.                       | Patterns <u>n/a</u>   | E        | VG        | G        | <b>FP</b> |
| 10.                      | Age <u>1945</u>   | E        | VG        | <b>G</b> | FP        |
| C. CONTEXT               |   |          |           |          |           |
| 11.                      | Continuity _____  | E        | VG        | <b>G</b> | FP        |
| 12.                      | Familiarity _____   | E        | VG        | <b>G</b> | FP        |
| D. INTEGRITY             |   |          |           |          |           |
| 13.                      | Condition <u>Exhibits significant wear.</u>   | E        | G         | <b>F</b> | P         |
| 14.                      | Exterior Alterations <u>Original garage doors replaced with non-historic doors.</u> | E        | G         | <b>F</b> | P         |
| 15.                      | Interior Alterations <u>Interior not surveyed.</u>                                  |          |           |          |           |
|                          | Space 1 <u>n/a</u>  | E        | G         | F        | P         |
|                          | Space 2 <u>n/a</u>  | E        | G         | F        | P         |
|                          | Other Spaces <u>n/a</u>   | E        | G         | F        | P         |
| 16.                      | Structural Removals <u>None</u>   | <b>E</b> | G         | F        | P         |
| 17.                      | Site <u>Located on original site.</u>   | <b>E</b> | G         | F        | P         |
| E. REVERSIBILITY         |   |          |           |          |           |
| 18.                      | Exterior Alterations <u>Difficult to ascertain original doors</u>                   | E        | G         | <b>F</b> | P         |
| 19.                      | Interior Alterations _____  |          |           |          |           |
|                          | Space 1 <u>n/a</u>  | E        | G         | F        | P         |
|                          | Other Spaces _____  | E        | G         | F        | P         |

Evaluated by Richard Sucré, Page & Turnbull Date August 7, 2006

|                   |            |                                   |  |
|-------------------|------------|-----------------------------------|--|
| Reviewed by _____ | Date _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |
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| Reviewed by _____ | Date _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |
| Reviewed by _____ | Date _____ | <input type="checkbox"/> Approved | <input type="checkbox"/> See Comment Sheet |

STATUS/RATING

**Rating:** Present status:  A  B  C  D  E  Not rated \_\_\_\_\_  
 Contingency status:  a  b  c  d  e  Not rated  Not applicable \_\_\_\_\_  
 Contingency factor:  1  2  3  Site of opportunity \_\_\_\_\_ Composite rating \_\_\_\_\_

**National Register (Individual):**  Listed (1)  Determined eligible (2)  Appears eligible (3)  Potential if restored (4b)  
 Potential when over 50 years old (4d)  None of the above (6) \_\_\_\_\_  
**National Register (as part of a group or district only):**  Listed (1D)  Determined eligible (2D)  Appears eligible (3D) \_\_\_\_\_  
 Potential if restored (4Db)  Potential when over 50 (4Dd) \_\_\_\_\_ Composite eligibility \_\_\_\_\_  
 ASI (5D)  None of the above (6)  Other \_\_\_\_\_

**SHRI:**  Primary resource (NR #1, 2, or 3)  Contingency Primary (NR #4)  District Contributor (NR #3D)  
 Contingency Contributor (NR #4D)  ASI (NR #5D)  Noncontributor (NR #6)  Ineligible (NR #6)

**City Landmark:**  Listed  In S-7 Zone  On Study List  None of the above

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# OAK KNOLL MIXED USE COMMUNITY DEVELOPMENT PROJECT OAKLAND, ALAMEDA COUNTY Archaeological Survey Report

Prepared for  
Oak Knoll Venture Acquisition, L.L.C.

June 2015



Redacted Version for Public Distribution

# OAK KNOLL MIXED USE COMMUNITY DEVELOPMENT PROJECT OAKLAND, ALAMEDA COUNTY Archaeological Survey Report

Prepared for the  
Oak Knoll Venture Acquisition, L.L.C.

June 2015

Prepared by  
Heidi Koenig, M.A., RPA  
Environmental Science Associates

Reviewed by  
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Environmental Science Associates



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ESA Project #140419

# STATEMENT OF CONFIDENTIALITY

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This report identifies the locations of archaeological resources in the vicinity of the Oak Knoll Mixed Use Community Development Project, Alameda County, California. Disclosure of this information to the public may be in violation of both federal and State laws. Federal regulations applicable to the project include, but may not be limited to, Section 304 of the National Historic Preservation Act (54 United States Code [U.S.C.] 307103) and the Archaeological Resources Protection Act (16 U.S.C. Section 470h). The applicable State regulations include, but may not be limited to, Government Code Section 6250 et seq. and Section 6254 et seq. Disclosure of site location information to individuals other than those meeting the U.S. Secretary of the Interior's professional standards or the California State Personnel Board criteria for Associate State Archaeologist or State Historian II violates the California Office of Historic Preservation records access policy.

# SUMMARY OF FINDINGS

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Environmental Science Associates (ESA) has prepared this Archaeological Survey Report (ASR) for the Oak Knoll Mixed Use Community Development Project (project). Oak Knoll Venture Acquisition, L.L.C. has proposed the development of approximately 180 acres on the former Oak Knoll Naval Hospital in Oakland, Alameda County, California. Implementation of the proposed project requires federal agency involvement, including a Section 404 permit from the U.S. Army Corps of Engineers among other potential federal actions, and is therefore required to comply with Section 106 of the National Historic Preservation Act of 1966, as amended. The proposed project is also required to comply with the California Environmental Quality Act. The ASR documents the methods and findings of the background research and surface survey conducted for the project.

Results of the records search indicate that there are no previously recorded archaeological resources or traditional cultural resources in the project Area of Potential Effects (APE). ESA conducted a cursory surface survey of the APE in 2006 and did not identify archaeological resources. ESA completed an intensive field survey of the APE on June 11, 2015. No archaeological resources were identified during this subsequent survey effort.

Based on the survey results and geologic framework, there appears to be a low potential for the discovery of buried or unknown archaeological resources and/or human remains. While unlikely, the inadvertent discovery of archaeological resources or human remains cannot be entirely discounted. Recommendations for the discovery of archaeological resources or human remains are provided at the end of this report.

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# Introduction

Environmental Science Associates (ESA) has prepared this Archaeological Survey Report (ASR) for the Oak Knoll III Development Project (project). Oak Knoll Venture Acquisition, L.L.C. has proposed the development of approximately 187 acres on the former Oak Knoll Naval Medical Center Oakland (NMCO). The proposed project is in Oakland, Alameda County, as shown on the USGS Oakland East 7.5-minute topographic quadrangle (Rancho San Antonio y Peralta; projected Township 2 South, Range 3 West, Sections 12 and 13; **Figure 1**).

Implementation of the proposed project requires federal agency involvement, including a Section 404 permit from the U.S. Army Corps of Engineers (USACE) among other potential federal actions, and is therefore required to comply with Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended. The USACE is the federal lead agency for the NHPA compliance. The proposed project is also required to comply with the California Environmental Quality Act (CEQA). The City of Oakland (City) is the lead agency for CEQA. The purpose of this ASR, in accordance with Section 106 of the NHPA, is to:

- Identify archaeological resources and tribal cultural resources within the proposed project Area of Potential Effects (APE);
- Preliminarily evaluate archaeological resources according to the criteria set forth by the National Register of Historic Places (National Register);
- Determine whether there would be an adverse affect on potentially significant archaeological resources and tribal cultural resources; and
- Recommend procedures for avoidance or mitigation of adverse affects to potentially significant archaeological resources and tribal cultural resources.

The ASR documents the methods and findings of the background research and surface survey conducted for the project. ESA archaeologist Heidi Koenig provided project oversight and completed this report. Heidi is a Registered Professional Archaeologist (RPA) and has performed archaeological research in California for more than 15 years. She meets the Secretary of the Interior's Professional Qualification Standards for archaeologist. ESA archaeologists Paul Zimmer B.A. and Doug Alexander B.A. completed the surface survey. Rebecca Allen Ph.D., RPA, provided technical review..

## Project Location and Description

The proposed project area includes approximately 165 acres of the 183-acre Oak Knoll NMCO property, approximately 15 acres of an adjacent property, and approximately 7 acres of City-owned property for a total size of approximately 187 acres. The project location is approximately seven miles southeast of downtown Oakland and is bounded by Mountain Boulevard and Interstate 580 to the west, Keller Avenue to the north and east, and Sequoyah Road to the south.

In general, topography is downsloping toward the west, from a prominent ridge at the eastern side of the property. The partially-culverted Rifle Range Creek, a tributary of Arroyo Viejo Creek, flows from north to southwest across the project area and is one of the location's most prominent natural features. Surrounding land uses are primarily residential development, small local commercial centers, a church, the I-580 corridor, and regional open space.

## **Oak Knoll Mixed Use Community Plan Project**

The NMCO facility was decommissioned in 1996 and the property has been unoccupied since that time, with the exception of continued operations at two privately-owned in-holdings: the Sea West Federal Coast Guard Credit Union and the Seneca Center for Children and Families. All structures within the NMCO, except the historic Club Knoll structure, were demolished between 2010 and 2011 in anticipation of a previously proposed project. The current project proposes a mixed-use residential community of: a) approximately 935 residential units of varying types; b) approximately 72,000 square feet of neighborhood commercial use; and c) approximately 77 acres of open space and recreation areas, including an improved creek corridor (**Figure 2**).

Development would involve between 1.5 to 3 million cubic yards of grading (including corrective grading required for existing unstable areas and grading associated with the proposed creek improvements), with the goal of “balancing” the grading in the project area. As a result, the development would require the removal and replacement of several thousand trees. The project would take place in multiple phases over approximately five to ten years, with an initial phase of work commencing in 2016.

## **Creek Restoration**

The proposed project would include restoration and enhancement of Rifle Range Creek and its tributaries. The project includes six reaches of Rifle Range Creek and two associated tributaries, Powerhouse Creek and Hospital Creek. Currently, Rifle Range Creek is composed of both open channel sections and culverted sections. Active erosion is evident in the creek channel and along both banks. Channel incision has resulted in a deepened channel with over-steepened banks.

The overall restoration approach would be to daylight all four of the culverts in the project area; remove non-native vegetation and replant with native plants; remove existing obsolete infrastructure (e.g. stormdrain outfalls), trash and construction debris from the channel and banks; stabilize headcuts in two deeply incised reaches that threaten upstream areas; and use a combination of grading and biotechnical methods to stabilize actively eroding bank areas that are too steep to support riparian vegetation. A total of 1,010 feet of culverted channel will be daylighted and restored, approximately 450 feet of existing channel will be realigned laterally and restored, and a 40-foot wide clear span bridge will be added over one of the realigned sections.

## Area of Potential Effects

According to federal guidelines, the APE is defined as:

...the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The APE is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking (36 CFR 800.16[d]).

The archaeological APE includes all areas of potential ground-disturbing activity as well as associated work areas and access. **Figure 3** shows the APE. The area of direct impact is approximately 187 acres. Depth of ground disturbance would vary with project components but is not expected to exceed 40 feet below the existing ground surface to account for corrective grading.

## Regulatory Context

### Federal Regulations

Archaeological resources are considered under the NHPA of 1966, as amended (54 U.S.C. 307103), and its implementing regulations. Prior to implementing an “undertaking” (e.g., federal funding or issuing a federal permit), Section 106 of the NHPA requires federal agencies to consider the effects of the undertaking on historic properties (i.e. properties listed in or eligible for listing in the National Register) and to afford the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment on any undertaking that would adversely affect properties eligible for listing in the National Register. Under the NHPA, a property is considered significant if it meets the National Register listing criteria at 36 Code of Federal Regulations (CFR) 60.4, as stated below:

The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and

- a) That are associated with events that have made a significant contribution to the broad patterns of our history, or
- b) That are associated with the lives of persons significant in our past, or
- c) That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that 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.



Federal review of projects is normally referred to as the Section 106 process. This process is the responsibility of the federal lead agency. The Section 106 review normally involves a four-step procedure, which is described in detail in the implementing regulations (36 CFR Part 800) and summarized below:

- Identify historic properties in consultation with the State Historic Preservation Officer (SHPO) and interested parties;
- Assess the effects of the undertaking on historic properties;
- Consult with the SHPO, other agencies, and interested parties to develop an agreement that addresses the treatment of historic properties and notify the ACHP; and finally,
- Proceed with the project according to the conditions of the agreement.

## **State Regulations**

The State of California implements the NHPA of 1966, as amended, through its statewide comprehensive cultural resource surveys and preservation programs. The California Office of Historic Preservation (OHP), as an office of the California Department of Parks and Recreation (DPR), implements the policies of the NHPA on a statewide level. The OHP also maintains the California Historical Resources Inventory. The SHPO is an appointed official who implements historic preservation programs within the State's jurisdictions.

### ***California Environmental Quality Act***

CEQA, as codified in Public Resources Code (PRC) Sections 21000 et seq., is the principal statute governing the environmental review of projects in the state. CEQA requires lead agencies to determine if a proposed project would have a significant effect on historical resources, including archaeological resources. The CEQA Guidelines define a historical resource as: (1) a resource in the California Register of Historical Resources; (2) a resource included in a local register of historical resources, as defined in PRC Section 5020.1(k) or identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g); or (3) any object, building, structure, site, area, place, record, or manuscript that 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, provided the lead agency's determination is supported by substantial evidence in light of the whole record.

If a lead agency determines that an archaeological site is a historical resource, the provisions of PRC Section 21084.1 and CEQA Guidelines Section 15064.5 would apply. If an archaeological site does not meet the CEQA Guidelines criteria for a historical resource, then the site may meet the threshold of PRC Section 21083 regarding unique archaeological resources. A unique archaeological resource is "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 any 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” (PRC Section 21083.2 [g]).

The CEQA Guidelines note that if a resource is neither a unique archaeological resource nor a historical resource, the effects of the project on that resource shall not be considered a significant effect on the environment (CEQA Guidelines Section 15064[c][4]).

### ***California Register of Historical Resources***

The California Register is “an authoritative listing and guide to be used by state and local agencies, private groups, and citizens in identifying the existing historical resources of the state and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change” (PRC Section 5024.1[a]). The criteria for eligibility to the California Register are based on National Register criteria (PRC Section 5024.1[b]). Certain resources are determined by the statute to be automatically included in the California Register, including California properties formally determined eligible for or listed in the National Register.

To be eligible for the California Register a historical resource must be significant at the local, state, and/or federal level under one or more of the following criteria:

- 1) Is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage;
- 2) Is associated with the lives of persons important in our past;
- 3) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or,
- 4) Has yielded, or may be likely to yield, information important in prehistory or history (PRC Section 5024.1[c]).

For a resource to be eligible for the California Register, it must also retain enough integrity to be recognizable as a historical resource and to convey its significance. A resource that does not retain sufficient integrity to meet the National Register criteria may still be eligible for listing in the California Register.

### ***Assembly Bill 52***

In September of 2014, the California Legislature passed Assembly Bill (AB) 52, which added provisions to the PRC regarding the evaluation of impacts on tribal cultural resources under CEQA, and consultation requirements with California Native American tribes. In particular,

AB 52 now requires lead agencies to analyze project impacts on “tribal cultural resources” separately from archaeological resources (PRC Section 21074; 21083.09). The Bill defines “tribal cultural resources” in a new section of the PRC Section 21074. AB 52 also requires lead agencies to engage in additional consultation procedures with respect to California Native American tribes (PRC Section 21080.3.1, 21080.3.2, 21082.3). Finally, AB 52 requires the Office of Planning and Research to update Appendix G of the CEQA Guidelines by July 1, 2016 to provide sample questions regarding impacts to tribal cultural resources (PRC Section 21083.09).

## Sources Consulted

### Records Search and Literature Review

ESA completed a records search at the Northwest Information Center (NWIC) of the California Historical Resources Information System on May 27, 2015 (File No. 14-1660). The purpose of the records search was to (1) determine whether known archaeological resources have been recorded within or adjacent to the APE; (2) assess the likelihood for unrecorded archaeological resources to be present based on historical references and the distribution of nearby sites; and (3) develop a context for the identification and preliminary evaluation of archaeological resources. The records search consisted of an examination of the following documents:

- **NWIC digitized base maps** (USGS San Leandro 7.5-minute topographic maps), to identify recorded archaeological sites and studies within a ½-mile radius of the APE.
- **Resource Inventories:** *California Inventory of Historical Resources*, *California Historical Landmarks*, *Historic Properties Directory for Alameda County* (through April 2012).
- **Prehistoric Archaeology:** T.L. Jones and K.A. Klar (2007), *Prehistoric California: Colonization, Culture, and Complexity*; Michael J. Moratto (1984), *California Archaeology*.
- **Ethnographic Sources:** Richard Levy (1978), *Costanoan in California*, *Handbook of North American Indians*; Randall Milliken (1995), *A Time of Little Choice*; Milliken, Randall, Laurence H. Shoup, and Beverley R. Ortiz (2009), *Ohlone/Costanoan Indians of the San Francisco Peninsula and their Neighbors, Yesterday and Today*.
- **Historic Maps:** An extensive on-line historic map collection with over 300 maps and views of California and Alameda County is available online at <http://davidrumsey.com>; Thompson and West (1878), *Historical Atlas Map of Alameda County, California*; USGS 1897, 1915, 1932, 1947, 1949, 1958, 1960; Historic Aerials 1946, 1958, 1968.

## Records Search Results

Records at the NWIC indicate that no archaeological resources have been previously recorded within the APE or within a ½-mile radius of the APE. The nearest archaeological site (CA-ALA-57) is a single bedrock mortar on a sandstone outcrop [REDACTED]. Additionally, a historic-period resource (CA-ALA-434H) [REDACTED].

An ESA archaeologist conducted a cursory survey of the APE in September 2006, described in a February 2007 Initial Study (ESA, 2007). No archaeological resources were identified. Surface visibility was described as minimal with extensive disturbances occurring prior to and during the tenure of the NMCO that largely destroyed the native topography, including the grading for a golf course in the 1920s, the construction of a temporary hospital in the 1940s, and in the 1960s for the construction of the then-existing main hospital. Two additional surveys completed in the vicinity (Pastron, 1995; ACRS, n.d.) also did not result in the identification of archaeological resources or tribal cultural resources.

## Organizational Contacts

ESA sent a Sacred Lands File search request to the Native American Heritage Commission (NAHC) on June 3, 2015. A response has not yet been received, however based on other projects in the vicinity it is not expected that a search of the NAHC Sacred Lands File will indicate the presence of tribal cultural resources in the vicinity. Upon receipt of the NAHC response and list of Native American individuals/organizations that might have additional information or concerns, ESA will contact each person on the list by letter. ESA will forward any responses received following submittal of this ASR to the project applicant.

## Background Context

### Natural Environment

The APE is primarily within the developed and abandoned NMCO. The NMCO facility was closed in 1996 and has been unoccupied since that time. Many of the structures on the property have been demolished and removed or are in deteriorating condition and have been vandalized.

Much of the APE consists of hilly terrain and has been previously graded and developed. The overall topography of the site is downsloping toward the west. Rifle Range Creek flows across the APE from north to southwest, and two tributary creeks, Hospital Creek and Powerhouse Creek, flow into Rifle Range Creek. Culverted portions of Rifle Range Creek exist under existing roads and paved parking areas, and most of the Powerhouse tributary is culverted. Undeveloped portions of the APE, including the creek corridor, mostly contain native and non-native species of trees in varying degrees of health and native and non-native grassland species. Vegetation is

overgrown throughout the APE and contains numerous vegetation communities, the majority of which include habitats of oak, eucalyptus, Monterey pine, riparian, and annual grasslands.

The San Francisco Bay Area in general exhibits a Mediterranean climate, with year-round moderate temperatures, mild weather, and approximately 15 inches of rainfall per year. This type of climate is subject to recurring and sometimes long-lasting droughts.

## Geological Context

The San Francisco Bay Area has undergone dramatic landscape changes since humans began to inhabit the region more than 10,000 years ago. Rising sea levels and increased sedimentation into streams and rivers are among some of the changes (Helley et al., 1979). In many places, the interface between older land surfaces and alluvial fans are marked by a well-developed buried soil profile, or a paleosol. Paleosols preserve the composition and character of the earth's surface prior to subsequent sediment deposition; thus, paleosols have the potential to preserve archeological resources if the area was occupied or settled by humans (Meyer and Rosenthal, 2007). Because human populations have grown since the arrival of the area's first inhabitants, younger paleosols (late Holocene) are more likely to yield archeological resources than older paleosols (early Holocene or Pleistocene).

**Figure 4** shows the geologic landforms in the vicinity of the APE. The project area is mapped as Pliocene-age volcanic bedrock with a narrow corridor of Holocene-age alluvial deposits associated with Rifle Ridge Creek (Witter et al., 2006). Volcanic bedrock does not have the potential for deeply buried archaeological resources (Meyer and Rosenthal, 2007). Archaeological sites in this geologic environment would be identifiable on the existing ground surface. There is potential for buried archaeological resources to be in Holocene-age alluvium. The dynamic nature of this deposit adjacent to an active creek channel could provide exposure of subsurface archaeological materials in the creek banks.

## Prehistoric Background

Categorizing the prehistoric period into cultural stages allows researchers to describe a broad range of archaeological resources with similar cultural patterns and components during a given timeframe, thereby creating a regional chronology. Milliken et al. (2007) provide a framework for the interpretation of the San Francisco Bay Area and have divided human history in the San Francisco Bay Area into four periods: the *Paleoindian Period* (11,500 to 8000 B.C.), the *Early Period* (8000 to 500 B.C.), the *Middle Period* (500 B.C. to A.D. 1050), and the *Late Period* (A.D. 1050 to 1550). Economic patterns, stylistic aspects, and regional phases further subdivide cultural patterns into shorter phases. This scheme uses economic and technological types, socio-politics, trade networks, population density, and variations of artifact types to differentiate between cultural periods.

The *Paleoindian Period* (11,500 to 8000 B.C.) was characterized by big-game hunters occupying broad geographic areas. Evidence of human habitation during *Paleoindian Period* has not yet been discovered in the San Francisco Bay Area. During the *Early Period* (*Lower Archaic*; 8000 to

3500 B.C.), geographic mobility continued from the *Paleoindian Period* and is characterized by the millingslab and handstone as well as large wide-stemmed and leaf-shaped projectile points. The first cut shell beads and the mortar and pestle are documented in burials during the *Early Period (Middle Archaic; 3500 to 500 B.C.)*, indicating the beginning of a shift to sedentism. During the *Middle Period*, which includes the *Lower Middle Period (Initial Upper Archaic; 500 B.C. to A.D. 430)*, and *Upper Middle Period (Late Upper Archaic; A.D. 430 to 1050)*, geographic mobility may have continued, although groups began to establish longer-term base camps in localities from which a more diverse range of resources could be exploited. The first rich black middens are recorded from this period. The addition of milling tools, obsidian and chert concave-base projectile points, and the occurrence of sites in a wider range of environments suggest that the economic base was more diverse. By the *Upper Middle Period*, mobility was being replaced by the development of numerous small villages. Around A.D. 430 a “dramatic cultural disruption” occurred evidenced by the sudden collapse of the *Olivella* saucer bead trade network. During the *Initial Late Period (Lower Emergent; A.D. 1050 to 1550)*, social complexity developed toward lifeways of large, central villages with resident political leaders and specialized activity sites. Artifacts associated with the period include the bow and arrow, small corner-notched projectile points, and a diversity of beads and ornaments.

## Ethnohistorical Context

Based on a compilation of ethnographic, historic, and archaeological data, Milliken (1995) describes a group known as the Ohlone, who once occupied the general vicinity of the proposed projects. While traditional anthropological literature portrayed the Ohlone peoples as having a static culture, today it is better understood that many variations of culture and ideology existed within and between villages. While these “static” descriptions of separations between native cultures of California make it an easier task for ethnographers to describe past behaviors, this masks Native adaptability and self-identity. California’s Native Americans never saw themselves as members of larger “cultural groups,” as described by anthropologists. Instead, they saw themselves as members of specific villages, perhaps related to others by marriage or kinship ties, but viewing the village as the primary identifier of their origins.

Levy (1978) describes the language group spoken by the Ohlone, known as “Costanoan.” This term is originally derived from a Spanish word designating the coastal peoples of Central California. Today Costanoan is used as a linguistic term that references to a larger language family spoken by distinct sociopolitical groups that spoke at least eight languages (as different as Spanish is from French) of the same Penutian language group. The Ohlone once occupied a large territory from San Francisco Bay in the north to the Big Sur and Salinas Rivers in the south. The APE is in the greater *Chochenyo* tribal area occupied by the San Antonio tribelet (Spanish designation; Levy, 1978:485).

Economically, Ohlone engaged in hunting and gathering. Their territory encompassed both coastal and open valley environments that contained a wide variety of resources, including grass seeds, acorns, bulbs and tubers, bear, deer, elk, antelope, a variety of bird species, and rabbit and other small mammals. The Ohlone acknowledged private ownership of goods and songs, and village ownership of rights to land and/or natural resources; they appear to have aggressively

protected their village territories, requiring monetary payment for access rights in the form of clamshell beads, and even shooting trespassers if caught. After European contact, Ohlone society was severely disrupted by missionization, disease, and displacement. Today, the Ohlone still have a strong presence in the San Francisco Bay Area, and are highly interested in their historic and prehistoric past.

## Historical Background

The first Europeans to visit the East Bay area were the Spanish explorers Pedro Fages and Reverend Juan Crespi, who passed through in 1772. The project area is within the Rancho San Antonio. Governor Pablo Vicente de Solá, the last Spanish governor of California, granted the vast 44,800-acre tract to Don Luis Maria Peralta in 1820, prior to Mexican independence. Peralta was a sergeant in the Spanish Army and later became the first commissioner (major) of the Pueblo of San José. After Mexico won independence from Spain in 1821, many more large tracts of land in California were granted to military heroes and loyalists.

The discovery of gold in 1848 led to a huge population boom in California, with settlers establishing themselves in Peralta's Rancho San Antonio. The 1851 California Land Claims Act required Mexican landowners in California to prove the validity of their claim on land held under Mexican titles. Lands under rejected claims were deemed public and available for arriving settlers. As the average length of time required to prove ownership was 17 years after submitting a claim, many landowners were bankrupted and forced to sell large portions of their land to the settlers they had been attempting to evict (Rawls and Bean, 2002). Such was the case for the Peralta landgrant, which Peralta had left to his four sons.

The Oak Knoll Golf and Country Club pre-dated the project area's development as a naval medical facility. The clubhouse, built in 1924, still exists in a dilapidated condition. The clubhouse has been evaluated in separate documents (Page & Turnbull, 1994a, 2006; ESA, 2015). The golf course closed sometime before World War II (Page & Turnbull, 1994a).

The NMCO opened in 1942 to treat American military personnel wounded in the Pacific. The golf course clubhouse was used to house hospital employees during construction and later served as a recreation center, library, store, and Commissioned Officer's mess hall. The NMCO, which had a specialized department in neuropsychiatrics and a peripheral nerve center, peaked with over 5,000 patients in 1945 (Page & Turnbull, 1994b).

The hospital continued to operate during the Korean and Vietnam wars. In the late 1960s, the World War II-era buildings were demolished to construct a 10-story hospital building. That hospital in turn was demolished in 2011 along with the majority of the remaining hospital buildings and structures. The NMCO has been evaluated in a separate document (Page & Turnbull, 1994b, 2006).

## Survey Methods and Findings

On June 12, 2015, ESA archaeologists Paul Zimmer and Douglas Alexander conducted an archaeological survey of the APE. Pedestrian survey was limited to unpaved areas of low to moderate slopes (less than 10 degrees) using 15 meter spacing between transects, while areas with steeper slopes were visually inspected from level ground. Rifle Range Branch Creek was inspected along the banks where slope and vegetation permitted.

Vegetation in the survey areas consisted of low grasses with 40–60 percent visibility, while dense trees and scrub with less than 10 percent visibility characterized drainages throughout the APE, particularly in the southeastern quadrant. Soils were typically light brown silty loams, and gravels were common throughout the APE.

Parking lots, roads, paved walkways, and building foundations covered most of the level ground, while undisturbed areas were limited to steep slopes.

A cache of late 1950s-era Coke bottles was discovered in the drainage south of Chesmire Street. The bottles were concentrated near the creek bed and scattered up the steep southerly slope directly below the former location of a helipad (Building/Structure 502 in Page & Turnbull, 1994b). This cache has no known historical association (particular event or specific people) and was not further recorded.

No other historic-era artifacts were identified. Additionally no evidence of prehistoric use and occupation was located in the APE.

## Recommendations

Based on the background research, survey results, previous disturbance, and environmental framework, there appears to be a low potential for the discovery of buried or unknown archaeological resources and/or human remains. While unlikely, the inadvertent discovery of archaeological resources or human remains cannot be entirely discounted. In the event of discovery, ESA recommends the following measures be implemented:

**Inadvertent Discovery of Archaeological Resources:** If prehistoric or historic-era archaeological resources are encountered, all construction activities within 100 feet will halt. The USACE and the City will be notified. Prehistoric archaeological materials might include obsidian and chert flaked-stone tools (e.g., projectile points, knives, scrapers) or toolmaking debris; culturally darkened soil (“midden”) containing heat-affected rocks, artifacts, or shellfish remains; and stone milling equipment (e.g., mortars, pestles, handstones, or milling slabs); and battered stone tools, such as hammerstones and pitted stones. Historic-era materials might include deposits of metal, glass, and/or ceramic refuse. A Secretary of the Interior-qualified archaeologist will inspect the findings within 24 hours of discovery. If it is determined that the project could damage a significant archaeological resource, the project applicant shall re-design the proposed project to avoid any adverse effects. If avoidance is not



feasible, a qualified archaeologist shall prepare and implement a detailed Historic Properties Treatment Plan in consultation with the SHPO, the USACE, the City, and, for prehistoric resources, the appropriate Native American representative.

**Inadvertent Discovery of Human Remains:** In the event of discovery of any human remains during project activities, such activities within 100 feet of the find shall cease until the Alameda County Coroner has been contacted to determine that no investigation of the cause of death is required. The NAHC will be contacted within 24 hours if it is determined that the remains are Native American. The NAHC will then identify the person or persons it believes to be the most likely descendant from the deceased Native American, who in turn would make recommendations to the USACE and the City for the appropriate means of treating the human remains and any grave goods.

## References Cited

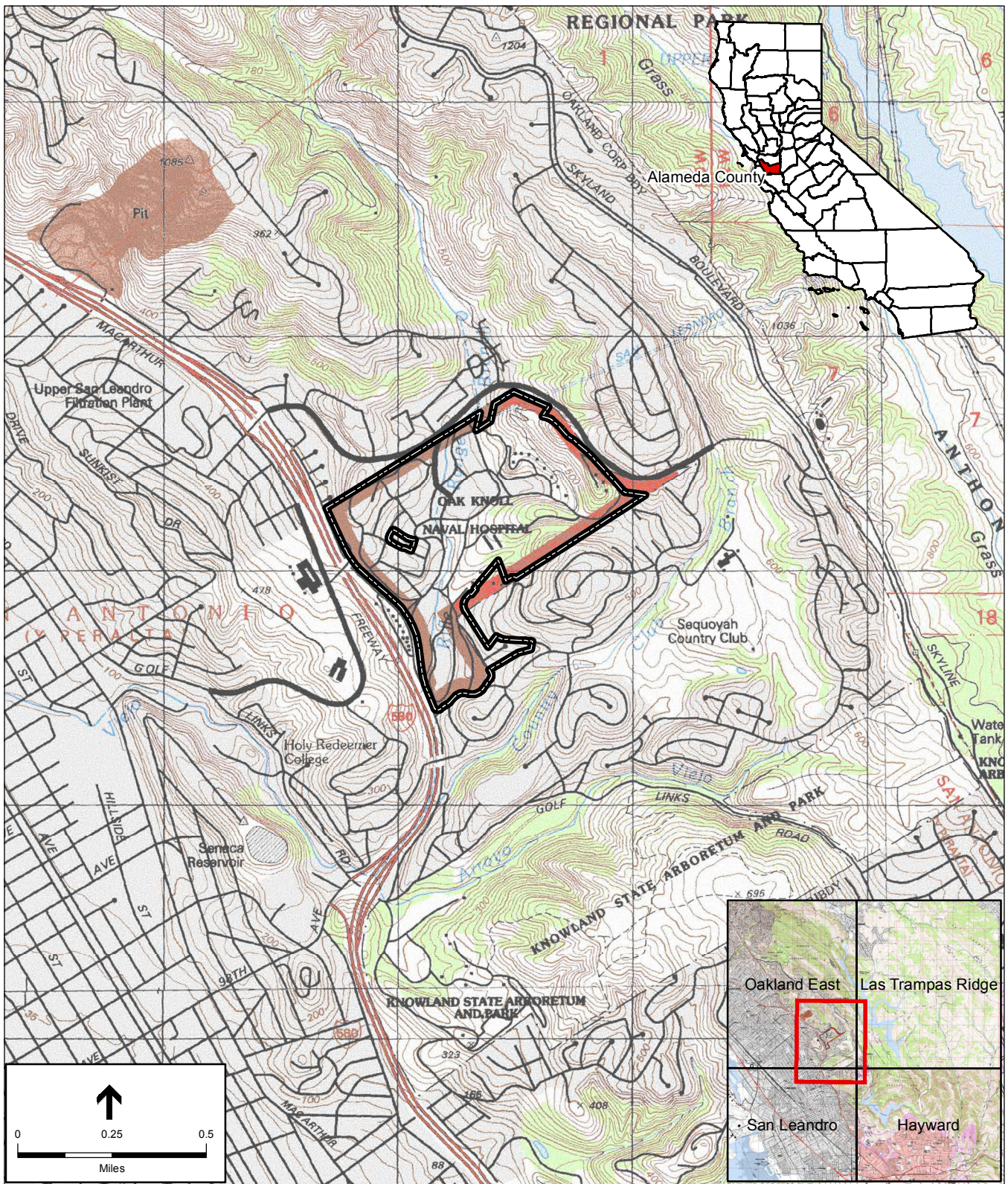
- Archaeological Consulting and Research Services, Inc. *Report of the Archaeological Reconnaissance of the Proposed Mountain Village Developments, Alameda County, California*. Prepared for Nolte and Associates, On file (S-17499), NWIC, n.d.
- Atwater, B. F., C. W. Hedel, and E. J. Helley. *Late Quaternary Depositional History, Holocene Sea Level Changes, and Vertical Crustal Movements, South San Francisco Bay, California*. U.S. Geological Survey Professional Paper 1014, San Francisco, 1977.
- California (State of) Department of Parks and Recreation (DPR), *California Inventory of Historical Resources*. State of California, The Resources Agency, Department of Parks and Recreation, Sacramento, CA, 1976.
- ESA, Oak Knoll Mixed Use Community Plan Project Environmental Checklist, Prepared for the City of Oakland, February 2007.
- ESA, Memorandum – Historic Resources Evaluation, Oak Knoll Mixed Use Community Plan. Prepared for Oak Knoll Venture Acquisition, June 2015.
- Helley, E.J., LaJoie, K.R., *Flatland Deposits of the San Francisco Bay Region, California*. U.S. Geological Survey Professional Paper 943. 1979.
- Page & Turnbull, *National Register of Historic Places Register Form – Former Oak Knoll Golf and Country Club Clubhouse, Oakland, California*, Contract No. N62474-93-M-2193. January 1994a.
- Page & Turnbull, *Context Statement and Historic Resources Inventory: Naval Medical Center, Oakland, California*, Contract No. N62474-93-M-2193. January, 1994b.
- Page & Turnbull, *Historic Resources Inventory and Assessment Report*, Final Draft, Oak Knoll (Former U.S. Navy Hospital, Oakland, CA). October 26, 2006.
- Levy, Richard S., Costanoan. In *California*, edited by R.F. Heizer, Volume 8. Handbook of North American Indians, W.G. Sturtevant, general editor, pp. 485–497. Smithsonian Institution, Washington D.C. 1978.
- Meyer, Jack, and Jeffrey Rosenthal, *Geoarchaeological Overview of the Nine Bay Area Counties in Caltrans District 4*. Prepared for Caltrans District 4. 2007.
- Milliken, Randall, *A Time of Little Choice*. Ballena Press Anthropological Papers No. 43. 1995.
- Milliken, Randall, Richard T. Fitzgerald, Mark G. Hylkema, Randy Groza, Tom Origer, David G. Bieling, Alan Leventhal, Randy S. Wiberg, Andrew Gottfield, Donna Gillette, Vaviana Bellifemine, Eric Strother, Robert Cartier, and David A. Fredrickson. Punctuated Culture Change in the San Francisco Bay Area, In *Prehistoric California: Colonization, Culture, and Complexity*. Edited by T.L. Jones and K.A. Klar, pp. 99–124, AltaMira Press. 2007.
- Northwest Information Center (NWIC), Records Search File No. File No. 14-1660. On file, ESA, June 2015.
- Office of Historic Preservation (OHP), Historic Properties Directory of the Historic Properties Data File, Alameda County, 2012.

Pastron, Allen, *Archival Literature Search and On-site Archaeological Surface Reconnaissance of the Oak Knoll Vista Estates Site, a 10.12 Acre Parcel of Land Located in the Oakland Hills, West of the Intersection of Keller Avenue and Skyline Boulevard, Alameda County, California*. Prepared for Kaufman and Broad of Northern California Inc., On file (S-23112), NWIC, July 1995.

Thompson and West, *Historical Atlas of Alameda County, California*, Thompson and West, San Francisco. 1878.

## **FIGURES**

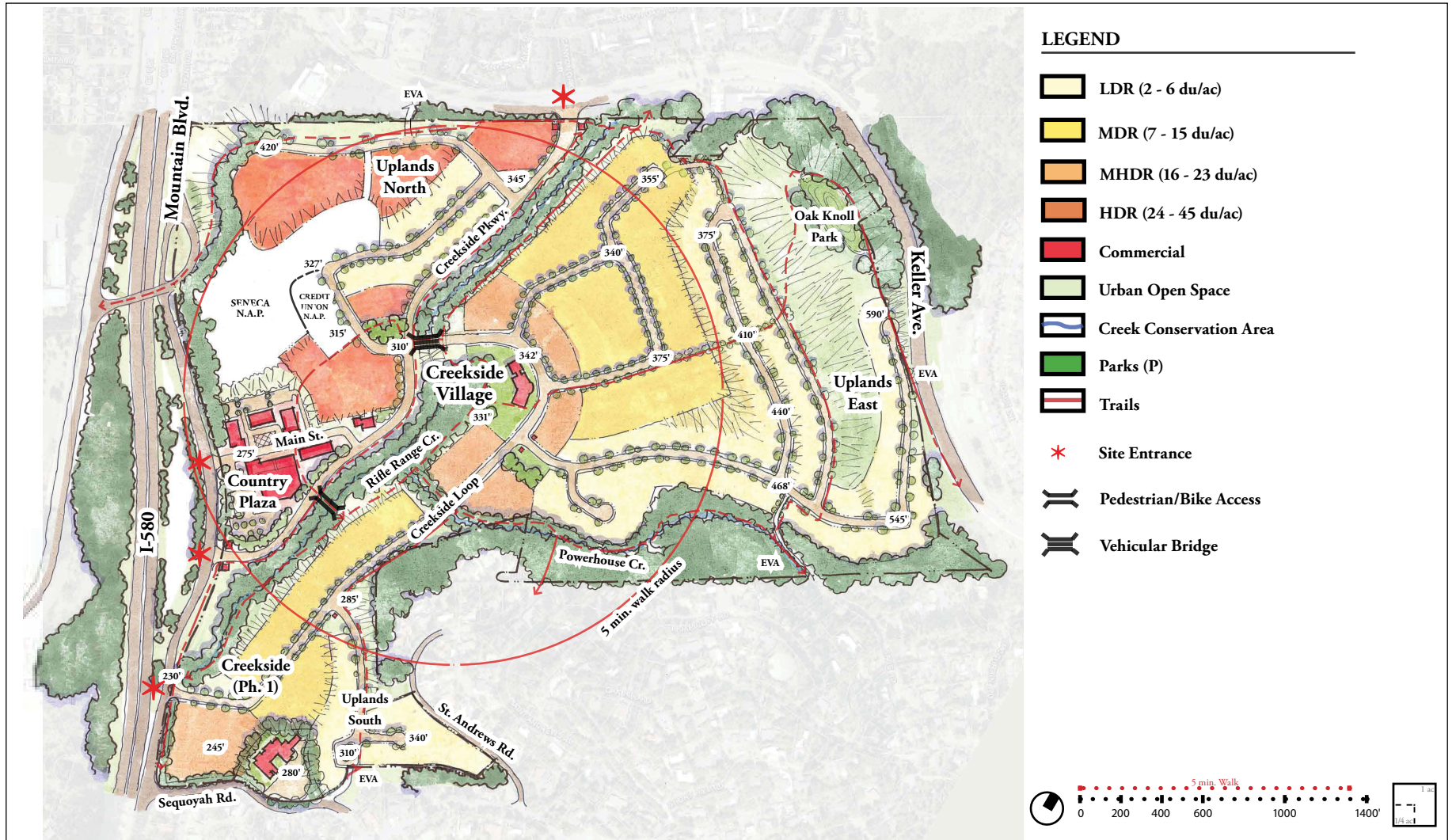
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SOURCE: USGS Oakland East, Calif. 7.5-minute topographic quadrangle

Oak Knoll Development Project . 140419

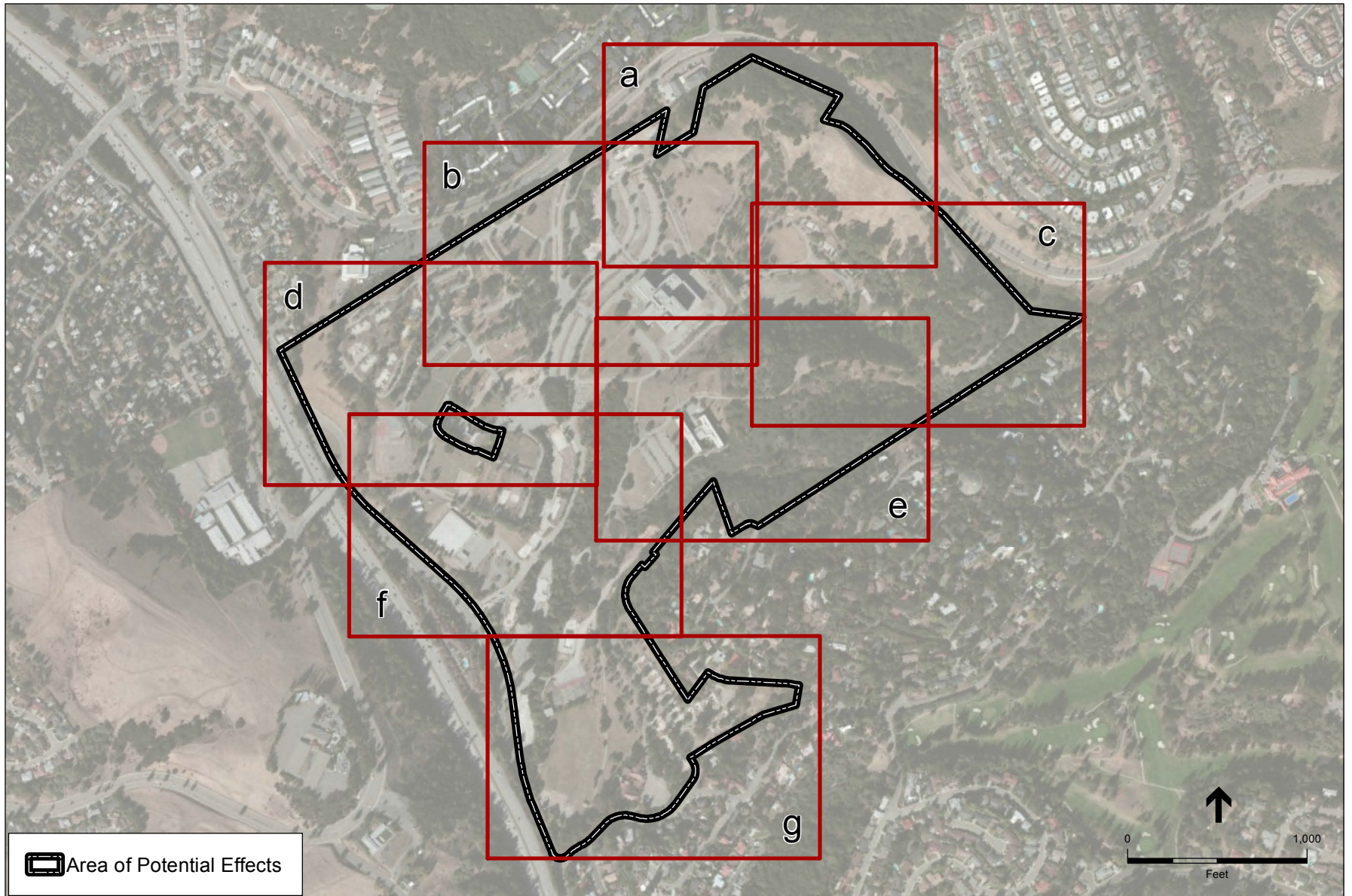
**Figure 1**  
Project Location

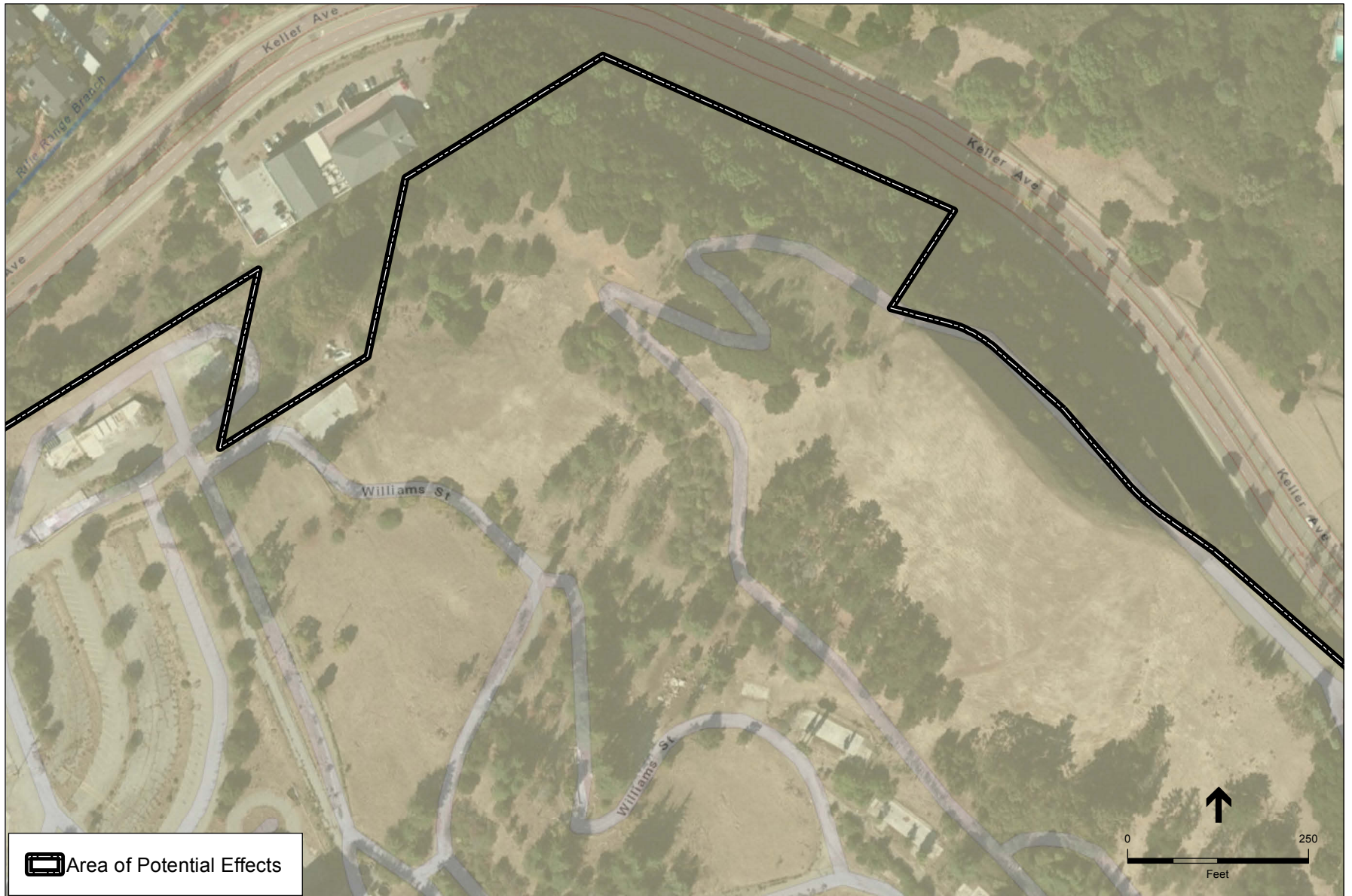


SOURCE: Hart-Howerton

Oak Knoll Mixed Use Community Development Project . 140419

**Figure 2**  
Conceptual Project Plans





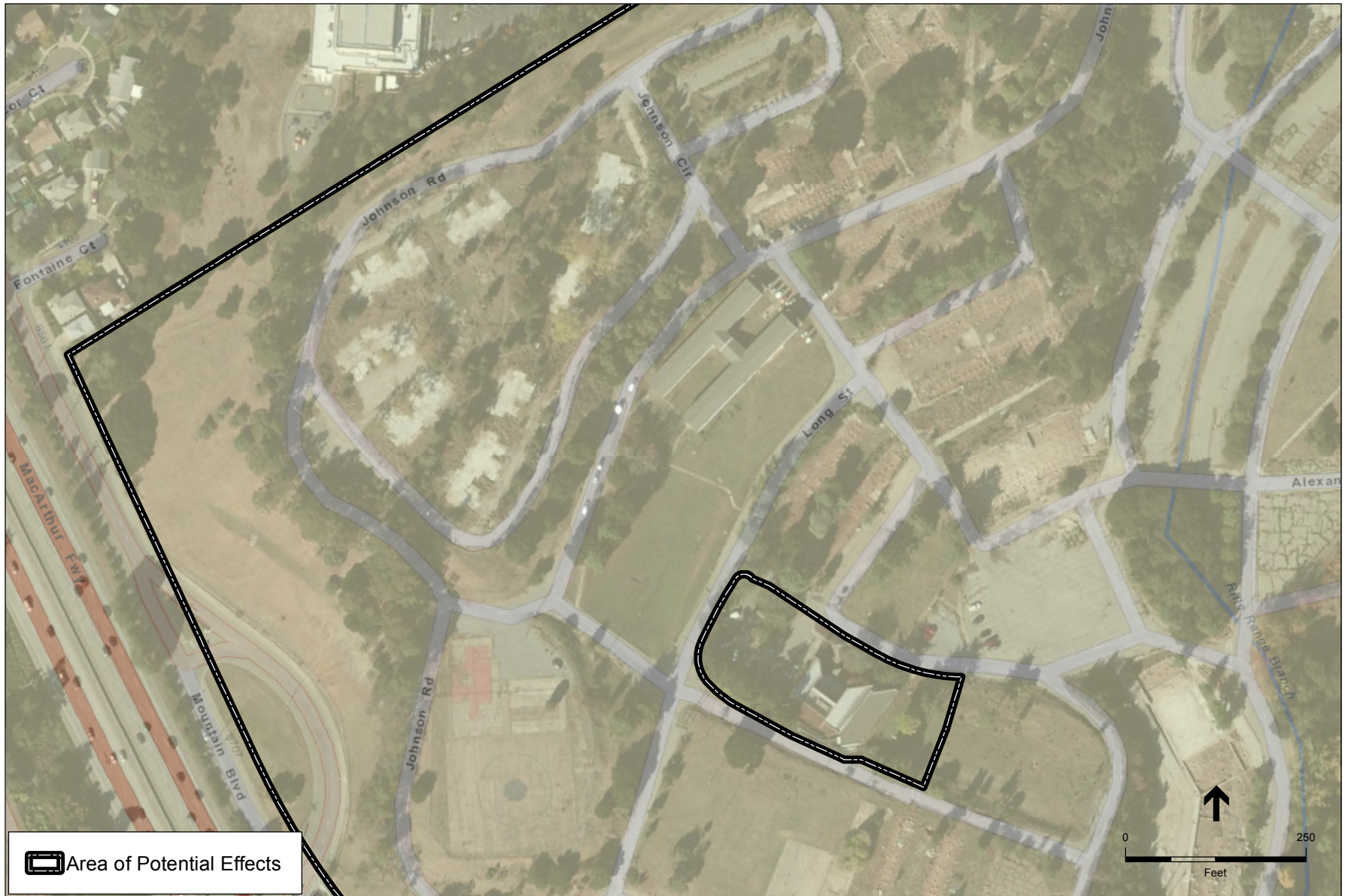






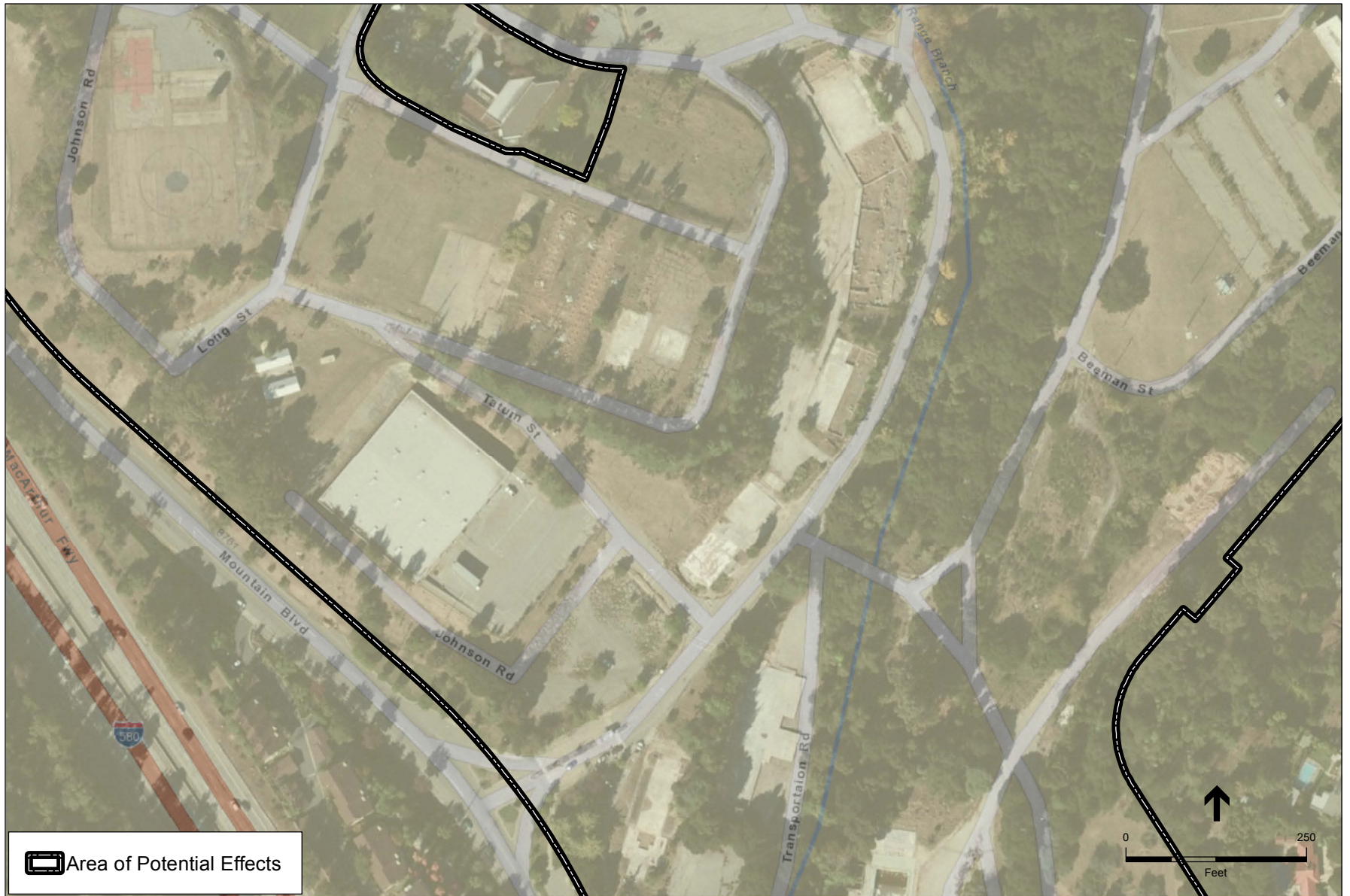
Oak Knoll Development Project . 140419

**Figure 3c**  
Area of Potential Effects

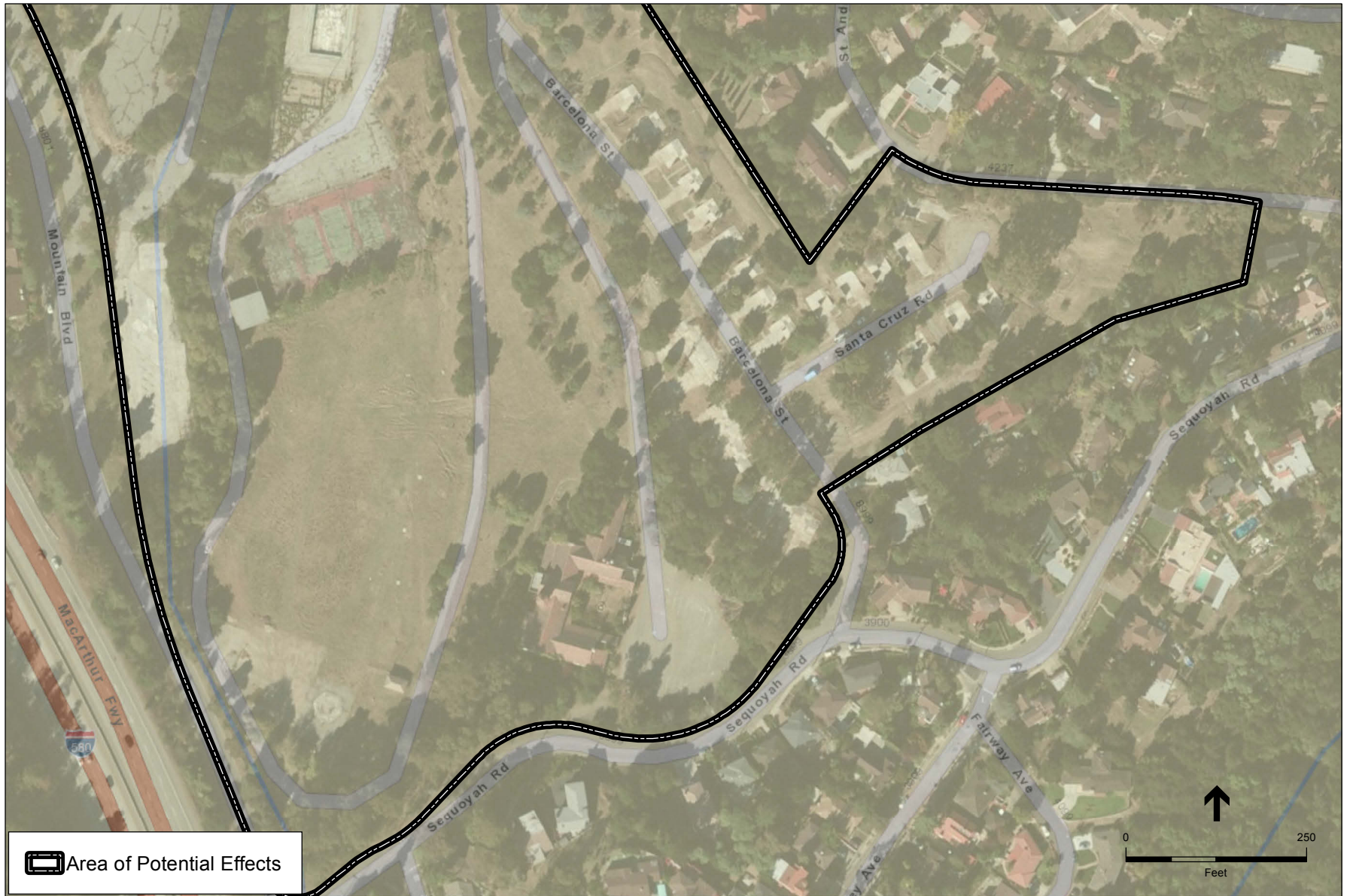




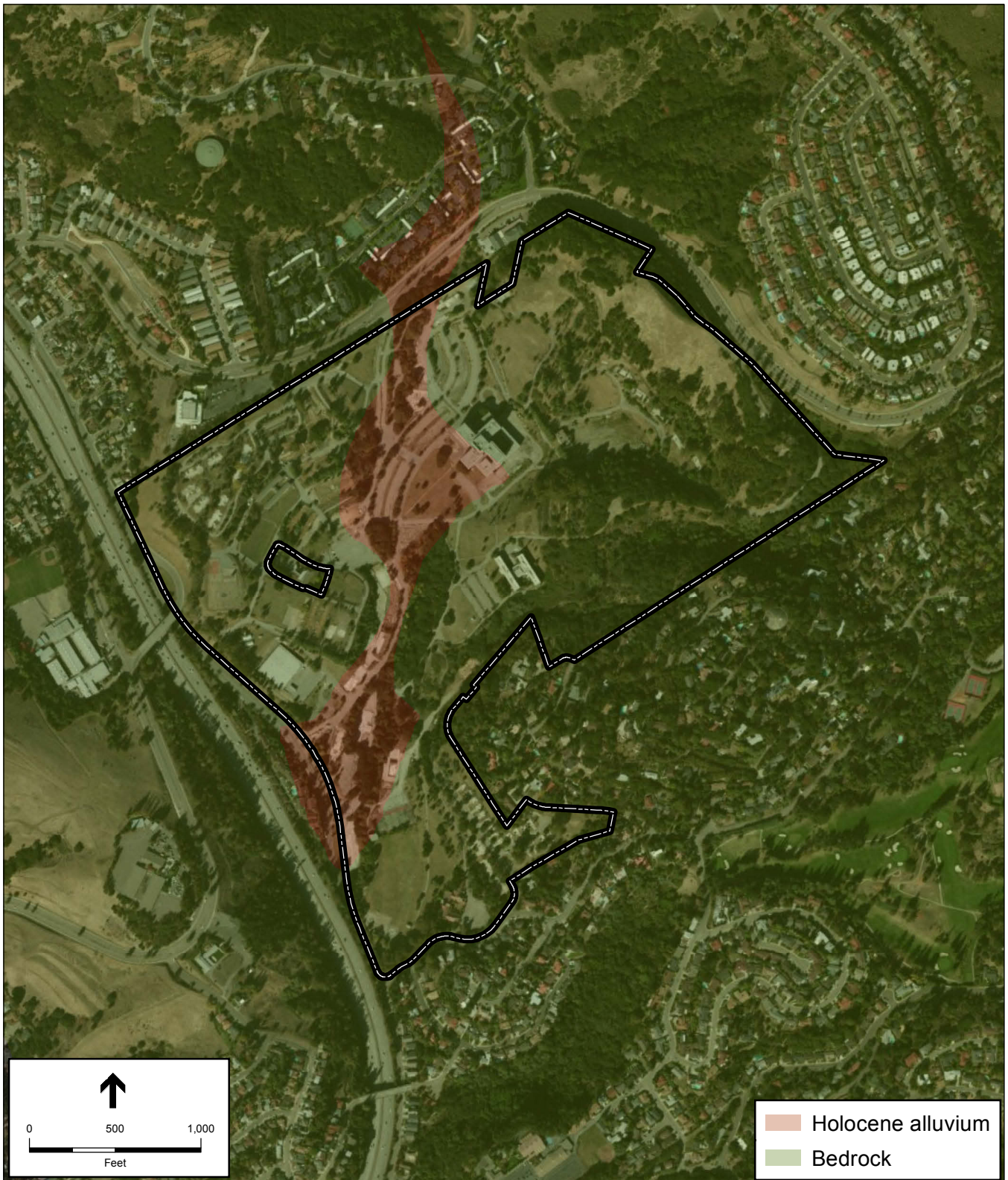
**Figure 3e**  
Area of Potential Effects



**Figure 3f**  
Area of Potential Effects



**Figure 39**  
Area of Potential Effects



Oak Knoll Development Project . 140419

**Figure 4**  
Geology in the Project Vicinity

**PRELIMINARY  
GEOTECHNICAL EXPLORATION**

**OAK KNOLL**

**OAKLAND, CALIFORNIA**

**SUBMITTED**

**TO**

**SUNCAL COMPANIES**

**ROCKLIN, CALIFORNIA**

**PREPARED**

**BY**

**ENGEO INCORPORATED**

**PROJECT NO. 5750.1.100.01**

**FEBRUARY 24, 2006**

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Project No.  
**5750.1.100.01**

February 24, 2006

Mr. Pat Keliher  
SunCal Companies  
Northern California Division  
3715 Atherton Road, Suite 2  
Rocklin, CA 95765

Subject: Oak Knoll  
Oakland, California

**PRELIMINARY GEOTECHNICAL EXPLORATION**

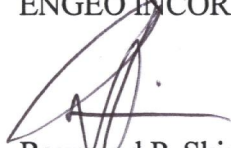
Dear Mr. Keliher:

With your authorization, we have conducted a preliminary geotechnical exploration at the Oak Knoll site located in Oakland, California. The accompanying report presents the results of our site exploration and preliminary geotechnical recommendations for the planning of the proposed development. Based on our study, it is our opinion that development of the site is feasible from a geotechnical standpoint provided the recommendations included in this report are incorporated into project planning and design.

We are pleased to have been of service to you on this project and will be glad to consult further with you and your design team as planning progresses.

Very truly yours,

ENGE O INCORPORATED



Raymond P. Skinner, CEG  
rps/jf:pgex

Reviewed by:



Donald E. Bruggers, CE



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**APPENDIX B** –Laboratory Test Results

## INTRODUCTION

### Purpose and Scope

The purpose of this exploration has been to characterize site conditions and potential geologic hazards in the study area and to develop planning level recommendations regarding the geotechnical aspects of the project. This exploration included the following scope of services:

- Published geologic maps and literature pertinent to the site were reviewed.
- Aerial photographs of the site were examined to identify geomorphic features that may be related to faulting, landsliding and other geologic conditions.
- The findings of previous explorations at the site were reviewed.
- Excavation and logging of 56 exploratory test pits to characterize general soil and bedrock conditions across the study area.
- Excavation and logging of seven exploratory trenches to evaluate previously mapped faults crossing the site.
- Drilling and logging of nine exploratory borings to characterize thicker soil deposits in the central portion of the site.
- Bulk samples and relatively undisturbed samples of representative soil and bedrock materials were collected and limited laboratory testing was performed to characterize the engineering properties of the soil materials.
- Preparation of this preliminary geotechnical exploration report summarizing our findings, conclusions and development of preliminary recommendations to assist in site planning.

This report was prepared for the exclusive use of SunCal Companies and their design team consultants. In the event that any changes are made in the character, design, or layout of the development, the conclusions and recommendations contained in this report should be reviewed by ENGEO Incorporated to determine whether modifications to the report are necessary. This

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### Site Location and Description

The Oak Knoll property is located on the east side of Mountain Boulevard, north of Sequoyah Road and south of Keller Avenue in Oakland, California, as shown on the Vicinity Map, Figure 1. The main entrance to the site is located on Mountain Boulevard.

The property is dominated topographically by Rifle Range Creek that flows through the central portion of the site from north to south. The creek enters through the northwest boundary of the site near the secondary site access gate off of Keller Avenue and exits the southwestern boundary along Mountain Boulevard near the southernmost corner of the site. The creek runs through an approximately 700-foot-long culvert beneath roadways and other paved areas in the north-central portion of the site.

Two secondary drainages join Rifle Range Creek from the east portion of the site. There are three ridgeline areas on site: (1) a broad arcuate ridge situated between Mountain Boulevard and Rifle Range Creek; (2) a narrow ridgeline situated near the southeastern property line; and (3) a prominent ridge near the northeastern property adjacent to Keller Avenue.

Elevations on site range from a low of about 222 feet above mean sea level (msl) where Rifle Range Creek discharges from the site at Mountain Boulevard to a high of about 665 feet above msl on the ridgeline adjacent to Keller Avenue. Much of the topography in the study area has been altered by previous grading and slopes as steep as 1:1 (horizontal:vertical) have been created.

The site is currently improved with a ±450,000-square-foot 9-story hospital building and roughly seventy other structures including residential and administrative buildings totaling approximately

500,000 square feet. The hospital served as the Navy's East Bay medical center from 1942 until decommissioning in 1996. Substantial portions of the site are covered with paved parking areas and existing roadways. An existing tunnel, referred to as the San Leandro tunnel, crosses the northeastern portion of the site, although the tunnel portal is outside the property boundary as shown on Figure 2.

Vegetation consists of areas of open grass land with scattered oak trees on some of the hillsides. Dense oak woodlands were noted on the hillsides in the southeastern portion of the site. Portions of Rifle Range creek are heavily wooded with oak and other native riparian habitat.

### Proposed Development

It is our understanding that all existing buildings on the site will be demolished with the possible exception of Club Knoll, a Mission-style clubhouse located in the south of the property, which is being considered for rehabilitation. All existing infrastructure will be demolished or abandoned. The developable area will be graded to meet the development objectives. New utilities and streets will be constructed to supply the proposed development. The site will likely be developed for a mixture of uses including detached and attached residential as well as light retail and commercial use.

The extent of grading that will be needed to develop the site is not known at this time. We anticipate that mass grading could involve maximum cuts and fills of 20 feet or more to create properly draining building pads and a roadway system.

### Previous Studies

Previous exploration at the site has been performed by various consultants for structures that have been built at the Oak Knoll site. Logs of over 100 borings have been obtained from the Navy. The approximate boring locations are depicted on the Preliminary Geologic Map, Figure 2. The findings of the previous exploration were reviewed and pertinent information was used in preparation of this report.

## GEOTECHNICAL EXPLORATION

### Field Exploration

Our field exploration was conducted during January and February 2006, and included excavating 56 test pits, seven exploratory trenches and drilling of nine exploratory borings. Geologic field mapping was undertaken concurrently with the exploration. The logs of the exploratory borings and excavations are presented in Appendix A.

The exploratory test pits and trenches were excavated using a tract-mounted excavator. The approximate locations of the test pits and trenches are shown on Figure 2. The test pits and trenches were located by pacing and estimating distances from features shown on the topographic base map. The test pits and trenches were backfilled with nominal compactive effort. Test pits and trenches that are not completely removed by design cuts and are within the development area, will require overexcavation and recompaction during site grading.

The borings were drilled using a track-mounted CME 55 drilling rig and 8-inch-diameter hollow stem augers. The borings ranged from about 21 to 50 feet deep. Soil samples recovered during drilling were typically from a 3-inch O.D. California-type split-spoon sampler fitted with 6-inch-long brass liners or a 1.5-inch O.D. Standard Penetration Test (STP) sampler.

The drilling rig was equipped with a CME Auto-Trip system for raising the sampling hammer. The samplers driven into the ground require a 140-pound hammer with a 30-inch drop. The penetration of the samplers into the native materials was field recorded as the number of blows needed to drive the sampler eighteen inches in 6-inch increments. The results on the boring logs were recorded as the number of blows required for the last one foot of penetration and are presented on the boring logs without correction factors.

The borings were logged in the field by ENGEO Geologists and the logs are included in Appendix A. Following completion of drilling, the boreholes were grouted with cement grout. Samples from the borings were collected and transported to our laboratory for further visual examination and testing.

### Laboratory Testing

Following the field exploration, the collected soil samples were reexamined in our laboratory to confirm field classifications. Representative samples recovered from our boring and test pits were tested for the following physical characteristics:

| Characteristic                          | Test Method | Location of Results Within this Report |
|---|-------------|--|
| Natural Unit Weight                     | ASTM D-2216 | Appendix A                             |
| Natural Moisture Content                | ASTM D-2216 | Appendix A                             |
| Atterberg Limits                        | ASTM D-4318 | Appendix B                             |
| Consolidation                           | ASTM D-2435 | Appendix B                             |
| Particle Size Distribution (Hydrometer) | ASTM D-422  | Appendix B                             |



## **GEOLOGY AND SEISMICITY**

### Regional Geology

The site is located in the Coast Ranges geomorphic province of California. In this part of the province, bedrock is mapped predominantly as Jurassic-age keratophyre, a fine-grained volcanic rock (Graymer, 1995). Late Jurassic and Cretaceous Knoxville formation is mapped near the eastern property line and in the southwestern portion of the site. Jurassic Gabbro and Diabase are mapped along the western property line. The geologic setting of the site is shown on the attached Regional Geologic Map, Figure 3.

### Faulting and Seismicity

The site is not located within a State of California Earthquake Fault Hazard Zone (CDMG, 1982) for known active faults. The nearest known active fault is the Hayward fault located about ½ mile to the southwest of the site.

Un-named faults have been mapped crossing the site by Radbruch (1969), Crane (1988) and Graymer (1995) as shown on Figure 4. Additional discussion and the findings of our fault trenching are presented in a subsequent section of this report. None of these faults are considered active by the State of California (1982) nor are any of these faults mapped as active or potentially active on maps showing recency of faulting prepared by Bortugno (1991) or Jennings (1994).

In addition to the Hayward fault, significant seismic sources in the region include the San Andreas fault located about 19 miles to the southwest and the Calaveras fault located about 7 miles to the northeast. A Regional Faulting and Seismicity Map is included on Figure 5 that shows the approximate location of major active faults and significant historic earthquakes with respect to the site.

## Soil Stratigraphy and Bedrock

Artificial Fill. As noted above, most of the site has been affected by previous grading activity. Areas where larger existing fills were observed are identified as “Qaf” on the Preliminary Geologic Map, Figure 2. In general, smaller sliver fills associated with side hill roadways and thin fills adjacent to drainage courses or associated with underground utilities, parking lots and other paved areas are not shown on Figure 2. In general, the existing fills appear to have been derived from on-site sources and most of the fill encountered in test pits was free of deleterious debris. Two areas of existing fill were encountered in the southwestern portion of the site that contains a substantial quantity of debris. This debris fill is designated on Figure 2 using the mapping symbol “Qaf(d)”. The existing fills appear to range up to about 10 to 12 feet thick.

No records pertaining to the placement of the existing fills has been found at the time this report was prepared. Cracking was observed along some of the roadway fills that suggest the fills may be experiencing creep in some areas. Fill conditions observed in test pits suggest that most of the fills were compacted to some degree and many of the existing fills appear to be performing in a satisfactory manner. However, it appears unlikely that the fills were constructed with keyways, benching and subdrains, etc. that would be required for engineered fill that is designed to current standards.

Residual Soil. Residual soils develop essentially in place by weathering of the underlying parent bedrock. Residual soil was encountered in test pits and trenches excavated along ridges and ridge spurs. The residual soils generally consisted of dark brown silty clay and sandy silt. Exploratory test pits indicate that the residual soil cover ranges from about 1 to 4 feet thick. Based on the results of the laboratory testing and our observations, the residual soils appear to vary from low to high plasticity are considered highly expansive when subjected to fluctuations in moisture content.

Colluvium. Colluvium (Qc) has been mapped in the swales on the hillside areas of the site. Colluvium is material that erodes from ridgelines and slopes, is transported predominantly by sheet wash, and accumulates in the adjacent swales. The colluvium encountered in test pits consisted primarily of dark brown silty clay and clayey silt. The colluvium was generally moderately stiff to stiff. Atterberg Limits testing of a silty clay colluvial soil from Test Pit TP-1 resulted in Plasticity Index (PI) of 51 and a Liquid Limit of 72. Based on the results of the laboratory testing and our observations, the colluvial soils are considered highly to critically expansive when subjected to fluctuations in moisture content.

Alluvium. Alluvial deposits (Qa) have been mapped in the Rifle range creek and areas adjacent to the creek. Based on the findings of our exploratory drilling, the alluvial deposits are a heterogeneous mixture of material types including silty clay, sandy silt, silty gravel and silty sand. Based on the results of the laboratory testing and our observations, the clayey alluvial soils appear to vary from low to high plasticity and are considered highly expansive when subjected to fluctuations in moisture content.

Silty sands were encountered in two borings (EB-1 and EB-8) that appeared to be saturated and loose based on drive sample blow counts. Additional discussion regarding this alluvium and the potential for liquefaction is discussed in the conclusions section of this report.

Older Alluvium. Older alluvial deposits (Qoa) were encountered on elevated terraces located near the main entrance on Mountain Boulevard and in the north-central portion of the site. The older alluvial deposits encountered consisted primarily of silty clay with variable amounts of gravel and rock fragments. The older alluvium deposits encountered are very stiff to hard. The older alluvial soils appear to have low plasticity and low to moderate expansion potential.

Landslide Deposits. Regional landslide mapping by Nilsen (1975) shows two landslide areas on the site as shown on Figure 6. One landslide is mapped in the northwestern portion of the site adjacent to

Mountain Boulevard. The second landslide is mapped in the northeastern portion of the site on the east side of Rifle Range Creek.

Based on the findings of our exploration, several smaller landslide areas have been mapped as shown on Figure 2 in addition to those mapped by Nilsen (1975). The landslide deposits appear to consist of shallow slump-type failures or earth flow failures that predominately involve soil with some highly weathered bedrock material. Geomorphic features indicate that the landslide deposits on site are generally in the range of about 5 to 10 feet thick.

Areas of more recent landslide movement are indicated on the Preliminary Geologic Map using a hatched line. The more recent landslides were identified based on bare, non-vegetated scarps and relatively obvious boundaries. Older, dormant landslides are characterized by subtle topographic irregularities that have been modified by erosion and vegetation growth over time.

Bedrock. Based on the findings of our test pit and trench excavations, bedrock at the site appears to consist primarily of keratophyre. The rock encountered varied from friable to strong, highly fractured to crushed. The bedrock was observed to be brecciated with disrupted rock structure. Weathering of the rock also varied substantially. In some test pits, the rock was highly weathered to decomposed and less weathered bedrock was encountered at relatively shallow depths in other test pits. The track-mounted excavator used for this exploration was generally able to excavate the bedrock that was encountered without significant difficulty.

#### Groundwater Conditions

Groundwater was encountered during our field exploration at the locations and depths summarized in the following table along with groundwater data from boring logs obtained from the Navy:

| Location | Date of Observation | Depth to Groundwater (feet) |
|----------|---------------------|-----------------------------|
| EB-1     | 1-31-06             | 6                           |
| EB-2     | 1-31-06             | 17                          |
| EB-3     | 1-31-06             | 23                          |
| EB-7     | 1-31-06             | 13                          |
| EB-8     | 2-1-06              | 6                           |
| EB-9     | 2-1-06              | 13                          |
| TP-12    | 1-30-06             | 2                           |
| TP-23    | 1-31-06             | 8.5                         |
| TP-27    | 1-31-06             | 4                           |
| TP-31    | 2-1-06              | 4                           |
| TP-35    | 2-1-06              | 3                           |
| TP-55    | 2-2-06              | 7                           |
| T-1B     | 1-25-06             | 2                           |
| T-2C     | 1-31-06             | 9                           |
| 1-B1     | August 1957         | 16.5                        |
| 1-B2     | August 1957         | 17                          |
| 1-B3     | August 1957         | 13.5                        |
| 1-B4     | August 1957         | 43                          |
| 1-B5     | August 1957         | 11.5                        |
| 1-B6     | August 1957         | 11.5                        |
| 1-B39    | August 1957         | 7.5                         |
| 6-B3     | April 1973          | 3.5                         |
| 7-B2     | April 1983          | 12                          |
| 8-B1     | June 1983           | 38                          |
| 8-B3     | June 1983           | 8.5                         |
| 8-B4     | June 1983           | 10                          |
| 9-B1     | September 1984      | 6.5                         |
| 9-B2     | September 1984      | 6.5                         |
| 9-B3     | September 1984      | 6.5                         |
| 9-B4     | March 1985          | 5                           |
| 9-B5     | March 1985          | 7                           |

Fluctuations in groundwater levels occur seasonally and over a period of years because of variations in precipitation, temperature, irrigation, and other factors. Future irrigation may cause an overall rise in groundwater levels.

## FAULT EXPLORATION

### Previous Fault Mapping

As previously noted, un-named faults have been mapped crossing the site by Radbruch (1969), Crane (1988) and Graymer (1995) as shown on Figure 4. These previously mapped faults have been numbered as Faults 1 through 8 for discussion purposes. None of these faults is considered active by the State of California (1982) nor are any of these faults mapped as active or potentially active on maps showing recency of faulting prepared by Bortugno (1991) or Jennings (1994).

Fault 1. Fault 1 is mapped by Radbruch (1969) crossing the southwestern portion of the site with a northeasterly orientation. No geomorphic features were observed on aerial photographs or during site reconnaissance along this previously mapped fault alignment. Exploratory Trenches T-1A and T-1B were excavated across this mapped fault. The findings of this trenching are discussed in a subsequent section of this report.

Fault 2. Fault 2 is mapped by Radbruch (1969) near the alignment of Keller Road on the northeast side of the site.

Fault 3. Crane (1988) maps Fault 3 immediately west of the site, roughly coincident with Mountain Boulevard. Fault 3 is roughly parallel to the Hayward fault and the fault is not shown to intersect the Hayward fault in map view. A sense of movement is not indicated on the map by Crane. From a geomorphic standpoint, Fault 3 is situated along the base of the hills that parallel the east side of Highway 580. Fault 3 is not within the site boundaries and is not accessible for exploratory trenching.

Fault 4. Fault 4 is mapped by Crane (1988) as a north-trending fault along the general trend of the Rifle Range Creek valley. The fault is mapped with an oblique sense of movement and intersects

Fault 3 to the southwest of the site and Fault 5 to the northeast of the site. The portion of the Rifle Range Creek valley where Fault 4 is mapped is fairly linear. In the northern portion of the site, Fault 4 is mapped near a topographic break in slope along the upslope margin of an older alluvial terrace. In conjunction with our reconnaissance, existing cut slopes along Keller Avenue were examined. A continuous exposure of keratophyre bedrock is visible on the north side of Keller Avenue where Fault 4 crosses the roadway. Exploratory Trenches T-1A and T-1B were excavated across this mapped fault in the southwestern portion of the site and Trenches T-2A through T-2E were excavated across this mapped fault in the northern portion of the site. The findings of this trenching are discussed in a subsequent section of this report.

Fault 5. Fault 5 is mapped by Crane (1988) as a west-dipping thrust fault roughly coincident with Keller Avenue. This portion of Keller Avenue follows an arcuate valley. Fault 4 is not mapped within the site boundaries and does not appear to be accessible for exploratory trenching.

Faults 6 and 7. Faults 6 and 7 are mapped by Crane (1988) as south-dipping thrust faults on either flank of the ridge located near the southern property line. Thrust faults of this type, if they exist, may not reach the ground surface and are generally considered to be minor inactive faults.

Fault 8. Fault 8 is mapped by Graymer (1995) near the southwestern property line and close to Fault 3 mapped by Crane (1988). The Graymer map indicates that Fault 8 is a contact between Gabbro and Diabase on the west and keratophyre on the east. Fault 8 bifurcates south of the main entrance to the site. The westerly segment (Fault 8A) continues to the south close to Mountain Boulevard and the easterly segment (Fault 8B) trends to the southeast along an alignment that is nearly coincident with Fault 1 mapped by Radbruch (1969). The Graymer map indicates that Fault 8B is a northeast-dipping thrust fault that forms the contact between the Knoxville formation on the southwest and keratophyre of the northeast. Exploratory Trenches T-1A and T-1B were excavated across Fault 8B. The findings of this trenching are discussed in a subsequent section of this report.



In conjunction with our reconnaissance of the site, existing road cuts along the east side of Mountain Boulevard were mapped. Keratophyre rock was observed on the cut slopes extending from the east shoulder of Mountain Boulevard to the top of the cut slope exposure. No gabbro or diabase was observed during our mapping of the existing cut slope. If the mapping by Graymer (1995) is correct, Fault 8 is a contact between Gabbro and Diabase on the west and keratophyre on the east, it appears that Fault 8, if it exists, it is probably located along Mountain Boulevard or to the west of Mountain Boulevard.

Fault 9. Fault 9 is mapped by Graymer (1995) near the northeastern property line roughly parallel to Keller Drive. The Graymer map indicates that Fault 9 is a contact between keratophyre on the southwest and the Knoxville formation on the northeast. Mapping of outcrops and roadcuts in this area suggests that this fault contact is located on the steep northeast-facing slope near the northeast property line. Only a short section of Fault 9 crosses the northeastern corner of the site and this fault is outside the area of where we understand that develop is planned.

### Trench Exploration

Seven exploratory trenches, totaling approximately 480 lineal feet, were excavated at the locations shown on Figure 2. The trenches were located in the field by tape measuring from existing features at the site. Logs of the trenches are included in Appendix B.

The depth of the trenches ranged from about 2 to 10 feet below the adjacent ground surface. The south wall of each trench was cleaned with hand tools and examined by ENGEO geologists. The exposure was logged at a horizontal and vertical scale of 1 inch to 5 feet. A level line was established in the trenches and all measurements were referenced to this line. Conditions encountered in the trenches are summarized below:

Trenches T-1A and T-1B. Trenches T-1A and T-1B were excavated in the southwestern portion of the site across the mapped location of Faults 1, 4 and 8B. The trenches extended across a break in slope gradient between a hillside area and the flat alluvial plane adjacent to Rifle Range Creek. Residual soil over highly weathered keratophyre was encountered in the eastern portion of the trench. In the western portion of the trench, residual soil over alluvial deposits was encountered. The alluvium consisted predominantly of a thick layer of clayey silt with pebbles and cobbles, although intermittent sand and gravel layers provided an indication of horizontal stratification. No zones of shearing, clay gouge, slickensides or other indication of faulting were encountered.

Trench T-2A through T-2E. A series of overlapping trenches (Trenches T-2A through T-2E) were excavated in the northern portion of the site across the mapped trace of Fault 4. Fill and residual soil over keratophyre were encountered in Trench T-2D and the eastern portion of Trench T-2E. Residual soils and older alluvial deposits were encountered in the western portion of Trench T-2E and in Trenches T-2A, T-2B and T-2C. No zones of shearing, clay gouge, slickensides or other indications of faulting were encountered.

## CONCLUSIONS AND RECOMMENDATIONS

The main geotechnical concerns for the proposed site development include potential seismic hazards, landslides and slope stability. These concerns and other geotechnical issues are discussed in the following sections of this report.

### Seismic Hazards

Potential seismic hazards resulting from a nearby moderate to major earthquake can generally be classified as primary and secondary. The primary effect is ground rupture, also called surface faulting. The common secondary seismic hazards include ground shaking, ground lurching, soil liquefaction, lateral spreading and seismically induced landsliding. These hazards are discussed in the following sections. Based on topographic setting relative to natural and man-made bodies of water, the risk from tsunamis or seiches does not exist at the site.

Ground Rupture. The site is not within a State of California Earthquake Fault Hazards Zone (1982) and no known active or potentially active faults cross the site (Jennings, 1994, Bortugno, 1991). Exploratory trenching was performed across selected un-named faults crossing the site and no indications of faulting were encountered. Based on the finding of our exploration, the potential for fault rupture at the site appears to be low.

Ground Shaking. An earthquake of moderate to high magnitude generated within the San Francisco Bay Region could cause considerable ground shaking at the site. The degree of shaking is dependent on the magnitude of the event, the distance to its epicenter, and local geologic conditions. To mitigate the ground shaking effects, all structures should be designed using sound engineering judgment and the latest Uniform Building Code (UBC) requirements as a minimum.

Seismic design provisions of current building codes generally prescribe minimum lateral forces, applied statically to the structure, combined with the gravity forces of dead-and-live loads. The code-prescribed lateral forces are generally considered to be substantially smaller than the equivalent forces that would be associated with a major earthquake. Therefore, structures should be able to: (1) resist minor earthquakes without damage, (2) resist moderate earthquakes without structural damage but with some nonstructural damage, and (3) resist major earthquakes without collapse but with some structural as well as nonstructural damage. Conformance to current building code recommendations does not constitute any kind of guarantee that significant structural damage would not occur in the event of a maximum magnitude earthquake; however, it is reasonable to expect that a well-designed and well-constructed structure will not collapse or cause loss of life in a major earthquake.

Liquefaction. The broad valley along Rifle Range Creek is mapped as a State of California Seismic Hazard Zone (2000) for areas that may be susceptible to liquefaction as shown on Figure 7. Liquefaction is a phenomenon in which saturated cohesionless soils are subject to a temporary loss of shear strength because of pore pressure build up under the cyclic shear stresses associated with earthquakes.

Documentation of ground failures during the 1906 San Francisco earthquake by Youd and Hoose (1978) reports no damage in the vicinity of the site. To our knowledge, no damage was reported in this area during the 1989 Loma Prieta Earthquake.

Alluvial deposits that may be susceptible to liquefaction were encountered in two exploratory borings, both located in the Rifle Range Creek Valley. In Boring EB-1 loose silty sand was encountered from a depth of about 2 to 12 feet and in Boring EB-8, loose silty sand was encountered from a depth of about 7 to 18 feet. Based on Borings EB-1 and EB-8, areas of potential liquefaction are located on the lowest, and probably the youngest, alluvial terraces adjacent to Rifle Range Creek.

In both cases, the terrace is relatively wide and appears to be underlain by Holocene alluvial deposits that have formed in a former meander of Rifle Range Creek.

Based on the findings of our exploratory drilling, review of previous boring logs and the geomorphology of the lower alluvial terraces, two areas have been designated on Figure 2 that may be susceptible to liquefaction. Based on our analysis, we estimate that up to 3 inches of settlement could occur in these areas as a result of liquefaction during major earthquake on the Hayward fault. Given the limited cover overlying the potential liquefaction layer, there appears to be a relatively high risk that ground cracking, sand boils and lateral spreading could occur in conjunction with this liquefaction.

We recommend that additional exploration be performed to more fully define the limit of the area that may be susceptible to liquefaction. The adverse impacts from liquefaction can be mitigated by a number of measures including:

- Avoiding development within the potential liquefaction zone.
- In-situ treatment such as dynamic compaction.
- Remedial grading measures such as removal and replacement of a portion or all of the potentially liquefiable soil with engineered fill.
- Placement of a compacted fill cap over the potential liquefaction zone. This approach could include use of geogrid reinforced fill.
- Foundation design measures such as deep foundations that extend through the potential liquefaction zone.

Lurching and Lateral Spreading. Ground lurching is a result of the rolling motion imparted to the ground surface during energy released by an earthquake. Such rolling motion can cause ground cracks to form in weaker soil materials and cause weaker soil material to move laterally on slopes or adjacent to open channels. Based on the findings of our exploration, younger alluvial deposits

located adjacent to Rifle Range Creek appear to be susceptible to lurching and lateral spreading. This potential hazard can be mitigated by providing setbacks for improvements from the creek banks, by remedial grading measures or by foundation design measures. If a setback approach is used for planning purposes we recommend that improvements be setback outside an upward 4:1 projection for the toe of the creek back.

The potential lurching hazard for weaker soils on slopes can be mitigated by site grading techniques such as keying and benching where fills are placed on sloping ground and foundation design measures. Structures situated on slopes should have drilled pier foundation systems designed to accommodate lateral loads that are expected from soil on slopes. Specific recommendations for grading and foundation design measures to mitigate this concern will be developed during design level studies for the project.

Seismically-Induced Landslides. Steeper slopes in the northeastern portion of the site are located within State of California Seismic Hazard Zones (2000, Figure 7) for areas that may be susceptible to seismically induced landsliding. Seismically induced landslides are triggered by earthquake ground shaking. The risk of this hazard is generally greatest in the late winter when groundwater levels are highest and surficial soils are saturated. As with all slopes in the region, this risk is also present at the site to varying degrees depending on the slope conditions and time of year. The hazard of seismically induced landslides can be mitigated by design of properly engineered cut and fill slopes and stabilization of landslides or creation of sufficient buffers between the identified landslide areas and development areas. The stability of proposed cut and fill slopes will be specifically evaluated during design-level studies. Stabilization measures or setbacks from the identified landslide areas will also be evaluated on cases by case basis.

Densification Due to Earthquake Shaking. Densification of loose granular soils above and below the groundwater level can cause settlement due to earthquake-induced vibrations. This potential hazard is discussed above in the liquefaction section of this report.

Regional Uplift and Crustal Folding. The Jurassic and Cretaceous bedrock at this site is considered to be in the range of 70 to 200 million years old, and as such, the rock has experienced deformation from several periods of tectonic stress including the currently active transpressive tectonic regime. As for all sites in the Bay Area, the site may experience broad scale deformations during future seismic events, such as regional uplift or crustal warping. These potential hazards generally must be accepted throughout the Bay Area.

### Landslides

It is our opinion that the landslide areas shown on the attached Preliminary Geologic Map, Figure 2, have a relatively high likelihood of experiencing future instability unless suitable mitigation measures are implemented. Appropriate measures to mitigate potential landslide hazards are dependent on factors such as the size and type of landslide, the relationship of the landslide to the proposed development, and environmental factors such as visibility and tree preservation. We anticipate that setbacks will be maintained from some of the identified landslide areas. Where development encroaches into the mapped landslide areas, remedial grading will be needed to reduce the potential for adverse impacts from slide movement. Specific remedial grading measures should be developed on a case-by-case basis where development encroaches into the mapped landslide areas.

Clayey soils on steeper natural slopes are subject to soil creep. Soil creep is the slow downslope movement of soil that occurs with the annual cycle of wetting and drying under the influence of gravity. The potential for adverse impacts from soil creep can be minimized by benching through surficial soils during fill placement as recommended in this report and by design of drilled pier foundation systems to accommodate lateral loads from soil creep.

Grading Concepts

A geotechnical exploration of the site should be performed to further evaluate the geologic conditions described in this report; to characterize the engineering properties of soil and bedrock materials; and to address geotechnical engineering issues such as site preparation, grading, subdrains, keyways, foundations, etc. The recommendations presented herein are for planning purposes and will be refined as part of the geotechnical exploration.

Graded Slopes. Existing cut slopes on the site have gradients as steep as 1:1 (horizontal:vertical) and have experienced localized erosion, ravelling and instability. It appears that existing cut and fill slopes with gradients of about 2:1, up to about 20 feet high have performed satisfactorily over a period of many years. Based on our findings at the site and our previous grading experience in the area, we recommend that graded slopes for the project be designed in accordance with the following criteria:

| Graded Condition of Slope | Slope Height (feet) | Maximum Recommended Slope Gradient (horizontal:vertical) |
|---------------------------|---------------------|--|
| Cut                       | Up to 10            | 2:1  |
| Cut                       | 10 to 20            | 2.5:1  |
| Cut                       | Greater than 20     | 3:1  |
| Fill                      | Up to 20            | 2:1  |
| Fill                      | 20 to 30            | 2.5:1  |
| Fill                      | Greater than 30     | 3:1  |

Depending on the findings of future exploration and the availability of select fill material, or if geogrid reinforcement is used, it may be possible to construct fill slopes that exceed the criteria in the above table. Design details for the geogrid-reinforced fill slopes or slopes constructed with higher



strength select fill material should be developed during a design-level geotechnical investigation for the project based on laboratory tests of the anticipated fill materials.

A maintenance bench should be provided at the toe of major cut slopes (cut slopes higher than 10 feet) or natural slopes that extend upslope of the area of planned development. The width of the bench should be approximately 15 to 30 feet wide depending on the height and steepness of the adjacent slope. Access to these benches should be provided for maintenance purposes.

Existing Fill. As noted above, the existing fills have not been constructed in a manner that is consistent with current standards for engineered fill. The character of the existing fills varies widely in terms of material type, thickness, and placement methods. To reduce the potential for adverse settlement or stability problems, we recommend that all existing fills located within the development area be removed and replaced with engineered fill. Existing fill materials that are free of deleterious debris may be placed on site as engineered fill.

Compressible Alluvium. Compressible alluvial deposits were encountered in Borings EB-1 and EB-8, located in the Rifle Range Creek Valley. These comprise layers of soft to medium stiff silty clay and a mixture of silty sand/sandy silt. Based on the results of our initial laboratory testing and preliminary engineering analysis, settlement under moderate loading conditions, e.g. one- to three-story residential/commercial structures placed at approximate existing grade, should be expected to range between approximately ½ and 1 inch. Placement of compacted engineered fill to achieve design pad grades will cause settlement of the underlying compressible alluvial deposits. For planning purposes, we estimate approximately ¼ inch of settlement for each foot of engineered fill. The settlement resulting from the fill will be in addition to the settlement from the building loads. The majority of these settlements should occur in the elastic range; therefore, it is anticipated that they should be completed predominantly during construction.

Fill Placement. To reduce the magnitude of post-construction fill settlement, we anticipate recommendations for deeper fills will include higher compaction specifications in the deeper portions of fills and possibly selective grading methods. Moisture conditioning of clayey fill materials to above-optimum moisture content should also be anticipated. Detailed fill placement recommendations will be provided based on laboratory testing and analysis performed in conjunction with a design-level geotechnical exploration for the project.

#### Excavation Characteristics

Based on our previous grading experience in the area, we anticipate that the bedrock materials should, in general, be rippable with conventional heavy grading equipment. Localized well-cemented beds or lenses may be encountered that generate some oversized rocks larger than one foot in diameter. In general, oversized rocks can be placed in areas of deeper fill provided that they are properly placed.

Trenching in areas of deeper bedrock cuts may not be practical for conventional backhoes. Use of heavy duty excavators or removal of bedrock to planned depth of utilities and replacement with engineered fill should be considered in these areas.

#### Expansive Soils

The expansive nature of the native soil is of significant geotechnical concern in this region. The clayey soil materials at the site are considered highly expansive. Expansive soils are susceptible to shrink and swell resulting from variations in moisture content. Expansive soils and bedrock may cause heaving and cracking of slabs-on-grade, pavements, and foundations. The shrink-swell properties of these materials should be further characterized during a design-level geotechnical investigation for the project. The effects of expansive soils can be mitigated by appropriate grading and foundation design measures. Foundation design is further discussed in the "Foundations" section of this report.

### Preliminary Foundation Design

The primary considerations for foundation design will be the location of structures on or near slopes and expansive soil conditions. Specific foundation design criteria should be developed for the various structures that are planned. The foundation design should address the highly expansive soil conditions and the potential for foundation elements to experience lateral loads on, or near slopes.

In general, for residential structures located on level building pads at least 10 feet from any top of major slopes, mat foundation systems can be used to support the proposed one- or two-story wood-frame houses. Either post-tensioned (PT) slabs or conventional steel reinforced slabs may be used. It is anticipated that structural mats constructed on swelling soils may move differentially. Structural mats may need to be stiffened to reduce differential movements from heaving or settlement to a value compatible with the proposed superstructure type and architectural finishes.

### Additional Geotechnical Exploration

As noted above, a geotechnical exploration should be performed to develop design level recommendations for the project. The purpose of these additional studies will be to address geotechnical engineering issues such as site preparation, grading, retaining walls, foundation design, and other improvements. Specific explorations for critical structures (fire stations), multi-story structures and bridges should be anticipated

## LIMITATIONS AND UNIFORMITY OF CONDITIONS

This report is issued with the understanding that it is the responsibility of the owner to transmit the information and recommendations of this report to developers, owners, buyers, architects, engineers, and designers for the project so that the necessary steps can be taken by the contractors and subcontractors to carry out such recommendations in the field. The conclusions and recommendations contained in this report are solely professional opinions.

The professional staff of ENGEO Incorporated strives to perform its services in a proper and professional manner with reasonable care and competence but is not infallible. There are risks of earth movement and property damages inherent in land development. We are unable to eliminate all risks or provide insurance; therefore, we are unable to guarantee or warrant the results of our work.

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## SELECTED REFERENCES

- Bortugno, E. J.; et al, 1991, Map Showing Recency of Faulting, San Francisco-San Jose Quadrangle USGS Map Sheet 5A.
- California Division of Mines and Geology, 1982, Special Studies Zone Map, Oakland East Quadrangle, California, State of California.
- Crane, R. C.; 1988, Geology of the Oakland East Quadrangle, Alameda County, California.
- Graymer, R. W., Jones, D.L., Brabb, E.E.; et al, 1995, Geologic Map of the Hayward Fault Zone, Alameda County, California, U.S. Geological Survey Open File Report 95-597.
- Jennings, C. W.; 1994, Fault Activity Map of California and Adjacent Areas, CDMG, California Geologic Data Map Series, Map No. 6.
- Nilsen, T. H., 1975, Preliminary Photo Interpretation of Landslide and Other Surficial Deposits of the Oakland East Quadrangle, Alameda County, California.
- Radbruch, D.H., 1969, Areal and Engineering Geology of the Oakland East Quadrangle, California, Geologic Quadrangle Maps of the United States, U.S. Geological Survey, GQ-769.
- Uniform Building Code (UBC), 1997, Structural Engineering Design Provisions, Vol. 2.
- Youd, T.L., and Hoose, S.N., 1978, Historic Ground Failures in Northern California Triggered by Earthquakes, U.S. Geological Survey, Professional Paper 993.

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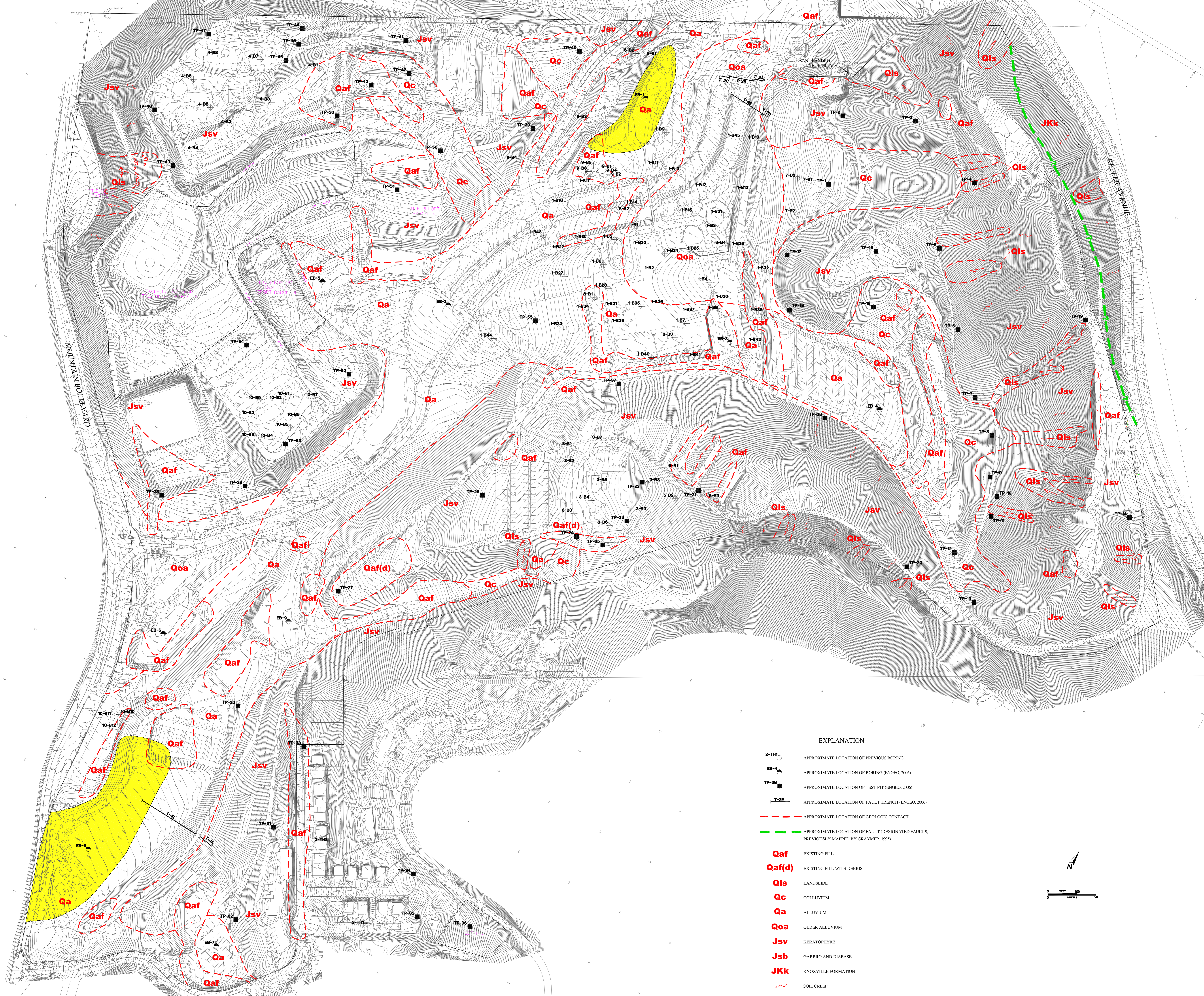
BASE MAP SOURCE: MS STREETS AND TRIPS



**VICINITY MAP**  
**OAK KNOLL**  
**OAKLAND, CALIFORNIA**

|                                   |                        |            |
|-----------------------------------|------------------------|------------|
| PROJECT NO.: <b>5750.1.100.01</b> |                        | FIGURE NO. |
| DATE: <b>FEBRUARY 2006</b>        |                        | <b>1</b>   |
| DRAWN BY: <b>SRP</b>              | CHECKED BY: <b>RPS</b> |            |

ORIGINAL FIGURE PRINTED IN COLOR

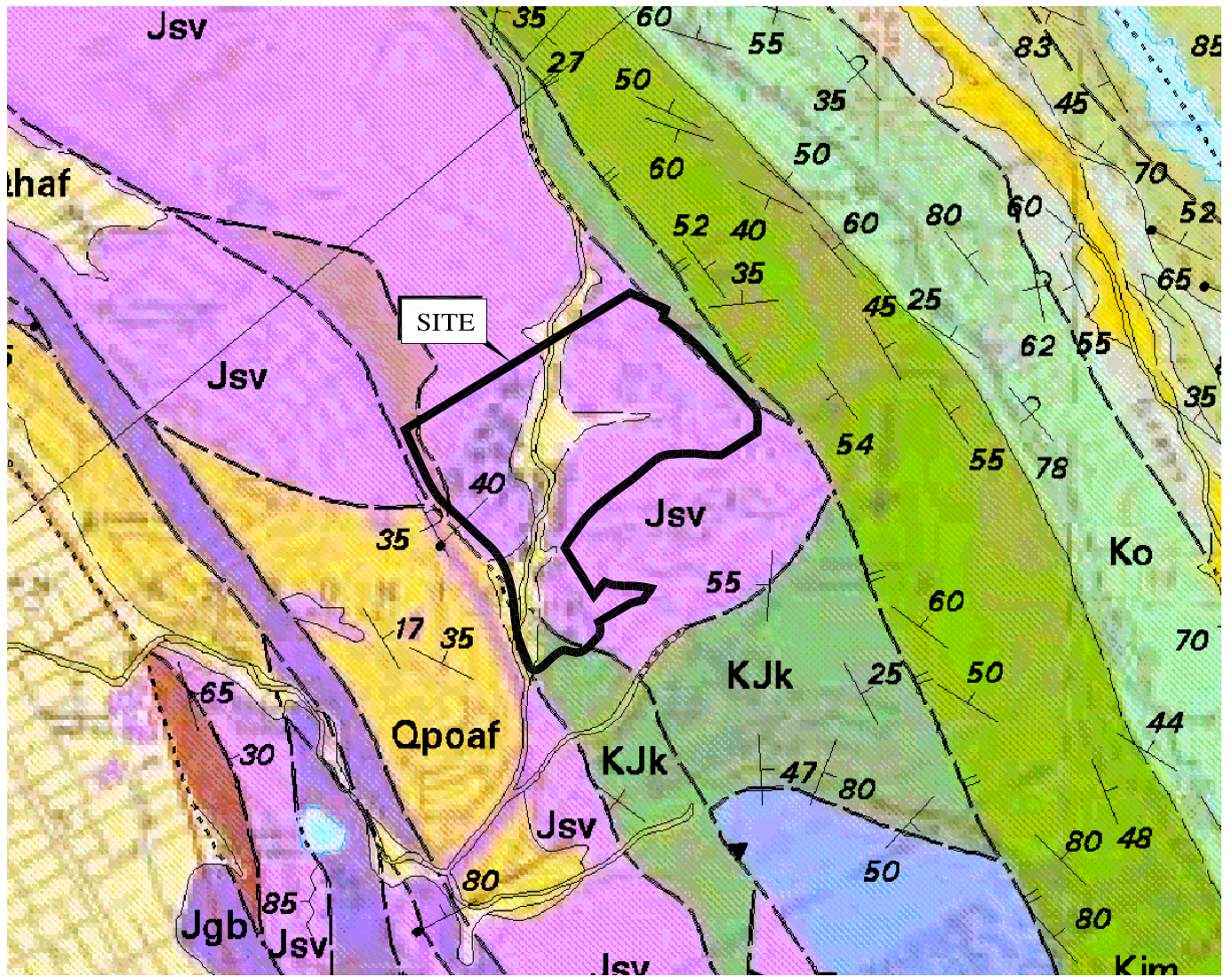


EXPLANATION

- 2-TH1      APPROXIMATE LOCATION OF PREVIOUS BORING
- EB-4        APPROXIMATE LOCATION OF BORING (ENGE0, 2006)
- TP-38       APPROXIMATE LOCATION OF TEST PIT (ENGE0, 2006)
- T-26        APPROXIMATE LOCATION OF FAULT TRENCH (ENGE0, 2006)
- APPROXIMATE LOCATION OF GEOLOGIC CONTACT
- APPROXIMATE LOCATION OF FAULT (DESIGNATED FAULT 9, PREVIOUSLY MAPPED BY GRAYMER, 1995)
- Qaf**        EXISTING FILL
- Qaf(d)**    EXISTING FILL WITH DEBRIS
- Qls**        LANDSLIDE
- Qc**        COLLUVIUM
- Qa**        ALLUVIUM
- Qoa**       OLDER ALLUVIUM
- Jsv**       KERATOPHYRE
- Js**        GABBRO AND DIABASE
- Jkk**       KNOXVILLE FORMATION
- ~           SOIL CREEP
- APPROXIMATE LOCATION OF POTENTIAL LIQUEFACTION AREA



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**EXPLANATION**

- Qpoaf** OLDER ALLUVIAL FAN DEPOSITS
- Kjm** JOAQUIN MILLER FORMATION
- Kjk** KNOXVILLE FORMATION
- Jsv** KERATOPHYRE AND QUARTZ KERATOPHYRE

BASE MAP SOURCE: GRAYMER, 1995



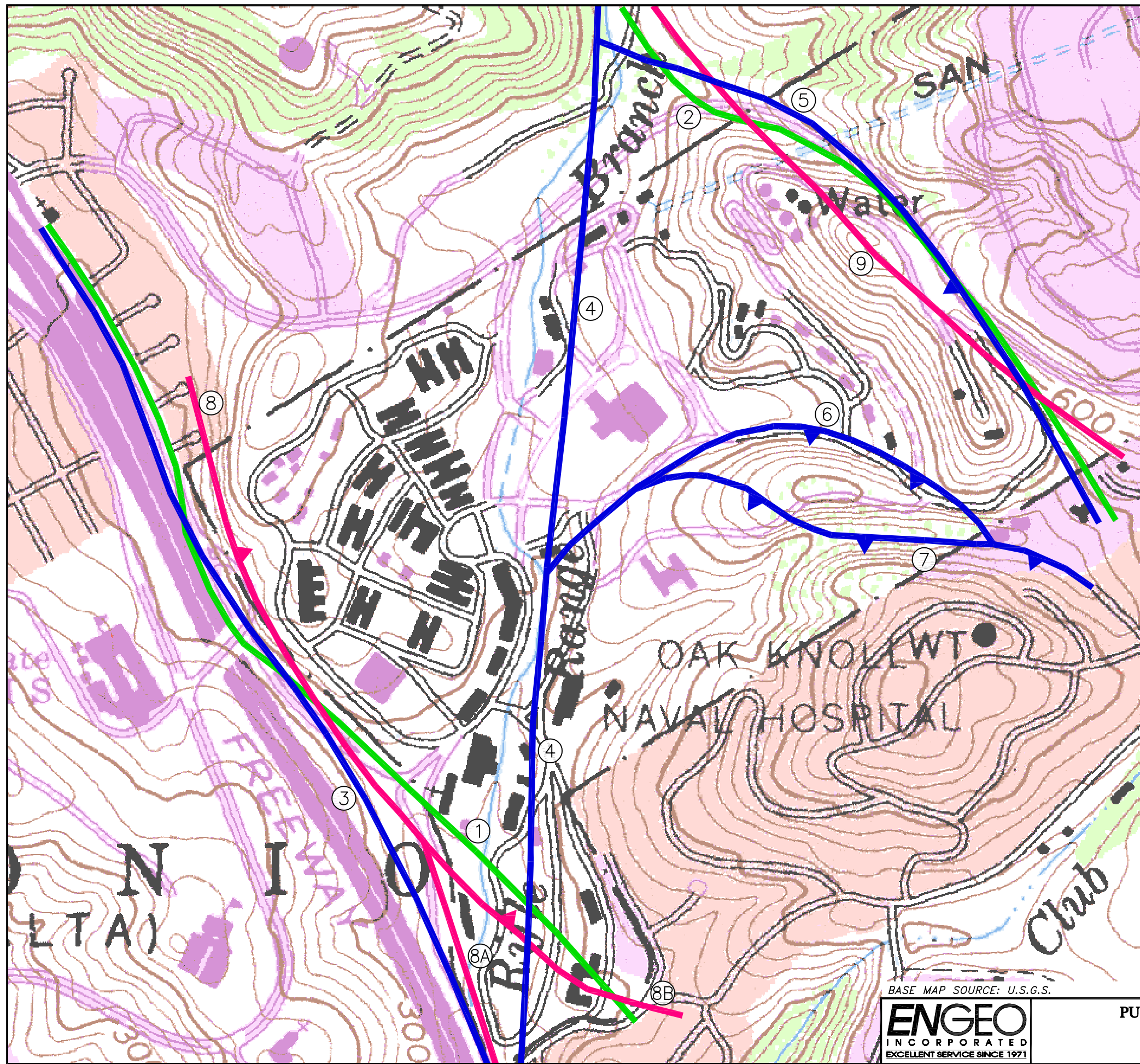
**REGIONAL GEOLOGIC MAP**  
**OAK KNOLL**  
**OAKLAND, CALIFORNIA**

|                            |                 |
|----------------------------|-----------------|
| PROJECT NO.: 5750.1.100.01 | FIGURE NO.      |
| DATE: FEBRUARY 2006        | <b>3</b>        |
| DRAWN BY: SRP              | CHECKED BY: RPS |

ORIGINAL FIGURE PRINTED IN COLOR

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**EXPLANATION**

- GRAYMER 1995
- FAULT, CRANE 1988
- FAULT, RADBRUCH 1969
- ⑨ FAULT DESIGNATION



BASE MAP SOURCE: U.S.G.S.

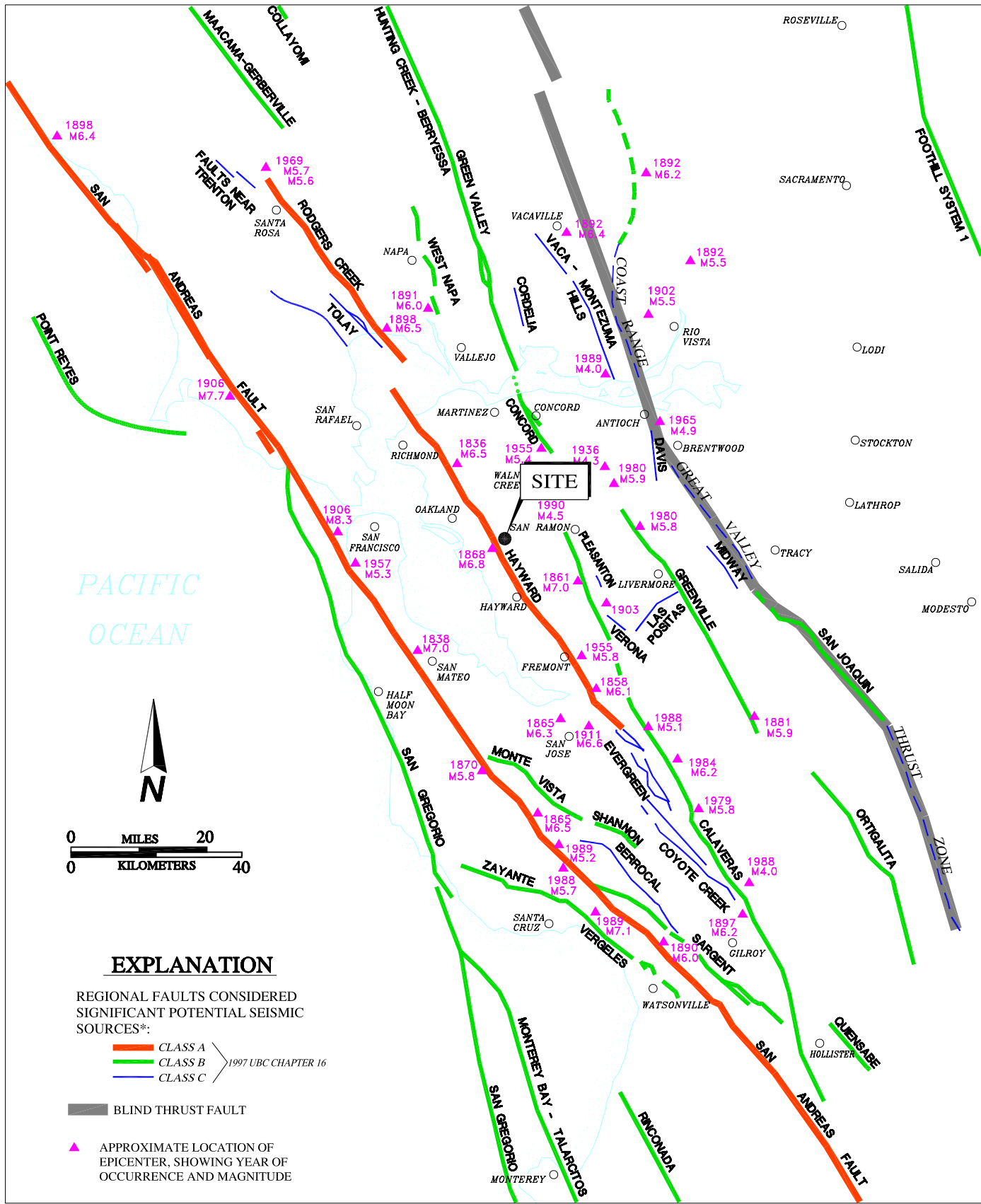


**PUBLISHED FAULT MAPPING**  
OAK KNOLL  
OAKLAND, CALIFORNIA

|                                  |          |
|----------------------------------|----------|
| PROJECT NO.: 5750.1.100.01       | <b>4</b> |
| DATE: FEBRUARY 2006              |          |
| DRAWN BY: DLB    CHECKED BY: RPS |          |

FIGURE NO.  
**4**

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PACIFIC OCEAN



**EXPLANATION**

REGIONAL FAULTS CONSIDERED SIGNIFICANT POTENTIAL SEISMIC SOURCES\*:

- CLASS A
  - CLASS B
  - CLASS C
- } 1997 UBC CHAPTER 16

— BLIND THRUST FAULT

▲ APPROXIMATE LOCATION OF EPICENTER, SHOWING YEAR OF OCCURRENCE AND MAGNITUDE

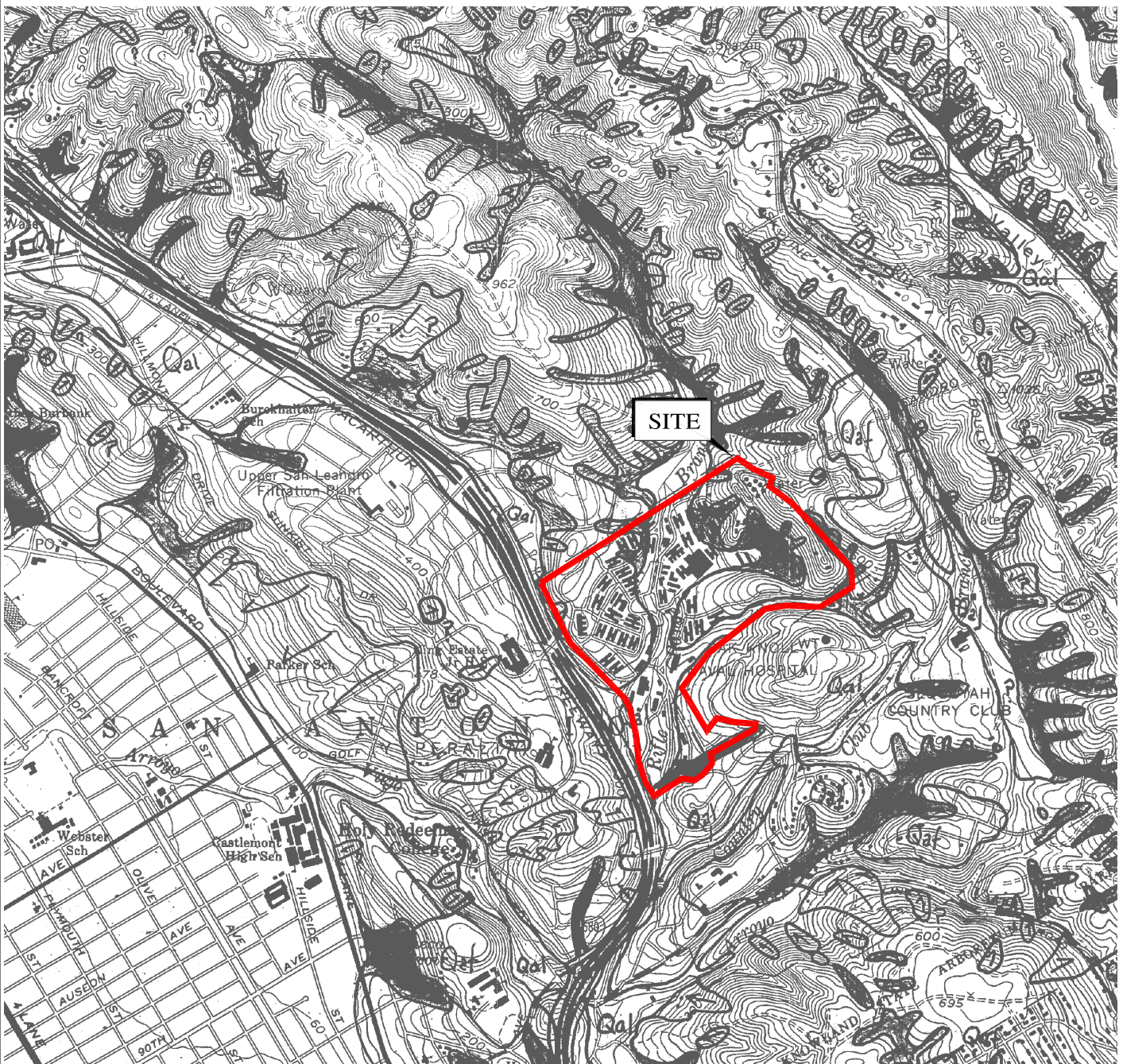
\*BASED ON USGS OPEN FILE 96-706



**REGIONAL FAULTING AND SEISMICITY**  
**OAK KNOLL**  
**OAKLAND, CALIFORNIA**

|                            |                 |            |
|----------------------------|-----------------|------------|
| PROJECT NO.: 5750.1.100.01 |                 | 5          |
| DATE: FEBRUARY 2006        |                 |            |
| DRAWN BY: SRP              | CHECKED BY: RPS | FIGURE NO. |

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**EXPLANATION**

- LANDSLIDE DEPOSIT. ARROWS INDICATE GENERAL DIRECTION OF DOWNSLOPE MOVEMENT. QUERIED WHERE UNCERTAIN
- Qal ALLUVIAL DEPOSIT
- COLLUVIAL DEPOSIT AND/OR SMALL ALLUVIAL FAN DEPOSIT
- Qaf ARTIFICIAL FILL
- BEDROCK. QUERIED WHERE IDENTIFICATION UNCERTAIN
- QUARRY OR GRAVEL PIT



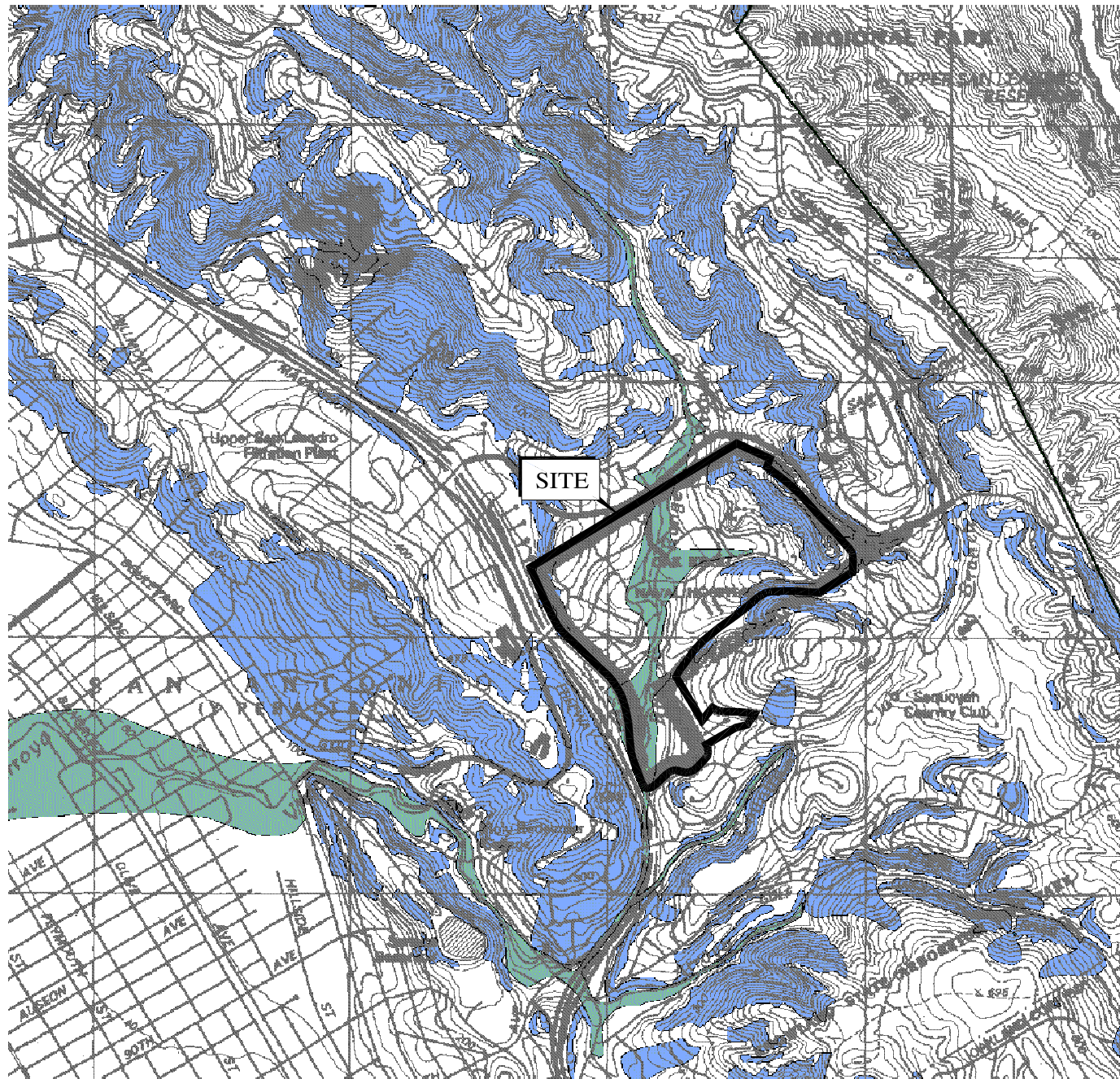
BASE MAP SOURCE: NILSEN, 1975



**LANDSLIDE MAP**  
**OAK KNOLL**  
**OAKLAND, CALIFORNIA**

|                                   |                        |
|-----------------------------------|------------------------|
| PROJECT NO.: <b>5750.1.100.01</b> | FIGURE NO.             |
| DATE: <b>FEBRUARY 2006</b>        | <b>6</b>               |
| DRAWN BY: <b>SRP</b>              | CHECKED BY: <b>RPS</b> |

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**MAP EXPLANATION**

**Zones of Required Investigation:**



**Liquefaction**

Areas where historic occurrence of liquefaction, or local geological, geotechnical and groundwater conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required.

**Earthquake-Induced Landslides**

Areas where previous occurrence of landslide movement, or local topographic, geological, geotechnical and subsurface water conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required.

BASE MAP SOURCE: STATE OF CALIFORNIA



**SEISMIC HAZARD ZONE MAP  
OAK KNOLL  
OAKLAND, CALIFORNIA**

|                                   |                        |
|-----------------------------------|------------------------|
| PROJECT NO.: <b>5750.1.100.01</b> | FIGURE NO. <b>7</b>    |
| DATE: <b>FEBRUARY 2006</b>        |                        |
| DRAWN BY: <b>SRP</b>              | CHECKED BY: <b>RPS</b> |

**APPENDIX A**

Boring, Test Pit and Trench Logs

# KEY TO BORING LOGS

## MAJOR TYPES

## DESCRIPTION

|   |  |  |  |  |
|---|--|--|--|--|
| COARSE-GRAINED SOILS MORE THAN HALF OF MAT'L LARGER THAN #200 SIEVE | GRAVELS<br>MORE THAN HALF<br>COARSE FRACTION<br>IS LARGER THAN<br>NO. 4 SIEVE SIZE | CLEAN GRAVELS WITH<br>LITTLE OR NO FINES |  | GW - Well graded gravels or gravel-sand mixtures   |
|   |  | GRAVELS WITH OVER<br>12 % FINES          |  | GP - Poorly graded gravels or gravel-sand mixtures |
|   | SANDS<br>MORE THAN HALF<br>COARSE FRACTION<br>IS SMALLER THAN<br>NO. 4 SIEVE SIZE  | CLEAN SANDS WITH<br>LITTLE OR NO FINES   |  | SW - Well graded sands, or gravelly sand mixtures  |
|   |  | SANDS WITH OVER<br>12 % FINES            |  | SP - Poorly graded sands or gravelly sand mixtures |
| FINE-GRAINED SOILS MORE THAN HALF OF MAT'L SMALLER THAN #200 SIEVE  | SILTS AND CLAYS LIQUID LIMIT 50 % OR LESS  |  |  | ML - Inorganic silt with low to medium plasticity  |
|   |  |  |  | CL - Inorganic clay with low to medium plasticity  |
|   |  |  |  | OL - Low plasticity organic silts and clays        |
|   | SILTS AND CLAYS LIQUID LIMIT GREATER THAN 50 %                                     |  |  | MH - Inorganic silt with high plasticity           |
|   |  |  |  | CH - Inorganic clay with high plasticity           |
|   |  |  |  | OH - Highly plastic organic silts and clays        |
| HIGHLY ORGANIC SOILS  |  |  | PT - Peat and other highly organic soils |  |

## GRAIN SIZES

|                                 |      |        |        |                             |        |         |          |
|---------------------------------|------|--------|--------|-----------------------------|--------|---------|----------|
| U.S. STANDARD SERIES SIEVE SIZE |      |        |        | CLEAR SQUARE SIEVE OPENINGS |        |         |          |
|                                 | 200  | 40     | 10     | 4                           | 3/4 "  | 3"      | 12"      |
| SILTS<br>AND<br>CLAYS           | SAND |        |        | GRAVEL                      |        | COBBLES | BOULDERS |
|                                 | FINE | MEDIUM | COARSE | FINE                        | COARSE |         |          |

### RELATIVE DENSITY

| SANDS AND GRAVELS | BLOWS/FOOT<br>(S.P.T.) |
|-------------------|------------------------|
| VERY LOOSE        | 0-4                    |
| LOOSE             | 4-10                   |
| MEDIUM DENSE      | 10-30                  |
| DENSE             | 30-50                  |
| VERY DENSE        | OVER 50                |

### CONSISTENCY

| SILTS AND CLAYS | STRENGTH* | BLOWS/FOOT<br>(S.P.T.) |
|-----------------|-----------|------------------------|
| VERY SOFT       | 0-1/4     | 0-2                    |
| SOFT            | 1/4-1/2   | 2-4                    |
| MEDIUM STIFF    | 1/2-1     | 4-8                    |
| STIFF           | 1-2       | 8-15                   |
| VERY STIFF      | 2-4       | 15-30                  |
| HARD            | OVER 4    | OVER 30                |

### MOISTURE CONDITION

|           |  |
|-----------|--|
| DRY       | Absence of moisture, dusty, dry to touch |
| MOIST     | Damp but no visible water                |
| WET       | Visible freewater                        |
| SATURATED | Below the water table                    |

### MINOR CONSTITUENT QUANTITIES (BY WEIGHT)

|        |  |
|--------|--|
| TRACE  | Particles are present, but estimated to the less than 5% |
| SOME   | 5 to 15%   |
| WITH   | 15 to 30%  |
| .....Y | 30 to 50%  |

### SAMPLER SYMBOLS

- Modified California (3" O.D.) sampler
- California (2.5" O.D.) sampler
- S.P.T. - Split spoon sampler
- Shelby Tube
- Continuous Core
- Bag Samples
- Grab Samples
- NR No Recovery

### LINE TYPES

- Solid - Layer Break
- Dashed - Gradational or approximate layer break

### GROUND-WATER SYMBOLS

- Groundwater level during drilling
- Stabilized groundwater level

(S.P.T.) Number of blows of 140 lb. hammer falling 30" to drive a 2-inch O.D. (1-3/8 inch I.D.) sampler

\* Unconfined compressive strength in tons/sq. ft., asterisk on log means determined by pocket penetrometer

# LOG OF BORING EB-1

Oak Knoll  
Oak Knoll Naval Hospital  
Oakland, CA  
5750.1.100.01

DATE DRILLED: January 31, 2006  
HOLE DEPTH (FT): 44.5 ft.  
HOLE DIAMETER: 4.5 in.  
SURF ELEV (FT-MSL): 322 ft.

LOGGED / REVIEWED BY: P. Lam / D.B.  
DRILLING CONTRACTOR: Britton Exploration  
DRILLING METHOD: Solid Flight  
HAMMER TYPE: 140 lb Auto Trip

| Depth in Feet | Depth in Meters | Sample Type | DESCRIPTION   | Log Symbol | Water Level | Blow Count / Foot | Moisture Content (% dry weight) | Dry Unit Weight (pcf) | Unconfined Strength (tsf) *field approx |
|---------------|-----------------|-------------|---|------------|-------------|-------------------|---------------------------------|-----------------------|---|
| 0             | 0               |             | Asphalt   |            |             |                   |                                 |                       |   |
|               |                 |             | Aggregate base  |            |             |                   |                                 |                       |   |
|               |                 |             | SANDY SILT, dark yellow brown (FILL)  |            |             |                   |                                 |                       |   |
| 1             |                 |             | SILTY SAND (SM), dark brown, loose, moist, with clay and gravel, trace rootlets, #200=45%                           |            |             | 5                 | 20                              |                       |   |
| 5             |                 |             |   |            |             |                   |                                 |                       |   |
| 2             |                 |             | SILTY SAND (SM), dark grayish-brown, loose, wet, trace gravel, #200=35%   |            |             | 3                 | 21                              |                       |   |
| 10            |                 |             |   |            |             | 5                 |                                 |                       |   |
| 4             |                 |             | SILTY GRAVEL (GM), dark brown with reddish brown and yellowish brown sandstone fragments, medium dense, wet         |            |             | 28                | 12                              |                       |   |
| 15            |                 |             |   |            |             |                   |                                 |                       |   |
| 5             |                 |             | SILTY CLAY (CL), dark yellowish brown and dark gray brown, very stiff, moist, trace gravel                          |            |             | 72                | 14                              |                       |   |
| 20            |                 |             | SANDSTONE boulder, dark yellowish brown, moderately strong, closely fractured, massive, deeply weathered            |            |             |                   |                                 |                       |   |
| 7             |                 |             | GRAVELLY CLAY (CL), reddish brown, hard, moist, trace sand and gravel, 0.5 to 3 cm rhyolite and sandstone fragments |            |             | 54                | 15                              |                       |   |
| 25            |                 |             |   |            |             | 27                |                                 |                       |   |
| 8             |                 |             | GRAVELLY CLAY (CL), dark yellowish-brown, hard, moist, gravel is 0.5 to 4 cm diameter, fine to medium sand          |            |             | 72                | 19                              |                       |   |
| 30            |                 |             |   |            |             |                   |                                 |                       |   |



# LOG OF BORING EB-1

Oak Knoll  
Oak Knoll Naval Hospital  
Oakland, CA  
5750.1.100.01

DATE DRILLED: January 31, 2006  
HOLE DEPTH (FT): 44.5 ft.  
HOLE DIAMETER: 4.5 in.  
SURF ELEV (FT-MSL): 322 ft.

LOGGED / REVIEWED BY: P. Lam / D.B.  
DRILLING CONTRACTOR: Britton Exploration  
DRILLING METHOD: Solid Flight  
HAMMER TYPE: 140 lb Auto Trip

| Depth in Feet | Depth in Meters | Sample Type | DESCRIPTION   | Log Symbol | Water Level | Blow Count / Foot | Moisture Content (% dry weight) | Dry Unit Weight (pcf) | Unconfined Strength (tsf) *field approx |
|---------------|-----------------|-------------|---|------------|-------------|-------------------|---------------------------------|-----------------------|---|
| 30            |                 |             |   |            |             |                   |                                 |                       |   |
| 10            |                 |             | GRAVELLY CLAY (GL), dark yellowish-brown, hard, moist, with sand, gravel is 0.5 to 4 cm diameter  |            |             | 76                | 16                              |                       |   |
| 35            |                 |             |   |            |             |                   |                                 |                       |   |
| 11            |                 |             |   |            |             |                   |                                 |                       |   |
| 12            |                 |             | GRAVELLY CLAY, dark yellow brown, hard, moist, gravel is 0.5 to 5 cm in diameter, fine to medium sand   |            |             | 80-11"            | 14                              |                       |   |
| 40            |                 |             | Increased drilling resistance   |            |             |                   |                                 |                       |   |
| 13            |                 |             |   |            |             |                   |                                 |                       |   |
| 13            |                 |             | SANDSTONE, dark yellow brown, moderately strong to friable, closely fractured, massive, moderately weather, trace FeO staining and gray clay alteration |            |             | 68                |                                 |                       |   |
| 45            |                 |             | Bottom of boring at 44.5 feet bgs.<br>Groundwater encountered at 6 feet bgs.  |            |             |                   |                                 |                       |   |
| 14            |                 |             |   |            |             |                   |                                 |                       |   |
| 15            |                 |             |   |            |             |                   |                                 |                       |   |
| 50            |                 |             |   |            |             |                   |                                 |                       |   |
| 16            |                 |             |   |            |             |                   |                                 |                       |   |
| 55            |                 |             |   |            |             |                   |                                 |                       |   |
| 17            |                 |             |   |            |             |                   |                                 |                       |   |
| 18            |                 |             |   |            |             |                   |                                 |                       |   |
| 60            |                 |             |   |            |             |                   |                                 |                       |   |

# LOG OF BORING EB-2

Oak Knoll  
Oak Knoll Naval Hospital  
Oakland, CA  
5750.1.100.01

DATE DRILLED: January 31, 2006  
HOLE DEPTH (FT): 29.5 ft.  
HOLE DIAMETER: 4.5 in.  
SURF ELEV (FT-MSL): 302 ft.

LOGGED / REVIEWED BY: P. Lam / D.B.  
DRILLING CONTRACTOR: Britton Exploration  
DRILLING METHOD: Solid Flight  
HAMMER TYPE: 140 lb Auto Trip

| Depth in Feet | Depth in Meters | Sample Type | DESCRIPTION  | Log Symbol | Water Level | Blow Count / Foot | Moisture Content (% dry weight) | Dry Unit Weight (pcf) | Unconfined Strength (tsf) *field approx |
|---------------|-----------------|-------------|--|------------|-------------|-------------------|---------------------------------|-----------------------|---|
| 0             | 0               |             | Asphalt  |            |             |                   |                                 |                       |   |
|               |                 |             | Aggregate base   |            |             |                   |                                 |                       |   |
| 1             |                 |             | SILTY CLAY (CL), dark yellowish brown, very stiff, moist, with sand, trace rootlets  |            |             | 30                | 16                              |                       |   |
| 5             |                 |             | SILTY CLAY (CL), dark yellowish brown, very stiff, moist, trace fine sand, trace rootlets  |            |             | 18                | 21                              |                       |   |
| 2             |                 |             | SILTY CLAY (CL), dark yellowish brown, very stiff, moist, with sand, trace rootlets  |            |             | 14                | 23                              | 101                   |   |
| 10            | 3               |             | SILTY CLAY (CL), dark yellowish brown, very stiff, moist, trace sand and trace gravel up to 3 cm in diameter, trace rootlets   |            |             | 18                | 17                              |                       |   |
| 15            |                 |             |  |            |             |                   |                                 |                       |   |
| 5             |                 |             | SILTY GRAVEL (GM), dark yellow brown, dense, wet along gravel boundaries, trace iron-oxide weathering, gravel includes angular and round sandstone and rhyolite clasts |            |             | 47                | 12                              |                       |   |
| 20            | 6               |             | Increased drilling resistance  |            |             |                   |                                 |                       |   |
| 7             |                 |             | SANDSTONE, yellowish-brown, moderately strong to friable, very closely fractured, massive, moderately weathered, limonite along fractures                              |            |             | 82-10"            | 21                              |                       |   |
| 25            |                 |             |  |            |             |                   |                                 |                       |   |
| 8             |                 |             | SERPENTINITE, grayish-green, crushed, friable, massive, deeply weathered   |            |             | 48                | 16                              |                       |   |
| 30            | 9               |             | Bottom of boring at 29.5 feet bgs.<br>Groundwater encountered at 18 feet bgs.  |            |             |                   |                                 |                       |   |

# LOG OF BORING EB-3

Oak Knoll  
Oak Knoll Naval Hospital  
Oakland, CA  
5750.1.100.01

DATE DRILLED: January 31, 2006  
HOLE DEPTH (FT): 24 ft.  
HOLE DIAMETER: 4.5 in.  
SURF ELEV (FT-MSL): 345 ft.

LOGGED / REVIEWED BY: P. Lam / D.B.  
DRILLING CONTRACTOR: Britton Exploration  
DRILLING METHOD: Solid Flight  
HAMMER TYPE: 140 lb Auto Trip

| Depth in Feet | Depth in Meters | Sample Type | DESCRIPTION   | Log Symbol | Water Level | Blow Count / Foot | Moisture Content (% dry weight) | Dry Unit Weight (pcf) | Unconfined Strength (tsf) *field approx |
|---------------|-----------------|-------------|---|------------|-------------|-------------------|---------------------------------|-----------------------|---|
| 0             | 0               |             | Asphalt<br>Aggregate base   |            |             |                   |                                 |                       |   |
| 1             | 0.3             |             | SILTY CLAY (CL), dark yellowish-brown, medium stiff, moist, with gravel between 0.5 and 2 cm diameter                           |            |             | 6                 | 24                              |                       |   |
| 5             | 1.5             |             | SILTY CLAY (CL), dark yellow brown, very stiff, moist, trace rootlets, slight ped structure                                     |            |             | 19                | 37                              |                       |   |
| 10            | 3.0             |             | SILTY CLAY (CL), dark yellow brown, very stiff, moist, trace sand, trace caliche, trace rock fragments                          |            |             | 26                | 21                              |                       |   |
| 15            | 4.5             |             | CLAYEY SILT (ML), dark yellow brown, hard, moist, trace gravel and trace rock fragments   |            |             | 80                | 19                              |                       |   |
| 20            | 6.0             |             | SANDSTONE, dark yellow brown, crushed, friable, massive, deeply weathered, limonite on fracture faces                           |            |             | 70-11"            | 30                              |                       |   |
| 25            | 7.5             |             | VOLCANICS, dark yellow brown, crushed, friable, massive, very deeply weathered, spotted with limonite and limonite in fractures |            |             | 80-11"            | 27                              |                       |   |
| 24            | 7.3             |             | Bottom of boring at 24 feet bgs.<br>Groundwater encountered at 22 feet bgs.   |            |             |                   |                                 |                       |   |

# LOG OF BORING EB-4

Oak Knoll  
Oak Knoll Naval Hospital  
Oakland, CA  
5750.1.100.01

DATE DRILLED: January 31, 2006  
HOLE DEPTH (FT): 24.5 ft.  
HOLE DIAMETER: 4.5 in.  
SURF ELEV (FT-MSL): 379 ft.

LOGGED / REVIEWED BY: P. Lam / D.B.  
DRILLING CONTRACTOR: Britton Exploration  
DRILLING METHOD: Solid Flight  
HAMMER TYPE: 140 lb Auto Trip

| Depth in Feet | Depth in Meters | Sample Type | DESCRIPTION  | Log Symbol | Water Level | Blow Count / Foot | Moisture Content (% dry weight) | Dry Unit Weight (pcf) | Unconfined Strength (tsf) *field approx |
|---------------|-----------------|-------------|--|------------|-------------|-------------------|---------------------------------|-----------------------|---|
| 0             | 0               |             | Asphalt  |            |             |                   |                                 |                       |   |
|               |                 |             | Aggregate Base   |            |             |                   |                                 |                       |   |
|               |                 |             | SILTY CLAY (CL), dark yellow brown, very stiff, moist, with gravel between 0.5 to 2 cm diameter (FILL)                         |            |             | 19                | 20                              |                       |   |
| 5             |                 |             | SILTY CLAY (CL), very dark brown, stiff, moist, trace rootlets (Qc)  |            |             | 14                | 32                              |                       |   |
| 10            |                 |             | SILTY CLAY (CL), very dark grayish brown, moist, very stiff, trace gravel  |            |             | 22                | 26                              |                       |   |
| 15            |                 |             | SILTY CLAY (CL), dark yellow brown, very stiff, moist, trace red, very weathered rock fragments approximately 4 cm in diameter |            |             | 23                | 23                              |                       |   |
| 20            |                 |             | SILTY CLAY (CL), dark yellow brown, hard, moist, with rhyolite rock fragments, 2 to 4 cm in diameter                           |            |             | 36                | 17                              |                       |   |
|               |                 |             | Increased drilling resistance  |            |             |                   |                                 |                       |   |
| 25            |                 |             | SANDSTONE, very dark brown, crushed, friable, massive, very deep weathering, limonite in fractures                             |            |             | 100-9"            |                                 |                       |   |
| 24.5          |                 |             | Bottom of boring at 24.5 feet bgs.<br>Groundwater not encountered.   |            |             |                   |                                 |                       |   |

# LOG OF BORING EB-5

Oak Knoll  
Oak Knoll Naval Hospital  
Oakland, CA  
5750.1.100.01

DATE DRILLED: January 31, 2006  
HOLE DEPTH (FT): 24.5 ft.  
HOLE DIAMETER: 4.5 in.  
SURF ELEV (FT-MSL): 306 ft.

LOGGED / REVIEWED BY: P. Lam / D.B.  
DRILLING CONTRACTOR: Britton Exploration  
DRILLING METHOD: Solid Flight  
HAMMER TYPE: 140 lb Auto Trip

| Depth in Feet | Depth in Meters | Sample Type | DESCRIPTION   | Log Symbol | Water Level | Blow Count / Foot | Moisture Content (% dry weight) | Dry Unit Weight (pcf) | Unconfined Strength (tsf) *field approx |
|---------------|-----------------|-------------|---|------------|-------------|-------------------|---------------------------------|-----------------------|---|
| 0             | 0               |             | Grass   |            |             |                   |                                 |                       |   |
| 0             | 0               |             | No recovery   |            |             | 8                 |                                 |                       |   |
| 1             | 1               |             | No recovery   |            |             | 13                |                                 |                       |   |
| 5             | 5               |             | SILTY CLAY (CL), very dark grayish brown, wet, very stiff, trace sand   |            |             | 18                | 23                              |                       |   |
| 2             | 2               |             | SILTY CLAY (CL), mottled dark grayish brown and dark yellowish brown, very stiff, moist, trace fine sand      |            |             | 20                | 20                              |                       |   |
| 10            | 10              |             | SILTY CLAY (CL), dark yellowish brown, very stiff, moist, trace fine sand, trace rock fragments (keratophyre) |            |             | 28                | 27                              |                       |   |
| 15            | 15              |             | SILTY CLAY (CL), dark yellowish brown, very stiff, moist, trace sand and trace rock fragments                 |            |             | 26                | 20                              |                       |   |
| 20            | 20              |             | Increased drilling resistance.  |            |             |                   |                                 |                       |   |
| 7             | 7               |             | KERATOPHYRE, dark red-brown, crushed, friable, massive, very deeply weathered                                 |            |             | 50-6"             | 11                              |                       |   |
| 25            | 25              |             | Bottom of boring at 24.5 feet bgs.<br>Groundwater not encountered.  |            |             | 50-6"             |                                 |                       |   |
| 8             | 8               |             |   |            |             |                   |                                 |                       |   |
| 9             | 9               |             |   |            |             |                   |                                 |                       |   |
| 30            | 30              |             |   |            |             |                   |                                 |                       |   |

# LOG OF BORING EB-6

Oak Knoll  
Oak Knoll Naval Hospital  
Oakland, CA  
5750.1.100.01

DATE DRILLED: January 31, 2006  
HOLE DEPTH (FT): 21 ft.  
HOLE DIAMETER: 4.5 in.  
SURF ELEV (FT-MSL): 265 ft.

LOGGED / REVIEWED BY: P. Lam  
DRILLING CONTRACTOR: Britton Exploration  
DRILLING METHOD: Solid Flight  
HAMMER TYPE: 140 lb Auto Trip

| Depth in Feet | Depth in Meters | Sample Type | DESCRIPTION   | Log Symbol | Water Level | Blow Count / Foot | Moisture Content (% dry weight) | Dry Unit Weight (pcf) | Unconfined Strength (tsf) *field approx |
|---------------|-----------------|-------------|---|------------|-------------|-------------------|---------------------------------|-----------------------|---|
| 0             | 0               |             | Asphalt   |            |             |                   |                                 |                       |   |
|               |                 |             | aggregate base  |            |             |                   |                                 |                       |   |
|               |                 |             | SILTY CLAY (CL), pale mottled brown, very stiff, moist, trace sand  |            |             | 20                | 24                              |                       |   |
| 5             | 2               |             | SANDY CLAY (CL), light olive brown, hard, moist, with gravel and rock fragments between 0.5 and 3 cm diameter   |            |             | 37                | 27                              |                       |   |
|               |                 |             | SILTY CLAY (CL), mottled pale brown and very pale brown, very stiff, moist, trace coarse sand   |            |             | 26                | 18                              |                       |   |
| 15            | 5               |             | SILTY CLAY (CL), mottled pale brown and very pale brown, very stiff, moist, trace coarse sand, with weathered rhyolite rock fragments up to 2 cm diameter |            |             | 43                | 13                              |                       |   |
| 20            | 6               |             | SILTY CLAY (CL), mottled light gray and light yellowish-brown, hard, moist, some deeply weathered rhyolite rock fragments between 0.5 and 3 cm            |            |             | 54                | 12                              |                       |   |
|               |                 |             | Bottom of boring at 21 feet bgs.<br>Groundwater not encountered.  |            |             | 31                |                                 |                       |   |
| 30            | 9               |             |   |            |             |                   |                                 |                       |   |

# LOG OF BORING EB-7

Oak Knoll  
Oak Knoll Naval Hospital  
Oakland, CA  
5750.1.100.01

DATE DRILLED: January 31, 2006  
HOLE DEPTH (FT): 24.5 ft.  
HOLE DIAMETER: 4.5 in.  
SURF ELEV (FT-MSL): 281 ft.

LOGGED / REVIEWED BY: P. Lam / D.B.  
DRILLING CONTRACTOR: Britton Exploration  
DRILLING METHOD: Solid Flight  
HAMMER TYPE: 140 lb Auto Trip

| Depth in Feet | Depth in Meters | Sample Type | DESCRIPTION   | Log Symbol | Water Level | Blow Count / Foot | Moisture Content (% dry weight) | Dry Unit Weight (pcf) | Unconfined Strength (tsf) *field approx |
|---------------|-----------------|-------------|---|------------|-------------|-------------------|---------------------------------|-----------------------|---|
| 0             | 0               |             | Asphalt   |            |             |                   |                                 |                       |   |
|               |                 |             | Aggregate Base  |            |             |                   |                                 |                       |   |
| 1             |                 |             | SILTY CLAY (CL), dark reddish gray, very stiff, moist, with gravel 0.5 to 1.5 cm diameter, trace sand, trace charcoal                                 |            |             | 25                | 18                              |                       |   |
| 5             |                 |             | SILTY CLAY (CL), dark yellow brown, very stiff, moist, with rounded gravel 0.5 to 1 cm diameter, trace sand   |            |             | 23                | 19                              |                       |   |
| 10            |                 |             | SILTY CLAY (CL), dark yellow brown, very stiff, moist, trace gravel, trace charcoal   |            |             | 17                | 22                              |                       |   |
| 15            |                 |             | Increased drilling resistance   |            |             |                   |                                 |                       |   |
| 20            |                 |             | SANDY SILT (ML), mottled brown, w/ yellowish brown iron-oxide stains, hard, moist, with clay, trace gravel, trace charcoal                            |            |             | 34                | 17                              |                       |   |
| 25            |                 |             | SANDY GRAVEL (GM), dark yellow brown, very dense, wet, with silt, some fine to medium sand, gravel is 0.5 to 1 cm in diameter                         |            |             | 61-9"             | 11                              |                       |   |
| 30            |                 |             | CONGLOMERATE, yellow-brown, closely fractured, friable, rounded clasts and grains, moist, massive, deeply weathered, fine gravel, fine to coarse sand |            |             | 37                |                                 |                       |   |
| 24.5          |                 |             | Bottom of boring at 24.5 feet bgs.<br>Groundwater encountered at 13 feet bgs.   |            |             |                   |                                 |                       |   |

# LOG OF BORING EB-8

Oak Knoll  
Oak Knoll Naval Hospital  
Oakland, CA  
5750.1.100.01

DATE DRILLED: February 1, 2006  
HOLE DEPTH (FT): 49.5 ft.  
HOLE DIAMETER: 4.5 in.  
SURF ELEV (FT-MSL): 229 ft.

LOGGED / REVIEWED BY: P. Lam / D.B.  
DRILLING CONTRACTOR: Britton Exploration  
DRILLING METHOD: Solid Flight  
HAMMER TYPE: 140 lb Auto Trip

| Depth in Feet | Depth in Meters | Sample Type | DESCRIPTION  | Log Symbol | Water Level | Blow Count / Foot | Moisture Content (% dry weight) | Dry Unit Weight (pcf) | Unconfined Strength (tsf) *field approx |
|---------------|-----------------|-------------|--|------------|-------------|-------------------|---------------------------------|-----------------------|---|
| 0             | 0               |             |  |            |             |                   |                                 |                       |   |
| 1             | 0.3             |             | SILTY CLAY (CL), very dark brown, soft, wet, trace sand, trace gravel (LL=32, PI=14)   |            |             | 6                 | 21                              |                       |   |
| 5             | 1.5             |             | SILTY CLAY (CL), very dark brown, medium stiff, wet, some sand, trace gravel   |            |             | 8                 | 22                              |                       |   |
| 2             | 0.6             |             |  |            |             |                   |                                 |                       |   |
| 3             | 0.9             |             | SILTY SAND (SM), dark yellowish brown, loose, wet, with clay and with sand, trace gravel, trace iron-oxide weathering to yellow brown #200=47% |            |             | 7                 | 23                              |                       |   |
| 10            | 3.0             |             |  |            |             |                   |                                 |                       |   |
| 4             | 1.2             |             | SILTY SAND (SM), dark yellowish brown, loose, wet, with clay, with sand, trace gravel, trace charcoal, iron oxide weathering to yellow brown   |            |             | 9                 | 24                              |                       |   |
| 15            | 4.5             |             | Increased drilling resistance  |            |             |                   |                                 |                       |   |
| 5             | 1.5             |             |  |            |             |                   |                                 |                       |   |
| 6             | 1.8             |             | SILTY SAND (SM), dark grayish brown, very dense, moist, fine to medium sand  |            |             | 60                | 11                              |                       |   |
| 20            | 6.0             |             |  |            |             |                   |                                 |                       |   |
| 7             | 2.1             |             | SILTY CLAY (CL), dark grayish brown, hard, wet, with sand, trace gravel rock in liner  |            |             | 39                | 17                              |                       |   |
| 25            | 7.5             |             |  |            |             |                   |                                 |                       |   |
| 8             | 2.4             |             |  |            |             |                   |                                 |                       |   |
| 9             | 2.7             |             | SILTY CLAY (CL), mottled dark yellow brown and dark gray-brown, hard, wet, trace gravel sandstone gravel in shoe                               |            |             | 31                | 11                              |                       |   |
| 30            | 9.0             |             |  |            |             |                   |                                 |                       |   |



# LOG OF BORING EB-8

Oak Knoll  
Oak Knoll Naval Hospital  
Oakland, CA  
5750.1.100.01

DATE DRILLED: February 1, 2006  
HOLE DEPTH (FT): 49.5 ft.  
HOLE DIAMETER: 4.5 in.  
SURF ELEV (FT-MSL): 229 ft.

LOGGED / REVIEWED BY: P. Lam / D.B.  
DRILLING CONTRACTOR: Britton Exploration  
DRILLING METHOD: Solid Flight  
HAMMER TYPE: 140 lb Auto Trip

| Depth in Feet | Depth in Meters | Sample Type | DESCRIPTION  | Log Symbol | Water Level | Blow Count / Foot | Moisture Content (% dry weight) | Dry Unit Weight (pcf) | Unconfined Strength (tsf) *field approx |
|---------------|-----------------|-------------|--|------------|-------------|-------------------|---------------------------------|-----------------------|---|
| 30            |                 |             |  |            |             |                   |                                 |                       |   |
| 10            |                 |             | SANDY CLAY (CL), dark yellow brown, hard, moist, with rounded, gravel 0.5 to 1 cm in diameter weathered to reddish-brown |            |             | 45                |                                 |                       |   |
| 35            |                 |             | No recovery  |            |             | 45                |                                 |                       |   |
| 11            |                 |             |  |            |             |                   |                                 |                       |   |
| 12            |                 |             |  |            |             |                   |                                 |                       |   |
| 40            |                 |             |  |            |             |                   |                                 |                       |   |
| 13            |                 |             | KERATOPHYRE, dark red-brown with gray clay in lining<br>4 inches recovered   |            |             | 90                |                                 |                       |   |
| 45            |                 |             |  |            |             |                   |                                 |                       |   |
| 14            |                 |             |  |            |             |                   |                                 |                       |   |
| 15            |                 |             | GRAVELLY CLAY (CL), very dark brown clay, hard, moist, trace sand, gravel is 0.5 to 2 cm in diameter and angular         |            |             | 56                |                                 |                       |   |
| 50            |                 |             | Bottom of boring at 49.5 feet bgs.<br>Groundwater encountered at 6 feet bgs.   |            |             |                   |                                 |                       |   |
| 16            |                 |             |  |            |             |                   |                                 |                       |   |
| 55            |                 |             |  |            |             |                   |                                 |                       |   |
| 17            |                 |             |  |            |             |                   |                                 |                       |   |
| 18            |                 |             |  |            |             |                   |                                 |                       |   |
| 60            |                 |             |  |            |             |                   |                                 |                       |   |

# LOG OF BORING EB-9

Oak Knoll  
Oak Knoll Naval Hospital  
Oakland, CA  
5750.1.100.01

DATE DRILLED: February 1, 2006  
HOLE DEPTH (FT): 34 ft.  
HOLE DIAMETER: 4.5 in.  
SURF ELEV (FT-MSL): 266 ft.

LOGGED / REVIEWED BY: P. Lam / D.B.  
DRILLING CONTRACTOR: Britton Exploration  
DRILLING METHOD: Solid Flight  
HAMMER TYPE: 140 lb Auto Trip


| Depth in Feet | Depth in Meters | Sample Type | DESCRIPTION   | Log Symbol | Water Level | Blow Count / Foot | Moisture Content (% dry weight) | Dry Unit Weight (pcf) | Unconfined Strength (tsf) *field approx |
|---------------|-----------------|-------------|---|------------|-------------|-------------------|---------------------------------|-----------------------|---|
| 0             | 0               |             |   |            |             |                   |                                 |                       |   |
| 1             | 0.3             |             | SILTY CLAY (CL), yellowish brown, very stiff, moist, trace fine sand, trace gravel approximately 1 cm in diameter |            |             | 18                | 20                              |                       |   |
| 5             | 1.5             |             | SILTY CLAY (CL), yellow brown, very stiff, with sand, trace gravel up to 1 cm in diameter, trace organics         |            |             | 30                | 21                              |                       |   |
| 10            | 3.0             |             | SILTY CLAY (CL), dark yellow brown, hard, moist, with sand and with gravel up to 1 cm in diameter, trace organics |            |             | 42                | 17                              |                       |   |
| 15            | 4.5             |             | SILTY CLAY (CL), yellow brown, hard, moist, with sand and with gravel up to 1 cm in diameter                      |            | ▽           | 27                | 25                              |                       |   |
| 20            | 6.0             |             | SILTY CLAY (CL), yellow brown, very stiff, moist, trace sand, trace gravel up to 1 cm in diameter, trace organics |            |             | 26                | 27                              |                       |   |
| 25            | 7.5             |             | SILTY CLAY (CL), dark gray, very stiff, moist, trace organics and trace charcoal up to 2 cm in diameter           |            |             | 26                | 22                              |                       |   |
| 30            | 9.0             |             | SILTY CLAY (CL) with sand   |            |             | 90-10"            | 11                              |                       |   |
| 30            | 9.0             |             | CLAYEY SILT (ML), dark gray, hard, moist, trace gravel, rock in shoe, trace charcoal, trace organics              |            |             |                   |                                 |                       |   |

# LOG OF BORING EB-9

Oak Knoll  
Oak Knoll Naval Hospital  
Oakland, CA  
5750.1.100.01

DATE DRILLED: February 1, 2006  
HOLE DEPTH (FT): 34 ft.  
HOLE DIAMETER: 4.5 in.  
SURF ELEV (FT-MSL): 266 ft.

LOGGED / REVIEWED BY: P. Lam / D.B.  
DRILLING CONTRACTOR: Britton Exploration  
DRILLING METHOD: Solid Flight  
HAMMER TYPE: 140 lb Auto Trip

| Depth in Feet | Depth in Meters | Sample Type | DESCRIPTION   | Log Symbol  | Water Level | Blow Count / Foot | Moisture Content (% dry weight) | Dry Unit Weight (pcf) | Unconfined Strength (tsf) *field approx |
|---------------|-----------------|-------------|---|---|-------------|-------------------|---------------------------------|-----------------------|---|
| 30            |                 |             |   |   |             |                   |                                 |                       |   |
| 10            |                 |             | GRAVELLY CLAY (CL), dark gray, hard, moist, angular grave 0.5 to 3 cm in diameter, trace sand |  |             | 79-10"            | 10                              |                       |   |
| 35            |                 |             | Bottom of hole at 34.5 feet bgs.<br>Groundwater encountered at 13 feet bgs.                   |   |             |                   |                                 |                       |   |
| 11            |                 |             |   |   |             |                   |                                 |                       |   |
| 12            |                 |             |   |   |             |                   |                                 |                       |   |
| 40            |                 |             |   |   |             |                   |                                 |                       |   |
| 13            |                 |             |   |   |             |                   |                                 |                       |   |
| 45            |                 |             |   |   |             |                   |                                 |                       |   |
| 14            |                 |             |   |   |             |                   |                                 |                       |   |
| 50            |                 |             |   |   |             |                   |                                 |                       |   |
| 15            |                 |             |   |   |             |                   |                                 |                       |   |
| 55            |                 |             |   |   |             |                   |                                 |                       |   |
| 16            |                 |             |   |   |             |                   |                                 |                       |   |
| 17            |                 |             |   |   |             |                   |                                 |                       |   |
| 18            |                 |             |   |   |             |                   |                                 |                       |   |
| 60            |                 |             |   |   |             |                   |                                 |                       |   |

TEST PIT LOGS  
5750.1.100.01 Oak Knoll Naval Hospital  
2-7-06

| <u>Test Pit Number</u>                         | <u>Depth (feet)</u> | <u>Description</u>  |
|--|---------------------|---|
| TP-1   | 0 – 0.5             | SILTY CLAY (CL), Medium brown, soft, moist, high in organics (grass and tree roots)   |
|  | 0.5 – 5             | SILTY CLAY (CL), very dark brown, stiff to very stiff, moist, with coarse sand and small pebbles up to ¼”, roots 1/8” – ½ “                                       |
|  | 5 – 12              | SILTY CLAY (CL), very dark brown, stiff to very stiff, moist, with coarse sand and small pebbles up to ¼”   |
|  | 12– 13.5            | CLAYEY SILT (ML), Medium brown, very stiff, slightly moist, with coarse sand and small pebbles up to ¼”   |
|  | 13.5 – 15           | CLAYEY SILT (ML), Medium brown, hard, slightly moist, with coarse sand, some heavily weathered angular rhyolite rocks up to 4”, blocky                            |
| Total depth 15 ft., no groundwater encountered |                     |   |
| TP-2   | 0 – 1.5             | SANDY SILT (ML), dark brown, moist, soft  |
|  | 1.5 – 8             | KERATOPHYRE, red-brown, deeply weathered, compositional layering, no preferred orientations , coarse sand to 3”   |
|  | 8 – 9               | KERATOPHYRE, red-brown, moderately strong to strong, little to deep weathering  |
| Total depth 9 ft., No groundwater encountered  |                     |   |
| TP-3   | 0 – 0.3             | SANDY SILT (ML), dark brown, soft, moist, roots, organics   |
|  | 0.3 – 0.8           | CLAYEY SILT (ML), soft, slightly moist, with fine sand and some rhyolite rock fragments   |
|  | 0.8 – 5             | KERATOPHYRE, dark red-brown, moderately strong, crushed to closely fractured, deeply weathered, trace moderately weathered rhyolite rock fragments up to 6 inches |
| Total depth 5 ft., No groundwater encountered  |                     |   |
| TP-4   | 0 – 2.25            | SILTY CLAY (CL), dark brown, soft, moist to wet, some fine sand, roots, organics  |
|  | 2.25 – 2.75         | SILTY CLAY (CL), yellow-brown, soft to firm, moist  |
|  | 2.75 – 7            | KERATOPHYRE, dark red-brown, strong, crushed to closely fractured, deeply weathered   |
| Total depth 7 ft., No groundwater encountered  |                     |   |

TEST PIT LOGS  
5750.1.100.01 Oak Knoll Naval Hospital  
2-7-06

| <u>Test Pit Number</u>                          | <u>Depth (feet)</u> | <u>Description</u>   |
|---|---------------------|--|
| TP-5  | 0 – 1               | SILTY CLAY (CL), dark brown, soft, moist to wet, some fine sand, roots, organics   |
|   | 1 – 5.5             | KERATOPHYRE, dark red-brown, moderately strong to strong, crushed to closely fractured, deeply weathered   |
| Total depth 5.5 ft., No groundwater encountered |                     |  |
| TP-6  | 0 – 2               | SILTY CLAY (CL), yellow-brown, soft to firm, moist, trace sand, roots, organics  |
|   | 2 – 10              | KERATOPHYRE, dark red-brown, moderately strong, crushed to closely fractured, deeply weathered   |
| Total depth 10 ft., No groundwater encountered  |                     |  |
| TP-7  | 0 – 1.3             | SILTY CLAY (CL), dark gray-brown, soft, moist with coarse sand to ¼” rhyolite fragments, roots, organics   |
|   | 1.3 – 4             | KERATOPHYRE, red-brown to dark red-brown, moderately strong, crushed to closely fractured, deep weathering   |
| Total depth 4 ft., No groundwater encountered   |                     |  |
| TP-8  | 0 – 2.5             | SILTY CLAY (CL), dark gray-brown, soft, moist with coarse sand to ¼” rhyolite fragments, roots, organics   |
|   | 2.5 – 4.5           | SILTY CLAY (CL), dark gray-brown, moderately stiff to stiff, moist with coarse sand to ¼” rhyolite fragments   |
|   | 4.5 – 5.5           | SILTY CLAY (CL), light brown, stiff, moist, some rock fragments and trace sand   |
|   | 5.5 – 6             | Decomposed KERATOPHYRE, yellow-brown, very stiff, moist extremely weathered, trace deeply weathered moderately strong rhyolite rock fragments up to 2” |
|   | 6 – 7.5             | Decomposed KERATOPHYRE, yellow-brown, hard, moist, extremely weathered, with deeply weathered moderately strong rhyolite rock fragments.               |
| Total depth 7.5 ft., No groundwater encountered |                     |  |

TEST PIT LOGS  
5750.1.100.01 Oak Knoll Naval Hospital  
2-7-06

| <u>Test Pit Number</u>                              | <u>Depth (feet)</u> | <u>Description</u>  |
|---|---------------------|---|
| TP-9  | 0 – 0.6             | SILTY CLAY (CL), dark gray-brown, soft, moist with coarse sand to ¼” rhyolite fragments, roots, organics  |
|   | 0.6 – 2.6           | SILTY CLAY (CL), dark brown, moderately stiff, moist, large amount of tree roots  |
|   | 2.6 – 4             | SILTY CLAY (CL), dark brown, moderately stiff, moist, some rhyolite rock fragments, tree roots  |
|   | 4 – 6               | KERATOPHYRE, dark red-brown, moderately strong, closely to moderately fractured, deeply weathered   |
| Total depth 6 ft., No groundwater encountered       |                     |   |
| TP-10   | 0 – 1.5             | SILTY CLAY (CL), dark gray-brown, soft, moist with coarse sand to ¼” rhyolite fragments, roots, organics  |
|   | 1.5 – 2.5           | KERATOPHYRE, dark red-brown, moderately strong, closely to moderately fractured, deeply weathered   |
| Total depth 2.5 ft., No groundwater encountered     |                     |   |
| TP-11   | 0 – 0.3             | Organics, leaf litter, roots  |
|   | 0.3 – 2.5           | CLAYEY SILT (ML), dark yellow-brown, stiff, moist, some sand, organics, roots   |
|   | 2.5 – 3             | Decomposed KERATOPHYRE, light yellow-brown, hard, moist, some sand and some rhyolite rock fragments   |
|   | 3 – 3.5             | RYHOLITE, dark red-brown, moderately strong, closely fractured, deeply weathered  |
| Total depth 3.5 ft., No groundwater encountered     |                     |   |
| TP-12   | 0 – 1.3             | CLAYEY SILT (ML), dark brown, moderately stiff, moist, some sand, roots, organics   |
|   | 1.3 – 6.5           | SILTY CLAY (CL), very dark brown, stiff, moist  |
|   | 6.5 – 12<br>12 – 14 | Groundwater encountered at 2 ft., slow trickling flow<br>SILTY CLAY (CL), brown, stiff, moist, trace sand<br>SANDY SILT (ML), light yellow-brown, stiff, moist, some rhyolite rock fragments up to 1 inch |
| Total depth 14 ft., Groundwater encountered at 2 ft |                     |   |

TEST PIT LOGS  
5750.1.100.01 Oak Knoll Naval Hospital  
2-7-06

| <u>Test Pit Number</u>                          | <u>Depth (feet)</u> | <u>Description</u>  |
|---|---------------------|---|
| TP-13   | 0 – 1.5             | CLAYEY SILT (ML), dark brown, moderately stiff, moist, some sand, rhyolite rock fragments up to 2 inches, roots, organics   |
|   | 1.5 – 6             | KERATOPHYRE, dark red-brown, moderately strong, closely fractured, deeply weathered   |
| Total depth 6 ft., No groundwater encountered   |                     |   |
| TP-14   | 0 – 0.6             | SANDY SILT (ML), dark yellow-brown, stiff, moist, some rock fragments up to 2 inches, some clay, organics, roots            |
|   | 0.6 – 3             | CLAYEY SILT (ML), dark yellow-brown, stiff, moist, trace roots up to 2 inches, some rhyolite rock fragments                 |
|   | 3 – 6               | Decomposed KERATOPHYRE, light yellow-brown, hard, dry, with rhyolite rock fragments up to 2 inches in a coarse sandy matrix |
| Total depth 6 ft., No groundwater encountered   |                     |   |
| TP-15   | 0 – 2.25            | SILTY CLAY (CL), dark brown, moderately stiff, moist, organics, roots   |
|   | 2.25 – 4.25         | SILTY CLAY (CL), dark brown, stiff, moist, blocky texture   |
|   | 4.25 – 7            | SILTY CLAY (CL), dark red-brown, very stiff, moist, some very weathered rhyolite rock fragments up to ½ inch                |
|   | 7 – 9               | SILTY CLAY (CL), dark red-brown, hard, almost dry, some very weathered rock fragments, trace sand                           |
| Total depth 9 ft., No groundwater encountered   |                     |   |
| TP-16   | 0 – 0.7             | CLAYEY SILT (ML), dark brown, soft, moist, trace rhyolite rock fragments, some sand, roots, organics                        |
|   | 0.7 – 2.5           | KERATOPHYRE, dark red-brown, moderately strong, very closely to closely fractured, deeply weathered                         |
| Total depth 2.5 ft., No groundwater encountered |                     |   |
| TP-17   | 0 – 0.3             | CLAYEY SILT (ML), dark brown, soft, moist, trace rhyolite rock fragments, some sand, roots, organics                        |
|   | 0.3 – 5             | KERATOPHYRE, dark red-brown, moderately strong, very closely to closely fractured, deeply weathered                         |
| Total depth 5 ft., No groundwater encountered   |                     |   |

TEST PIT LOGS  
 5750.1.100.01 Oak Knoll Naval Hospital  
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| <u>Test Pit Number</u>                          | <u>Depth (feet)</u> | <u>Description</u>  |
|---|---------------------|---|
| TP-18   | 0 – 0.2             | CLAYEY SILT (ML), dark brown, soft, moist, trace rhyolite rock fragments, some sand, roots, organics                        |
|   | 0.2 – 2             | KERATOPHYRE, dark red-brown, moderately strong, closely fractured, deeply weathered   |
| Total depth 2 ft., No groundwater encountered   |                     |   |
| TP-19   | 0 – 1.8             | CLAYEY SILT (ML), dark brown, soft, moist, trace rhyolite rock fragments, some sand, roots, organics                        |
|   | 1.8 – 10            | KERATOPHYRE, dark red-brown, friable to moderately strong, very closely fractured, deeply weathered                         |
|   | 10-12               | KERATOPHYRE, dark red-brown, moderately strong to strong, closely fractured, deeply weathered                               |
| Total depth 12 ft., No groundwater encountered  |                     |   |
| TP-20   | 0 – 0.6             | CLAYEY SILT (ML), dark brown, soft, moist, trace rhyolite rock fragments, some sand, roots, organics                        |
|   | 0.6 – 2.5           | KERATOPHYRE, orange to dark red-brown, moderately strong, very closely fractured, deeply weathered                          |
|   | 2.5 – 3.5           | KERATOPHYRE, dark red-brown, moderately strong, closely fractured   |
| Total depth 3.5 ft., No groundwater encountered |                     |   |
| TP-21   | 0 – 1.5             | CLAYEY SILT (ML), dark brown mottled with red-brown, soft, moist, trace rhyolite rock fragments, some sand, roots, organics |
|   | 1.5 – 2.5           | CLAYEY SILT (ML), medium dark yellow-brown, stiff, moist, with coarse sand  |
|   | 2.5 – 8             | KERATOPHYRE, dark red-brown, moderately strong, closely fractured   |
| Total depth 8 ft., No groundwater encountered   |                     |   |



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| <u>Test Pit Number</u>                        | <u>Depth (feet)</u> | <u>Description</u>  |
|---|---------------------|---|
| TP-22   | 0 – 0.7             | CLAYEY SILT (ML), dark brown, soft, moist, trace rhyolite rock fragments, some sand, roots, organics  |
|   | 0.7 – 1.2           | SILTY CLAY (CL), gray, stiff, moist, blocky structure, some rhyolite rock fragments up to ½ inch, trace coarse sand, some rootlets                        |
|   | 1.2 – 2             | Decomposed KERATOPHYRE, orange-brown, very stiff, dry, some rhyolite rock fragments up to 2 inches  |
|   | 2 – 5               | KERATOPHYRE, dark red-brown, moderately strong, very closely to closely fractured, deeply weathered   |
|   | 5 – 7               | KERATOPHYRE, dark red-brown, strong, deeply weathered, closely to moderately fractured  |
| Total depth 7 ft., No groundwater encountered |                     |   |
| TP-23   | 0 – 0.5             | Fill, SILTY CLAY (CL), brown to dark brown, wet, soft, roots, organics  |
|   | 0.5 – 2             | Fill, SILTY CLAY (CL), gray, moderately stiff, moist, rhyolite rock fragments up to ½ inch, piece of asphalt  |
|   | 2 – 2.3             | Fill, SILTY CLAY (CL), gray, moderately stiff, moist, rhyolite rock fragments up to ½ inch, carbonate layers  |
|   | 2.3 – 8.5           | Fill, SILTY CLAY (CL), light brown, moist, stiff, rock fragments, asphalt, solid tar<br>Pocket of gray gravel at 8 ft.                                    |
|   | 8.5 – 12            | Groundwater encountered at 8.5 ft.<br>CLAYEY SILT (ML), light orange-brown, stiff to hard, almost dry, some sand, some dark red-brown spots of silty clay |
| Total depth 12 ft.                            |                     |   |
| TP-24   | 0 – 0.5             | CLAYEY SILT (ML), dark brown, soft, moist, roots, organics  |
|   | 0.5 – 6             | FILL, CLAYEY SILT (ML), dark brown, soft, moist, some white ceramic, bottles, paper, asphalt, other objects   |
| Total depth 6 ft., concrete pipe encountered  |                     |   |
| TP-25   | 0 – 0.5             | CLAYEY SILT (ML), dark brown, soft, moist, roots, organics  |
|   | 0.5 – 14            | FILL, CLAYEY SILT (ML), dark brown, moist, soft, some bottles, paper, asphalt, other objects<br>Total depth 14 ft.  |

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| <u>Test Pit Number</u>                        | <u>Depth (feet)</u> | <u>Description</u>  |
|---|---------------------|---|
| TP-26   | 0 – 3               | CLAYEY SILT (ML), dark brown, soft, moist, trace rhyolite rock fragments, some sand, roots, organics  |
|   | 3 – 6               | KERATOPHYRE and CHERT, light brown to white, very closely to closely fractured, moderately strong to very strong  |
| Total depth 6 ft., No groundwater encountered |                     |   |
| TP-27   | 0 – 4               | FILL, CLAYEY SILT (ML) AND SILTY CLAY (CL), brown to dark brown, moist, asphalt pieces, gravel, wood, roots, organics   |
|   | 4 – 6               | Groundwater encountered at 4 ft.<br>CLAYEY SILT, red-brown, stiff, moist  |
|   | 6 – 8               | CLAYEY SILT (ML), yellow-brown, stiff, moist, some sand, some rhyolite rock fragments up to 6 inches, few up to 1 ft., some fragments have a white rind and very strong |
| Total depth 8 ft.                             |                     |   |
| TP-28   | 0 – 8               | FILL, SILTY CLAY (CL), dark brown, stiff, moist, some pieces of asphalt, rock fragments, wood   |
|   | 8 – 9               | Shading for water line<br>SAND, gray, moist   |
| Total depth 9 ft., No groundwater encountered |                     |   |
| TP-29   | 0 – 2.5             | CLAYEY SILT (ML), dark brown, soft, moist, trace rhyolite rock fragments, some sand, roots, organics  |
|   | 2.5 – 6             | KERATOPHYRE, light brown to white, moderately strong to very strong, crushed to very closely fractured, trace amounts of gray-green friable rocky material              |
| Total depth 6 ft., No groundwater encountered |                     |   |

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| <u>Test Pit Number</u>                         | <u>Depth (feet)</u> | <u>Description</u>   |
|--|---------------------|--|
| TP-30  | 0 – 2.5             | CLAYEY SILT (ML), dark gray-brown, moist, soft, rhyolite rock fragments up to 1 inch, roots, organics  |
|  | 2.5 – 5             | CLAYEY SILT (ML), light red-brown mottled with yellow-brown, stiff, almost dry, trace rock fragments up to 2 inches  |
|  | 5 – 10              | SANDY SILT (ML), light gray, moderately stiff, almost dry  |
|  | 10 – 13             | CLAYEY SILT (ML), light red-brown mottled with yellow-brown, stiff to very stiff, almost dry, trace rock fragments up to 2 inches  |
| Total depth 13 ft., No groundwater encountered |                     |  |
| TP-31  | 0 – 2.5             | CLAYEY SILT (ML), dark gray-brown, moist, soft, rhyolite rock fragments up to 1 inch, roots, organics  |
|  | 2.5 – 4             | SILTY CLAY (CL), red, stiff, moist   |
|  | 4 – 7               | Groundwater encountered at 4 ft.<br>Decomposed KERATOPHYRE, light yellow-brown, very stiff to hard, dry, looks like sandstone, some rhyolite rock fragments up to 3 inches |
|  | 7 – 8               | Decomposed KERATOPHYRE, light yellow-brown, very hard, dry, looks like sandstone, some rhyolite rock fragments up to 6 inches  |
| Total depth 8 ft.                              |                     |  |
| TP-32  | 0 – 0.5             | CLAYEY SILT (ML), dark gray-brown, moist, soft, rhyolite rock fragments up to 1 inch   |
|  | 0.5 – 5             | CLAYEY SILT (ML), light red-brown, moist, some sand, trace rock fragments, roots, organics   |
|  | 5 – 10              | Decomposed KERATOPHYRE, SILTY SAND, light red-brown, hard, moist, rhyolite rock fragments up to 6 inches   |
|  | 10 – 11             | Decomposed KERATOPHYRE, SILTY SAND, light red-brown, very stiff, moist, rhyolite rock fragments up to 2 inches   |
|  | 11 – 12             | Decomposed KERATOPHYRE, SILTY SAND, light red-brown, hard, moist, rhyolite rock fragments up to 6 inches   |
|  | 12 – 14             | Decomposed KERATOPHYRE, light yellow-brown, very stiff to hard, dry, looks like sandstone, some rhyolite rock fragments up to 3 inches                                     |
| Total depth 14 ft., No groundwater encountered |                     |  |

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| <u>Test Pit Number</u>                         | <u>Depth (feet)</u> | <u>Description</u>   |
|--|---------------------|--|
| TP-33  | 0 – 0.5             | FILL, SILTY CLAY (CL), brown, soft to moderately stiff, wet, organics, roots   |
|  | 0.5 – 8             | FILL, SILTY CLAY (CL), brown, soft to moderately stiff, wet, pieces of asphalt and concrete  |
|  | 8 – 10              | FILL, SANDY SILT (ML), gray, stiff, slightly moist, with clay, trace asphalt, cobbles, glass   |
|  | 10 – 14             | COBBLES with clayey silt matrix, hard, slightly moist  |
| Total depth 14 ft., No groundwater encountered |                     |  |
| TP-34  | 0 – 1               | CLAYEY SILT (ML), dark brown-gray, moist, soft, rhyolite rock fragments up to 1 inch, roots, organics  |
|  | 1 – 2               | CLAYEY SILT (ML), gray-brown with spots of yellow-brown, moderately stiff to stiff, with rhyolite rock fragments up to 2 inches, trace roots             |
|  | 2 – 4               | SILTY CLAY (CL), red-brown, stiff, moist, some rhyolite rock fragments up to 2 inches, trace roots   |
|  | 4 – 7               | Decomposed RYHOLITE (silty coarse sand), yellow-brown mottled with red-brown, hard, friable, slightly moist, with rhyolite rock fragments up to 2 inches |
|  | 7 – 12              | Decomposed KERATOPHYRE, (silty coarse sand), red-brown, hard, friable, dry, with rhyolite rock fragments up to 6 inches                                  |
| Total depth 12 ft., No groundwater encountered |                     |  |
| TP-35  | 0 – 1               | FILL, CLAYEY SILT (ML), red-brown, moderately stiff, moist, roots, organics  |
|  | 1 – 3               | CLAYEY SILT (ML), dark brown-gray, moist to wet, soft, some rhyolite rock fragments up to 1 inch, some sand, roots, organics                             |
|  | 3 – 9.5             | Groundwater encountered at 3 ft.<br>SILTY CLAY (CL), red-brown, stiff, moist, with sand  |
|  | 9.5 – 11            | Decomposed KERATOPHYRE (silty sand), light red-brown, very hard, friable, dry, with rhyolite rock fragments up to 3 inches                               |
| Total depth 11 ft.                             |                     |  |

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| <u>Test Pit Number</u>                         | <u>Depth (feet)</u> | <u>Description</u>   |
|--|---------------------|--|
| TP-36  | 0 – 1.3             | FILL, CLAYEY SILT (ML), red-brown, moderately stiff, moist, roots, organics  |
|  | 1.3 – 11            | Decomposed KERATOPHYRE (silty sand), light red-brown, very hard, friable, dry, with rhyolite rock fragments up to 3 inches                       |
| Total depth 11 ft., No groundwater encountered |                     |  |
| TP-37  | 0 – 0.5             | SILTY SAND (SM), red-brown, soft, wet, some coarse sand, roots, organics   |
|  | 0.5 – 1             | CLAYEY SILT (ML), red-brown, moderately stiff, moist, some coarse sand, trace rhyolite rock fragments  |
|  | 1 – 2.5             | KERATOPHYRE, dark red-brown, moderately strong, closely fractured, deeply weathered, trace amounts of green friable rock                         |
|  | 2.5 – 6             | RHYOLITE, white mottled with red-brown and very light brown, moderately strong to very strong, crushed, trace amounts of gray-green friable rock |
| Total depth 6 ft., No groundwater encountered  |                     |  |
| TP-38  | 0 – 0.2             | CLAYEY SILT (ML), red-brown, soft, moist, with coarse sand and rock fragments, roots, organics   |
|  | 0.2 – 3             | KERATOPHYRE, dark red-brown, moderately strong, closely fractured, deeply weathered  |
| Total depth 3 ft., No groundwater encountered  |                     |  |
| TP-39  | 0 – 2.5             | SILTY SAND (SM), dark brown, soft, moist, with clay and some rock fragments, roots, organics   |
|  | 2.5 – 3             | KERATOPHYRE, white, orange, dark red-brown, very strong, crushed to closely fractured, trace gray-green friable rock                             |
| Total depth 3 ft., No groundwater encountered  |                     |  |

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| <u>Test Pit Number</u>                          | <u>Depth (feet)</u> | <u>Description</u>   |
|---|---------------------|--|
| TP-40   | 0 – 0.7             | SILTY SAND (SM), dark brown, soft, moist, with clay and some rock fragments, roots, organics                         |
|   | 0.7 – 3.5           | CLAYEY SILT (CL), brown, stiff, wet, some sand, with rhyolite rock fragments   |
|   | 3.5 – 6             | SILTY SAND (SM), brown, very stiff, moist, trace rhyolite rock fragments   |
|   | 6 – 6.5             | KERATOPHYRE, white, orange, dark red-brown, very strong, crushed to closely fractured, trace gray-green friable rock |
| Total depth 6.5 ft., No groundwater encountered |                     |  |
| TP-41   | 0 – 1               | SILTY SAND (SM), dark brown, soft, moist, with clay and some rock fragments, roots, organics                         |
|   | 1 – 2               | KERATOPHYRE, dark red-brown, moderately strong, closely to very closely fractured                                    |
|   | 2 – 5.5             | KERATOPHYRE, white, orange, dark red-brown, very strong, crushed to closely fractured, trace gray-green friable rock |
| Total depth 5.5 ft., No groundwater encountered |                     |  |
| TP-42   | 0 – 1.75            | SILTY SAND (SM), dark brown, soft, moist, with clay and some rock fragments, roots, organics                         |
|   | 1.75 – 3.75         | SILTY SAND (SM), dark brown, medium stiff to stiff, moist, with clay and some rock fragments, roots                  |
|   | 3.75 – 5            | CLAYEY SILT (CL), brown, stiff, moist, with sand, trace rhyolite rock fragments                                      |
|   | 5 – 6               | SILTY SAND (SM), dark red-brown, very stiff, moist, rhyolite rock fragments  |
| Total depth 6 ft., No groundwater encountered   |                     |  |
| TP-43   | 0 – 0.25            | Asphalt  |
|   | 0.25 – 1            | Aggregate base   |
|   | 1 – 8               | FILL, SILTY SAND (SM), brown, stiff, moist with rhyolite rock fragments  |
|   | 8 – 9               | SILTY SAND, dark red-brown, very stiff, moist, rhyolite rock fragments   |
| Total depth 9 ft., No groundwater encountered   |                     |  |

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| <u>Test Pit Number</u>                         | <u>Depth (feet)</u> | <u>Description</u>  |
|--|---------------------|---|
| TP-44  | 0 – 0.7             | CLAYEY SILT (ML), dark gray, soft, moist, some clay, organics, roots  |
|  | 0.7 – 5             | KERATOPHYRE, dark red-brown, moderately strong, very closely fractured  |
| Total depth 5 ft., No groundwater encountered  |                     |   |
| TP-45  | 0 – 2               | FILL, SILTY SAND (SM), brown, stiff, wet, with rhyolite rock fragments  |
|  | 2 – 2.5             | SILTY SAND (SM), orange to dark red-brown, stiff, wet   |
|  | 2.5 – 4             | KERATOPHYRE, brown, moderately strong to friable, very closely fractured                                      |
| Total depth 4 ft., No groundwater encountered  |                     |   |
| TP-46  | 0 – 2.5             | FILL, SILTY CLAY (CL), dark brown to orange-brown, soft, wet, roots, organics                                 |
|  | 2.5 – 6             | CLAYEY SILT (ML), gray-brown, moderately stiff to very stiff, moist   |
|  | 6 – 9               | Decomposed KERATOPHYRE (silty sand), dark red-brown, to red-brown, stiff, moist, with rhyolite rock fragments |
| Total depth 9 ft., No groundwater encountered  |                     |   |
| TP-47  | 0 – 0.5             | SAND, gray, soft, wet, roots, organics  |
|  | 0.5 – 4             | FILL, SILTY SAND (ML), red-brown, wet, roots, organics  |
|  | 4 – 7               | SANDY SILT (ML), brown, very stiff, dry, rhyolite rock fragments up to 4 inches, old grass, roots, organics   |
|  | 7 – 10              | Decomposed KERATOPHYRE (silty sand), dark red-brown, hard, dry, rhyolite rock fragments up to 6 inches        |
| Total depth 10 ft., No groundwater encountered |                     |   |
| TP-48  | 0 – 1               | SANDY SILT (ML), light brown, soft, moist, rhyolite rock fragments  |
|  | 1 – 7               | KERATOPHYRE, dark red-brown, moderately strong to strong, very closely fractured, deeply weathered            |
| Total depth 7 ft., No groundwater encountered  |                     |   |

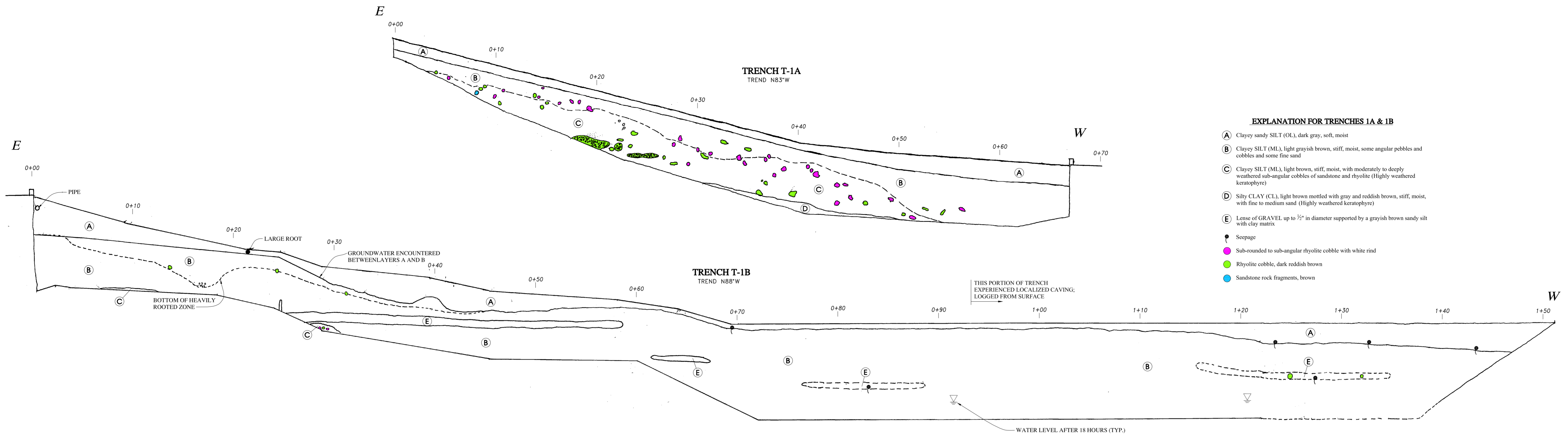
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| <u>Test Pit Number</u>                          | <u>Depth (feet)</u> | <u>Description</u>  |
|---|---------------------|---|
| TP-49   | 0 – 4.5             | FILL, KERATOPHYRE, dark red-brown, moderately strong, crushed to very closely fractured, loose, very little fines   |
|   | 4.5 – 7             | KERATOPHYRE, dark red-brown, strong, closely fractured, deeply weathered, veins of very deeply weathered rhyolite along fractures   |
| Total depth 7 ft., No groundwater encountered   |                     |   |
| TP-50   | 0 – 2.5             | FILL, SILTY CLAY, dark yellow-brown, wet, soft  |
|   | 2.5 – 4             | SILTY CLAY (CL), dark brown, medium stiff, moist, trace sand  |
|   | 4 – 7               | KERATOPHYRE, orange to dark red-brown, moderately strong, very closely to closely fractured   |
| Total depth 7 ft., No groundwater encountered   |                     |   |
| TP-51   | 0 – 3               | Fill, layers of asphalt, aggregate base and clayey silt   |
|   | 3 – 9               | CLAYEY SILT (ML), red-brown, very stiff to hard, moist, some rhyolite gravel  |
| Total depth 9 ft., No groundwater encountered   |                     |   |
| TP-52   | 0 – 2               | CLAYEY SILT (ML), dark grayish-brown, soft to firm, moist to wet, with sand, roots  |
|   | 2 – 6.5             | Decomposed KERATOPHYRE, looks like sandstone, yellow-brown, friable to moderately strong, closely fractured, faces of fracture surfaces are dark red-brown like deeply weathered rhyolite |
|   | 6.5 – 8             | KERATOPHYRE, dark red-brown, moderately hard, closely fractured, deeply weathered   |
| Total depth 8 ft., No groundwater encountered   |                     |   |
| TP-53   | 0 – 1.3             | Asphalt and aggregate base  |
|   | 1.3 – 5             | KERATOPHYRE, orange to dark red-brown, moderately strong, closely fractured, deeply weathered, some sandy decomposed rhyolite   |
|   | 5 – 5.5             | KERATOPHYRE, dark red-brown, strong to very strong, closely fractured, moderately weathered   |
| Total depth 5.5 ft., No groundwater encountered |                     |   |

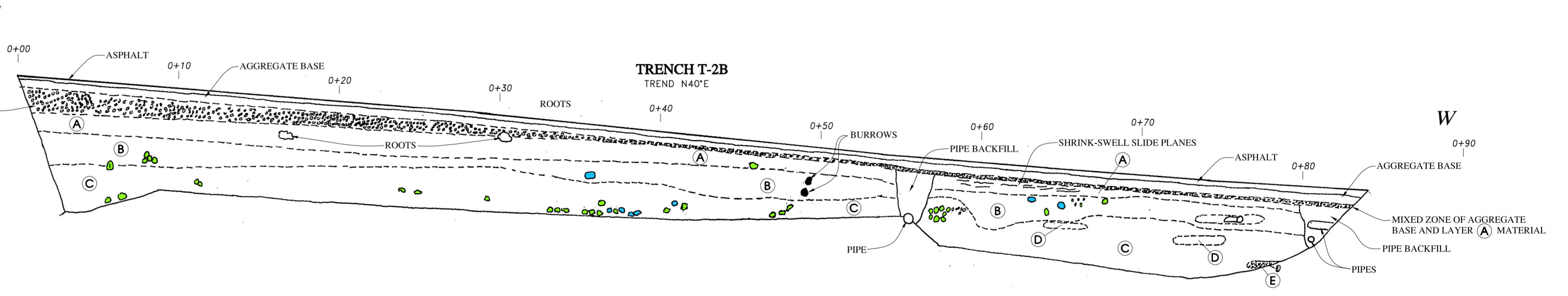
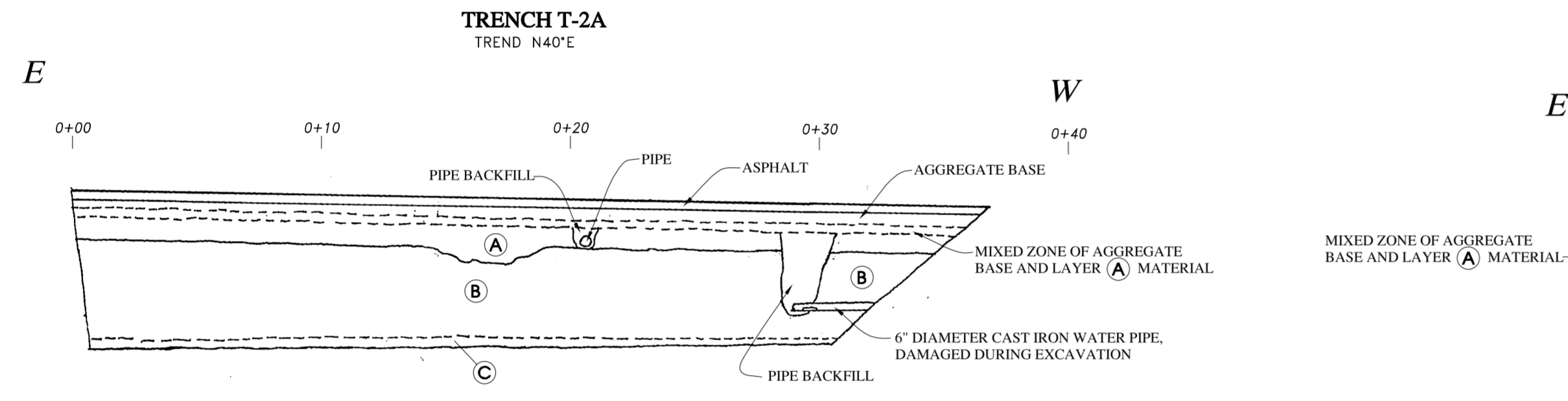


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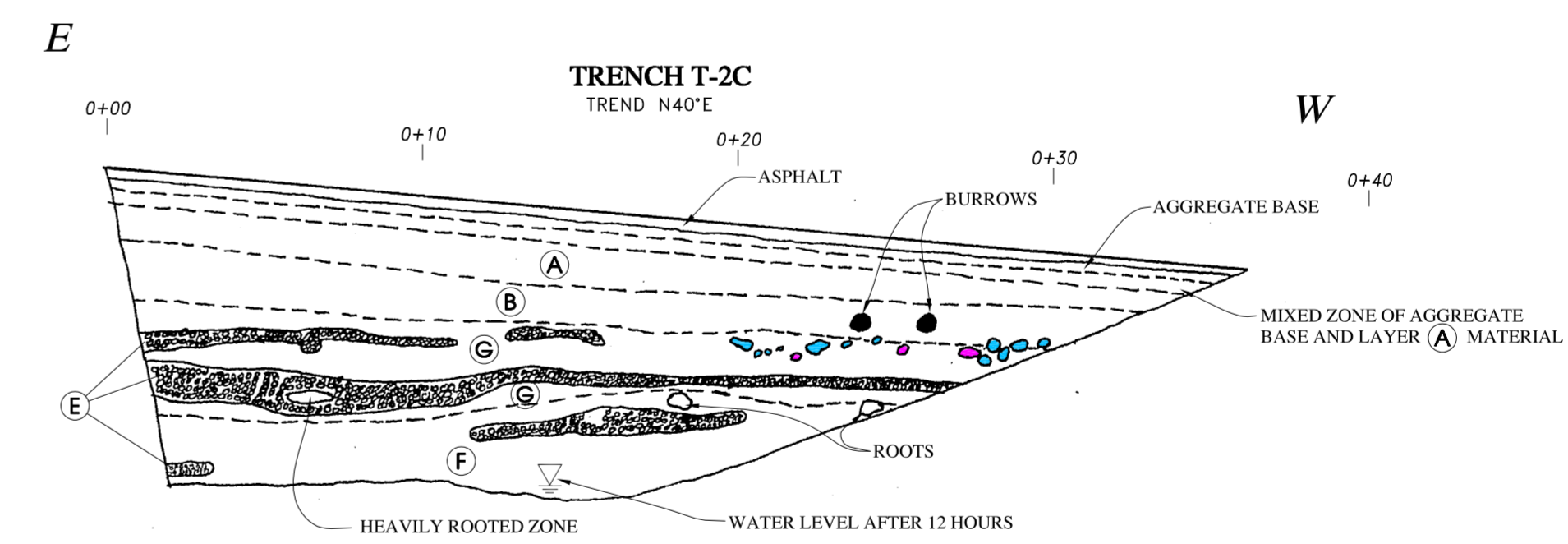
| <u>Test Pit Number</u>                        | <u>Depth (feet)</u> | <u>Description</u>  |
|---|---------------------|---|
| TP-54   | 0 – 0.5             | CLAYEY SILT (ML), dark brown, soft, moist, trace sand, organics   |
|   | 0.5 – 4             | KERATOPHYRE, dark red-brown to orange, strong, closely fractured, deeply weathered, some sandy decomposed rhyolite  |
| Total depth 4 ft., No groundwater encountered |                     |   |
| TP-55   | 0 – 1               | SILTY CLAY (CL), very dark gray, soft, wet, organics  |
|   | 1 – 7               | SILTY CLAY (CL), dark gray-brown, mottled with brown, wet, medium stiff   |
|   | 7 – 12              | Groundwater encountered at 7 ft.<br>CLAYEY SILT (ML), medium red-brown mottled with gray, stiff, moist, some sand, trace rhyolite rock fragments up to 6 inches |
|   | 12 – 14             | Ground water encountered at 12 ft.<br>SANDY SILT (ML), light red-brown, very stiff, almost dry, with rhyolite rock fragments up to 8 inches                     |
| Total depth 14 ft.                            |                     |   |
| TP-56   | 0 – 0.6             | Asphalt and aggregate base  |
|   | 0.6 – 4             | FILL, mix of clayey silt, light red-brown and dark brown, stiff, moist  |
|   | 4 – 7               | CLAYEY SILT (ML), dark brown, moist, stiff, organics, some rock fragments up to 1 inch  |
|   | 7 – 12              | SILTY SAND (SM), light red-brown, hard, dry, some rock fragments up to 4 inches   |
| Total depth 12ft.                             |                     |   |



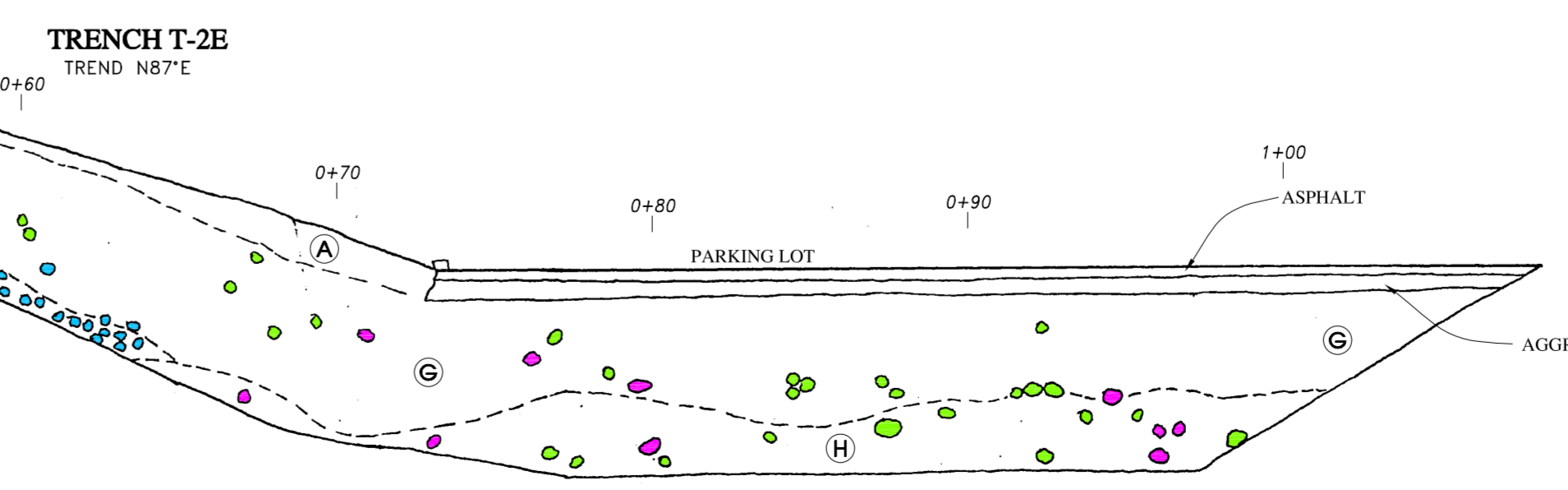
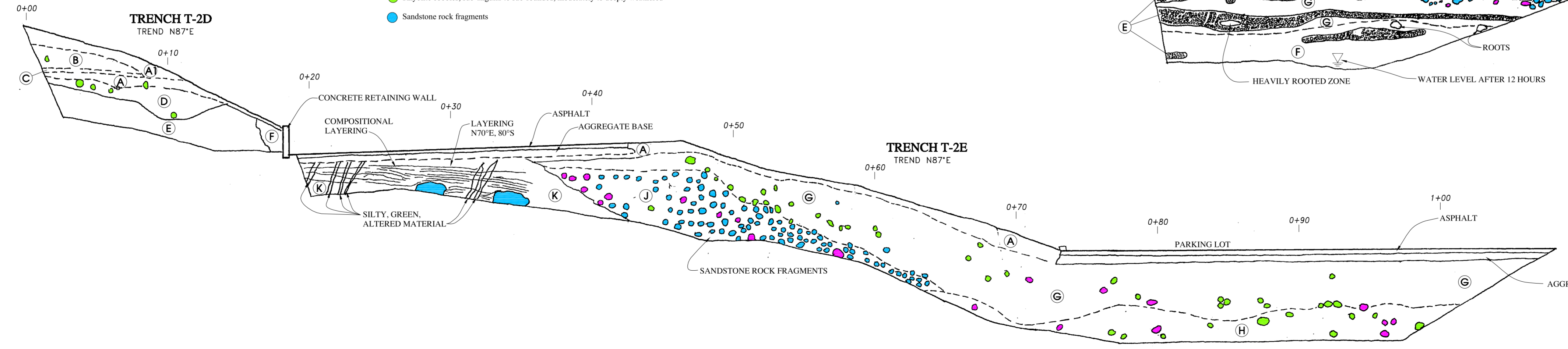
- EXPLANATION FOR TRENCHES 1A & 1B**
- (A) Clayey sandy SILT (OL), dark gray, soft, moist
  - (B) Clayey SILT (ML), light grayish brown, stiff, moist, some angular pebbles and cobbles and some fine sand
  - (C) Clayey SILT (ML), light brown, stiff, moist, with moderately to deeply weathered sub-angular cobbles of sandstone and rhyolite (Highly weathered keratophyre)
  - (D) Silty CLAY (CL), light brown mottled with gray and reddish brown, stiff, moist, with fine to medium sand (Highly weathered keratophyre)
  - (E) Lense of GRAVEL up to 1/2" in diameter supported by a grayish brown sandy silt with clay matrix
- Seepage
  - Sub-rounded to sub-angular rhyolite cobble with white rind
  - Rhyolite cobble, dark reddish brown
  - Sandstone rock fragments, brown



- EXPLANATION FOR TRENCHES 2A, 2B & 2C**
- (A) Silty CLAY (CL), very dark gray, stiff, moist, some fine sand, aggregate base mixed into upper half of layer and some sub-horizontal shrink swell slicks
  - (B) Clayey SILT (ML), reddish brown, stiff, moist, some fine sand and deeply weathered rhyolite rock fragments
  - (C) Silty CLAY (CL), light brown mottled with reddish brown, some fine sand and deeply weathered rhyolite rock fragments
  - (D) GRAVEL (SP), gray, hard, moist, angular rhyolite, 1/2 inch to 2 inch, matrix supported
  - (E) GRAVEL (SW), gray, hard, moist, sub-rounded, clast supported, well-graded
  - (F) Clayey SILT, brown, hard, moist, with rounded gravel and coarse sand, interbedded with gray-green, mottled with red-brown clayey silt
  - (G) Clayey SILT, brown, with rounded gravel and coarse sand
  - Rhyolite cobbles, sub-angular to sub-rounded, moderately to deeply weathered
  - Sandstone rock fragments



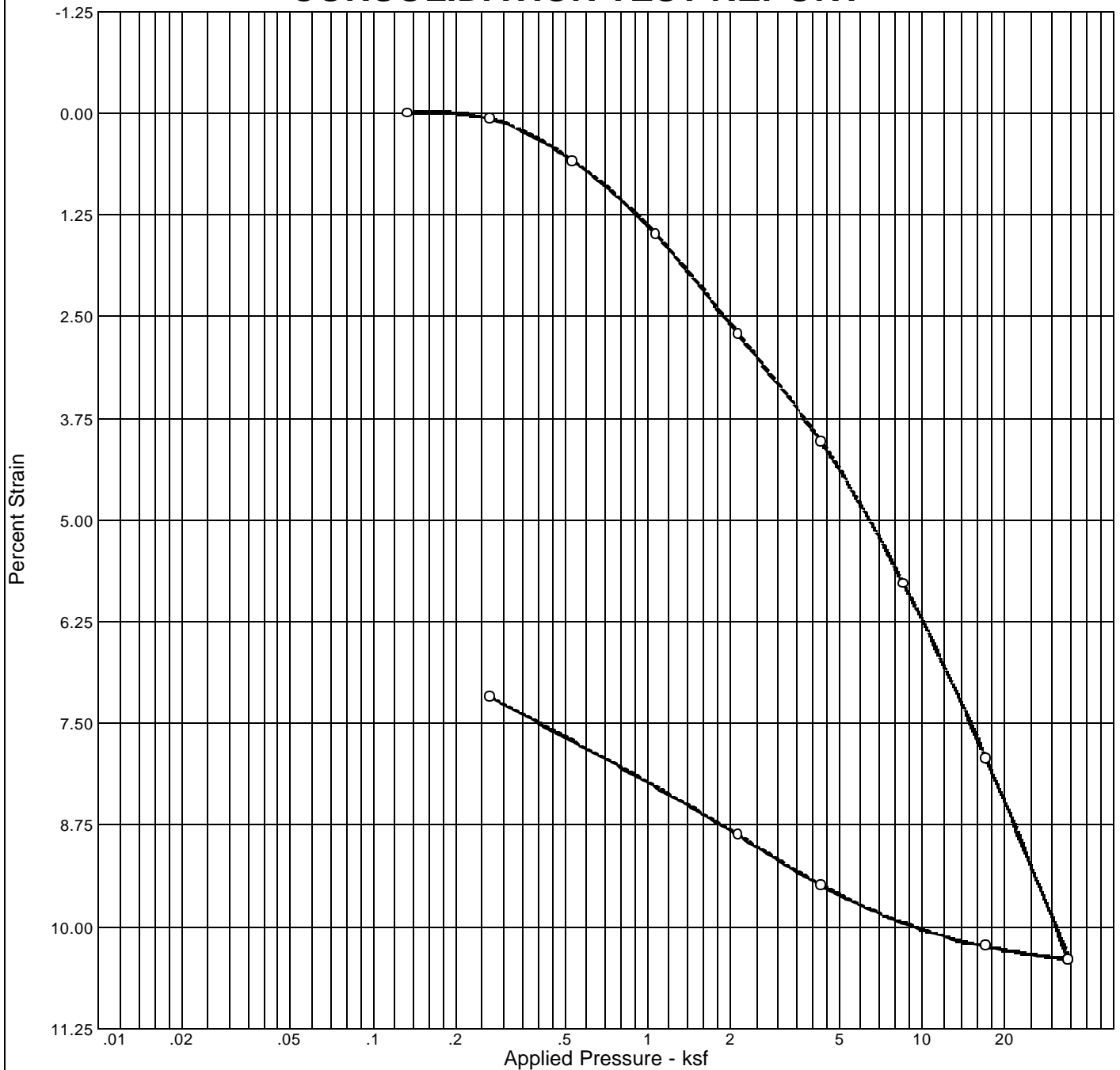
- EXPLANATION FOR TRENCHES 2D & 2E**
- (A) Clayey SILT (OL), very dark brown, soft, wet, some coarse sand, many roots up to 3"
  - (A) Fill, clayey SILT (OL), very dark brown, soft, wet, some coarse sand, many roots up to 1/2 inch
  - (B) Fill, clayey SILT (OL), dark brown, moist, stiff, mixed with silty CLAY (CL), light yellowish brown, moist, stiff
  - (C) Fill, silty SAND (SM), dark brown
  - (D) Clayey SILT (ML), dark brown, stiff, moist, some coarse sand and gravel, trace angular, deeply weathered rhyolite fragments up to 3"
  - (E) KERATOPHYRE, dark reddish brown, moderately strong to strong, closely to very closely fractured, deeply weathered
  - (F) Gravel fill behind retaining wall
  - (G) Silty CLAY (CL), dark red-brown, very stiff, moist, some angular 1/4 inch to 1 inch Rhyolite gravel and some coarse sand, blocky
  - (H) Sandy CLAY (CL), dark reddish brown, very stiff, slightly moist, some fine to coarse sand, some rhyolite gravel and trace angular sandstone rock fragments up to 3 inches
  - (J) Clayey SILT (ML), dark reddish brown, very stiff, moist, trace coarse sand and deeply weathered rhyolite gravel, with angular sandstone rock fragments up to 6 inches
  - (K) KERATOPHYRE, dark reddish-brown, strong to very strong, closely fractured, compositional layering, deeply weathered, veins of green silt and a few large concretions
  - Rhyolite with white rind
  - Rhyolite cobble
  - Sandstone rock fragments



**APPENDIX B**

Laboratory Test Results

# CONSOLIDATION TEST REPORT



|            |          |                    |    |    |         |      |        |                       |
|------------|----------|--------------------|----|----|---------|------|--------|-----------------------|
| Natural    |          | Dry Dens.<br>(pcf) | LL | PI | Sp. Gr. | USCS | AASHTO | Initial Void<br>Ratio |
| Saturation | Moisture |                    |    |    |         |      |        |                       |
| 99.2 %     | 22.5 %   | 103.9              |    |    | 2.67    | CL   |        | 0.604                 |

### MATERIAL DESCRIPTION

Dark yellowish brown silty Clay

|  |                           |                 |
|--|---------------------------|-----------------|
| <b>Project No.</b> 5750.1.100.01       | <b>Client:</b>            | <b>Remarks:</b> |
| <b>Project:</b> Oak Knoll- Oakland, CA |                           |                 |
| <b>Source:</b>                         | <b>Sample No.:</b> EB-2@9 |                 |



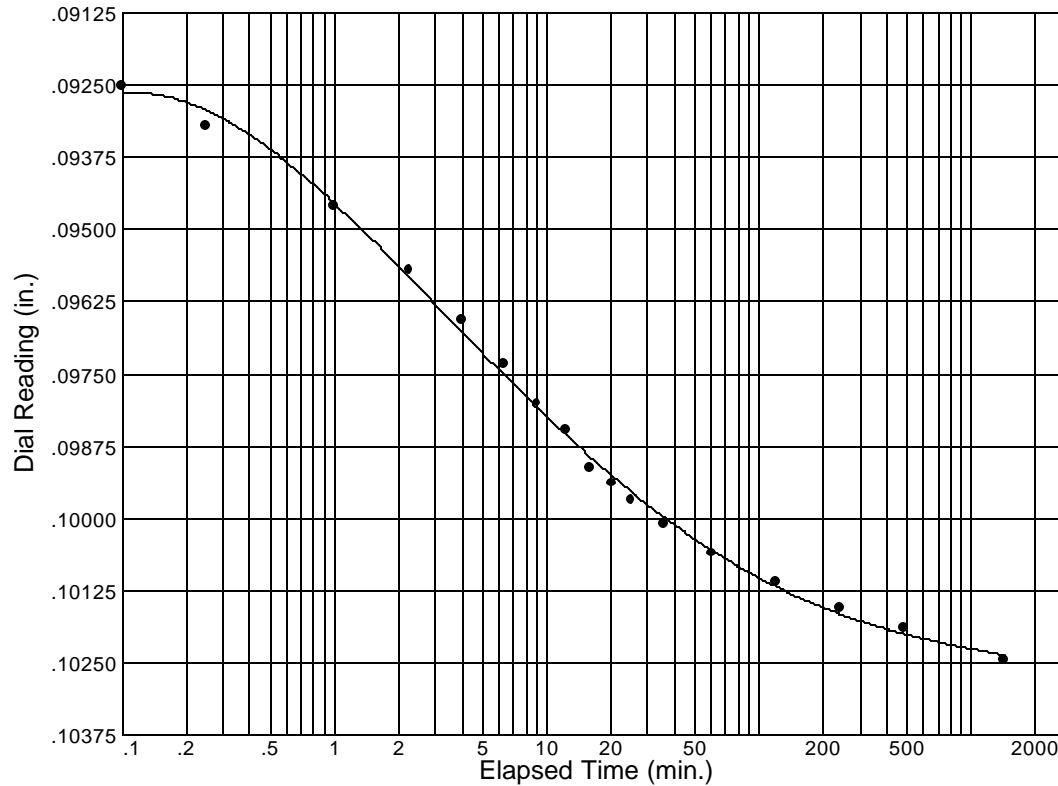
**Plate**

# Dial Reading vs. Time

Project No.: 5750.1.100.01  
 Project: Oak Knoll- Oakland, CA

Source:

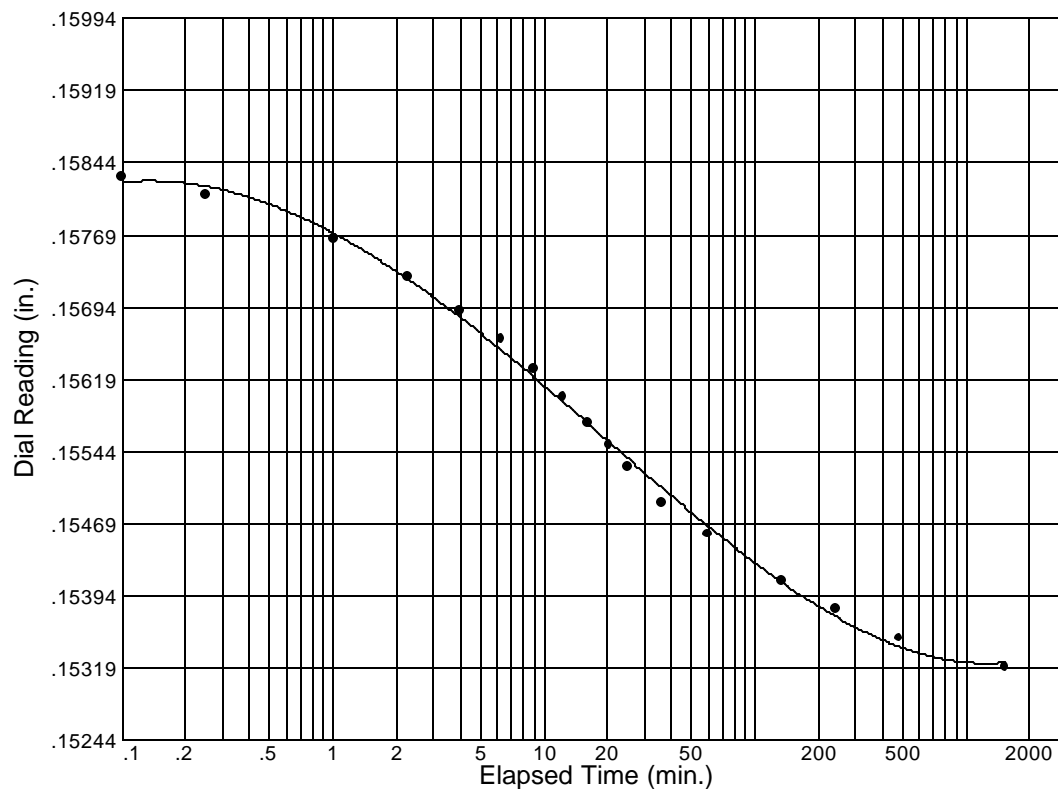
Sample No.: EB-2@9



Load No.= 6  
 Load= 4.29 ksf  
 $D_0 = 0.09193$   
 $D_{50} = 0.09624$   
 $D_{100} = 0.10055$   
 $T_{50} = 2.90 \text{ min.}$

$C_v @ T_{50}$   
 0.18 ft.<sup>2</sup>/day

$C_\alpha = 0.001$



Load No.= 12  
 Load= 2.14 ksf  
 $D_0 = 0.15960$   
 $D_{50} = 0.15669$   
 $D_{100} = 0.15378$   
 $T_{50} = 4.85 \text{ min.}$

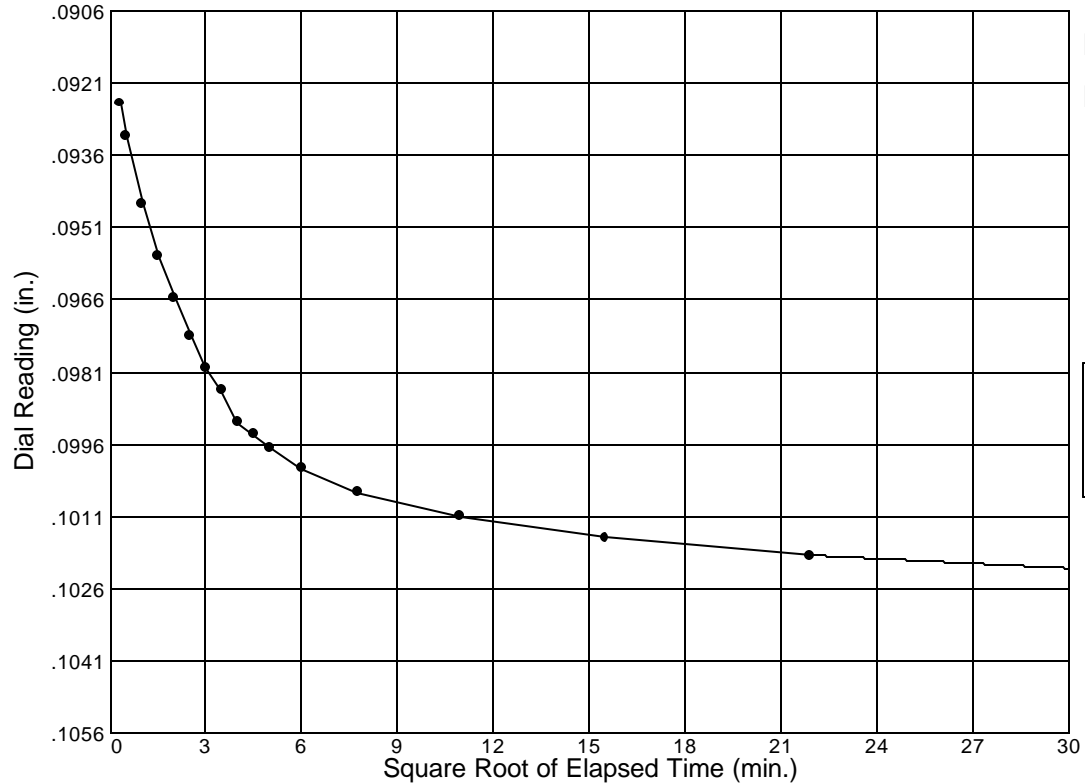
$C_v @ T_{50}$   
 0.09 ft.<sup>2</sup>/day

# Dial Reading vs. Time

Project No.: 5750.1.100.01  
 Project: Oak Knoll- Oakland, CA

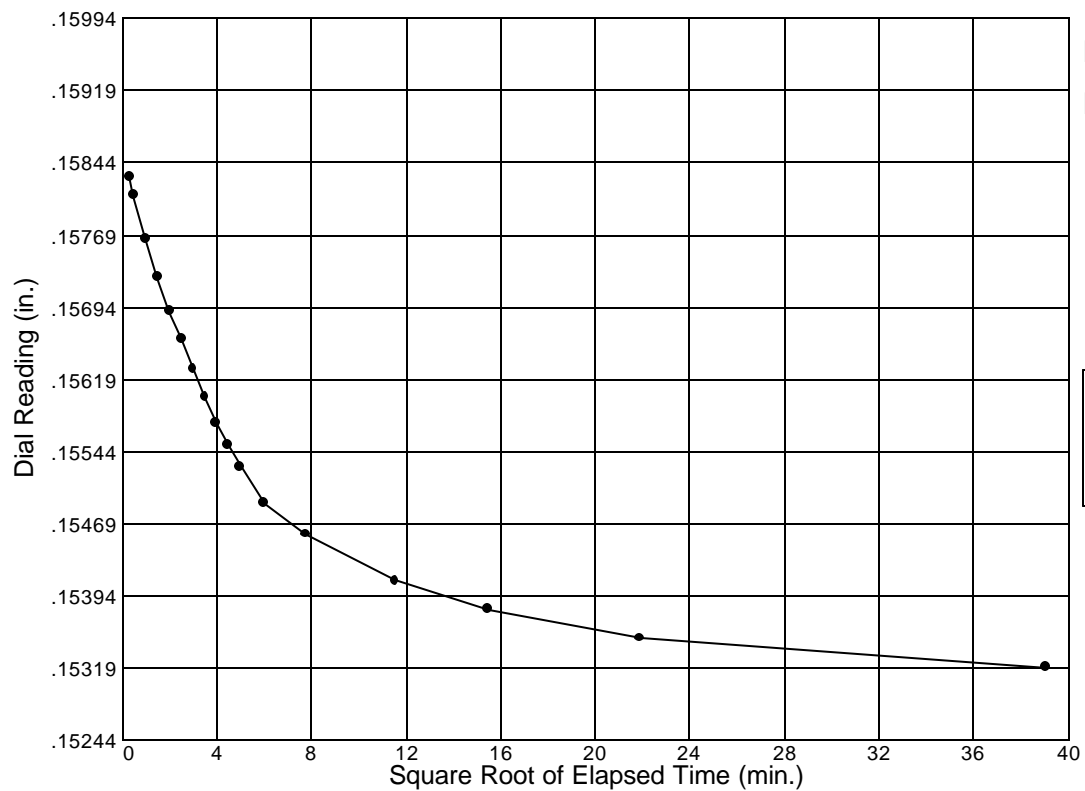
Source:

Sample No.: EB-2@9



Load No.= 6  
 Load= 4.29 ksf  
 $D_0 = 0.09212$   
 $D_{90} = 0.09815$   
 $D_{100} = 0.09882$   
 $T_{90} = 9.98 \text{ min.}$

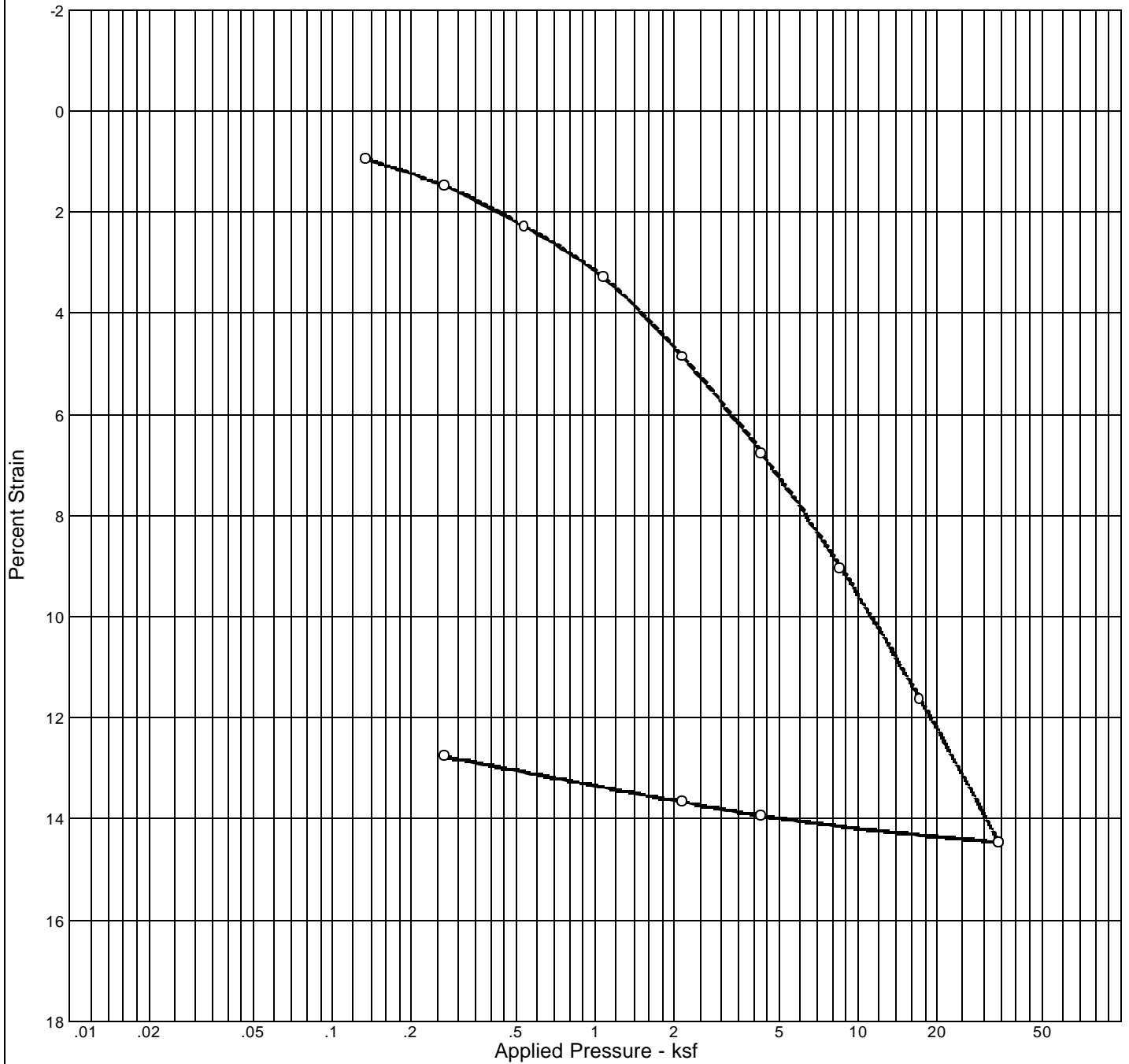
$C_v @ T_{90}$   
 0.22 ft.<sup>2</sup>/day



Load No.= 12  
 Load= 2.14 ksf  
 $D_0 = 0.15824$   
 $D_{90} = 0.15480$   
 $D_{100} = 0.15441$   
 $T_{90} = 43.15 \text{ min.}$

$C_v @ T_{90}$   
 0.04 ft.<sup>2</sup>/day

# CONSOLIDATION TEST REPORT



|            |          |                    |    |    |         |      |        |                       |
|------------|----------|--------------------|----|----|---------|------|--------|-----------------------|
| Natural    |          | Dry Dens.<br>(pcf) | LL | PI | Sp. Gr. | USCS | AASHTO | Initial Void<br>Ratio |
| Saturation | Moisture |                    |    |    |         |      |        |                       |
| 99.9 %     | 23.0 %   | 111.7              |    |    | 3.04    | SC   |        | 0.700                 |

### MATERIAL DESCRIPTION

Dark yellowish brown clayey SAND

|  |                            |                 |
|--|----------------------------|-----------------|
| <b>Project No.</b> 5750.1.100.01       | <b>Client:</b>             | <b>Remarks:</b> |
| <b>Project:</b> Oak Knoll- Oakland, CA |                            |                 |
| <b>Source:</b>                         | <b>Sample No.:</b> EB-8@9' |                 |



GEOTECHNICAL AND  
 ENVIRONMENTAL CONSULTANTS  
 MATERIALS TESTING

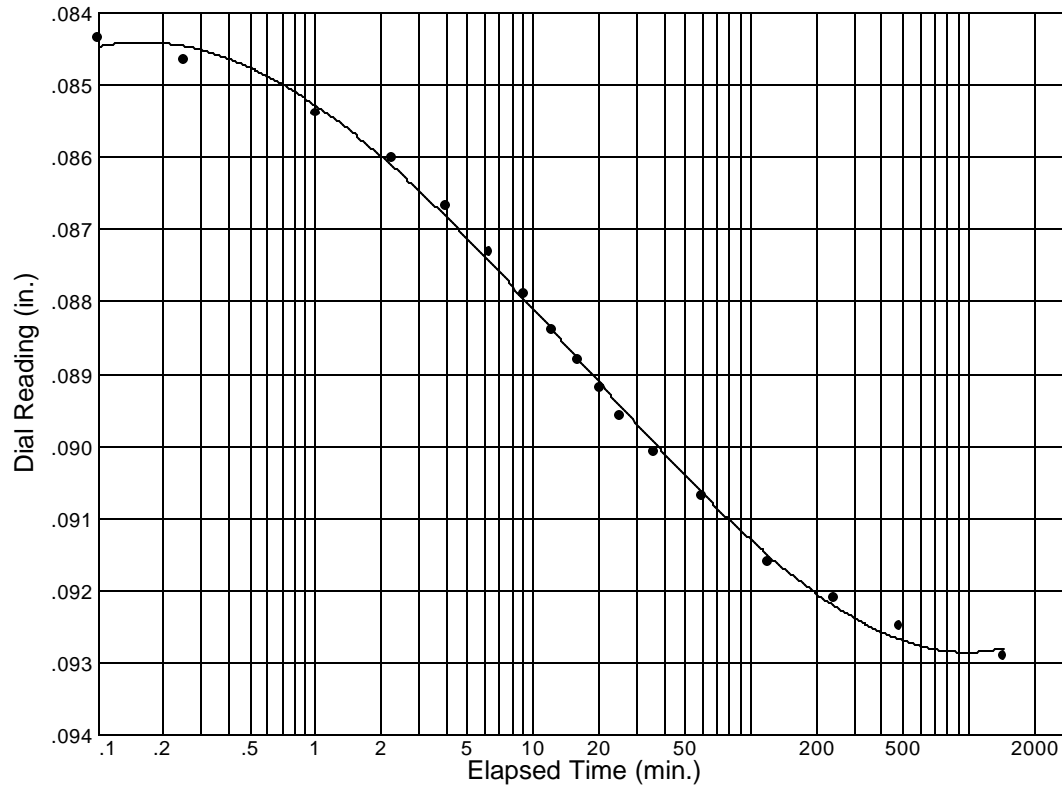
**Plate**

# Dial Reading vs. Time

Project No.: 5750.1.100.01  
 Project: Oak Knoll- Oakland, CA

Source:

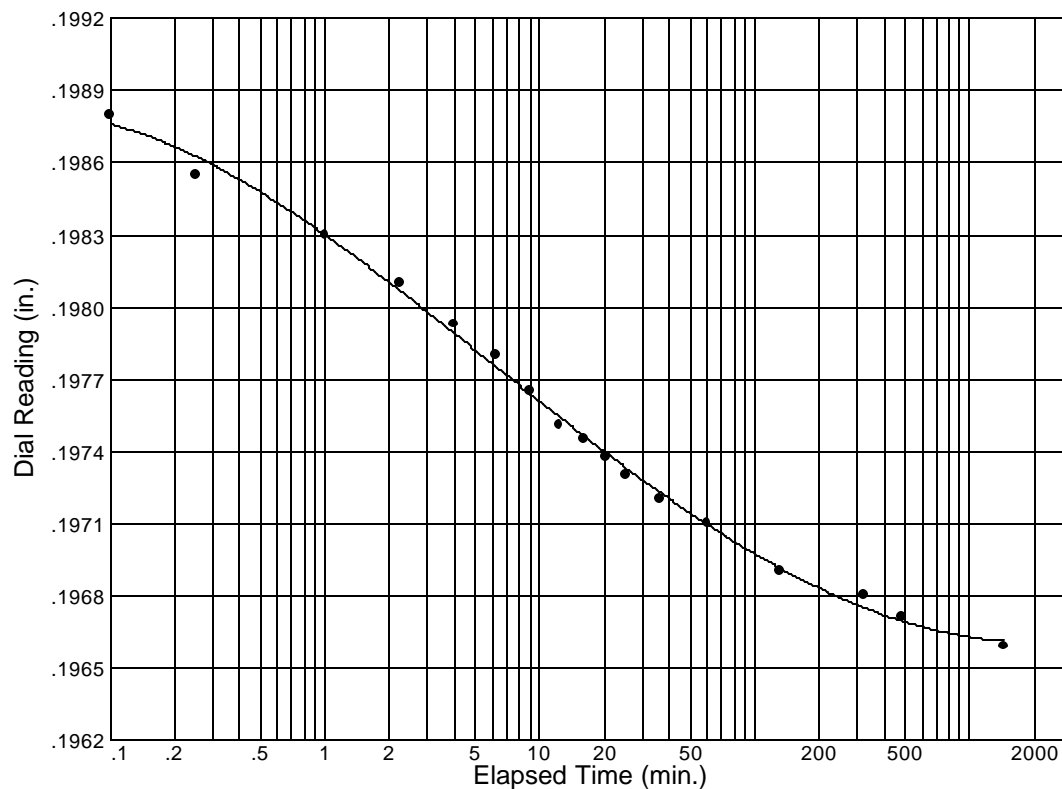
Sample No.: EB-8@9'



Load No.= 4  
 Load= 1.07 ksf  
 $D_0 = 0.08361$   
 $D_{50} = 0.08785$   
 $D_{100} = 0.09208$   
 $T_{50} = 8.38 \text{ min.}$

$C_v @ T_{50}$   
 0.06 ft.<sup>2</sup>/day

$C_\alpha = 0.001$



Load No.= 11  
 Load= 2.14 ksf  
 $D_0 = 0.19899$   
 $D_{50} = 0.19793$   
 $D_{100} = 0.19688$   
 $T_{50} = 3.47 \text{ min.}$

$C_v @ T_{50}$   
 0.11 ft.<sup>2</sup>/day

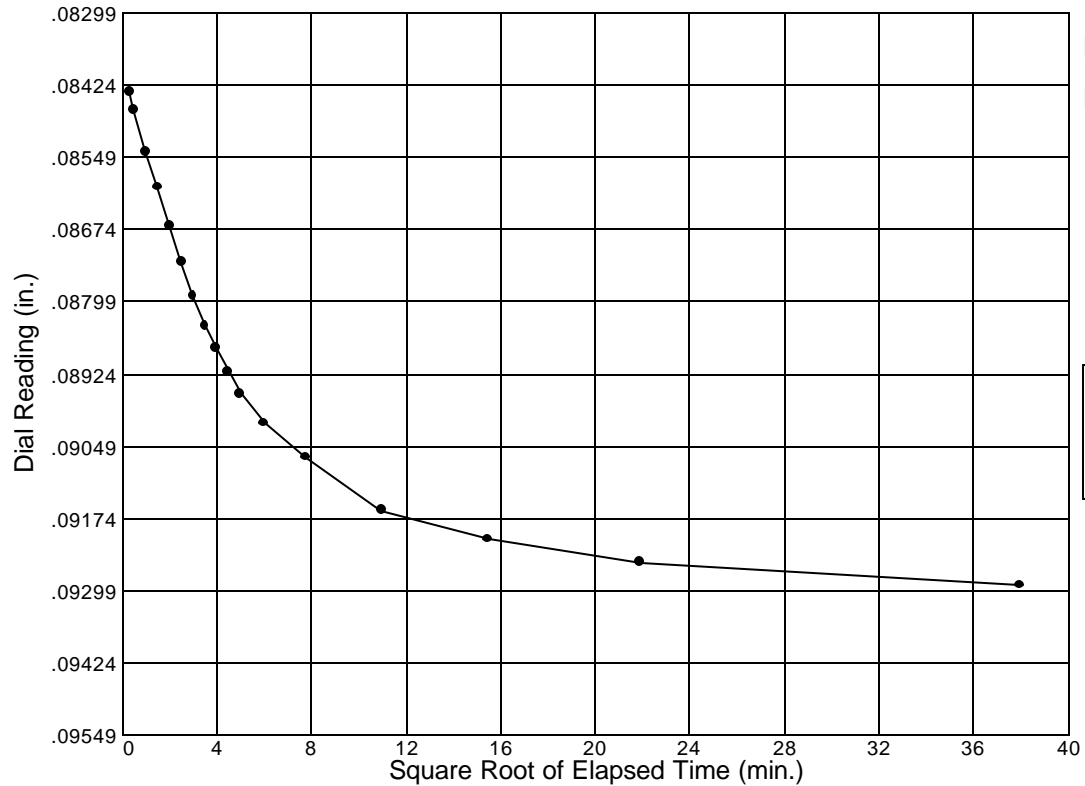


# Dial Reading vs. Time

Project No.: 5750.1.100.01  
 Project: Oak Knoll- Oakland, CA

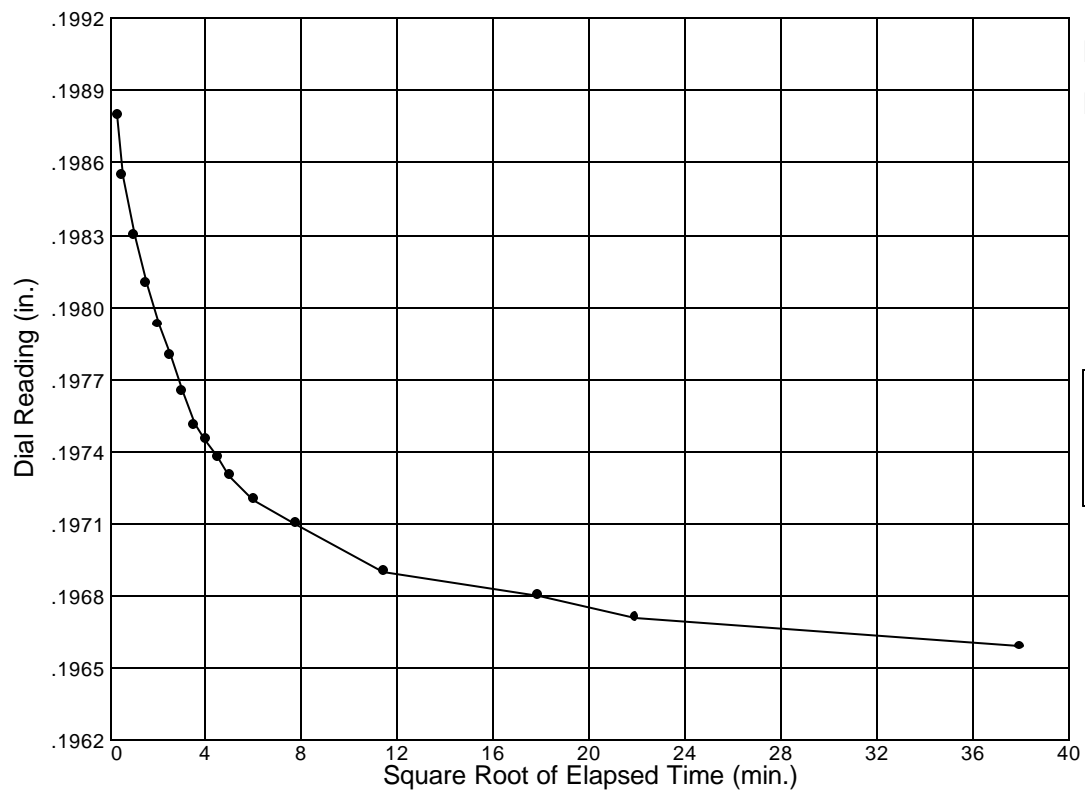
Source:

Sample No.: EB-8@9'



Load No.= 4  
 Load= 1.07 ksf  
 $D_0 = 0.08425$   
 $D_{90} = 0.09002$   
 $D_{100} = 0.09066$   
 $T_{90} = 34.37 \text{ min.}$

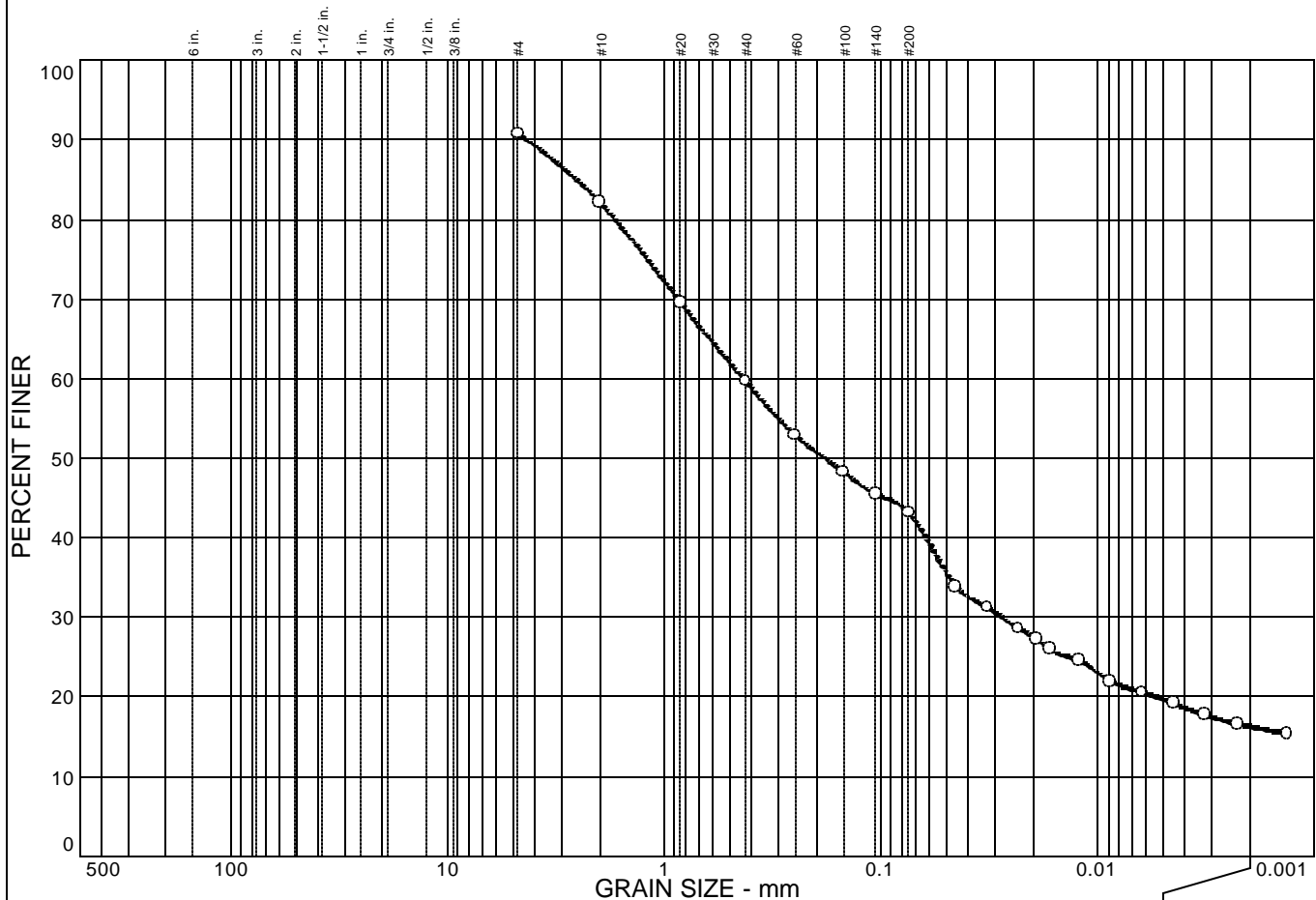
$C_v @ T_{90}$   
 0.06 ft.<sup>2</sup>/day



Load No.= 11  
 Load= 2.14 ksf  
 $D_0 = 0.19875$   
 $D_{90} = 0.19745$   
 $D_{100} = 0.19731$   
 $T_{90} = 15.76 \text{ min.}$

$C_v @ T_{90}$   
 0.10 ft.<sup>2</sup>/day

# Particle Size Distribution Report



|           |          |        |        |        |
|-----------|----------|--------|--------|--------|
| % COBBLES | % GRAVEL | % SAND | % SILT | % CLAY |
|           |          | 47.6   | 26.9   | 16.3   |

| SIEVE SIZE | PERCENT FINER | SPEC.* PERCENT | PASS? (X=NO) |
|------------|---------------|----------------|--------------|
| #4         | 90.8          |                |              |
| #10        | 82.2          |                |              |
| #20        | 69.6          |                |              |
| #40        | 59.7          |                |              |
| #60        | 52.9          |                |              |
| #100       | 48.3          |                |              |
| #140       | 45.5          |                |              |
| #200       | 43.2          |                |              |

**Soil Description**

Dark yellowish brown silty SAND

**Atterberg Limits**

PL=                      LL=                      PI=

**Coefficients**

D<sub>85</sub>= 2.55              D<sub>60</sub>= 0.434              D<sub>50</sub>= 0.183  
D<sub>30</sub>= 0.0278          D<sub>15</sub>=                      D<sub>10</sub>=  
C<sub>u</sub>=                      C<sub>c</sub>=

**Classification**

USCS= SM                      AASHTO=

**Remarks**

\* (no specification provided)

**Sample No.:** EB-1, 4  
**Location:**

**Source of Sample:**

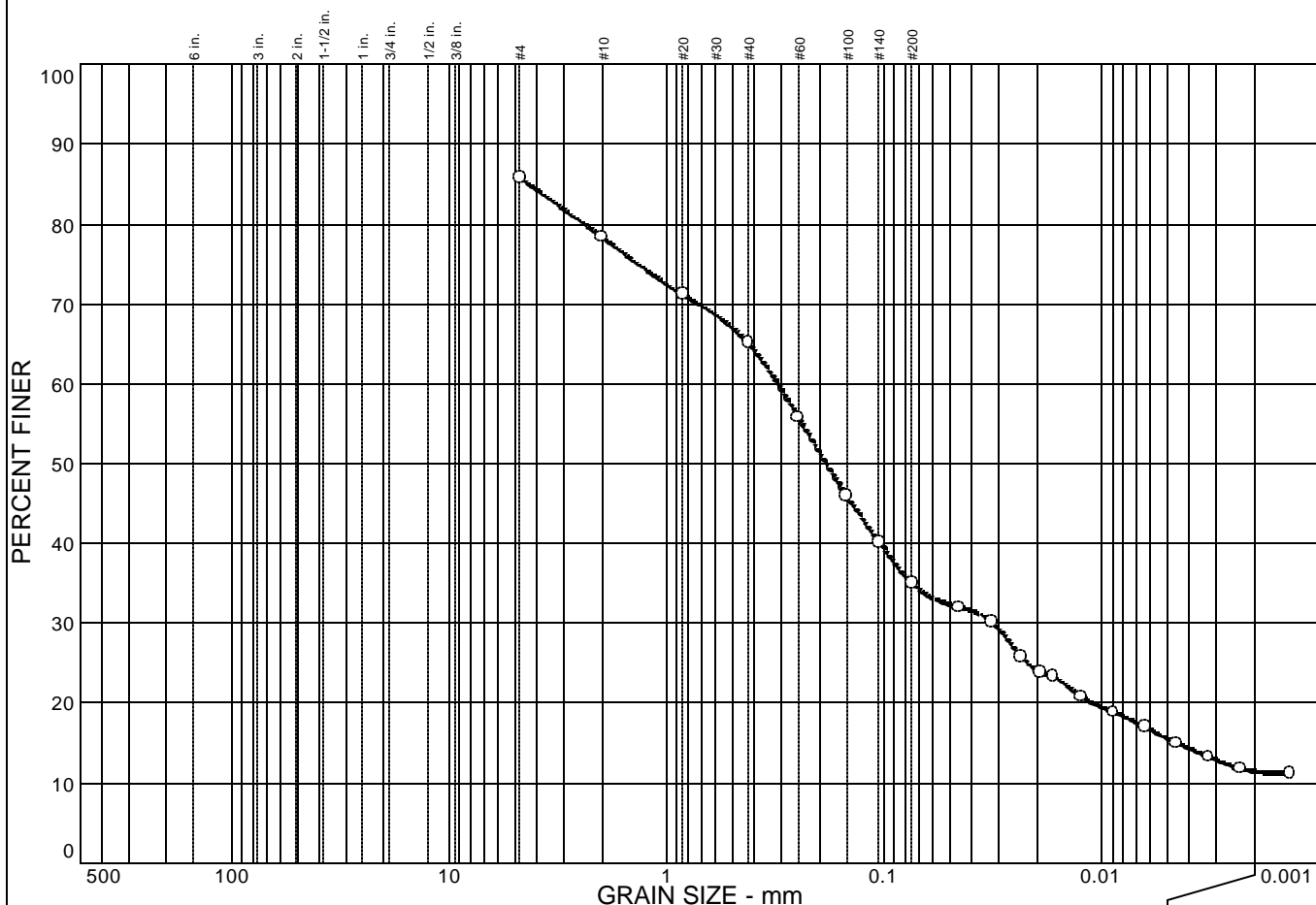
**Date:** 2-16-06  
**Elev./Depth:**



**Client:**  
**Project:** Oak Knoll- Oakland, CA

**Project No.:** 5750.1.100.01

# Particle Size Distribution Report



|           |          |        |        |        |
|-----------|----------|--------|--------|--------|
| % COBBLES | % GRAVEL | % SAND | % SILT | % CLAY |
|           |          | 50.8   | 23.5   | 11.5   |

| SIEVE SIZE | PERCENT FINER | SPEC.* PERCENT | PASS? (X=NO) |
|------------|---------------|----------------|--------------|
| #4         | 85.8          |                |              |
| #10        | 78.4          |                |              |
| #20        | 71.2          |                |              |
| #40        | 65.1          |                |              |
| #60        | 55.8          |                |              |
| #100       | 46.0          |                |              |
| #140       | 40.2          |                |              |
| #200       | 35.0          |                |              |

**Soil Description**

Dark grayish brown silty SAND

**Atterberg Limits**

PL=                      LL=                      PI=

**Coefficients**

D<sub>85</sub>= 4.32              D<sub>60</sub>= 0.311              D<sub>50</sub>= 0.186  
D<sub>30</sub>= 0.0318          D<sub>15</sub>= 0.0046          D<sub>10</sub>=  
C<sub>u</sub>=                      C<sub>c</sub>=

**Classification**

USCS= SM                      AASHTO=

**Remarks**

\* (no specification provided)

**Sample No.:** EB-1, 9  
**Location:**

**Source of Sample:**

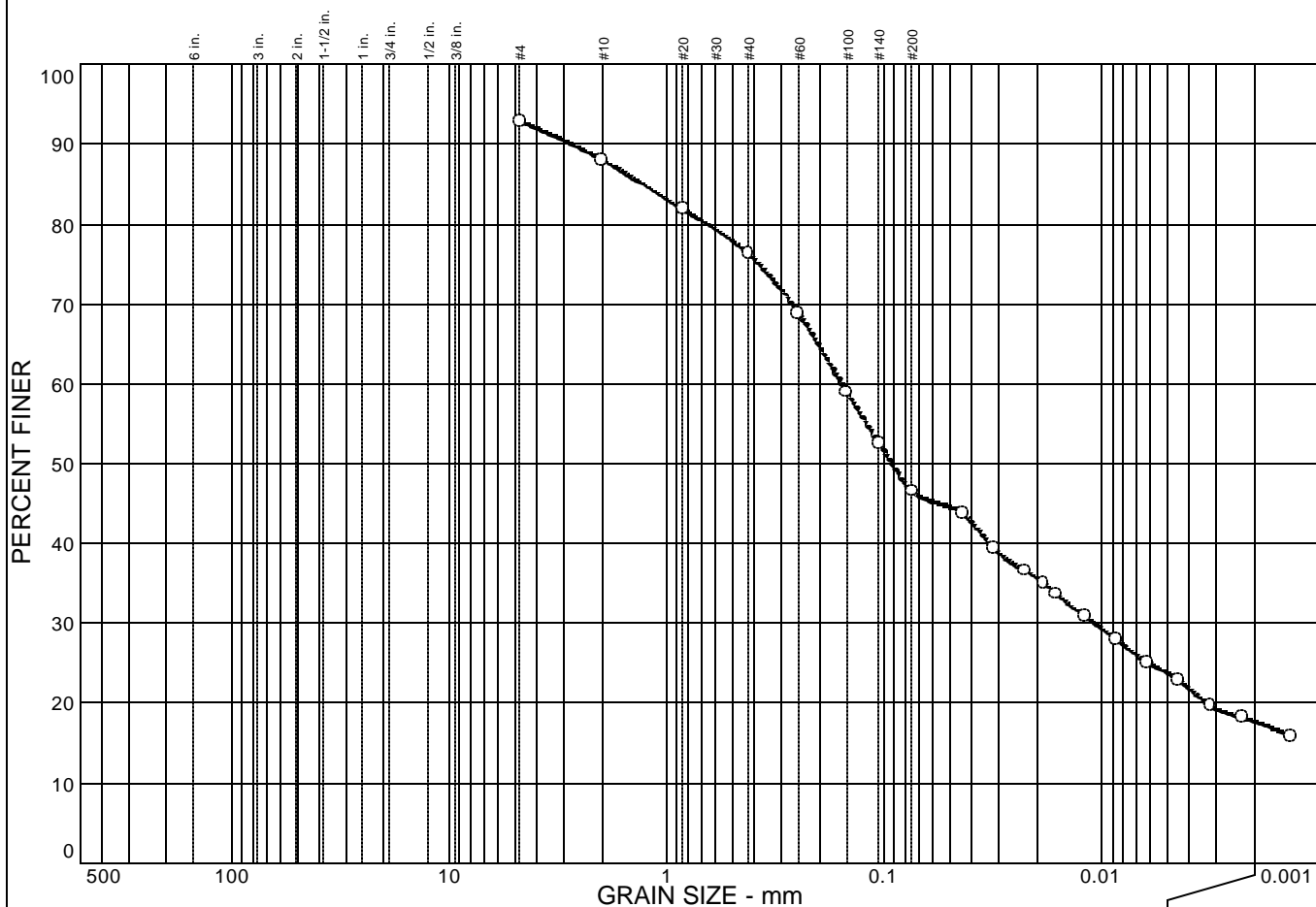
**Date:** 2-16-06  
**Elev./Depth:**



**Client:**  
**Project:** Oak Knoll- Oakland, CA

**Project No.:** 5750.1.100.01

# Particle Size Distribution Report



|           |          |        |        |        |
|-----------|----------|--------|--------|--------|
| % COBBLES | % GRAVEL | % SAND | % SILT | % CLAY |
|           |          | 46.3   | 28.9   | 17.7   |

| SIEVE SIZE | PERCENT FINER | SPEC.* PERCENT | PASS? (X=NO) |
|------------|---------------|----------------|--------------|
| #4         | 92.9          |                |              |
| #10        | 88.1          |                |              |
| #20        | 81.9          |                |              |
| #40        | 76.3          |                |              |
| #60        | 68.9          |                |              |
| #100       | 59.0          |                |              |
| #140       | 52.5          |                |              |
| #200       | 46.6          |                |              |

**Soil Description**

Dark yellowish brown silty SAND

**Atterberg Limits**

PL=                      LL=                      PI=

**Coefficients**

D<sub>85</sub>= 1.29              D<sub>60</sub>= 0.158              D<sub>50</sub>= 0.0932  
D<sub>30</sub>= 0.0108          D<sub>15</sub>=                      D<sub>10</sub>=  
C<sub>u</sub>=                      C<sub>c</sub>=

**Classification**

USCS= SM                      AASHTO=

**Remarks**

\* (no specification provided)

**Sample No.:** EB-8, 9  
**Location:**

**Source of Sample:**

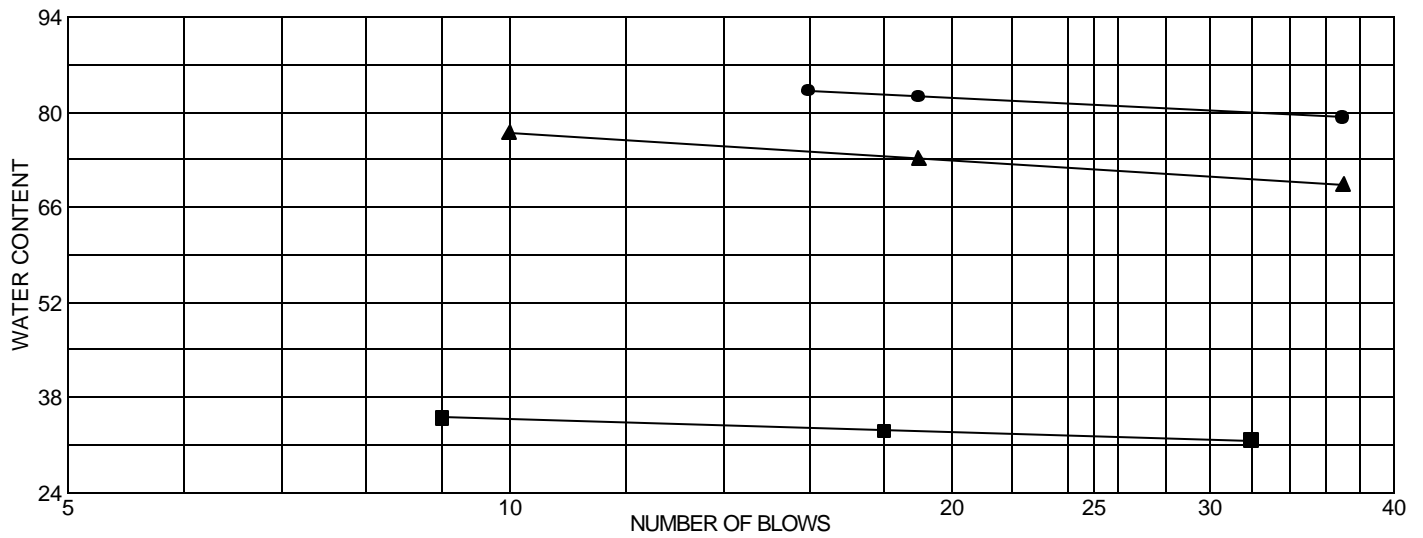
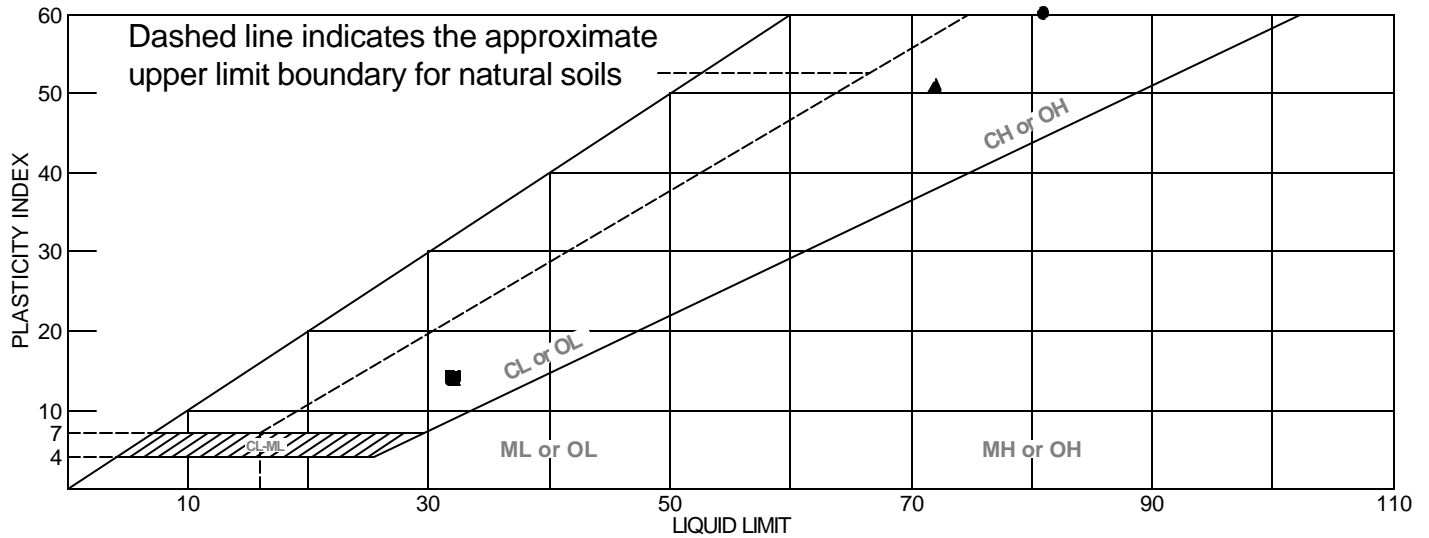
**Date:** 2-16-06  
**Elev./Depth:**



**Client:**  
**Project:** Oak Knoll- Oakland, CA

**Project No.:** 5750.1.100.01

# LIQUID AND PLASTIC LIMITS TEST REPORT



|   | MATERIAL DESCRIPTION                              | LL | PL | PI | %<#40 | %<#200 | USCS |
|---|---|----|----|----|-------|--------|------|
| ● | Very dark grayish brown CLAY                      | 81 | 21 | 60 |       |        | CH   |
| ■ | Very dark grayish brown silty CLAY with some sand | 32 | 18 | 14 |       |        | CL   |
| ▲ | Dark grayish brown CLAY                           | 72 | 21 | 51 |       |        | CH   |
|   |   |    |    |    |       |        |      |
|   |   |    |    |    |       |        |      |

**Project No.** 5750.1.100.01 **Client:**

**Project:** Oak Knoll- Oakland, CA

● **Source:**

**Sample No.:** EB-3, 6

■ **Source:**

**Sample No.:** EB-8, 3

▲ **Source:**

**Sample No.:** TP-1, 5-12

**Remarks:**

- EB-3, 6
- EB-8, 3
- ▲ TP-1, 5-12



GEO TECHNICAL AND ENVIRONMENTAL CONSULTANTS  
MATERIALS TESTING

# SUPPLEMENTAL FAULT EXPLORATION

OAK KNOLL  
OAKLAND, CALIFORNIA

The logo for ENGEEO is rendered in large, white, 3D block letters. The letters are set against a background that is a composite of three images: a long-exposure photograph of ocean waves crashing on the left, a green rolling hill with a few trees in the center, and a close-up of large, reddish-brown rocks on the right. The logo is positioned in the upper middle section of the page.

# ENGEEO

*Expect Excellence*

**Submitted to:**  
Mr. Mike Turner  
Oak Knoll Venture Acquisition, L.L.C.  
2392 Morse Avenue  
Irvine, CA 92614

**Prepared by:**  
ENGEEO Incorporated

**June 23, 2015**

**Project No:**  
5750.300.000

Project No.  
**5750.300.000**

Mr. Mike Turner  
Oak Knoll Venture Acquisition, L.L.C.  
2392 Morse Avenue  
Irvine, CA 92614

Subject: Oak Knoll  
8750 Mountain Blvd.  
Oakland, California

## **SUPPLEMENTAL FAULT EVALUATION**

Dear Mr. Turner:


With your authorization, we have completed a supplemental fault exploration at the Oak Knoll site located in Oakland, California (Figure 1). This letter presents a summary of our field exploration and our conclusions regarding the mapped fault located at the eastern portion of the site.

Based on the findings of our exploration, the fault mapped across the eastern portion of the site is not considered active and may actually represent a depositional contact. In our opinion, no setback zone is required.


Additional design-level exploration services will be required in the future in order to present grading, drainage, and foundation design recommendations. We are pleased to have been of service to you on this project and are prepared to consult further with you and your design team as the project progresses.

Sincerely

ENGEO Incorporated

  
J. Brooks Ramsdell, CEG



  
Raymond P. Skinner, CEG

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## **1.0 INTRODUCTION**

### **1.1 PURPOSE AND SCOPE**

The purpose of this supplemental fault exploration has been to evaluate the fault hazards associated with the fault mapped near the eastern boundary of the site in the vicinity of Keller Avenue. This study included the following scope of services:

- Review of published geologic maps and literature pertinent to the site.
- Geologic reconnaissance mapping was performed by an ENGEO geologist.
- Aerial photographs were examined to identify geomorphic features that may be related to faulting, landsliding and other geologic conditions.
- Excavation and logging of one exploratory trench (3-T1) and two test pits to evaluate the potential for faulting in the western portion of the site.
- Preparation of this letter summarizing our findings, conclusions.

We prepared this report exclusively for you and your design team consultants. ENGEO should review any changes made in the character, design or layout of the development to modify the conclusions and recommendations contained in this report, as necessary. This document may not be reproduced in whole or in part by any means whatsoever, nor may it be quoted or excerpted without the express written consent of ENGEO.

### **1.2 BACKGROUND**

ENGEO performed previous fault explorations at the site that included the excavation of seven exploratory trenches to evaluate previously mapped faults crossing the west and central portion of the site. Based on the findings of the previous exploration, the potential for fault rupture at the previously explored portions of the site were concluded to be low.

At the time of our previous fault exploration, development was not planned at the eastern portion of the site. We recommended additional fault exploration be performed if development was planned near the eastern edge of the site. The current plans include the development of lots along the eastern boundary of the site (Figure 2).

## **2.0 GEOLOGIC SETTING**

The site is located in the Coast Ranges geomorphic province of California. In this part of the province, bedrock is mapped predominantly as late Jurassic-age keratophyre and quartz keratophyre, a fine-grained volcanic rock (Figure 3 - Graymer, 2000). Late Jurassic and early

Cretaceous Knoxville formation is mapped near the eastern property line and in the southwestern portion of the site.

## **2.1 FAULTING**

The site is not located within a State of California Earthquake Fault Zone (CDMG, 1982) for known active faults. The nearest known active fault is the Hayward fault located about ½ mile to the southwest of the site.

As discussed above, previously explored un-named faults have been mapped crossing the site by Radbruch (1969), Crane (1988), Graymer (1995), and Dibblee (2005). None of these faults are considered active by the State of California (1982) and our previous exploratory trenches found no zones of shearing, clay gouge, slickensides, or other indications of faulting.

One of the mapped faults crosses a relatively small area near the eastern edge of the site. As previously discussed, this fault was not evaluated in conjunction with previous exploration of the site. According to Radbruch (1969), and Dibblee (2005) the subject fault is the Chabot fault. The Chabot fault represents a bedrock discontinuity that juxtaposes rocks of the Jurassic Coast Range ophiolite, the Franciscan complex and lower portions of the Great Valley sequence against Late Cretaceous and Tertiary bedrock units. In the vicinity of the site Graymer (2000) maps a western splay of the Chabot fault that juxtaposes Late Jurassic Keratophyre of the Coast Range ophiolite against a sliver of Late Jurassic to Early Cretaceous Knoxville formation. This western fault splay is mapped along the eastern boundary of the site. According to Graymer (2000) and the USGS 2008 National Seismic Hazard Maps, the main trace of the Chabot fault is mapped approximately 200 feet northeast of the eastern boundary of the site along the southwest facing cut slope along the east side of Keller Avenue (Figure 3).

## **3.0 REVIEW AND EXPLORATION**

### **3.1 AERIAL PHOTOGRAPH INTERPRETATION**

Aerial photographs were examined to study geomorphic features that could be associated with faulting in the vicinity of the mapped trace of the Chabot fault. Stereo-paired aerial photographs from 1939 exhibited a prominent linear valley along the eastern edge of the site in the same general vicinity where Graymer maps the main trace of the Chabot fault.

### **3.2 FIELD MAPPING**

Geologic field mapping was performed along the northeast facing cut slope along Keller Avenue and along the southwest facing slope (Figure 2). Shale of the Knoxville Formation was mapped along the lower portions of the northeast facing cut slope. Bedding within the Knoxville Formation was observed to be northwest striking and dipping towards the southwest. Jurassic volcanics comprising keratophyre were encountered further up the slope. No distinct shear zone or fault gouge was observed along the contact between the two formations. The location of the contact between the Knoxville Formation and the Jurassic volcanics is well constrained within

the cut slope located west of Keller Avenue. Jurassic volcanics were observed in outcrop along the west-facing slope below the existing ridgeline road in the vicinity of proposed Lots 7 through 14. Tuffaceous mudstone was observed interbedded with the volcanics at this location.

### **3.3 FIELD EXPLORATION**

The field exploration for this study was conducted on June 3 and 4, 2015, and consisted of excavating one exploratory trench and two test pits at the approximate locations shown on Figure 2. The trench location was obtained by GPS coordinates and taping from existing fence lines shown on the site plan and should be considered accurately located to the degree implied by the method used.

The exploratory trench was excavated to observe and provide additional assessment of the geologic conditions and possible faulting at the study site. The excavation was made using a track-mounted excavator (CAT 312) equipped with a 30-inch-wide bucket. The exploratory trench extended approximately 70 feet long and ranged from 5 to 12 feet in depth below the existing ground surface. Test pit 3-TP1 and 3-TP2 were 2 and 14 feet in depth, respectively.

An ENGEO Geologist logged the trench and test pits. An exploratory trench log is included as Figure 5. Test pit logs are included in Appendix A of this report. Once logging of the trench and test pits was completed, they were backfilled using nominal compactive effort by the excavator bucket and trackwalking the surface. Depending on future grading activities in this area, it should be anticipated that the trench spoils will need to be removed and replaced as engineered fill.

### **4.0 FINDINGS**

Exploratory Trench 3-T1 encountered approximately 3 to 5 feet of fill from Stations 0+00 to 0+35. The existing fill encountered in the trench appeared to be associated with the grading for the existing roadway along the eastern property boundary. A thin organic rich soil was encountered within the upper 1 to 2 feet from Stations 0+35 to 0+70. Below the upper thin soil and fill a 2 to 7 foot thick layer of colluvium was encountered overlying bedrock. The colluvium thickened from west to east. Bedrock comprising, extremely weathered pale reddish brown volcanoclastic breccia was encountered from Station 0+05 to 0+30. Gray to pale gray brown tuffaceous mudstone was encountered from Stations 0+30 to 0+65. The Tuffaceous mudstone was massive and closely fractured to crushed. Extremely weathered, pale reddish brown, yellowish brown and pale yellow, rhyolitic breccia was encountered from Station 0+62 to the west end of the trench. The attached trench log, Figure 5, depicts conditions that were exposed on the south wall of the trench.

Bedding was not discernible due to the massive and disrupted nature of the rock. A pervasive structural fabric composed of closely spaced fractures was observed striking N80W and dipping 55 to 60 degrees towards the southwest. No clear indication of faulting or fault features was observed in the bedrock or overlying soil profile.

Test pit 3-TP1 encountered massive, altered rhyolitic tuff below a thin residual soil. Test pit 3-TP2 encountered approximately 12 feet of fill overlying massive, fine grained, highly altered rhyolitic tuff.

The tuffaceous mudstone encountered in the trench fits the description provided by Wakabayashi and Moores (1998) and Jones and Curtis (1991) in describing the upper units of the Jurassic Volcanics exposed in the Hillside east of Hiller Drive in the Oakland Hills west of the Caldecott Tunnel. The contact has been described as a depositional contact of tuffaceous shales or siliceous argillite that pass downward into thin-bedded radiolarian cherts that directly overlie the volcanic rocks (Wakabayashi and Moores 1998; and Jones and Curtis, 1991).

## **5.0 CONCLUSIONS AND RECOMMENDATIONS**

A fault zone was not encountered within our trench or test pits excavated at the site. The test pits and trench indicate that the contact between the Jurassic Volcanics and the Knoxville Formation is located east of site boundary at the southeast portion of the site as shown on Figure 2. Mapping along the west side of Keller Avenue further constrain the location of the contact.

Further north Test pit 2-TP7, excavated during our previous exploration at the site, encountered claystone interpreted as Knoxville Formation. Jurassic volcanics were mapped in outcrop roughly 35 feet southwest of this test pit constraining the fault contact to within this 35-foot wide zone at this location as shown on Figure 2.

The absence of evidence of shearing and fault gouge mapped along the contact indicate the possibility that the contact between the Jurassic Volcanics and the Knoxville Formation at this location is depositional as described by Wakabayahsi and Moores (1998). This would place the location of the Chabot fault at the contact between the Knoxville Formation and the Joaquin Miller Formation as mapped by Graymer (2000) and the USGS Quaternary Fault and Fold Database (USGS, 2015) along the east side of Keller Avenue.

As discussed previously the Chabot fault is not considered active and is not included on the State of California Earthquake Fault Zone map (CDMG, 1982) for known active faults. In addition, a geologic study related to the seismic stability of the EBMUD South Reservoir performed by ESA Consultants and William Lettis and Associates (1996), concluded that the Chabot fault has not moved within the past 35,000 years. According to this study, the fault is overlain by un-faulted middle to late Pleistocene gravel deposits that are in excess of 35,000 years old. The Chabot fault is also not considered to be an active seismic source according to the USGS 2008 National Seismic Hazard Maps.

In our opinion, the fault mapped across the eastern portion of the site is not considered active and may actually represent a depositional contact. In our opinion no setback zone is required. The contact between the Jurassic Volcanics and the Knoxville Formation should be further examined during grading for the project to determine if supplemental corrective grading measures are needed to address potential engineering issues such as weak sheared material or a groundwater barrier.

## **LIMITATIONS AND UNIFORMITY OF CONDITIONS**

This preliminary report is issued with the understanding that it is the responsibility of the owner to transmit the information and recommendations of this preliminary report to developers, owners, buyers, architects, engineers, and designers for the project so that the necessary steps can be taken by the contractors and subcontractors to carry out such recommendations in the field. The conclusions and recommendations contained in this preliminary report are solely professional opinions.

The professional staff of ENGEO strives to perform its services in a proper and professional manner with reasonable care and competence but is not infallible. There are risks of earth movement and property damages inherent in land development. We are unable to eliminate all risks or provide insurance; therefore, we are unable to guarantee or warrant the results of our services.

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.

## **SELECTED REFERENCES**

- Bortugno, E. J.; et al, 1991, Map Showing Recency of Faulting, San Francisco-San Jose Quadrangle USGS Map Sheet 5A.
- California Division of Mines and Geology, 1982, State of California Special Studies Zones Map, Diablo Quadrangle, California.
- California Geological Survey, 2008, Guidelines for Evaluating and Mitigating Seismic Hazards in California; Special Publication 117.
- Crane, R. C.; 1988, Geologic Map of the Diablo 7.5 minute Quadrangle, NCGS Field Trip Guide to the Geology of the San Ramon Valley & Environs.
- Dibblee Jr., T. W., 1980, Preliminary Geologic Map of Diablo Quadrangle, Contra Costa and Alameda Counties, California, USGS Open-File Map 80-546.
- Dibblee Jr., T. W., 2005, Geologic Map of Diablo Quadrangle, Contra Costa and Alameda Counties, California, Dibblee Geology Center Map #DF-162.
- ENGEO, Fault Exploration, Golden Skate Property, San Ramon, California, June 20, 2014, Project No. 11226.000.000.
- ENGEO, Supplemental Exploration, Golden Skate Property, San Ramon, California, February 19, 2015, Project No. 11226.000.000.
- ENGEO, Final Letter Regarding Supplemental Exploration, Golden Skate Property, San Ramon, California, April 3, 2015, Project No. 11226.000.001.
- ENGEO, Alquist-Priolo Seismic Hazards Investigation, Edwards Property, Parcel Number 208-250-38, San Ramon, California, February 15, 1980, Project No. N9 1504-B1.
- Graymer, R. W. et al., 1994, Preliminary Geologic Map Emphasizing Bedrock Formations in Contra Costa County, California: Derived from the Digital Database Open-File 94-622, U.S. Geological Survey.
- Jennings, C. W. and Bryant, W. A., 2010, Fault Activity Map of California, California Geological Survey, California Geologic Data Map Series, Map No. 6.
- Majmundar, H. H., 1996, Landslide Hazard in the Las Trampas Ridge Quadrangle and parts of the Diablo Quadrangle, Alameda and Contra Costa Counties, California, DMG Open File Report 95-15.

Nilsen, T. H. 1975, Preliminary Photointerpretation Map of Landslide and Other Surficial Deposits of the Diablo 7½' Quadrangle, Contra Costa County, California, U. S. Geological Survey, Open File Map 75-277-14.

Pacific Aerial Surveys, November 3, 1978, Black and White Aerial Photographs AV1616-1-4 and 5.

Pacific Aerial Surveys, April 10, 1979, Color Infra Red Aerial Photograph, AV1693-1-1.

Google Earth, 1939, online Google Earth imagery.

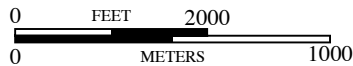
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- Figure 4 – Published Fault Mapping**
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BASE MAP SOURCE: GOOGLE EARTH PRO



VICINITY MAP  
OAK KNOLL  
OAKLAND, CALIFORNIA

PROJECT NO.: 5750.300.000  
SCALE: AS SHOWN  
DRAWN BY: PC CHECKED BY: RPS

FIGURE NO.  
**1**

# EXPLANATION

ALL LOCATIONS ARE APPROXIMATE

**3-T1** FAULT TRENCH (ENGEOR, 2015)

**3-TP2** TEST PIT (ENGEOR, 2015)

**TP2-12** TEST PIT (ENGEOR, DECEMBER 2007)

**TP-38** TEST PIT (ENGEOR, 2006)

**2-B2** ROCK CORE (ENGEOR, OCTOBER 2006)

**EB-4** BORING (ENGEOR, 2006)

--- GEOLOGIC CONTACT

--- CHABOT FAULT (LOCATION BASED ON ENGEOR FIELD MAPPING AND SUBSURFACE EXPLORATION)

**Qaf** EXISTING FILL

**Qls** LANDSLIDE

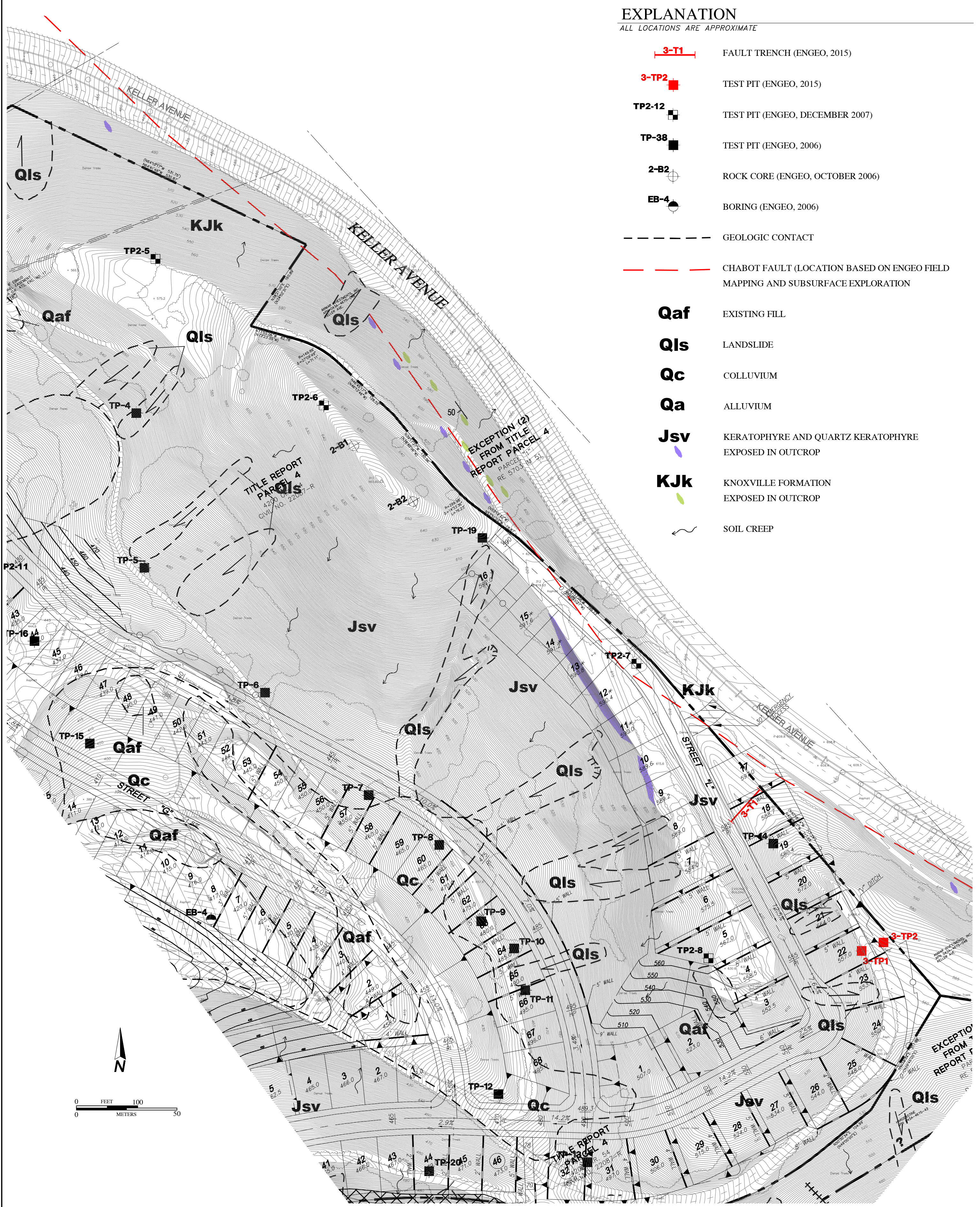
**Qc** COLLUVIUM

**Qa** ALLUVIUM

**Jsv** KERATOPHYRE AND QUARTZ KERATOPHYRE EXPOSED IN OUTCROP

**KJk** KNOXVILLE FORMATION EXPOSED IN OUTCROP

~ SOIL CREEP



BASE MAP SOURCE: BKF, 2015

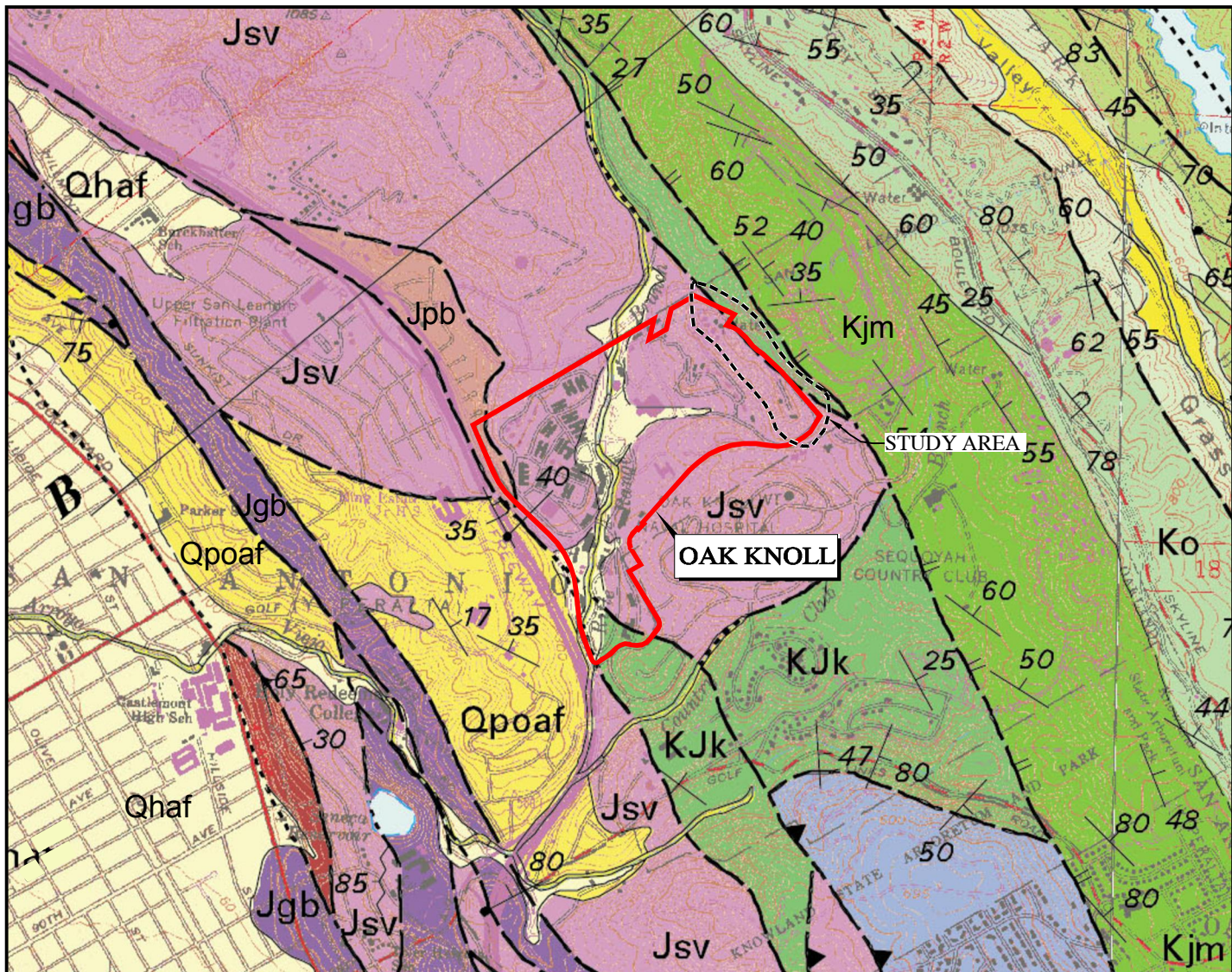


SITE PLAN  
OAK KNOLL  
OAKLAND, CALIFORNIA

PROJECT NO: 5750.300.000  
SCALE: AS SHOWN  
DRAWN BY: LL    CHECKED BY: RPS

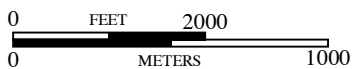
FIGURE NO.  
**2**

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**EXPLANATION**

- Qhaf ALLUVIAL FAN AND FLUVIAL DEPOSITS
- Qpoaf OLDER ALLUVIAL FAN DEPOSITS
- Kjm JOAQUIN MILLER FORMATION
- Ko OAKLAND CONGLOMERATE
- KJk KNOXVILLE FORMATION
- Jsv KERATOPHYRE AND QUARTZ KERATOPHYRE
- Jpb PILLOW BASALT, BASALT BRECCIA AND MINOR DIABASE
- Jgb GABBRO



BASE MAP SOURCE: GRAYMER, 2000

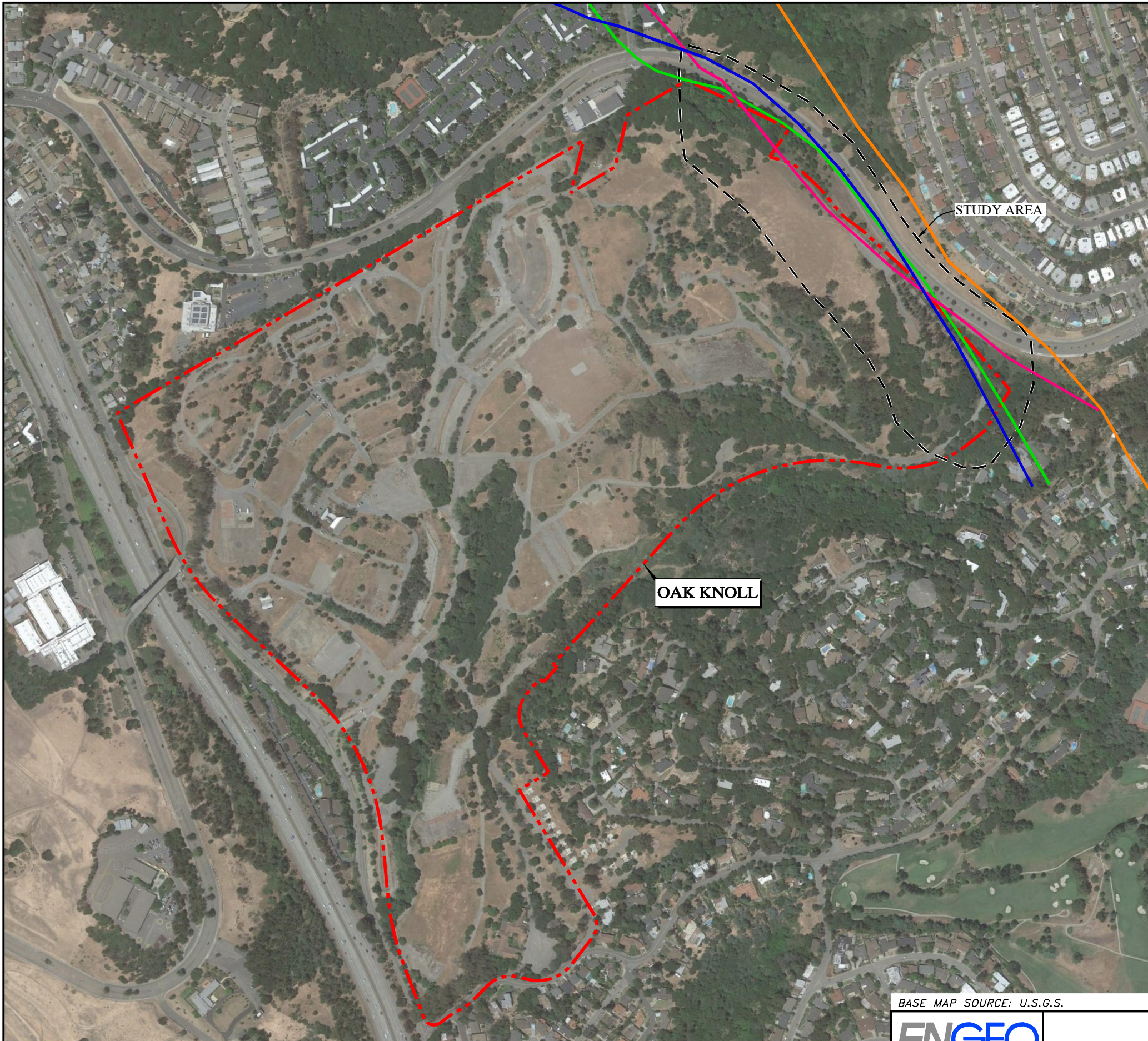


REGIONAL GEOLOGIC MAP  
OAK KNOLL  
OAKLAND, CALIFORNIA

|                           |                 |
|---------------------------|-----------------|
| PROJECT NO.: 5750.300.000 |                 |
| SCALE: AS SHOWN           |                 |
| DRAWN BY: LL              | CHECKED BY: RPS |

FIGURE NO.  
**3**

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BASE MAP SOURCE: U.S.G.S.

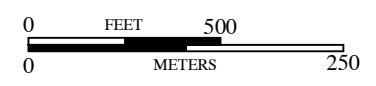


PUBLISHED FAULT MAP  
OAK KNOLL  
OAKLAND, CALIFORNIA

**EXPLANATION**

ALL LOCATIONS ARE APPROXIMATE

- GRAYMER 1995 - CHABOT FAULT MAIN TRACE
- GRAYMER 1995 - CHABOT FAULT WESTERN SPLAY
- FAULT, CRANE 1988
- FAULT, RADBRUCH 1969

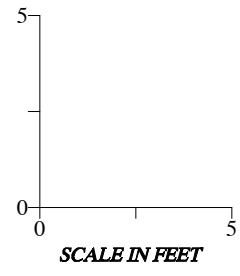
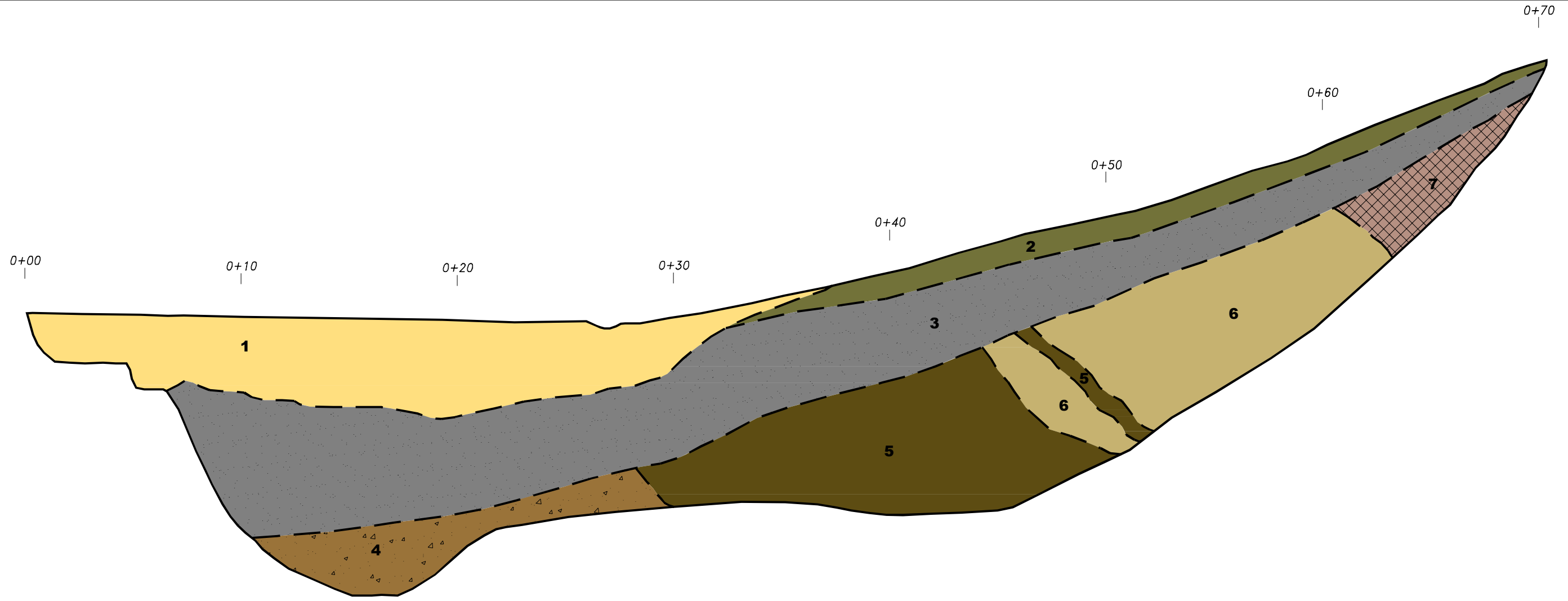


|             |              |
|-------------|--------------|
| PROJECT NO: | 5750.300.000 |
| SCALE:      | AS SHOWN     |
| DRAWN BY:   | PC           |
| CHECKED BY: | RPS          |

FIGURE NO.  
**4**

ORIGINAL FIGURE PRINTED IN COLOR

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**EXPLANATION**

- 1** Lean CLAY with gravel and gravelly lean CLAY (CL-GC), mottled yellowish brown, dark gray brown, dry within upper 18", slightly moist, hard and dense, angular fragments of keratophyre and tuff (Artificial fill).
- 2** Lean CLAY vertisols (CL), gray brown to dark gray brown, dry, stiff, scattered subangular fine gravel sized volcanic clasts, roots and organics (Residual soil).
- 3** Lean CLAY (cl), mottled reddish brown, gray brown and brown, moist, hard, some sand and gravel, subangular gravel sized fragments of keratophyre, tuff and tuffaceous mudstone (colluvium).
- 4** Volcaniclastic BRECCIA, pale reddish brown, pale gray brown, very weak, extremely weathered to residual soil, massive.
- 5** Tuffaceous MUDSTONE, gray brown and pale reddish brown on iron oxide coated fractures, very weak, crushed, highly weathered, massive.
- 6** Tuffaceous MUDSTONE, pale gray brown on fresh conchoidal fracture surfaces, reddish brown and yellowish brown on iron oxide coated fractures, weak, crushed, highly weathered, massive.
- 7** Rhyolitic BRECCIA, pale reddish brown, yellowish brown, and pale yellow, extremely weak, crushed, extremely weathered, sand sized clasts within an ashy matrix.

— — — GEOLOGIC CONTACT



TRENCH LOG - 3-T1  
OAK KNOLL  
OAKLAND, CALIFORNIA

|                           |                 |
|---------------------------|-----------------|
| PROJECT NO.: 5750.300.000 |                 |
| SCALE: AS SHOWN           |                 |
| DRAWN BY: BR              | CHECKED BY: RPS |

FIGURE NO.  
**5**

**A  
P  
P  
E  
N  
D  
I  
X  
  
A**

**APPENDIX A**

**Test Pit Logs**





## TEST PIT LOGS

Oak Knoll  
Supplemental Fault Exploration  
5750.300.000

Logged By: Curtis Hall  
Logged Date: June 4, 2015

| Test Pit Number                          | Depth (feet)        | Description  |
|--|---------------------|--|
| 3-TP-1<br><br>37.769130°<br>-122.139019° | 0 - 0.5             | Lean Sandy CLAY (CL), gray brown to dark gray brown, stiff, dry, scattered angular fragments of underlying volcanic bedrock, roots and organics (Thin Residual Soil)   |
|  | 0.5 - 2<br>(sample) | RHYOLITIC TUFF (Jsv), mottled reddish brown, pale gray and yellowish brown on iron oxide coated surfaces, weak to medium strong, moderately to extremely weathered, closely fractured to crushed, clasts are medium strong and consist of greywacke, clay films around clasts, iron staining.<br><br>Bottom at approximately 2 feet. No groundwater encountered. |
| 3-TP-2<br><br>37.769213°<br>-122.138937° | 0 - 12              | Sandy CLAY (CL) and Clayey GRAVEL (GC), mottled reddish brown, yellowish brown and light grayish brown, stiff and medium dense, dry within upper 1.5 feet moist below, angular clasts of rhyolite tuff up to 3 inches diameter (Artificial Fill)   |
|  | 12 - 12.5           | Lean Sandy CLAY (CL), dark gray brown and reddish brown, stiff, moist, scattered angular fragments of underlying volcanic bedrock (Thin Residual Soil)   |
|  | 12 - 14             | RHYOLITIC BRECCIA (Jsv), yellowish brown and pale reddish brown, extremely weak, extremely weathered, massive, sand sized particles in an ashy matrix.<br><br>Bottom at approximately 14 feet. No groundwater encountered.   |