BACKGROUND ON GEOLOGIC HAZARDS IN THE CITY OF OAKLAND

Several significant geologic hazards can be found within the City of Oakland limits including, earthquake faults, landslides, soils prone to liquefaction, and erosion. Specifically, Oakland, along with the entire San Francisco Bay Area, is located within the San Andreas Fault Zone (SAFZ), a complex of active faults forming the boundary between the North American and Pacific tectonic plates. The SAFZ includes numerous active faults mapped by the California Geological Survey under the Alquist-Priolo Earthquake Fault Zoning Act of 1972, including the Hayward-Rodgers Creek Fault which bisects Oakland and generally defines Oakland's hill and flatland areas. Several other adjacent faults range from approximately 13 to17 miles away.

The Seismic Hazards Zone maps, published by the U.S. Geological Survey, pursuant to the Seismic Hazard Mapping Act, depict the areas of liquefaction or seismically induced landslides which require further geotechnical investigation. A project which is located within a seismic hazard zones can only be approved following a site-specific investigation to determine if the hazard is present and inclusion of appropriate mitigation. The Act also requires disclosure by real estate sellers and agents at the time of sale if a property is within one of the designated seismic hazard zones.

Steep slopes of 20%+ are prevalent throughout the Oakland hills. Steep slopes can trigger different types of landslides including rock slides, rock fall, earth flow, debris slides, and debris flow[1]. Erosion and heavy rain on steep slopes may also induce landslides and mudslides. Several major landslides have occurred in Oakland. These include, but are not limited, to the following:

- 1970- Landslide at Jordan Road, London Road, and Kitchener Court. All homes were destroyed.
- 1982- Landslides on Snake Road and Cabot Road destroys four homes
- 1998- Landslide on Rettig Ave blocked the street.
- 1998- Landslide on Snake destroys two homes
- 2002- Landslide on Wallace Street resulted in several red-tagged homes overlooking 14th Ave.
- 2006- Landslide on McKillop destroyed several homes.
- 2008- Landslide at Tunnel Road and Bay Forest Road blocked one lane of the road.
- 2005-2006- Landslide on Armour Drive permanently closed part of Armour Drive and destroyed several homes.
- 2012- Landslide on Wild Currant Way collapsed the road.
- 2012- Landslide on Sheridan and CA-13 caused the rock slope protection to spill onto the roadway system.

It should be noted that several of the areas affected above are considered uninhabitable and the landslides have not been repaired. An analysis of landslide and fault hazards show that at approximately 1700 parcels could potentially be affected by these geologic hazards while over 1,200 parcels could be affected by liquefaction.

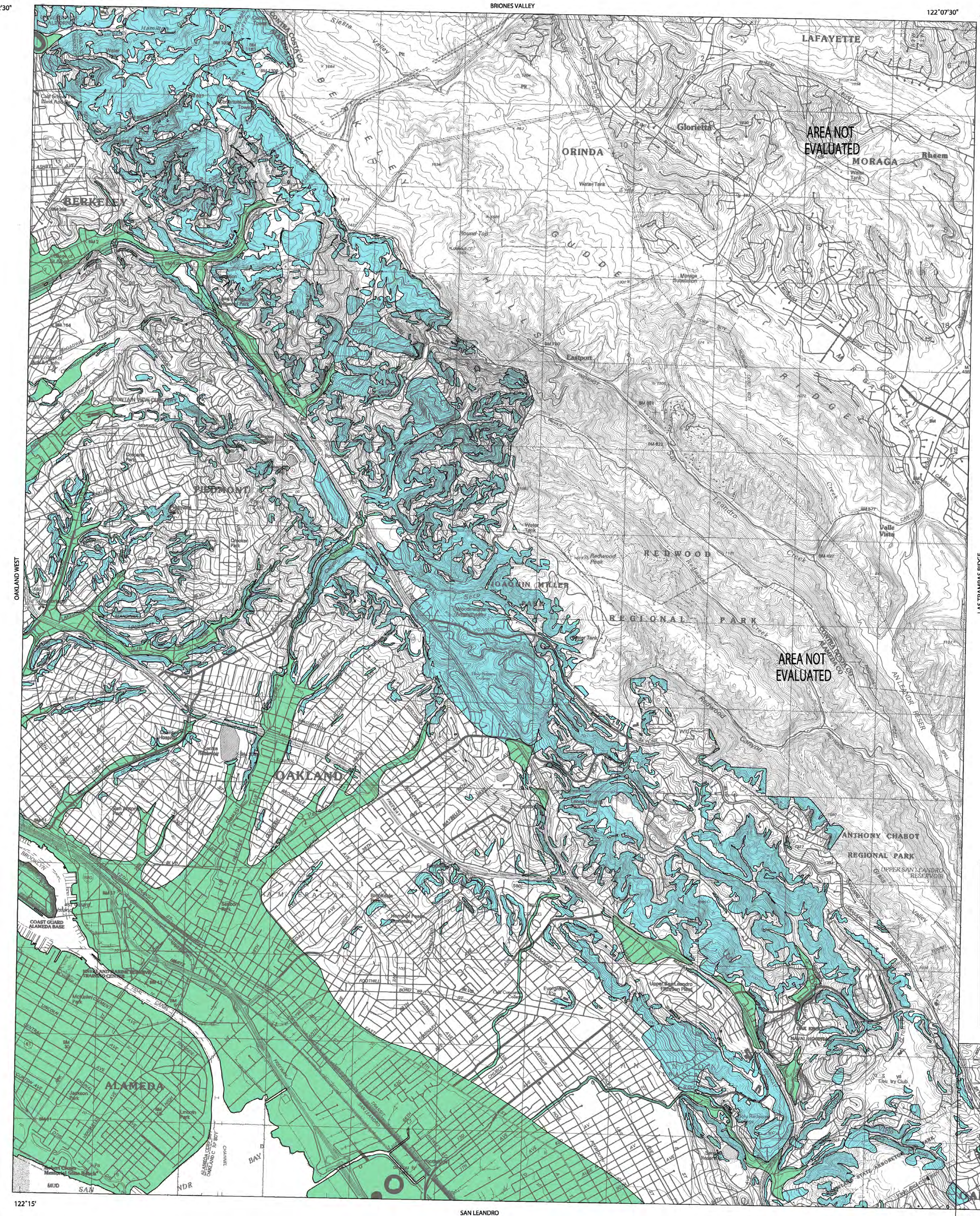
[1] http://www.conservation.ca.gov/cgs/geologic_hazards/landslides/Pages/index.aspx#landslidetypes

Attachment A

CALIFORNIA GEOLOGICAL SURVEY
JAMES F. DAVIS, STATE GEOLOGIST

STATE OF CALIFORNIA-GRAY DAVIS, GOVERNOR
THE RESOURCES AGENCY-MARY D. NICHOLS, SECRETARY
DEPARTMENT OF CONSERVATION-DARRYL W. YOUNG, DIRECTOR

SEISMIC HAZARD ZONES
Oakland East Quadrangle



For information regarding the Seismic Hazard Zones in Las Trampas Ridge quadrangle please refer to Seismic Hazards Zone Report 038

Base Map prepared by U.S. Geological Survey, 1997.
Zones of required investigation boundaries may reflect updated digital topographic data that can differ significantly from contours shown on the base map.

SCALE 1:24,000

1 .5 0 1 MILE
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET
1 .5 0 1 KILOMETER

PURPOSE OF MAP

This map will assist cities and counties in fulfilling their responsibilities for protecting the public from the effects of earthquake-triggered ground failure as required by the Seismic Hazards Mapping Act (Public Resources Code Sections 2690-2699.6).

For information regarding the general approach and recommended methods for preparing this map, see DMG Special Publication 118, *Recommended Criteria for Delineating Seismic Hazard Zones in California.*

For information regarding the scope and recommended methods to be used in conducting the required site investigations, see DMG Special Publication 117, *Guidelines for Evaluating and Mitigating Seismic Hazards in California.*

For a general description of the Seismic Hazard Mapping Program, the Seismic Hazards Mapping Act and regulations, and related information, please refer to the website at www.conservation.ca.gov/cgs/.

IMPORTANT - PLEASE NOTE

1) This map may not show all areas that have the potential for liquefaction, landsliding, strong earthquake ground shaking or other earthquake and geologic hazards. Also, a single earthquake capable of causing liquefaction or triggering landslide failure will not uniformly affect the entire area zoned.

2) Liquefaction zones may also contain areas susceptible to the effects of earthquake-induced landslides. This situation typically exists at or near the toe of existing landslides, downslope from rockfall or debris flow source areas, or adjacent to steep stream banks.

3) This map does not show Alquist-Priolo earthquake fault zones, if any, that may exist in this area. Please refer to the latest official map of earthquake fault zones for disclosures and other actions that are required by the Alquist-Priolo Earthquake Fault Zoning Act. For more information on this subject and an index to available maps, see DMG Special Publication 42.

4) Landslide zones on this map were determined, in part, by adapting methods originally developed by the U.S. Geological Survey (USGS). Landslide hazard maps prepared by the USGS typically use experimental approaches to assess earthquake-induced and other types of landslide hazards. Although aspects of these new methodologies may be incorporated in future California Geological Survey (CGS) seismic hazard zone maps, USGS maps should not be used as substitutes for these Official SEISMIC HAZARD ZONES maps.

5) U.S. Geological Survey base map standards provide that 90 percent of cultural features be located within 40 feet (horizontal accuracy) at the scale of this map. The identification and location of liquefaction and earthquake-induced landslide zones are based on available data. However, the quality of data used is varied. The zone boundaries depicted have been drawn as accurately as possible at this scale.

6) Information on this map is not sufficient to serve as a substitute for the geologic and geotechnical site investigations required under Chapters 7.5 and 7.8 of Division 2 of the Public Resources Code.

7) DISCLAIMER: The State of California and the Department of Conservation make no representations or warranties regarding the accuracy of the data from which these maps were derived. Neither the State nor the Department shall be liable under any circumstances for any direct, indirect, special, incidental or consequential damages with respect to any claim by any user or any third party on account of or arising from the use of this map.

STATE OF CALIFORNIA

SEISMIC HAZARD ZONES

Delineated in compliance with
Chapter 7.8, Division 2 of the California Public Resources Code
(Seismic Hazards Mapping Act)

OAKLAND EAST AND PART OF
LAS TRAMPAS RIDGE QUADRANGLES

OFFICIAL MAP
Released: February 14, 2003

STATE GEOLOGIST

MAP EXPLANATION

Zones of Required Investigation:

Liquefaction

Areas where historical occurrence of liquefaction, or local geological, geotechnical and ground-water 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.

NOTE: Seismic Hazard Zones identified on this map may include developed land where delineated hazards have already been mitigated to city or county standards. Check with your local building/planning department for information regarding the location of such mitigated areas.

DATA AND METHODOLOGY USED TO DEVELOP THIS MAP ARE PRESENTED IN THE FOLLOWING:

Seismic Hazard Zone Report of the Oakland East and part of the Las Trampas Ridge 7.5-Minute Quadrangles, Alameda County California: California Geological Survey, Seismic Hazards Zone Report 080.

For additional information on seismic hazards in this map area, the rationale used for zoning, and additional references consulted, refer to CGS's World Wide Web site

www.conservation.ca.gov/cgs/

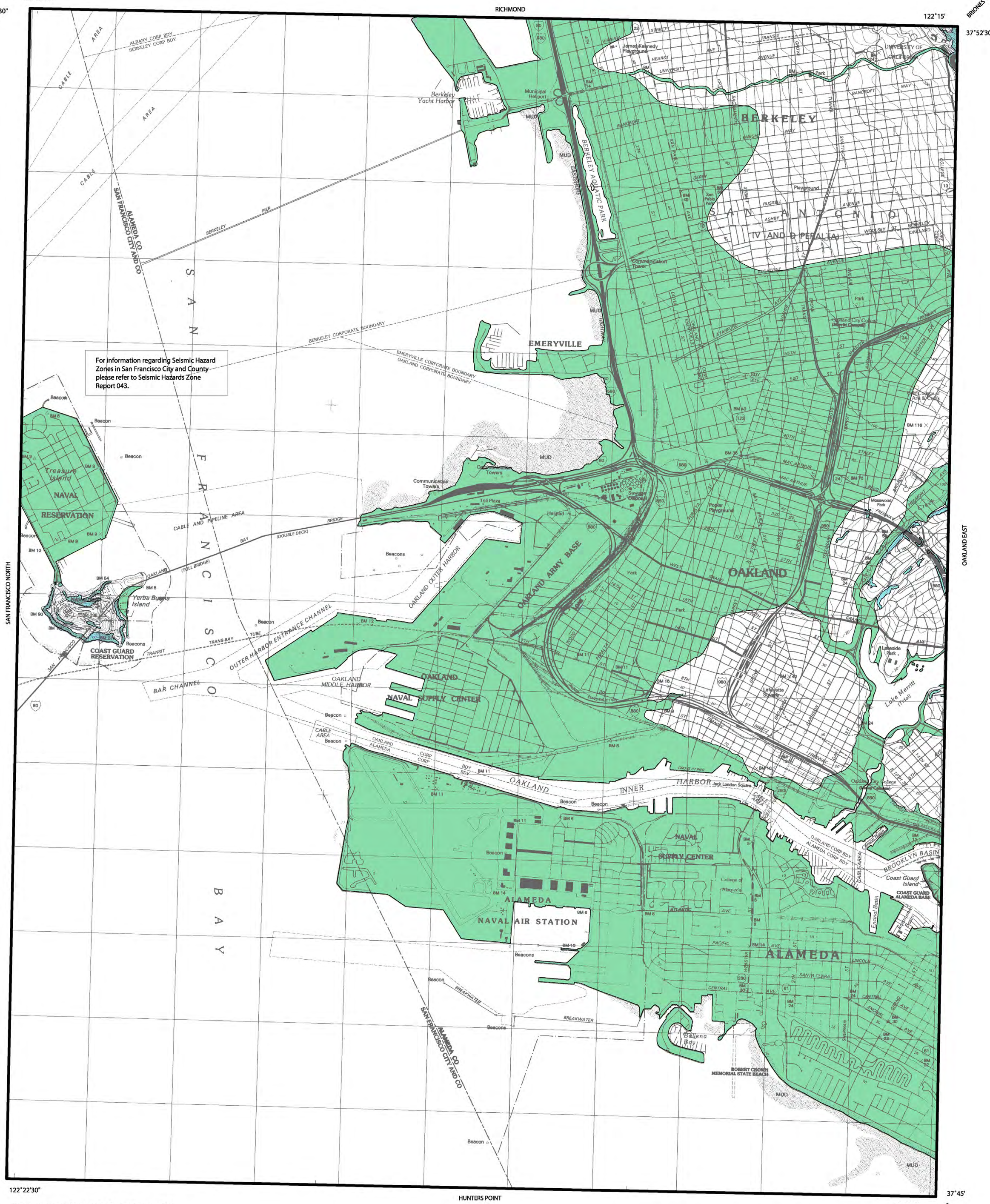
Attachment A, ExhibitA

CALIFORNIA GEOLOGICAL SURVEY
JAMES F. DAVIS, STATE GEOLOGIST

STATE OF CALIFORNIA-GRAY DAVIS, GOVERNOR
THE RESOURCES AGENCY-MARY D. NICHOLS, SECRETARY
DEPARTMENT OF CONSERVATION-DARRYL W. YOUNG, DIRECTOR

SEISMIC HAZARD ZONES
Oakland West Quadrangle

SAN QUENTIN
122°22'30"
37°52'30"
RICHMOND
122°15'
BRIONES VALLEY
37°52'30"



37°45'
122°22'30"
HUNTERS POINT
122°15'
SAN LEANDRO
SAN FRANCISCO SOUTH

Base Map prepared by U.S. Geological Survey, 1997.
Zones of required investigation boundaries may reflect updated digital topographic data that can differ significantly from contours shown on the base map.

PURPOSE OF MAP

This map will assist cities and counties in fulfilling their responsibilities for protecting the public from the effects of earthquake-triggered ground failure as required by the Seismic Hazards Mapping Act (Public Resources Code Sections 2690-2699.6).

For information regarding the general approach and recommended methods for preparing this map, see DMG Special Publication 118, *Recommended Criteria for Delineating Seismic Hazard Zones in California*.

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For a general description of the Seismic Hazard Mapping Program, the Seismic Hazards Mapping Act and regulations, and related information, please refer to the website at **www.conservation.ca.gov/cgs/.**

IMPORTANT - PLEASE NOTE

1) This map may not show all areas that have the potential for liquefaction, landsliding, strong earthquake ground shaking or other earthquake and geologic hazards. Also, a single earthquake capable of causing liquefaction or triggering landslide failure will not uniformly affect the entire area zoned.

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3) This map does not show Alquist-Priolo earthquake fault zones, if any, that may exist in this area. Please refer to the latest official map of earthquake fault zones for disclosures and other actions that are required by the Alquist-Priolo Earthquake Fault Zoning Act. For more information on this subject and an index to available maps, see DMG Special Publication 42.

4) Landslide zones on this map were determined, in part, by adapting methods originally developed by the U.S. Geological Survey (USGS). Landslide hazard maps prepared by the USGS typically use experimental approaches to assess earthquake-induced and other types of landslide hazards. Although aspects of these new methodologies may be incorporated in future California Geological Survey (CGS) seismic hazard zone maps, USGS maps should not be used as substitutes for these Official SEISMIC HAZARD ZONES maps.

5) U.S. Geological Survey base map standards provide that 90 percent of cultural features be located within 40 feet (horizontal accuracy) at the scale of this map. The identification and location of liquefaction and earthquake-induced landslide zones are based on available data. However, the quality of data used is varied. The zone boundaries depicted have been drawn as accurately as possible at this scale.

6) Information on this map is not sufficient to serve as a substitute for the geologic and geotechnical site investigations required under Chapters 7.5 and 7.8 of Division 2 of the Public Resources Code.

7) DISCLAIMER: The State of California and the Department of Conservation make no representations or warranties regarding the accuracy of the data from which these maps were derived. Neither the State nor the Department shall be liable under any circumstances for any direct, indirect, special, incidental or consequential damages with respect to any claim by any user or any third party on account of or arising from the use of this map.

SCALE 1:24,000

1 .5 0 1 MILE
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET
1 .5 0 1 KILOMETER

STATE OF CALIFORNIA

SEISMIC HAZARD ZONES

Delineated in compliance with
Chapter 7.8, Division 2 of the California Public Resources Code
(Seismic Hazards Mapping Act)

OAKLAND WEST QUADRANGLE

OFFICIAL MAP

Released: February 14, 2003

STATE GEOLOGIST

MAP EXPLANATION

Zones of Required Investigation:

Liquefaction

Areas where historical occurrence of liquefaction, or local geological, geotechnical and ground-water 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.

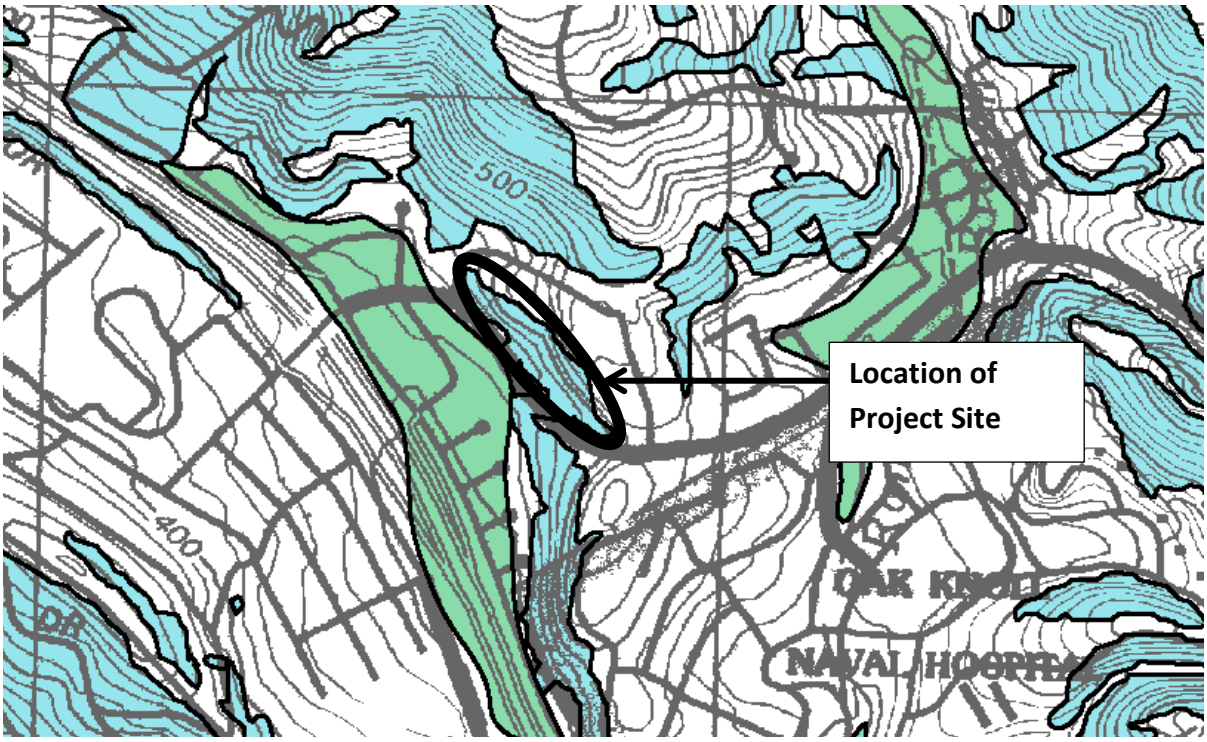
NOTE: Seismic Hazard Zones identified on this map may include developed land where delineated hazards have already been mitigated to city or county standards. Check with your local building/planning department for information regarding the location of such mitigated areas.

DATA AND METHODOLOGY USED TO DEVELOP THIS MAP ARE PRESENTED IN THE FOLLOWING:

Seismic Hazard Zone Report of the Oakland West 7.5-Minute Quadrangle, Alameda County California: California Geological Survey, Seismic Hazards Zone Report 081.

For additional information on seismic hazards in this map area, the rationale used for zoning, and additional references consulted, refer to CGS's World Wide Web site

www.conservation.ca.gov/cgs/



Portion of the State of California Seismic Hazard Zones, Oakland East Quadrangle, 2003

MAP EXPLANATION

Zones of Required Investigation:

Liquefaction

Areas where historical occurrence of liquefaction, or local geological, geotechnical and ground-water conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required.

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NOTE: Seismic Hazard Zones identified on this map may include developed land where delineated hazards have already been mitigated to city or county standards. Check with your local building/planning department for information regarding the location of such mitigated areas.

ATTACHMENT A, EXHIBIT B

BACKGROUND ON GHADs

General Background

The Beverly Act of 1979 established GHADs as governmental districts formed in specific geographic areas to prevent, mitigate, control or abate defined geologic hazards through maintenance, improvements, or other means. Public Resource Code Section 26500-26554 defines a "geologic hazard" "an actual or threatened landslide, land subsidence, soil erosion, earthquake, or any other natural or unnatural movement of land or earth."

There are approximately 35 GHADs in California with 30 of them in northern California. Alameda County has ten GHAD's including four in Pleasanton, three in Dublin, one in San Leandro, and two Oakland. GHAD's in surrounding counties include: eleven in Contra Costa County, one each in Napa County and Solano Counties, two in Santa Clara County and four in Santa Cruz County. There are no area or size limitations restricting formation of a GHAD. The Blackhawk GHAD in Danville is a 5,000 acre mixed use development with 2,250 residential units, two golf courses, a commercial center, office, retail, and other uses. On the other hand, the Lemoine Ranch GHAD in Pleasanton is a twelve, single family home development on 47 acres.

Benefits and Disadvantages of Forming a GHAD

Many development projects in California possess some degree of geotechnical or geologic risk. Although locations for development remain a land planning and/or public policy decision, a GHAD can provide several beneficial features to respond to both foreseen or unforeseen geologic issues for property owners.

- GHADs are independent agencies of California. As such, GHADs are administered in an independent and transparent manner subject to all laws governing public entities and granted the ability to tax and bond for improvements.
- All GHADs are required to have an adopted plan which identifies the geologic hazards on the site and provides specific monitoring schedules for the preventive maintenance of the project improvements. In addition, the plan outlines how geologic events that occur are handled.
- All GHADs are required to have a budget, based on the repair, maintenance, replacement, monitoring, and inspection responsibilities outlined in the GHAD plan. The budget provides a clear understanding of the costs of and to maintain the improvements.
- GHADs are financed through property assessments. The assessments create a financial reserve which is available for administration of the GHAD, maintenance and implementation of corrective action in the event of a hazardous geologic event. The assessments are to be used solely for GHAD purposes and cannot be easily reduced or altered protecting homeowners from the results of deferred maintenance while providing "insurance coverage" for geologic hazards not available from other sources at the same cost or with the same benefits.
- GHADs have specific appointed staff including a Manager, Engineer, Treasurer, and Attorney. In the event of a geologic hazard, GHADs can respond more easily to emergency geologic hazard situations because these persons are already identified and their services included in the GHAD budget. As such, the GHAD provides an alternative to costly litigation.
- GHADs are exempt from local permitting requirement to fix the geologic hazard.

However, there are also several disadvantages to forming a GHAD.

- GHADs are Assessment Districts and governed by independent, state-level public agencies. Therefore, they are not easily dissolved.

Attachment B

- GHADs require a property assessment and, therefore, can be fiscally challenging for small projects as the assessments are not distributed among many owners.
- Properties can be added to the GHAD by a vote of 51% of the adjacent property owners. However, some owners may not want to accept the additional properties into the GHAD
- The GHAD's Plan of Control clearly outlines the improvements it is responsible for. As such, it cannot compensate owners for emotional distress or diminution in value due to presence or occurrence of a geologic hazard.
- The GHAD can be subject to legal action, increasing operating costs.

GHAD Initiation and Formation

As noted above, GHAD's are formed to address a "geologic hazard" but formation can be initiated for many reasons. The Casa de la Playa and Depot Hill GHADs were formed after the homes had been constructed to build and maintain seawalls to address coastal bluff retreat. The Blackhawk and Canyon Lakes GHADs were formed to address land subsidence. The Magee Ranch GHAD was formed solely to maintain a detention basin.
Prior to GHAD formation, several documents need to be prepared as detailed below.

- An Engineer's Report, prepared by a licensed geotechnical engineer with full consideration of the state requirements and site geotechnical conditions, outlines a specific set of measures to be developed for ongoing maintenance, monitoring, and inspection of the project improvements. The Report builds previous site specific geotechnical analyses for the project. Both City/County staff and outside professional review is undertaken to ensure that the final work program for the GHAD minimizes, to the maximum extent feasible, any risk of geotechnical problems or failure. The Report is one of the key sources of information upon which the GHAD operating and reserve budgets will be based.

- A Plan of Control outlines a detailed scope of work for implementing the actual work of the GHAD, including repair, maintenance, replacement, monitoring, and inspection of all facilities that fall under the GHAD. Emphasis is placed on preventative maintenance and inspection. For example, establishing periodic inspections and of storm drains, drainage ditches, seasonal inspections (prior to the rainy season), and monitoring earth movement. The Plan of Control, along with the Engineer's Report, determines the operating budget and reserves for the GHAD.

- A GHAD Budget is developed based on the repair, maintenance, replacement, monitoring, and inspection responsibilities in the Engineer's Report and the Plan of Control. The GHAD Budget can be small or large depending on several factors including the number of properties to be assessed and the cost to repair, maintain, or replace the facilities under the GHAD.

Once these documents are prepared, a GHAD can be formed in two ways, 1) by a petition of not less than 10 percent of the property owners within the proposed district or 2) through resolution by a governing legislative body. In the latter case, the legislative body must:

- First, declare by resolution that the City/County is subject to the statutory provisions of the GHAD laws for initiating formation proceedings as required by Public Resources Code 26500 et seq;

- Second, the legislative body must hold a public hearing and adopt a resolution initiating the formation of the GHAD and set a future public hearing to hear public testimony regarding GHAD formation;

Attachment B

- Third, the legislative body must form, by resolution, the GHAD by establishing the GHAD boundaries, appoint a GHAD Board of Directors and adopt a Plan of Control required by state law that generally describes the monitoring and other requirements;

- Fourth, the GHAD Board of Directors must, again by resolution, appoint officers of GHAD (manager, attorney, engineer, and treasurer), approve the GHAD Budget and Plan of Control, adopt an intention to order an assessment and set a public hearing on the assessment and protests against the assessment, order notice of levying and assessment ballots mailed, and;

- Finally, the GHAD Board of Directors must conduct a public hearing on the proposed assessment and establish the levy and collection of assessments.

GHAD Financing

Financing of a GHAD is generally accomplished by a project applicant initially funding of the GHAD and an assessment of the property owners who live within the boundaries of the GHAD. Property assessments are only collected from the owners of constructed property (i.e. those that have a finaled building permit). Revenues from the assessment are divided into operation (repair, maintenance, replacement, monitoring, and inspections) and reserve accumulation. There is no cap on the amount of reserves to be accumulated as the purpose of the GHAD is ongoing. As noted above, issuing and servicing of bonds or notes is also authorized under a GHAD.

GHAD Acceptance of the Improvements

The GHAD Plan of Control outlines both the property improvements to be included in the GHAD and the procedures by which the GHAD accepts the responsibilities of the improvements. Once the property has been constructed, property assessments are collected to build the reserve fund. However, even though assessments are collected, the owners must petition the GHAD to accept responsibility of the GHAD. In many cases the GHAD will not accept responsibility for several years either because all the improvements outlined in the Plan of Control have not been completed or the home owners have not petitioned the GHAD to accept the improvements. Once the GHAD accepts the improvements regular and ongoing maintenance and is performed by the GHAD staff as outlined in the Plan of Control.

Summary

GHADs were established in 1979 as a useful and beneficial policy tool to prevent, mitigate, control or abate defined geologic hazards through maintenance, improvements, or other means. GHADs can be used for any size or type of project that has a geologic hazard as defined by the Public Resource Code. However, all GHADs are required to have an Engineer's Report, Plan of Control, and a Budget that identify the geologic hazard, outline a detailed scope of work for implementing the actual work of the GHAD with an emphasis on preventative maintenance and inspection, and cost to repair, maintain, or replace the facilities under the GHAD. Actually forming a GHAD requires several complex steps, however, until the GHAD is financed and accepts the improvements, the GHAD is not considered fully operational. The key advantage here is that there is an agency formed with the technical and organizational resources to respond to the potential or unforeseen geologic hazards.

Attachment B


646
650

A.C.K. Engineering & Surveying
600 Marin St. #5
Vallejo,Ca. 94590
ph.707-648-8818
fax707-644-2443

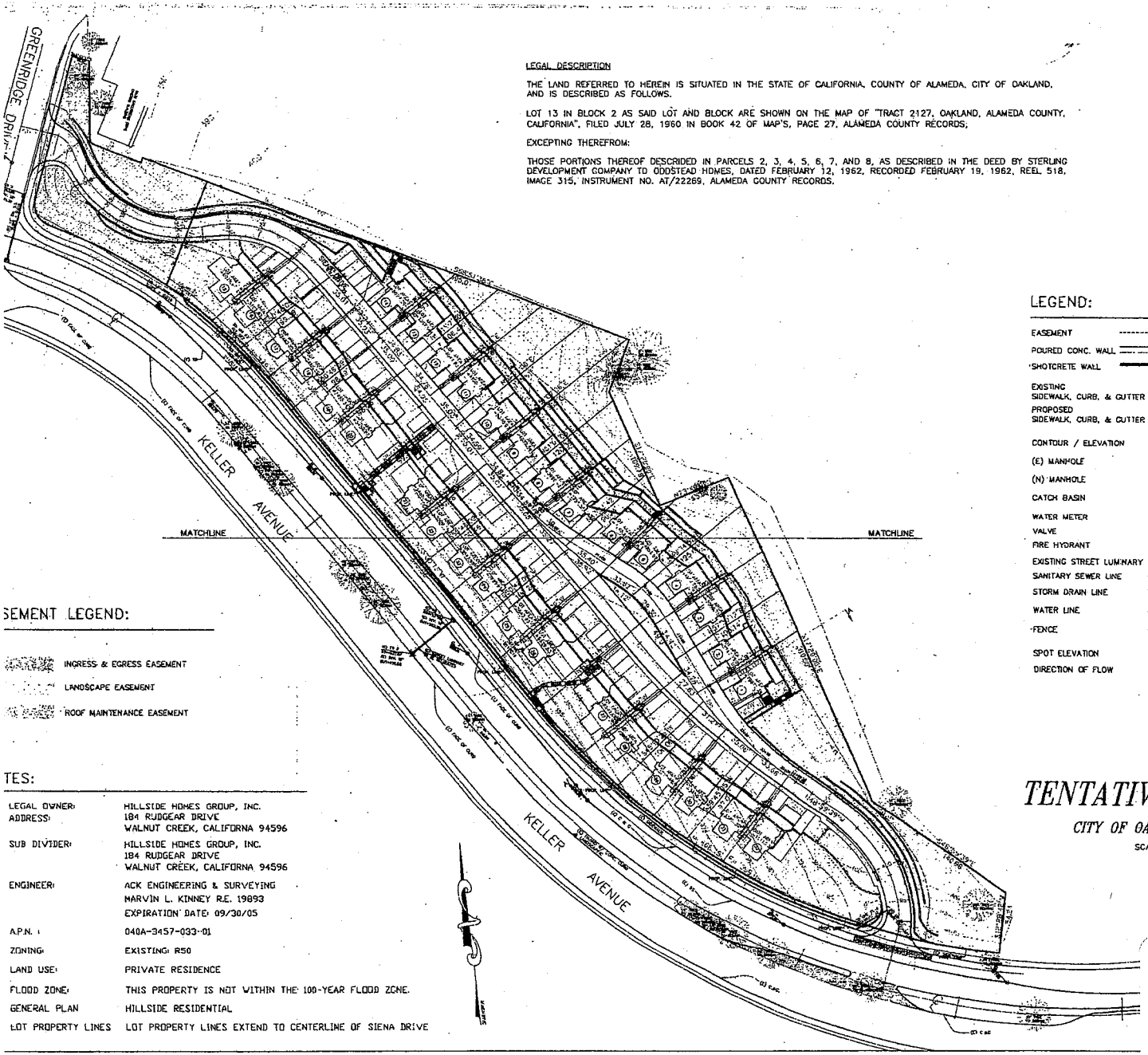
LEGAL DESCRIPTION

THE LAND REFERRED TO HEREIN IS SITUATED IN THE STATE OF CALIFORNIA, COUNTY OF ALAMEDA, CITY OF OAKLAND, AND IS DESCRIBED AS FOLLOWS.

LOT 13 IN BLOCK 2 AS SAID LOT AND BLOCK ARE SHOWN ON THE MAP OF "TRACT 2127, OAKLAND, ALAMEDA COUNTY, CALIFORNIA", FILED JULY 28, 1960 IN BOOK 42 OF MAP'S, PAGE 27, ALAMEDA COUNTY RECORDS;

EXCEPTING THEREFROM:

THOSE PORTIONS THEREOF DESCRIBED IN PARCELS 2, 3, 4, 5, 6, 7, AND 8, AS DESCRIBED IN THE DEED BY STERLING DEVELOPMENT COMPANY TO ODDSTEAD HOMES, DATED FEBRUARY 12, 1962, RECORDED FEBRUARY 19, 1962, REEL 518, IMAGE 315, INSTRUMENT NO. AT/22269, ALAMEDA COUNTY RECORDS.



LEGEND:

EASEMENT	
POURED CONC. WALL	
SHOTCRETE WALL	
EXISTING SIDEWALK, CURB, & GUTTER	
PROPOSED SIDEWALK, CURB, & GUTTER	
CONTOUR / ELEVATION	191
(E) MANHOLE	
(N) MANHOLE	
CATCH BASIN	
WATER METER	WM
VALVE	
FIRE HYDRANT	
EXISTING STREET LUMINARY	
SANITARY SEWER LINE	SS
STORM DRAIN LINE	
WATER LINE	W
FENCE	
SPOT ELEVATION	235.35
DIRECTION OF FLOW	

SEMENT LEGEND:

- INGRESS & EGRESS EASEMENT
- LANDSCAPE EASEMENT
- ROOF MAINTENANCE EASEMENT

TES:

LEGAL OWNER:	HILLSIDE HOMES GROUP, INC.
ADDRESS:	184 RUDGEAR DRIVE WALNUT CREEK, CALIFORNA 94596
SUB DIVIDER:	HILLSIDE HOMES GROUP, INC. 184 RUDGEAR DRIVE WALNUT CREEK, CALIFORNA 94596
ENGINEER:	ACK ENGINEERING & SURVEYING MARVIN L. KINNEY R.E. 19893 EXPIRATION DATE: 09/30/05
A.P.N. :	040A-3457-033-01
ZONING:	EXISTING: R50
LAND USE:	PRIVATE RESIDENCE
FLOOD ZONE:	THIS PROPERTY IS NOT WITHIN THE 100-YEAR FLOOD ZONE.
GENERAL PLAN	HILLSIDE RESIDENTIAL
LOT PROPERTY LINES	LOT PROPERTY LINES EXTEND TO CENTERLINE OF SIENA DRIVE

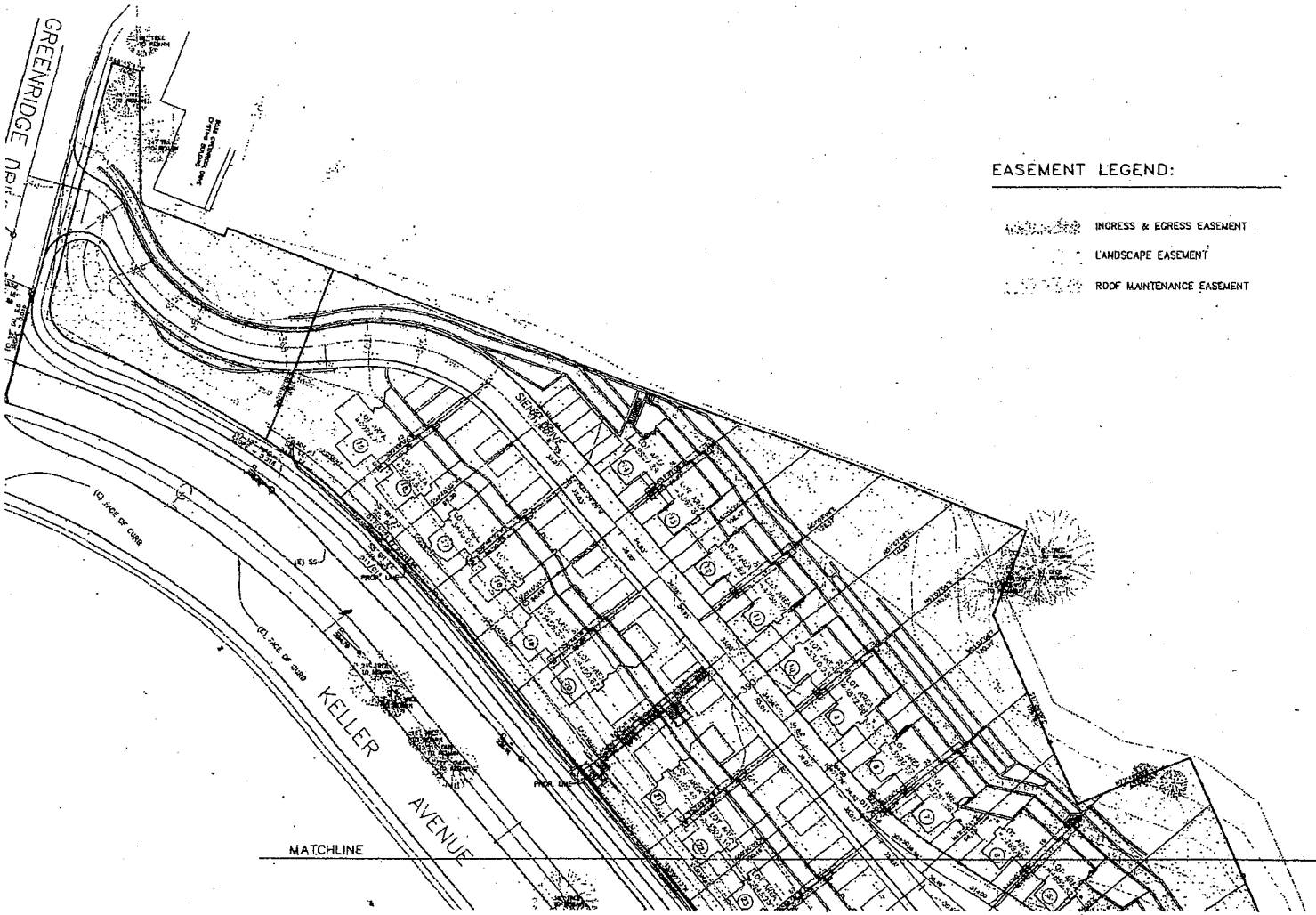
ROOF ACCESS EASEMENT LINE TABLE

LINE	LENGTH	BEARING
9	41.25	N58°58'17"E
10	6.00	S31°01'43"E
11	41.25	S58°58'17"W
12	6.00	N31°01'43"W
13	41.25	S56°02'07"W
14	6.00	N33°57'53"W
15	41.25	N56°02'07"E
16	6.00	S33°57'53"E
17	40.58	S44°0'18"W
18	6.00	N45°59'42"W
19	40.59	N44°0'18"E
20	6.00	S45°59'42"E
21	41.23	S51°07'06"W
22	6.00	N37°33'59"W
23	41.23	N51°07'06"E
24	6.00	S37°33'59"E
25	41.69	S51°7'6"W
26	6.00	N38°52'54"W
27	41.50	N51°07'06"E
28	6.00	S38°52'54"E
29	41.25	S51°07'06"W
30	6.00	N38°52'54"W
31	41.25	N51°07'06"E
32	6.00	S38°52'54"E
33	6.00	N39°52'54"W
34	41.59	N51°07'06"E
35	6.00	N38°52'54"E
36	41.63	S51°37'06"W
37	6.00	S39°13'51"E
38	41.67	S50°46'09"W
39	6.00	N39°13'51"W
40	41.67	N50°46'09"E
41	41.67	N50°46'09"E
42	6.00	S39°13'51"E
43	41.67	S50°46'09"W
44	6.00	N39°13'51"W
49	41.67	S50°46'09"W
50	6.00	S39°13'51"E
51	41.67	N50°46'09"E
52	6.00	N39°13'51"W
53	41.67	N50°46'09"E
54	6.00	S39°13'51"E
55	41.67	S50°45'09"W
56	6.00	N39°13'51"W
57	41.67	N50°46'09"E
58	6.00	S39°13'51"E
59	41.67	S50°46'09"W
60	6.00	N39°13'51"W
61	41.67	N50°46'09"E
62	41.67	S39°13'51"E
63	6.00	S50°46'09"W
64	41.67	N39°13'51"W
65	6.00	N50°46'09"E
66	41.67	S39°13'51"E
67	6.00	N50°46'09"E
68	41.67	S39°13'51"E
69	6.00	S50°24'55"E
70	41.67	S39°35'05"W
71	6.00	N50°24'55"W
72	41.67	N39°35'05"E
73	6.00	S52°24'55"E
74	41.67	S37°35'05"W
75	6.00	N52°24'55"W
76	41.67	N37°35'05"E

TENTATIVE TRACT MAP NO. 7469

CITY OF OAKLAND ALAMEDA COUNTY CALIFORNIA

SCALE: 1" = 40' APRIL 5, 2005



EASEMENT LEGEND:

- INGRESS & EGRESS EASEMENT
- LANDSCAPE EASEMENT
- ROOF MAINTENANCE EASEMENT

A.C.K. Engineering & Surveying

600 Marin St. #5
Vallejo,Ca. 94590
ph.707-648-8818
fax707-644-2443

ROOF ACCESS EASEMENT LINE TABLE

LINE	LENGTH	BEARING
9	41.25	N58°56'17"
10	6.00	S31°01'43"
11	41.25	S58°56'17"
12	6.00	N31°01'43"
13	41.25	S56°08'07"
14	6.00	N33°51'53"
15	41.25	N56°08'07"
16	6.00	S33°51'53"
17	40.58	S44°59'18"
18	6.00	N45°59'42"
19	40.59	N44°0'18"
20	6.00	S45°59'42"
21	41.23	S51°07'06"
22	6.00	N°07'33"59"
23	41.23	N51°07'06"
24	6.00	S°37°33'59"
25	41.60	S51°7'6"
26	6.00	N38°52'54"
27	41.60	N51°07'05"
28	6.00	S38°52'54"
29	41.25	S51°07'06"
30	6.00	N38°52'54"
31	41.25	N51°07'05"
32	6.00	S38°52'54"
33	6.00	N38°52'54"
34	41.69	N51°07'06"
35	6.00	N38°52'54"
36	41.69	S51°07'06"
37	6.00	S39°13'51"
38	41.67	S50°46'09"
39	6.00	N39°13'51"
40	41.67	N50°46'09"
41	41.67	N50°46'09"
42	6.00	S39°13'51"
43	41.67	S50°46'09"
44	6.00	N39°13'51"
45	41.67	S50°46'09"
50	6.00	S39°13'51"
51	41.67	N50°46'09"
52	6.00	N39°13'51"
53	41.67	N50°46'09"
54	6.00	S39°13'51"
55	41.67	S50°46'09"
56	6.00	N39°13'51"
57	41.67	N50°46'09"
58	6.00	S39°13'51"
59	41.67	S50°46'09"
60	6.00	N39°13'51"
61	41.67	N50°46'09"
62	41.67	S39°13'51"
63	6.00	S50°46'09"
64	41.67	N39°13'51"
65	6.00	N50°46'09"
66	41.67	S39°13'51"
67	6.00	N50°46'09"
68	41.67	S39°13'51"
69	6.00	S50°24'55"
70	41.67	S39°35'05"
71	6.00	N50°24'55"
72	41.67	N39°35'05"
73	6.00	S50°24'55"
74	41.67	S39°35'05"
75	6.00	N50°24'55"
76	41.67	N39°35'05"

LEGEND:

EASEMENT		VALVE	
POURED CONC. WALL		FIRE HYDRANT	
SHOTCRETE WALL		EXISTING STREET LUMINARY	
EXISTING SIDEWALK, CURB, & GUTTER		SANITARY SEWER LINE	SS
PROPOSED SIDEWALK, CURB, & GUTTER		STORM DRAIN LINE	
CONTOUR / ELEVATION	191	WATER LINE	W
(E) MANHOLE		FENCE	
(N) MANHOLE		SPOT ELEVATION	235.35
CATCH BASIN		DIRECTION OF FLOW	
WATER METER	WM		

WNER:	HILLSIDE HOMES GROUP, INC. 184 RUDGEAR DRIVE WALNUT CREEK, CALIFORNA 94596
DER:	HILLSIDE HOMES GROUP, INC. 184 RUDGEAR DRIVE WALNUT CREEK, CALIFORNA 94596
	ACK ENGINEERING & SURVEYING MARVIN L. KINNEY R.E. 19893 EXPIRATION DATE: 09/30/05
	040A-3457-033-01
	EXISTING: R50
	PRIVATE RESIDENCE
ONE:	THIS PROPERTY IS NOT WITHIN THE 100-YEAR FLOOD ZONE.
PLAN	HILLSIDE RESIDENTIAL
PERTY LINES	LOT PROPERTY LINES EXTEND TO CENTERLINE OF SIENA DRIVE

LEGAL DESCRIPTION

THE LAND REFERRED TO HEREIN IS SITUATED IN THE STATE OF CALIFORNIA, COUNTY OF ALAMEDA, CITY OF OAKLAN AND IS DESCRIBED AS FOLLOWS.

LOT 13 IN BLOCK 2 AS SAID LOT AND BLOCK ARE SHOWN ON THE MAP OF "TRACT 2127, OAKLAND, ALAMEDA CO CALIFORNIA", FILED JULY 28, 1960 IN BOOK 42 OF MAP'S, PAGE 27, ALAMEDA COUNTY RECORDS.

EXCEPTING THEREFROM:

THOSE PORTIONS THEREOF DESCRIBED IN PARCELS 2, 3, 4, 5, 6, 7, AND 8, AS DESCRIBED IN THE DEED BY STE DEVELOPMENT COMPANY TO ODDSTEAD HOMES, DATED FEBRUARY 12, 1962, RECORDED FEBRUARY 19, 1962, REEL IMAGE 315, INSTRUMENT NO. AT/22269, ALAMEDA COUNTY RECORDS.

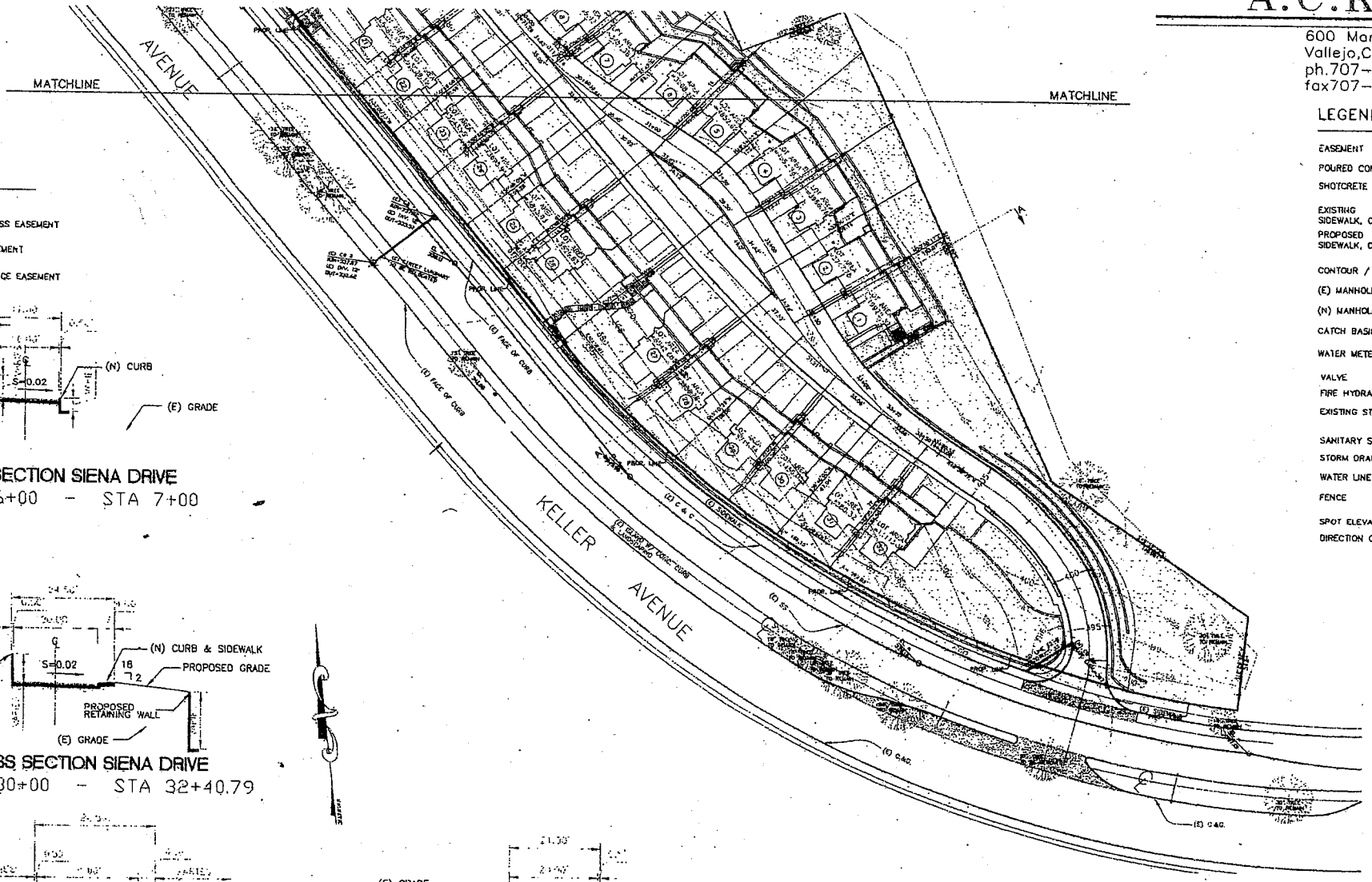
TENTATIVE TRACT MAP NO. 746

CITY OF OAKLAND ALAMEDA COUNTY CALIFORNIA

SCALE: 1" = 30' APRIL 5, 2005

TM-2

A.C.K. Engineering & Surveying
600 Marin St. #5
Vallejo,Ca. 94590
ph.707-648-8818
fax707-644-2443

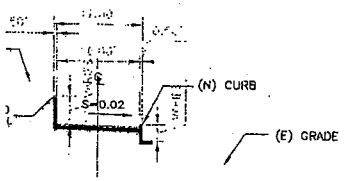


LEGEND:

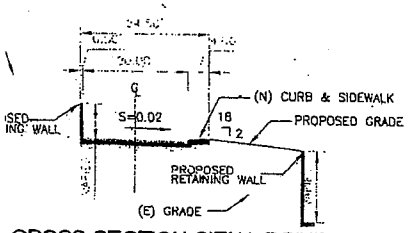
EASEMENT
POURED CONC. WALL
SHOTCRETE WALL
EXISTING SIDEWALK, CURB, & GUTTER
PROPOSED SIDEWALK, CURB, & GUTTER
CONTOUR / ELEVATION 191
(E) MANHOLE
(N) MANHOLE
CATCH BASIN
WATER METER
VALVE
FIRE HYDRANT
EXISTING STREET LUMINARY
SANITARY SEWER LINE SS
STORM DRAIN LINE
WATER LINE W
FENCE
SPOT ELEVATION 235.35
DIRECTION OF FLOW

GEND:

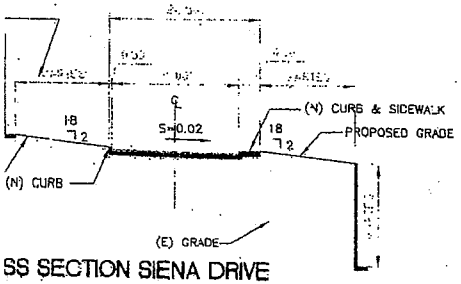
SS & EGRESS EASEMENT
ICAPE EASEMENT
MAINTENANCE EASEMENT



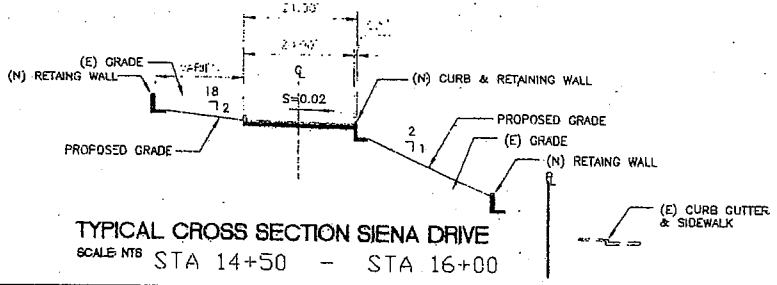
OSS SECTION SIENA DRIVE
STA 6+00 - STA 7+00



CROSS SECTION SIENA DRIVE
STA 30+00 - STA 32+40.79



SS SECTION SIENA DRIVE
A 7+00 - STA 13+00



TYPICAL CROSS SECTION SIENA DRIVE
SCALE: NTS STA 14+50 - STA 16+00

TENTATIVE TRACT MAP NO. 746

CITY OF OAKLAND ALAMEDA COUNTY CALIFORNIA

SCALE: 1" = 30' APRIL 5, 2005

TM-3

REPORT

GEOTECHNICAL INVESTIGATION

Planned Townhouse Development

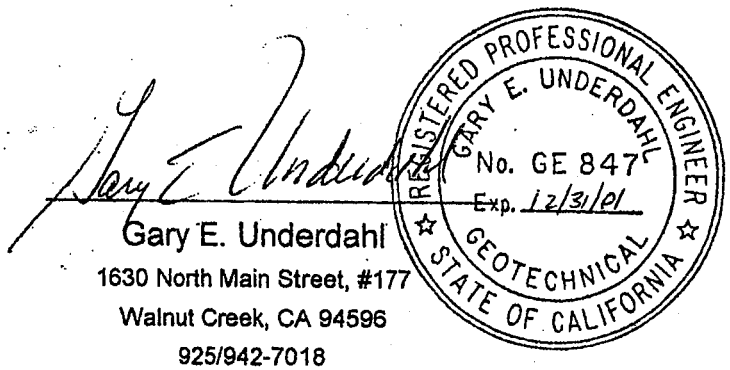
Keller Avenue

Oakland, Alameda County, California

Project Number 9460501023
TG 671 B1

prepared for

Mr. Ed Patmont
Hillside Homes
184 Rudgear Drive
Walnut Creek, California 94596



Gary E. Underdahl
1630 North Main Street, #177
Walnut Creek, CA 94596
925/942-7018

Attachment D

TABLE OF CONTENTS

ILLUSTRATIONS

INTRODUCTION

This report presents the results of an investigation to evaluate the geotechnical conditions for a planned townhouse residential development along Keller Avenue, Oakland, Alameda County, California.

This investigation was requested by Mr. Ed Patmont following discussions, and a site visit on March 28, 2001.

The site is located in the southeastern part of Oakland as shown on the Vicinity Map, Figure 1. A plan view of the lot is shown on the Site Plan, Figure 2.

SCOPE

The scope of this investigation, as outlined in the proposal dated March 29, 2001, and revised during the investigation is to:

- review pertinent available geologic and soil maps and reports
- explore the site with a surface reconnaissance and 3 test pits in the soil filled swale using a backhoe, to explore the soil, rock and ground water conditions and obtain samples
- perform laboratory tests on selected samples to measure the soil moisture content, plasticity and gradation
- develop conclusions and recommendations regarding potential geologic hazards, slope stability, site preparation, foundation design and drainage design
- prepare a written report presenting the findings, conclusions and recommendations

BACKGROUND

The site is a steeply sloping, mostly cut, slope on the east side Keller Avenue, between Greenridge Drive and Rilea Way. The lot is mostly a 2H:1V, horizontal to vertical units, slope cut for the construction of Keller Avenue. The upper part of the slope is cut by 2 swales which were filled, possibly as part of the upslope subdivision(s). A search by Hillside Homes of the City of Oakland files found no geotechnical information about the Keller Road construction. No geotechnical reports for the upslope subdivision(s) is known to be available. There is no report of significant recent movement or erosion of any site soils. There is no known contamination on the site.

PLANNED CONSTRUCTION

The site is to be developed with 43 townhouses, up to three-story in height, with garages. The buildings will be mostly of wood frame construction. Foundation loads are expected to be relatively light, typical of residential construction. Extensive grading will be needed for the construction, primarily to develop an access road, driveways and building pads. Retaining walls will be used throughout the development.

EXPLORATION AND TESTING

Three test pits were dug in the centrally located swale, at the locations shown on Figure 2. The pits were dug and sampled on June 14, 2001, to depths of 1.5 to 6 feet with a 36 inch wide bucket on a track backhoe. The logs of the pits are shown on Figures 3 through 5. The pits were logged during the excavation by the engineer based on the excavation resistance and the samples obtained.

Samples representative of the soils encountered were obtained for testing as loose, or disturbed, samples.

The field classifications, based on the Unified Soil Classification System, shown on Figure 6, were modified after further examination. The soil and rock layers encountered are shown graphically on the logs in accordance with the Symbols shown on Figures 6 and 7. The bedrock descriptions include evaluations based on the criteria shown as Rock Hardness and Rock Weathering Criteria, on Figures 8 and 9.

In the laboratory the samples were tested for in-place moisture content, gradation and plasticity, generally in conformance with the procedures of the American Society for Testing Materials. The sample locations and the laboratory test results are shown on the logs, in accordance with the Key following the Log of Test Pit 1. Plasticity test results are also shown on the Plasticity Chart, Figure 10.

No ground water was found in the pits. The pits were backfilled with the excavated soils as soon as the logging and sampling were finished.

SITE CONDITIONS

SURFACE FEATURES — The site is a irregularly shaped parcel, with approximately 950 feet of frontage on Keller Avenue and a depth of up to 250 feet. Most of the lot is cut, with slopes of approximately 2H:1V. Above the cut slope, along the upper end, or eastern side, of the site, the slope is gentler. The gentler slopes are filled or natural, with gradients ranging from 2.H:1V to 3H:1V. Elevations range from 350 to 460 feet. Drainage is sheet flow down the slope to the street.

The lot vegetation consists of grasses on the cut slope, with a some brush on the fill and the natural slope above the cut and fill.

Average annual rainfall in the vicinity of the lot is 21 inches per year, with most of the rain falling during the fall and winter months (Rantz 1971). Large variation from the historic average occurs frequently. The area is outside of the 100 year flood hazard zones, based on the topography.

According to the Soil Survey, the natural soil is Xerorthents-Millsholm complex, found on 50 to 75 percent slopes. Xerorthents is on the cut and fill urban development area and is therefore has quite variable characteristics. It is generally a loamy soil making up approximately 60 percent of the area. The Millsholm is a loam, making up 20 percent of the area. Included in the mapping and making up 20 percent of the complex are small areas of Maymen loam, Los Gatos loam, and Los Osos silty clay loam. The Xerorthents fill is typically a loam, silt loam or light silty clay loam with up to 50 percent angular fragments of shale and sandstone. Xerorthents cut is typically interbedded shale and fine-grained sandstone. The Millsholm is typically shallow, and formed in the residuum of weathered shale or fine-grained sandstone. It is typically composed of 2 layers, an 7 inch thick silt loam topsoil and a 20 inch thick silt loam subsoil, underlain by shale. Both soils typically have a low shrink-swell potential, with a Plasticity Index of NP, non-plastic, to 10 and silt and clay fines (soil finer than a number 200 sieve) content of 50 to 75 percent, in contrast with test results of sample 3-1, which shows a higher plasticity index of 21, with a fines content of 53.6 percent. The sample is from the buried topsoil.

SUBSURFACE FINDINGS — In general, the test pits found fill over natural clay topsoil and bedrock. Test pit locations are shown on the Site Plan, Figure 2. The conditions found in the test pits can be grouped as follows:

- FILL – The upper soil layer in the central swale is a well-compacted fill. The fill is composed of a gravelly silt or clay or silty gravel, with the gravel consisting of sandstone and shale rock fragments.
- TOPSOIL – The natural layer, under the fill, is a firm and dry sandy clay topsoil, ranging from 6 inches to 18 inches in thickness. The topsoil is moderately to highly plastic and probably highly expansive. Sand and gravel content is relatively high, 46 percent in the sample from Test Pit 3.
- BEDROCK – The bedrock is a hard and strong volcanic.
- GROUNDWATER – No ground water was found in any of the test pits. Depth to ground water is unknown. No ground water is likely to be found in the fill or natural soils on the site.

GEOLOGY

BEDROCK MAPPING — The cited geologic maps indicate that the site is on geologically young volcanics, labeled the Leona Rhyolite by Radbruch. (Crane 1988, Dibblee 1980, Radbruch 1969). The bedrock of this formation varies considerably in strength and hardness. A portion of the mapping by Crane is shown on Figure 11. The Nilsen map shows the site to be on rock and colluvial filled swales. The mapping identifies colluvium and numerous landslides on the adjacent hillsides and swales. A portion of the Nilsen map is reproduced as the Nilsen Landslide Map, Figure 12.

SEISMICITY — The San Francisco Bay Area includes this site and is a very seismically active region. Alquist-Priolo (A-P) Earthquake Fault Zones are created by the State Geologist for faults which are considered to be potentially active (Davis 1982). Active faults are those which show evidence of movement within the last 11,000 years. The lot is not within an Earthquake Fault Zone, as shown on the EQ Fault Zone Map, Figure 13; however, it is in a large area of soils with a potential for permanent ground displacement in an earthquake. A portion of the Seismic Hazard Zones map and legend is shown as Figure 14. There are several mapped faults in the vicinity. None of the nearby faults, other than the nearby northwest-trending Hayward fault (approximately 100 meters to the southwest), is mapped as potentially active, and no surface ruptures are shown to cross the lot. The following tabulated fault data are derived from state maps and publications.

Fault	*Type*	*Closest Distance*	*Maximum Moment Magnitude*	*Slip Rate*	*Recurrence Interval*
Hayward	A	<1 km	7.1	9.0 mm/yr	167 yr
Concord	B	21 km	6.9	6.0 mm/yr	176 yr
Calaveras	B	14 km	6.8	6.0 mm/yr	146 yr
San Andreas	A	31 km	7.1	17.0 mm/yr	400 yr

Other regional active faults have a similar probability of generating earthquakes in the near future. Therefore, there is a high risk of potentially damaging intensities of ground shaking at the site during the useful life of the planned structures. On-going seismic studies may refine or change the foregoing information. The locations of the San Andreas, Concord, Calaveras and Hayward Faults and other regional faults relative to the site are shown on Figure 15.

CONCLUSIONS AND RECOMMENDATIONS

GEOLOGIC HAZARDS — A comprehensive assessment of geologic hazards on and adjacent to the lot is beyond the scope of this investigation. However, information presented in the Geology and Seismicity sections of the report allows some general conclusions to be drawn.

The risk of surface fault rupture is very low because no faults are known to cross the lot. Ground ruptures commonly occur on existing fault traces with evidence of movement because they represent existing planes of weakness. A search for any possible faults on the lot is beyond the scope of this investigation.

A large magnitude earthquake on any of several Bay Area faults is capable of producing damaging levels of ground shaking on the site. Obviously, the highest ground shaking intensities on the site would be associated with a high magnitude earthquake on the Hayward fault. In addition, the Concord, Calaveras, San Andreas faults are all relatively close to the site and can be expected to cause moderate to strong ground shaking at the site in the event of a large earthquake. A strong earthquake originating on these or other known or unmapped faults in the greater San Francisco Bay region can be expected to damage structures over a broad area. Damage from strong ground shaking caused by earthquakes on other active faults is likely to be less severe than ground shaking caused by earthquakes on the Hayward fault for the same magnitude event. This is due to the effect of distance in attenuating ground motion, although other factors are also involved in the severity of ground shaking at any location. Seismic response of the site will not be affected by the planned structures and is expected to be similar to that of other nearby developed lots. Therefore, the structures should be designed in accordance with current codes by competent professional engineers.

The risks of earthquake induced landsliding and lurch cracking are essentially non-existent on the site, because of the hard rock at shallow depths. The risks of earthquake induced liquefaction or lateral spreading are also non-existent, because the lack of saturated clean silts or sands.

SLOPE STABILITY — The cut and fill slopes are very steep and composed of rock, strong fill and firm natural soils. The stability of these slopes is satisfactory under the existing conditions; however, the risk of failure increases to unsatisfactory if the soils become saturated, and in the event of a large nearby earthquake. Mitigation of the risk of damage from the possible failure, or creep, of the slopes next to the planned buildings should consist of the use of foundations bearing on rock, and grading of the slopes to a maximum gradient of 2H:1V. The new retaining walls will allow the slopes to remain no steeper than the recommended maximum gradient. Drainage on the site should be designed and maintained to minimize ponding of surface water and/or saturation of the soils.

SITE PREPARATION — All fill areas should be stripped of vegetation and the upper few inches of soil containing roots and other organic debris. Any loose or soft material should be excavated to expose firm soil. Keying and benching are needed on slopes steeper than 6H:1V. Keyways should be at least 10 feet wide, level or sloping down into the slope, and bottomed on rock. The key should be provided with a subdrain, consisting of a 4 inch diameter perforated, rigid wall pipe encased in fabric wrapped gravel or CALTRANS Class 2 Permeable Material. The pipe should be placed with perforations down. The surface

soils encountered in the test pits are gravels, sands, silts and clays which are estimated to be easily excavated with normal construction equipment; the bedrock is hard and will require strong equipment to cut and drill.

On-site soil, free of organic debris and rocks or lumps over 6 inches in largest dimension, should be spread in loose layers no thicker than 8 inches, dried or moistened to achieve a content slightly above optimum, and compacted to at least 90% relative compaction. Any imported fill soil should be of low expansion potential and should be free of detrimental amounts of organics and any rocks or lumps larger than 4 inches in diameter.

Final cut and fill slopes should be no steeper than 2H:1V on soil. Gentler slopes should be constructed where possible to minimize the potential for creep and sliding. Surface drainage should be provided as recommended in the Drainage section.

FOUNDATIONS DESIGN — The planned townhouses will be placed on slightly to moderately expansive soil and non-expansive bedrock and on steep slopes. Therefore, foundations should be drilled piers and grade beams.

The piers should be designed to gain support with allowable skin friction values of 500 pounds per square foot, psf, in firm soil and rock, neglecting all soil above the lowest elevation within 10 feet of each pier. The skin friction values are for dead plus long term live loads. The allowable bearing capacity should be increased 50% for total loads, including wind or seismic forces. All piers should be at least 12 inches in diameter and bottomed at least 10 feet below final grade, measured as the lowest elevation on unrestrained ground within 10 feet of the pier. On 2H:1V slopes the minimum pier depth is 15 feet.

Piers should be designed to resist creep forces based on an active pressure design, acting over 2 pier diameters, using an equivalent fluid of 75 pounds per cubic foot, pcf. Design creep forces extend to the full depth of the soil above the lowest elevation within 10 feet of the pier on any unrestrained slope.

Passive resistance of the firm soil and rock surrounding the piers should be based on an equivalent fluid of 350 pounds per cubic foot, pcf, neglecting unrestrained soil above the lowest elevation within 10 feet of each pier. Passive resistance acts over 2 pier diameters.

The foundations should be designed to resist 1000 psf uplift on the grade beams and 1000 psf skin friction on the upper 3 feet of each pier. A gap of at least 2 inches should be provided below all grade beams on soil to minimize the risk of soil uplift pressure. Uplift capacity of the piers should be based on 2/3 of the bearing capacity. Any overpour, or 'mushrooming', on the pier tops should be removed.

Based upon the seismic design from the 1997 Uniform Building Code, the following values apply.

- Seismic Zone.....4
- Soil Profile (very dense soil and soft rock)...Sc
- Seismic Source Type (Hayward fault).....A
- Closest Distance to Seismic Source.....<1 km

Post-construction differential settlement of foundations designed and installed as recommended should be negligible, less than ½ inch. Total post-construction settlement of the foundations should also be less than ½ inch.

RETAINING WALLS — New retaining walls should be designed using the following criteria, developed for soil backfill, plus the design criteria for foundations presented in the preceding section:

ACTIVE PRESSURE

Type of wall	cantilever	restrained
basis of distribution	equivalent fluid	uniform
level backfill	60 pcf	36H psf
steep (between 2:1 and 3:1)	75 pcf	45H psf

PASSIVE PRESSURE - EQUIVALENT FLUID BASIS.....350 pcf
calculate pressure based on depth below the lowest adjacent final grade, neglecting resistance in the upper 3 feet of unrestrained fill and natural soil.

BACKFILL DENSITY, SOIL	130 PCF
ANGLE OF INTERNAL FRICTION	20°
COEFFICIENT OF FRICTION on base of footing	0.4

Types of retaining walls that should be considered as part of the structure are reinforced concrete, CMU, drilled pier and lagging (using steel beams and concrete lagging), and crib walls (walls composed of interlocking concrete beams to form cells which are filled with gravel). All 3 types can be designed using the criteria presented in this report. Gabions (rock filled wire baskets) and wood walls are not recommended as part of the structures because the later replacement (wood which rots and wire which corrodes) that would probably be needed would be difficult.

All retaining walls should be designed to prevent the buildup of hydrostatic pressures. Lagging should be gapped ½ inch between planks to allow water to drain through the wall, or backdrainage should be provided if seepage on the planks and at the base of the wall is undesirable. Crib walls are normally free-draining; however, subdrains are needed if seepage at the base of the wall is undesirable. Backdrainage, where needed, should consist of one of the following: 1) commercial soil drainage mats, or 2) Caltrans Class 2 Permeable Material or fabric filter wrapped drain rock placed behind the wall in a layer at least one foot thick and drained with a 4 inch perforated, smooth-walled PVC pipe, essentially in conformance with the details shown on the Typical Retaining Wall Drainage Detail, Figure 16. To minimize seepage on grade or subgrade on the downslope side of walls, the backdrain should be deepened to at least 6 inches below the soil grade (subgrade of slabs). The pipe should be placed 2 inches above the bottom of the Permeable Material with the perforations down. The Permeable Material should be covered with a 6 inch to one foot thick layer of soil to minimize the flow of surface water into the backdrain. The backdrain should be provided with clean-outs. Backdrain pipes should be cleaned of silt and roots annually as part of normal maintenance. Where seepage through concrete walls and the associated staining is undesirable, the wall should be waterproofed. Any desired substitutions for this recommended backdrainage should be discussed with the engineer.

The ground surface on the backfill behind the walls should be drained to prevent ponding. There should be no surface drain inlets to the backdrain. The surface drain should consist of a sloping surface, lined V-ditch or a buried solid pipe with drain inlets. The surface drain and the backdrain can be connected to the same pipe at a point below the level of the backdrain pipe for discharge to the street drainage below the planned structure.

SURFACE AND SUBSURFACE DRAINAGE — The final grades around the planned structures should be sloped to provide positive surface drainage away from the foundations. A combination surface and subdrain should be placed adjacent to the perimeter foundations where the soil does not slope positively away from the foundation or where there is a risk the slope may be changed adversely in the future, similar to the details shown on Figure 17.

CONCRETE SLABS-ON-GRADE — The existing soil is possibly expansive and capable of heaving and cracking of any concrete slabs-on-grade. Therefore, the on-site soil should be saturated to expand the soils prior to placement of the concrete. Compaction of the supporting soil to include significant voids should be considered to minimize soil heave. Voids can be created in the soil by scarifying the soil and compacting to densities of approximately 85 percent relative compaction. Slab thickness and other design criteria should conform to the applicable codes. Slabs should be reinforced, preferably with rebar, spaced as recommended by the structural engineer. A small amount of heaving and cracking of concrete slabs-on-grade is generally unavoidable on soils typically found in this area.

PAVEMENT — The pavement subgrade should be scarified to a depth of at least 6 inches, moisture conditioned to slightly in excess of optimum, and compacted to at least 95 percent relative compaction, based on the ASTM Test Method D1557-78. The surface soils may be plastic and could have low R-values. Pavement thicknesses can be designed from testing of the subgrade soil sampled during the site grading and a traffic index. For preliminary design, pavement on plastic soil should be at least 3.0 inches of asphaltic concrete over at least 10 inches of Caltrans Class 2 aggregate base. The base material should be compacted to at least 95 percent relative compaction.

LIMITATIONS AND ADDITIONAL SERVICES

The investigation has been performed in accordance with the generally accepted standards of geotechnical engineering practice. The recommendations are necessarily preliminary to the final design of the grading and structures. Therefore, the final plans should be reviewed for conformance with the recommendations and supplemental recommendations developed if needed. The report recommendations should be updated for any design completed after a building or grading code revision. The Uniform Building Code is revised every 3 years (ICBO 1997). The building code for 2000, now called the International Building Code, is yet to be adopted by most building departments.

Deviations from the findings are possible because of limitations inherent in the methods of exploration. Variation in the soils and rock may require changes in the recommended design of grading, foundations and drainage. Therefore, the geotechnical engineer should be retained to observe the conditions encountered in any subsequent construction to:

- modify the recommendations, if needed
- observe and test the earthwork and foundation excavation for conformance with the recommendations

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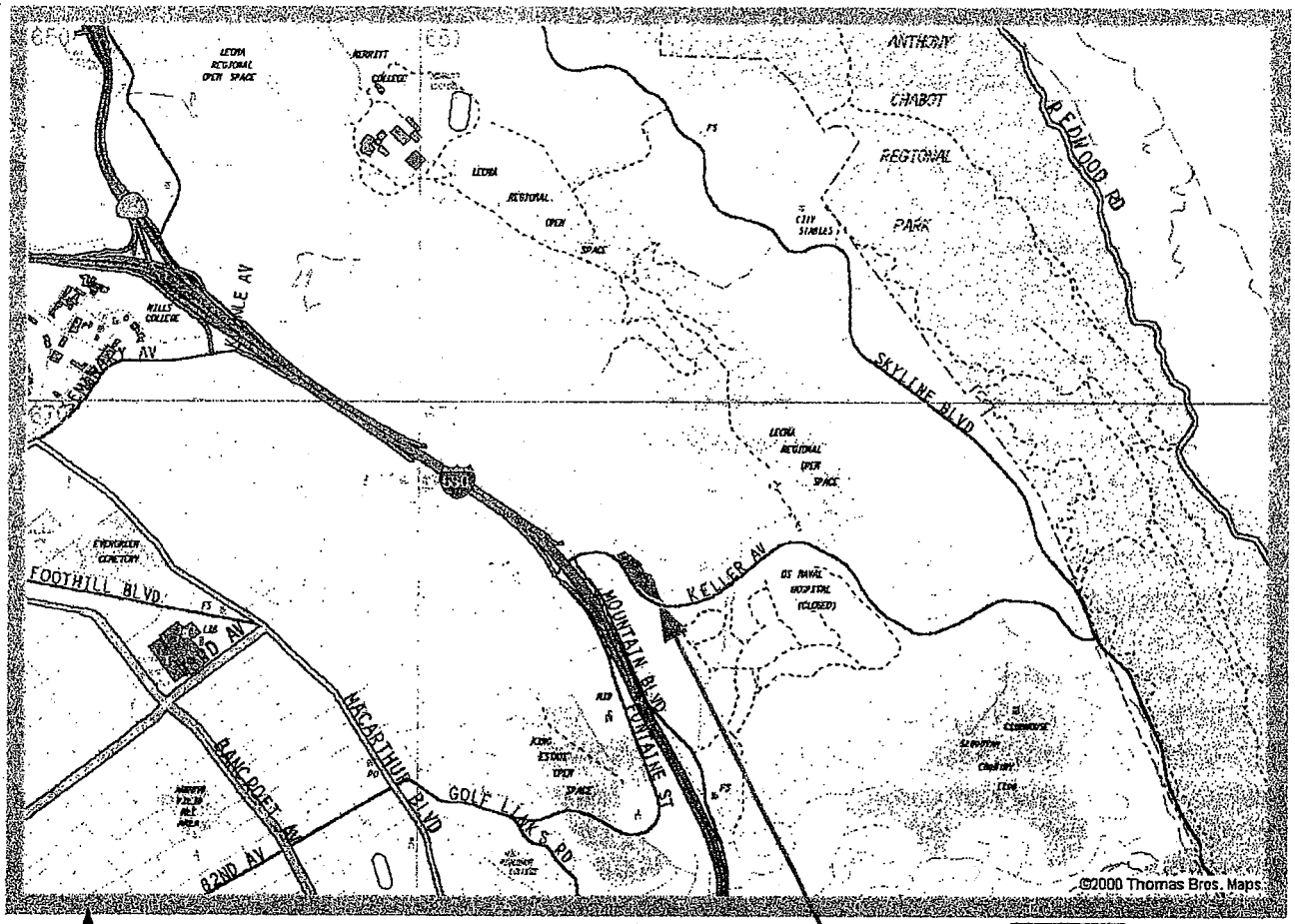
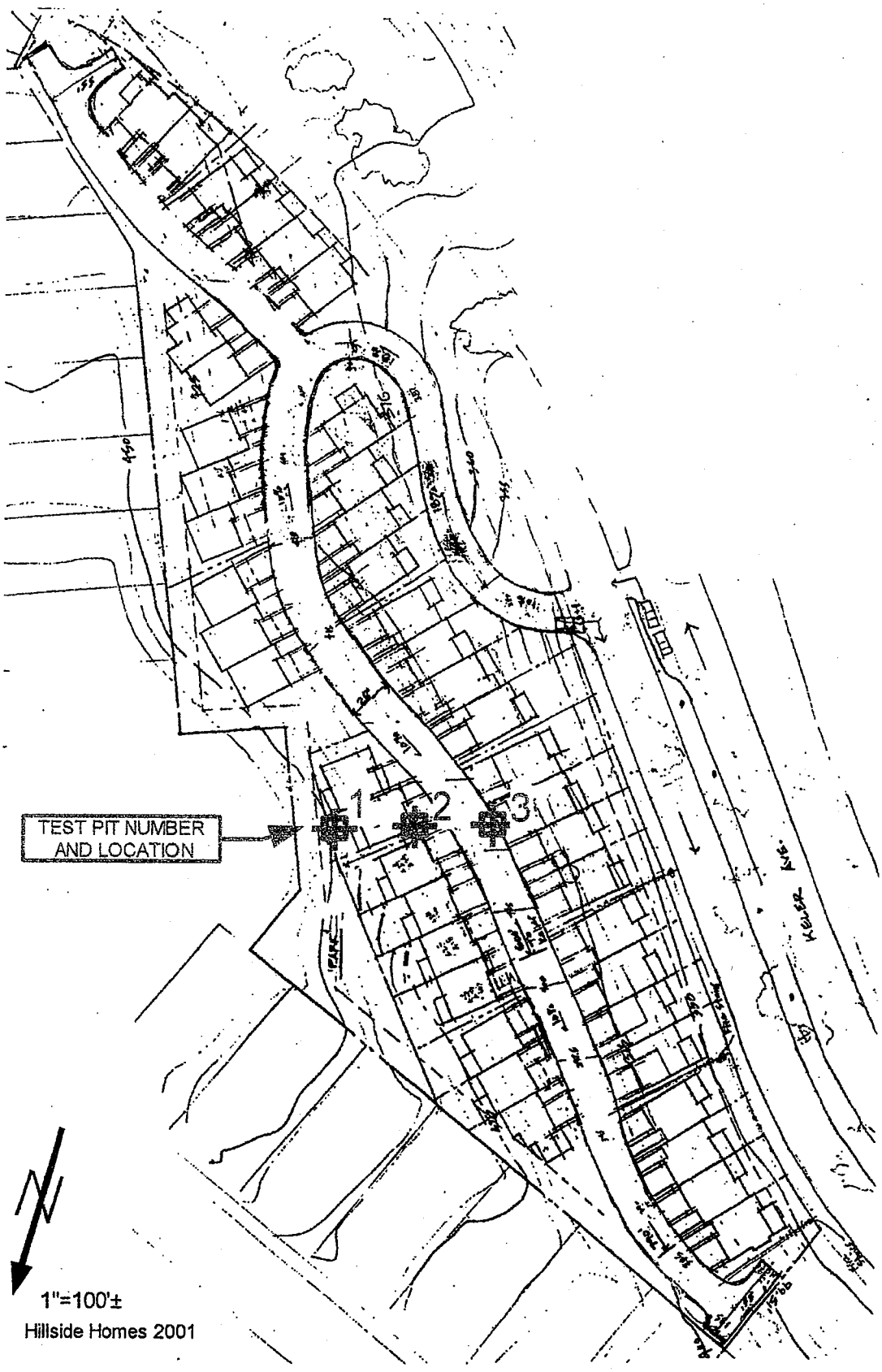


Thomas Guide 2001

SITE

VICINITY MAP

figure 1



SITE PLAN

figure 2

Log of Test Pit 1

UC	-200	WD	DD	MC	SN	BPF	SD	D	GS	S	DESCRIPTION AND CLASSIFICATION
											brown GRAVELLY CLAY (CL) FILL
											stiff, dry, numerous rock fragments
				8.3	1-1			1		X	dark brown SANDY CLAY (CL) TOPSOIL
											stiff, dry, no root zone – probably stripped
								2			orange & dark brown RHYOLITE BEDROCK
											hard, strong, moderately weathered, dry, small clay seams
											Pit, 1.5' deep, backfilled with cuttings after sampling.

UC=unconfined compressive strength in ksf, -200=portion passing through #200 mesh screen in % of dry weight, WD=wet density in pcf, DD=dry density in pcf, MC=moisture content as % of dry weight, SN=sample number, BPF=blows per foot to drive sampler, SD=sampler outside diameter, inches, D=depth below ground surface, feet, GS=graphical symbol of soil/rock, S=sampler drive and sample locations, o=undisturbed sample, x=disturbed sample

dug on 6/14/01 with 3' bucket, Elev.=445', plan topo **TEST PIT 1** *figure 3*

Log of Test Pit 2

UC	-200	WD	DD	MC	SN	BPF	SD	D	GS	S	DESCRIPTION AND CLASSIFICATION
											brown GRAVELLY CLAY (CL)
											stiff, dry, numerous rock fragments
								1			FILL
								2			
								3			
								4			
								5			
								6			
	53.6			20.7	2-1					X	dark brown SANDY CLAY (CL) TOPSOIL
											stiff, dry, no root zone – probably stripped
								7			
											orange & dark brown RHYOLITE BEDROCK
								8			hard, strong, moderately weathered, dry, small clay seams
Pit, 7.5' deep, backfilled with cuttings after sampling.											

2-1, Atterberg limits
Liquid limit = 43
Plastic limit = 22
Plasticity Index = 21

dug on 6/14/01 with 3' bucket, Elev.=420', plan topo **TEST PIT 2** *figure 4*

Log of Test Pit 3

UC	-200	WD	DD	MC	SN	BPF	SD	D	GS	S	DESCRIPTION AND CLASSIFICATION
											brown GRAVELLY CLAY (CL)
											stiff, dry, numerous rock fragments
								1			FILL
								2			
								3			
								4			
								5			
	55.1			11.7	3-1					x	dark brown SANDY CLAY (CL) TOPSOIL
								6			stiff, dry, no root zone – probably stripped
											orange & dark brown RHYOLITE BEDROCK
								7			hard, strong, moderately weathered, dry, small clay seams
											Pit, 6' deep, backfilled with cuttings after sampling.

dug on 6/14/01 with 3' bucket, Elev.=390', plan topo TEST PIT 3 *figure 5*

UNIFIED SOIL CLASSIFICATION SYSTEM

MAJOR DIVISIONS			SYMBOLS	TYPICAL NAMES
COARSE GRAINED SOILS MORE THAN HALF IS LARGER THAN NO. 200 SIEVE SIZE	GRAVELS MORE THAN HALF COARSE FRACTION IS LARGER THAN NO. 4 SIEVE SIZE	CLEAN GRAVEL WITH LITTLE OR NO FINES	GW	WELL GRADED GRAVELS, GRAVEL-SAND MIXTURES
			GP	POORLY GRADED GRAVELS, GRAVEL-SAND MIXTURES
		GRAVELS WITH OVER 12% FINES	GM	SILTY GRAVELS, POORLY GRADED GRAVEL-SAND-SILT MIXTURES
			GC	CLAYEY GRAVELS, POORLY GRADED GRAVEL-SAND-CLAY MIXTURES
	SANDS MORE THAN HALF COARSE FRACTION IS SMALLER THAN NO. 4 SIEVE SIZE	CLEAN SANDS WITH LITTLE OR NO FINES	SW	WELL GRADED SANDS, GRAVELLY SANDS
			SP	POORLY GRADED SANDS,, GRAVELLY SANDS
		SANDS WITH OVER 12% FINES	SM	SILTY SANDS, POORLY GRADED SAND-SILT MIXTURES
			SC	CLAYEY SANDS, POORLY GRADED SAND-CLAY MIXTURES
FINE GRAINED SOILS MORE THAN HALF IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS, OR CLAYEY SILTS WITH SLIGHT PLASTICITY
			CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
			OL	ORGANIC CLAYS AND ORGANIC SILTY CLAYS OF MEDIUM PLASTICITY
	SILTS AND CLAYS LIQUID LIMIT GREATER THAN 50		MH	INORGANIC SILTS. MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS, ELASTIC SILTS
			CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
			OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS			Pt	PEAT AND OTHER HIGHLY ORGANIC SOILS

figure 6

BEDROCK SYMBOLS

	CONGLOMERATE		FRACTURED SANDSTONE		SILTSTONE, MUDSTONE, CLAYSTONE		SHALE
	TUFF		CHERT		BASALT, RHYOLITE		SERPENTINE

figure 7

ROCK HARDNESS CRITERIA	
VERY HARD	Cannot be scratched with knife or sharp pick. Breaking of hand specimen requires several hard blows of geologist's pick.
HARD	Can be scratched with knife or pick only with difficulty. Hard blow of hammer required to detach hand specimen.
MODERATELY HARD	Can be scratched with knife or pick. Gouges or grooves to 1/4 inch moderate can be excavated by hard blow of point of a geologist's pick. Hand specimens can be detached by moderate blow.
LOW	Can be grooved or gouged 1/16 inch deep by firm pressure on knife or pick point. Can be excavated in small chips to pieces about 1 inch maximum size by hard blows of the point of a geologist's pick.
SOFT	Can be gouged or grooved readily with knife or pick point. Can be chipped to pieces several inches in size by moderate blows of a pick point. Small thin pieces can be broken by finger pressure.
VERY SOFT	Can be carved with knife. Can be excavated readily with point of pick. Pieces 1 inch or more in thickness can be broken with finger pressure. Can be scratched readily by fingernail.

figure 8

ROCK WEATHERING CRITERIA	
FRESH	Rock fresh, crystals bright, few joints may show staining. Rock rings under hammer if crystalline.
VERY SLIGHT	Rock generally fresh, joints stained, some joints may show thin clay coatings, crystals in broken face show bright. Rock rings under hammer if crystalline.
SLIGHT	Rock generally fresh, joints stained, and discoloration extends into rock up to 1 inch. Joints may contain clay. In granitoid rocks some occasional feldspar crystals are dull and discolored. Crystalline rocks ring under hammer.
MODERATE	Significant portions of rock show discoloration and weathering effects. In granitoid rocks, most feldspars are dull and discolored; some show clayey. Rock has dull sound under hammer and shows significant loss of strength as compared with fresh rock.
MODERATELY SEVERE	All rock except quartz discolored or stained. In granitoid rocks, all feldspars dull and discolored and majority show kaolinization. Rock shows severe loss of strength and can be excavated with geologist's pick. Rock goes "clunk" when struck.
SEVERE	All rock except quartz discolored or stained. Rock "fabric" clear and evident, but reduced in strength to strong soil. In granitoid rocks, all feldspars kaolinized to some extent. Some fragments of strong rock usually left.
VERY SEVERE	All rock except quartz discolored or stained. Rock "fabric" discernible, but mass effectively reduced to "soil" with only fragments of strong rock remaining.
COMPLETE	Rock reduced to "soil". Rock "fabric" not discernible or discernible only in small scattered locations. Quartz may be present as dikes or stringers.

figure 9

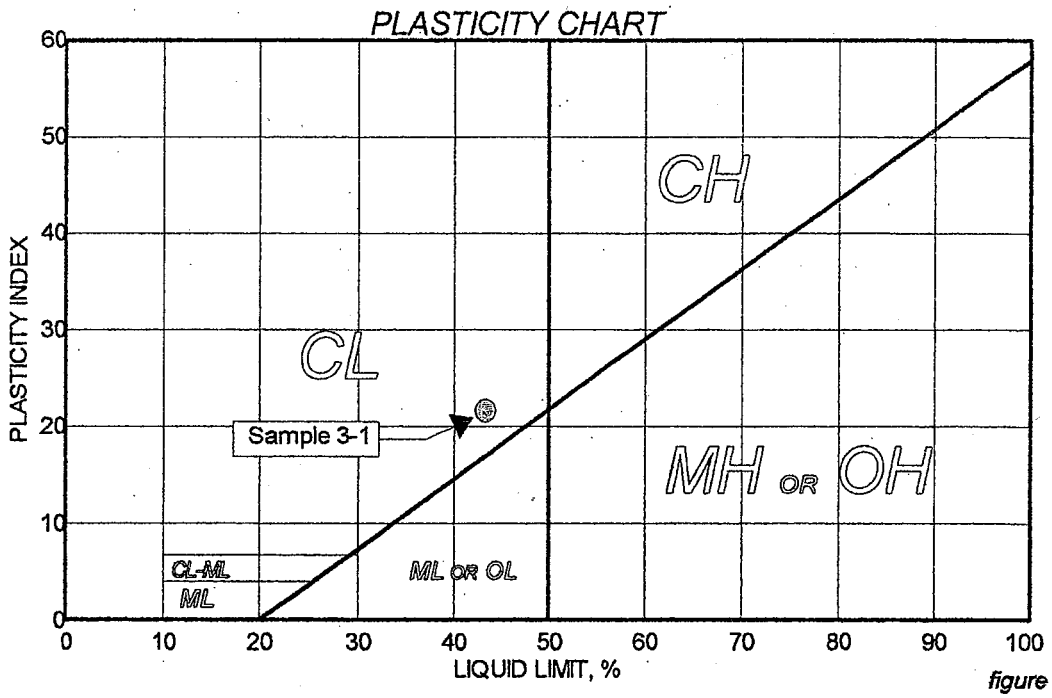

PLASTICITY CHART
PLASTICITY INDEX
LIQUID LIMIT, %
CH
CL
MH OR OH
ML OR OL
CL-ML
ML
Sample 3-1
0
10
20
30
40
50
60
70
80
90
100

figure 10

EXPLANATION			
NOTE: See U. S. Geological Survey Misc. Field Studies Map MF 493 (Preliminary Photointerpretation Map of Landslide and Other Surficial Deposits of the Concord 15-minute quadrangle and the Oakland West, Richmond, and part of the San Quentin 7.5-minute quadrangles, Contra Costa and Alameda Counties, California, by Tor H. Nilsen, 1973) for a more detailed explanation of map symbols.	Landslide deposit Arrows indicate general direction of downslope movement. Queried where uncertain.	Qal	Alluvial deposit
		Qt	Alluvial terrace deposit. Queried where uncertain
			Colluvial deposit and/or small alluvial fan deposit
		Qaf	Artificial fill
			Bedrock. Queried where identification uncertain
			Quarry or gravel pit

NILSEN LANDSLIDE MAP *figure 12*

Crane 1988

LEGEND					
	Holocene - 0 MYA	Tcl	Claremont	ct	Chert
Qa	Alluvium	Tso	Sobrante Sand	fs	Sediments
Qaf	Alluvial Fan	Tmz	Martinez Fm.	m	Melange/Olistostrome
	Pleistocene - 0.1 MYA	Krc	Redwood Canyon Fm.	gn	Greenstone
Qoa	Older Alluvium	Ksc	Shepard Creek Fm.	sp	Serpentine
QTv	Volcanics	Ko	Oakland Conglomerate	gb	Gabbro
TP	Pliocene beds	Kjm	Joaquin Miller Fm.	MYA=million years ago	
TM	Upper Miocene	K	Cretaceous Units		
TMM	Monterey Group	J-K	Jurassic-Cretaceous		
Tt	Tice Shale	J	Jurassic		

N

1:24,000

CRANE GEOLOGIC MAP

figure 11

MAP EXPLANATION

Zones of Required Investigation:

Liquefaction

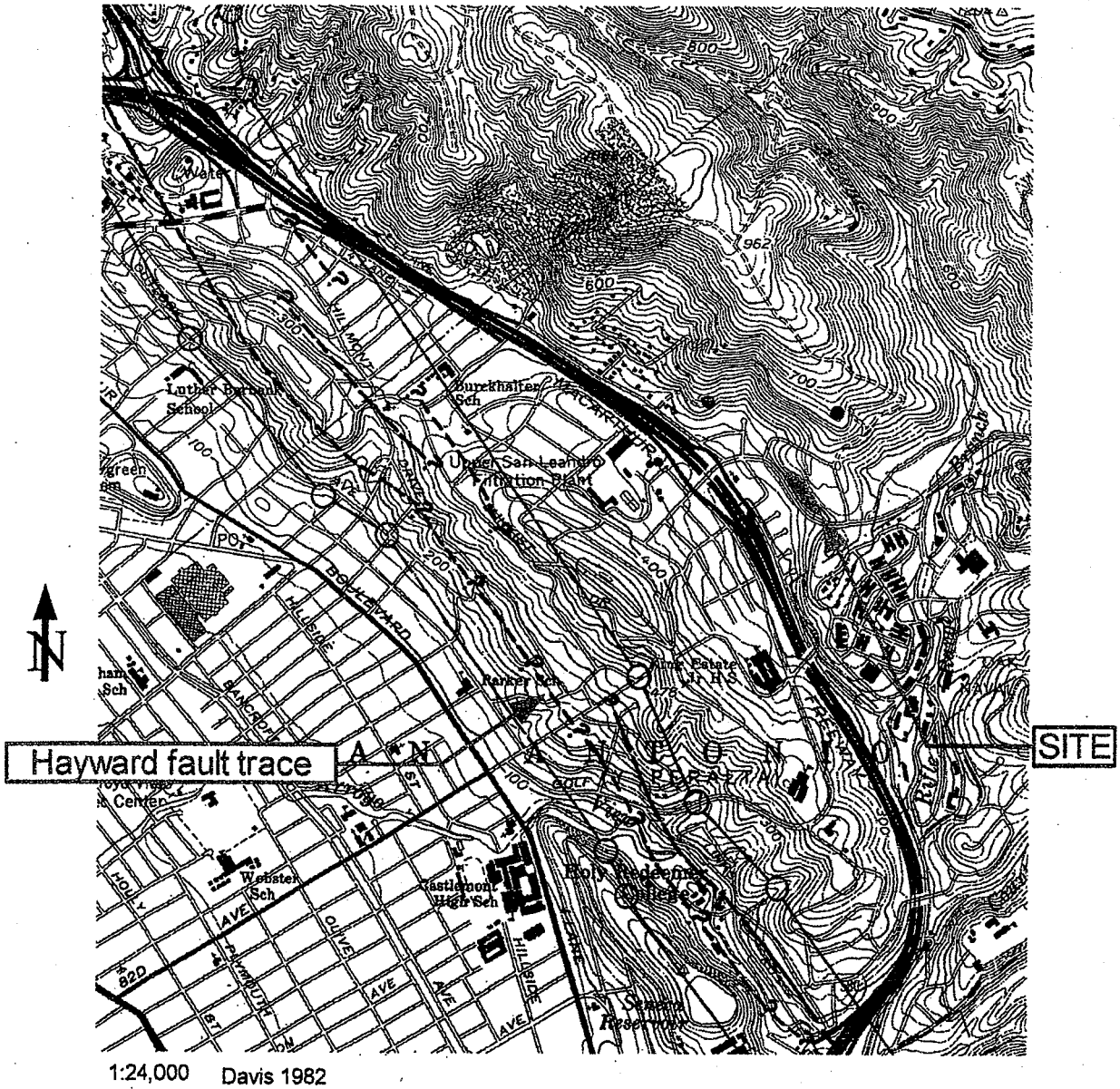
Areas where historic occurrence of liquefaction, or local geological, geotechnical and groundwater conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required.

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.

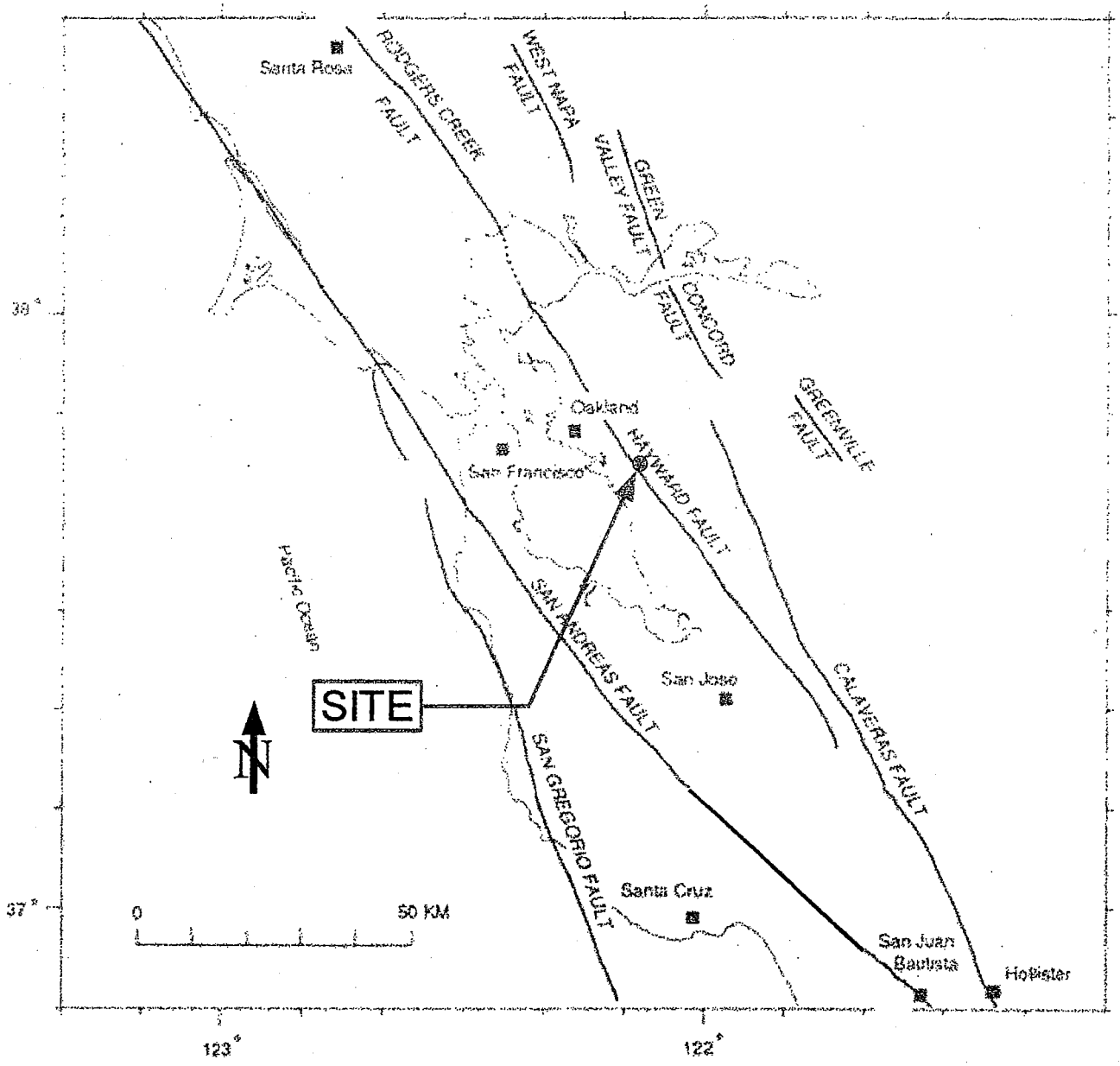
SEISMIC HAZARD ZONES MAP

figure 14



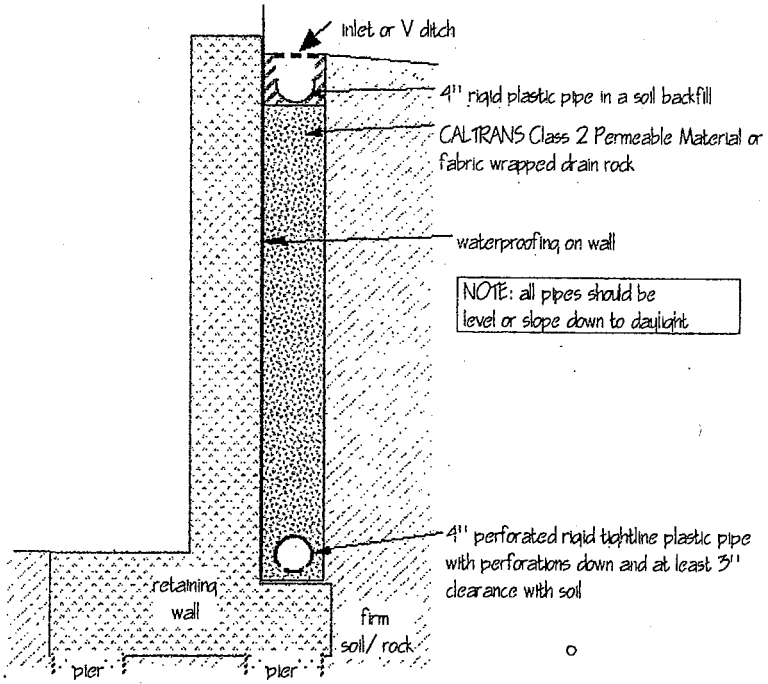
EQ FAULT ZONE MAP

figure 13



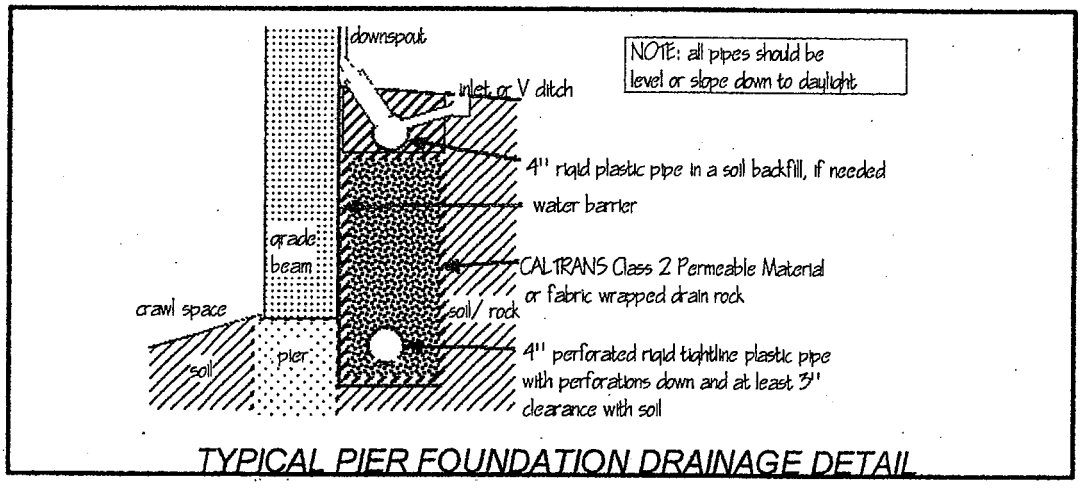
BAY AREA FAULT MAP

figure 15



TYPICAL RETAINING WALL DRAINAGE DETAIL

figure 16



TYPICAL PIER FOUNDATION DRAINAGE DETAIL

figure 17

B. Standards of Significance

In this section, an impact has found to be significant if it would:

- Expose people or structures to potential substantial adverse effects, including risk of loss, injury, or death involving
  - Rupture of a known fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map or Seismic Hazards Map issued by the State Geologist for the area or based on other substantial evidence of a known fault (refer to Division of Mines and Geology Special Publications 42 and 117 and PRC §2690 et. seq.);
  - Strong seismic ground shaking, or seismic related ground failure, including liquefaction, lateral spreading, subsidence, collapse; or
  - Landslides.
- Result in substantial soil erosion or loss of topsoil, creating substantial risks to life, property, or creeks/waterways.
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994, as it may be revised), creating substantial risks to life or property;
- Be located above a well, pit, swamp, mound, tank vault, or unmarked sewer line, creating substantial risks to life or property;
- Be located above landfills for which there is no approved closure and post-closure plan, or unknown fill soils, creating substantial risks to life or property ; or
- Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.

Attachment E

C. Impacts and Mitigation Measures

The proposed project is not located above a well, pit, swamp, mound, tank vault, unmarked sewer line or landfill, and so would not create any risks to life or property. In addition, the proposed project would not include the use of septic tanks, so no impacts relating to septic tanks would occur.

1. Fault Rupture

The project site is located roughly 330 feet from the Hayward Fault, which is active. Additionally, the site is located 13 miles, 9 miles and 19 miles from the Concord, Calaveras and San Andreas Faults, none of which are considered active. The risk of surface fault rupture on the proposed project site is very low because no active faults are known to cross the lot. Based on the State Geologist's determination that the Earthquake Fault Zone of the Hayward fault is very narrow in the area of the project site, there is no reason to believe that there are any undiscovered trace faults on the site. Therefore, no impacts from fault rupture are expected to occur.

2. Ground Shaking

Impact GEO-1: The proposed project site is within a seismically-active region, and the proposed project site will likely be subject to strong seismic ground shaking during its design life. (Potentially Significant)

Although the proposed project site is not located within an Earthquake Fault Zone as mapped on the Alquist-Priolo Earthquake Fault Zones created by the California State Geologist, it is considered to be in Seismic Zone 4 based on the standards of the 1997 Uniform Building Code. Areas within Zone 4 are expected to experience maximum magnitudes and damage in the event of an earthquake.

A large magnitude earthquake on any of several Bay Area faults is capable of producing damaging levels of ground shaking on the site. Obviously, the highest ground shaking intensities on the site would be associated with a high

magnitude earthquake on the Hayward fault. In addition, the Concord, Calaveras, San Andreas faults are all relatively close to the site and can be expected to cause moderate to strong ground shaking at the site in the event of a large earthquake. A strong earthquake originating on these or other known or unmapped faults in the greater San Francisco Bay region can be expected to damage structures over a broad area. The seismic response of the site is expected to be similar to that of other nearby developed lots and would not be affected by the construction of the proposed project. However, there is a high risk of potentially damaging intensities of ground shaking at the site during the useful life of the planned structures, which could have impacts on the proposed project. This is a potentially significant impact. Therefore, the project shall incorporate the following mitigation measure:

Mitigation Measure GEO-1: Structures shall be designed in compliance with current building codes related to seismic safety.

Significance After Mitigation: Less than Significant.

3. Landslides and Liquefaction

The risks of earthquake induced landsliding and lurch cracking are essentially non-existent on the site, because of the hard rock underlying the site at shallow depths. The risks of earthquake induced liquefaction or lateral spreading are also non-existent because of the lack of saturated clean silts or sands on the site.

4. Slope Stability

Impact GEO-2: As the soils on the site become saturated in an earthquake event, the slopes become less stable. (Potentially Significant)

Currently the cut and fill slopes on the site are stable, composed of rock, strong fill and firm, natural soils. However, as the soils on the site become saturated in an earthquake event, the slopes become less stable. As mentioned in the project description, a preliminary grading plan has been prepared in

which slope grades are limited to 2-to-1 horizontal to vertical ratio with retaining walls to support this slope. However, soil instability in an earthquake event is a potentially significant impact.

Mitigation Measure GEO-2a: **The final grading plan for the proposed project shall limit slope grades to a maximum 2-to-1 horizontal to vertical ratio with retaining walls to support this slope.**

Mitigation Measure GEO-2b: **New retaining walls and foundations shall be designed following the detailed criteria set forth in the Geotechnical Investigation completed for the proposed project.**

Mitigation Measure GEO-2c: **Detailed grading plans and construction drawings shall be submitted to the City of Oakland Building Services Department for approval prior to excavation to ensure that the buildings and retaining walls conform with Uniform Building Code requirements.**

Mitigation Measure GEO-2d: **Foundations of the buildings shall bear on rock.**

Mitigation Measure GEO-2e: **In addition to the requirements contained in Mitigation Measure HYDRO-3, drainage on the site shall be designed and maintained to minimize ponding of surface water and/or saturation of the soils, following the detailed criteria in the geotechnical investigation completed for the project.**

Significance After Mitigation: Less than Significant

5. Erosion

Impact GEO-3: Soils on the site above the fill layer are at risk of erosion. (Potentially Significant)

The project site is composed of well-compacted fill, the natural layer of dry, sandy topsoil and strong volcanic bedrock. There is minimal vegetation on

this heavily graded site. Thus, the soils above the fill layer are at risk of erosion.

Mitigation Measure GEO-3a: **An erosion control plan to minimize wind and water erosion during the construction period shall be prepared, as is standard during the grading and building permit approval process. This erosion control plan shall incorporate appropriate measures in accordance with the mitigation measures outlined in Mitigation Measure HYDRO-1, HYDRO-2a and HYDRO-2b.**

Mitigation Measure GEO-3b: **Long-term erosion shall be addressed through installation of landscaping and storm drainage facilities.**

Significance After Mitigation: Less than Significant

6. **Soil Expansion**

Impact GEO-4: The proposed project would be placed on slightly to moderately expansive soil and non-expansive bedrock and on steep slopes. (Potentially Significant)

As discussed above, the project would be located on a 6- to 18-inch-thick layer of topsoil that is moderately to highly plastic and probably highly expansive. However, below the topsoil is a hard and strong volcanic bedrock that could adequately and safely support the foundations of the proposed units.

Mitigation Measure GEO-4: **Foundations shall be drilled piers and grade beams.**

Significance After Mitigation: Less than Significant

Case File Numbers: PUD02-217, PUDF05-081, ER02-0012, TTM7396 **March 2, 2005**

Location:	**Siena Hill (off of Keller Avenue, between Greenridge Drive and Rilea Way); APN: 040A-3457-033-01** **(See Map on the reverse)**
Proposal:	The applicant proposes construction of 32 attached single-family dwellings on 32 lots, 103 off-street parking spaces, and a private road. The project would also include the removal of a portion of the median strip on Keller in order to create a left turn lane onto proposed Siena Drive.
Project Sponsor:	Edward Patmont / (925) 946-0583
Owners:	Hillside Homes Group Inc.
Planning Permits Required:	Planned Unit Development (Preliminary Development Plan and Final Development Plan); Minor Variances for height and minimum separation of retaining walls, maximum percentage of front yard paving, and length of building along side lot lines; Design Review; and a Subdivision Map.
General Plan:	Detached Unit Residential
Zoning:	R-50 Medium Density Residential
Environmental Determination:	Final EIR published on February 18, 2005
Historic Status:	The project site is vacant.
Service Delivery District:	IV-Fruitvale
City Council District:	6
Date Filed:	May 24, 2002
Staff Recommendation	Decision based on staff report
Finality of Decision:	Appealable to City Council within 10 days
For further information:	Contact case planner **Heather Klein** at **510 238-3659** or by e-mail at hklein@oaklandnet.com.

SUMMARY

The purpose of this report is to provide a summary of the potential environmental impacts of the proposed project, as identified in the Environmental Impact Report, provide analysis of the project and recommend approval. The project site is located on a vacant parcel off of Keller Avenue, between Greenridge Drive and Rilea Way. The applicant proposes the construction of 32 attached single-family dwellings on 32 lots, 103 off-street parking spaces, and a private road. The project would also include the removal of a portion of the median strip on Keller Avenue in order to create a left turn lane onto proposed Siena Drive.

A Draft EIR was published on November 22, 2004 and the public review and comment period ended on January 5, 2005. A Final EIR, responding to the comments received on the Draft EIR, was published on February 18, 2005.

Staff recommends approval of the project subject to the conditions, requirements, and findings contained in this staff report.

Attachment F

#2

PROJECT SITE AND SURROUNDING AREA

The 3.86 acre project site is located on the east side of Keller Avenue, between Greenridge Drive and Rilea Way. The surrounding neighborhood includes a variety of land uses and activities. Located to the north are multi-family housing and undeveloped hillsides. Multi-family housing is to the east; single-family homes, convenience stores, auto facilities, and churches are located to the west. Farther west is Interstate 580. To the south of the project site, below Keller Avenue are single-family homes; further south is the former Oak Knoll Naval Hospital.

PROJECT DESCRIPTION

The proposed project consists of 32 attached single-family homes on 32 parcels. The project would include the removal of a portion of the median strip along Keller Avenue in order to create a left turn lane. The homes would be accessed via a private, one-way road, entering off of Keller Avenue and exiting onto Greenridge Drive. The development would also include 103 off-street parking spaces. Each unit would be provided 3 parking spaces, 1 space in the garage, 1 space in the driveway, and 1 space between a landscaped buffer and the driveway. Seven guest spaces are located throughout the development. In addition, the applicant proposes to request that the City create 22 new on-street parking spaces along Keller Avenue. This action must be taken by City Council. Two pedestrian stairways through the project would provide access to Keller Avenue and the new on-street parking spaces if this was approved.

Plans show 18 downslope homes and 14 upslope homes, with one home per lot. The homes would range in size from 1,800 to 1,960 S.F. on an average lot size of 5,300 S.F. The front setbacks range from 0-20'. Each home has one 0' setback along the side property line, while the other side setback ranges from 6-275'. The rear yards range from 15'-95'.

The buildings are designed in an Italian hillside architectural style. The building materials include stucco in warm terracotta, ochre, and beige colors with clay tile roofs. The building clusters are used as catalysts for variety in the facades. These facade treatments include tower elements, trellises, wrought-iron balconies and railings, and wood window trim. The buildings will step down the slope to Keller, which will reduce the mass and bulk of the buildings while keeping with the "Italian hill town" theme of the project.

The project proposes extensive hardscape and softscape elements throughout the development. Hardscape elements include a monument sign, private stairs, decorative paving, fencing, and retaining walls. A 5'wide landscape buffer is proposed in front of a 5' tall wall for the length of the project site along Keller Avenue. In addition, 2 pedestrian stairways from Keller link to a walkway that runs behind each downhill home. A walkway also runs along the rear of the upslope homes and connects to Siena Drive by two stairways at the east and west end. Open space is provided through front, side, and rear yards, as well as decks and balconies. The landscaping plans show native trees, shrubs, vines, and groundcovers.

The project is proposing low-level street and pedestrian-scale light fixtures along the proposed Siena Drive. The outdoor lighting is subject to review by the Planning Department and the Public Works Agency, Electrical Services in accordance with the City's outdoor lighting standards. These fixtures will include timing devices that would limit the amount of time the lighting would be in use and would be downcast to prevent glare and reduce light pollution.

GENERAL PLAN ANALYSIS

The General Plan designation for the project site is Detached Unit Residential (DU). The General Plan states the *intent* of the DU designation is "intended to create, maintain, and enhance residential areas characterized by detached single unit structures." The *desired character* of "future development within this classification should remain residential in character with appropriate allowances for schools and other small-scale civic institutions."

Although the project is proposing attached single family homes with a 0' setback along one side lot line, staff determined early on that this type of project is consistent with General Plan policies and the DU designation. The DU designation states that the maximum allowable density is 11 units per gross acre, which equates to 14.6 units per net acre. Accordingly, a maximum of 43 units would be permitted on the 3.86 acre project site. The proposed 32-unit project is well under the maximum density by 11 units. The applicant has worked with staff during the past 3 years to propose a density fitting the project's topographic and access constraints. Also, the project is representative of the typical form and character of single family development within this classification. The average lot size for the project is 5,300 S.F. and consistent with the typical lot size for the DU designation which ranges from 4,000 to 8,000 S.F. The project is proposing a front, rear, and side yard setback; amount of open space; building footprint, and floor area that is consistent with the single family detached structures.

In addition, several policies in the General Plan encourage cluster development as shown on the project plans. Land Use and Transportation Element (LUTE) Policy N7.6 states that development on subdivided parcels should be allowed where the site and building design minimize environmental impacts, building intensity and activity can be accommodated by available and planned infrastructure, and site and building designs are compatible with neighborhood character. Open Space, Conservation, and Recreation Element Policy OS-1.3 states that creative architecture and site planning which minimizes grading should be encouraged.

By clustering development, an integrated site plan with a lower residential density and reduced visual and grading impacts is achieved. The applicant is requesting a Planned Unit Development (PUD) per the zoning regulations for the project. A PUD is intended to encourage the appropriate development of parcels large enough to allow comprehensive site planning. This approval provides flexibility in the regulations or exceptions to promote an integrated development and create an attractive living environment. One of the exceptions requested for this project is the waiver of one side yard setback. For these reasons the proposed project is consistent with the General Plan objectives and the intent and character of the Detached Unit designation. In short, this project should be viewed as a clustered single-family development with a 0' lot line on one side. Each cluster, although only separated by inches, is composed of two completely independent units, thereby consistent with the Detached Unit Residential designation and objective of an integrated site plan.

The proposed project is within the allowable residential density and the uses are consistent with the General Plan designations. In addition, the project implements several General Plan Land Use and Transportation Element policies related to the construction of new, high quality housing units on infill sites (including Objective N3 and Policies N3.1, N3.2, N3.8, N3.10, N6.2, N7.1, N7.4, and N7.8). Therefore, the project is consistent with the intensity and uses allowed by the General Plan land use designations, as well as with several General Plan policies.

ZONING ANALYSIS

The zoning of the site is R-50 or Medium Density Residential. However, due to the residential density in the surrounding neighborhood and the site's environmental constraints staff has applied a "best fit" zone of R-30 One Family Residential to the site. The R-30 regulations are more restrictive than the R-50 and more consistent with the DU General Plan land use designation. The R-50 conditionally permits 1 unit per 1,500 S.F. for project sites over 10,000 S.F. while the R-30 allows 1 unit per lot with a minimum lot area of 5,000 S.F. The maximum allowable density under the R-30 zoning regulations for the 3.86 acre project site is 33 units. The 32 unit project is 1 unit under the allowable zoning density.

The proposed project will require the following planning approvals: a Planned Unit Development (PUD) (including both a Preliminary Development Plan (PDP) and Final Development Plans (FDP) for three phases); Design Review; Minor Variances for front yard paving, the minimum height and separation of retaining walls, and length of building along side lot lines; and a Tentative Tract Map. All applicable criteria for these entitlements have been analyzed and appropriate findings have been made as part of this staff report.

Zoning Regulation Comparison Table

Criteria	R-50	R-30 "Best Fit"	Proposed	Comment/ Degree of Variance
Lot Area	4,000 S.F.	5,000 S.F.	2,963 S.F. – 19,671 S.F.	Requirement waived with a PUD.*
Yard – Front	15'	20'	0-20'	Requirement waived with a PUD.*
Yard – Street Side of Corner Lot	4'	5'	115'-170'	Meets both R-50 and R-30 requirements.
Yard – Interior Side Lot Line	4'	5'	0'-275'	Requirement waived with a PUD.*
Yard – Rear	15'	20'	15'-95'	Requirement waived with a PUD.*
Height	30'	25' or 30' with a pitched roof	30	Meets both R-50 and R-30 requirements.
Open Space	200 S.F. / unit = 6,400 S.F.	200 S.F. group space / unit and 100 S.F. private space / unit = 9,600 S.F.	139,922 S.F. private open space***	Meets the R-50, R-30, and the PUD requirements. **
Parking	1 space / unit = 32 spaces	2 / spaces unit = 64 spaces	103 spaces total	Meets both the R-50 and R-30 requirements.
Density	Lots > 10,000 S.F.: 1 unit / 1,500 S.F.	1 single family dwelling per lot	1 single family dwelling per lot	Meets both the R-50 and R-30 requirements.

Table Notes:
* For qualifying Planned Unit Developments, yards and other dimensional requirements may be waived or modified for the purpose of promoting an integrated site plan.
** In the R-30 zone, 200 square feet of group usable open space per dwelling unit and 100 square feet of private usable open space shall be provided per unit.
*** Private usable open space may be substituted for required group space in the ratio prescribed in said chapter.
**** Does not include on-street guest parking along Keller Avenue.

Planned Unit Development (PUD).

A PUD is required in order to accommodate the phasing of the proposed residential project. The project sponsor has submitted both Preliminary Development Plan (PDP) application for the whole site and a Final Development Plan (FDP) application for the first phase. The first phase of construction would entail clearing for the entire site; all earthwork bench cuts; grading; construction of 4 upslope units, 6 downslope units, the proposed Siena Drive, and median work in Keller Avenue. Phase 1 would also entail utility mains for the entire project, some of the retaining walls for the later phases, the entire retaining wall along Keller Avenue, and landscaping for the first phase. The project sponsor anticipates that construction of Phase 1 will be completed in 12-13 months. The second phase of construction would entail grading and the construction of 6 upslope units and 6 downslope units, the pedestrian entrance along Keller and pedestrian stairs, half of the remaining retaining walls. Landscaping will also be included. The anticipated schedule for the second phase is for construction to begin by spring or summer of 2006 and to be completed in 13-14 months. Phase 3 will entail the construction of 4 upslope units and 6 downslope units, all remaining earthwork, retaining walls, and landscaping. Phase 3 will begin in spring of 2007 and will take 12-13 months. The applicant shall submit a Final PUD application for Phases 2 and 3, which are required to be consistent with the Preliminary PUD.

As part of the Planned Unit Development, several zoning regulations were waived pursuant to Section 17.122.100(G) of the Planning Code in order to create a comprehensive design and promote an integrated site plan. These regulations include lot area, lot width, and yard requirements as described in the table above.

Design Review

According to the R-50 and the R-30 zoning regulations Special Residential Design Review is required for residential projects with one or two units on a lot. The project design breaks up the building massing by stepping the buildings down the slope and incorporating different materials, styles, and colors. The proposed exterior building materials include stucco, clay tile roofs, metal and wood railings, and wood windows and garage doors. Proposed colors include a range of warm terracotta, ochre, and beige shades with accent colors.

The project design was reviewed by the Design Review Committee on April 14, 2004 and two community meetings. The project sponsor has revised the project design several times in order to address comments received throughout the review process. Design changes made include: altering the transitions between the different portions of the buildings, varying the roof projections on the units, and refining the architectural details for each structure for increased visual interest. Staff believes that the current design is attractive and appropriate for the area, which includes buildings with a variety of architectural detailing in keeping with the Italian hill town style.
Variances

Minor Variances are required for the height and minimum separation of retaining walls, maximum percentage of front yard paving, and length of building along side lot lines. Per Section 17.102.400(E) of the Planning Code, no retaining wall shall exceed six feet in height and the minimum separation distance between retaining walls shall be at least four feet between the exposed faces of each wall. Due to the steep slope of the site, the project would include construction of retaining walls. Many of these are over 6' in height, but none would be taller than 10'. In a couple of insistences, the minimum separation between retaining walls is approximately 3'. These retaining walls are necessary for slope stability and would be incorporated into the foundations of the homes. Staff believes that a minor variance for the height and separation of the walls is necessary given the amount of grading needed to implement the project and the desire to keep the walls as low as possible. The walls will be of a material and finish that is consistent with the overall design of the project and the "hill town" theme. The wall height and separation will not pose a sight distance issue for vehicles and will be screened through extensive landscaping, including shrubs at the base and in between the walls and trailing plants along the top.

Per Section 17.102.400(A), paved surfaces within required street-fronting yards shall be limited to 50% maximum paved surface for all lots other than corner and through lots. Plans depict a colored concrete driveway and walkway, an eco-stone parking area, and a planting area within the front yard of each unit. This amounts to more than 50% of a paved front yard. Staff believes that a minor variance for the amount of front yard parking is warranted since Traffic Engineering and Fire Services have required that there be no off-street parking on the street due to the reduced road width. In response, the applicant has provided 3 parking spaces per unit, 1 space in the garage, 1 space in the driveway, and 1 space in a parking area between the planting area and the driveway. Seven guest spaces are located off-street throughout the development. This approach has increased the amount of front yard paving. Since the proposed project is requesting a PUD, each unit will have the same front yard design and therefore an integrated site plan is achieved. Staff has worked with the applicant to vary the paving materials of street, sidewalk, driveway, and parking area to provide visual interest and texture within the development. Furthermore, staff has worked with the applicant to come up with a pervious material for a portion of these surfaces to decrease water run-off on the project site.

Per Section 17.16.040 of the Planning Code, when the site area to be covered by the principal building exceeds a slope of 20% the building length facing a side lot line shall be limited to 35' if within 10' of the side lot line. The downslope units exceed the required building length by 23'. Staff believes that a variance for building length is warranted due to the varied projections and recesses shown on the side elevations. Staff has worked with the applicant to provide architectural details such as turrets, windows, chimneys and balconies that will provide visual interest. Furthermore extensive landscaping will screen the building length as surrounding residents drive along Keller Avenue.

Tentative Tract Map

Tentative Tract Map is required in order to subdivide a parcel of land into 5 or more lots. The proposed tract map (TTM 7396) is not included in this approval. The applicant will need to return to the Planning Commission for approval of the Tentative Tract Map and to will need City Council approval of the Final Map.

ENVIRONMENTAL REVIEW

The project has undergone review to assess its potential environmental impacts. Based on the results of an Initial Study, a staff determination was made to prepare an Environmental Impact Report (EIR).

Topics excluded from further review as part of the Initial Study checklist include: agricultural resources, hazardous materials issues, mineral resources, population and housing, public services, and recreation. A NOP was issued on January 21, 2004 and several comments were received on the scope of the EIR. The following issues were identified as of concern: slope stability and geotechnical concerns due to the existing steep slopes and the proposed amount of grading; the potential increase in groundwater run-off and flooding; visual impacts; and finally traffic and safety impacts of the project. The DEIR analysis focused on the project's potential impacts on aesthetics, air quality, biological resources, cultural resources, geology and soils, hydrology, land use and planning, noise, traffic and transportation, and utilities and service systems. The Draft EIR comment period began on November 22, 2004 and ended on January 5, 2005.

A Final EIR was prepared that responded to all the comments received on the Draft EIR. The Final EIR, published on February 18, 2005, was provided under separate cover for review and consideration by the Planning Commission, and is available to the public at the Planning Department office. The Final EIR included some minor revisions to the project description, land use and policy section, and the utilities and service systems section of the Draft EIR. Significant but mitigable impacts identified in the Final EIR are discussed in detail below.

Significant and Unavoidable Impacts

The project would not result in any significant and unavoidable impacts.

Potentially Significant Impacts that Can Be Mitigated to Less-Than-Significant-Levels

The Draft EIR analysis identified potentially significant impacts that could be mitigated to less-than-significant levels on air quality, biological resources, cultural resources, hydrology, geology and soils, noise, traffic and transportation, utilities. These impacts and proposed mitigation measures are briefly summarized below:

Air Quality: Construction activities would contribute to increased criteria pollutants and exposure of these pollutants to sensitive receptors. Under mitigation measure AQ-2 and AQ-5, the project sponsor shall be required to implement a dust abatement program in accordance with the Bay Area Air Quality Management District's (BAAQMD) best management practices to reduce construction dust impacts on neighboring residents to less than significant levels.

Biological Resources: Grading and construction activities would harm special status plant species if located on the project site. Pursuant to mitigation measure BIO-1, the project sponsor shall be required to retain a qualified biologist to conduct pre-construction surveys. These surveys will be conducted between March and May to confirm the absence of the 12 special-status plant species listed in Table 4 of the DEIR. If any special-status plant species are found, a qualified biologist shall develop and implement a Mitigation Plan (MP). The MP will be prepared in consultation with the California Department of Fish and Game and shall be approved by the City prior to any ground disturbing activities. The MP could include the complete or partial avoidance of any special-status plant population and/or options for mitigation.

The project would require the removal of one mature redwood tree in the median of Keller Avenue and the possible mortality of six native oak saplings at the upper elevation of the site. All of these trees are protected under the City's Tree Preservation Ordinance. In regards to the six native oak saplings, mitigation measure BIO-3 states that the project sponsor will consult with a qualified arborist and the

Public Works Agency, Tree Division to develop and implement a tree protection plan to protect these trees during grading and construction. If mortality is unavoidable the project sponsor shall apply for a tree removal permit. The proposed tree removal permit must also be reviewed and approved by the Tree Division. Pursuant to BIO-4, the project applicant shall be required to apply for a tree removal permit for the redwood tree as required by the ordinance. The proposed tree removal permit must be reviewed and approved by the Public Works Agency, Tree Division.

Grading activities would create suitable growing conditions for French broom, a non-native plant species already located on the project site. Pursuant to mitigation measure BIO-5, the project sponsor shall be required to retain a qualified landscape architect to develop a final landscape plan. The landscape plan will include a program to eliminate this species and prevent its reestablishment on the site. The landscape plan will also incorporate a native, drought-tolerant, and fire-resistant plant palette.

Cultural Resources: Archaeological artifacts or paleontological resources may be encountered during project construction activities. Mitigation measure CUL-1a and CUL-1b states that the project sponsor shall be required to halt work immediately if artifacts or fossils are encountered and retain a qualified archeologist or paleontologist. These consultants shall evaluate the find, assess their significance, and offer proposals for further investigation or mitigate any adverse impacts resulting from the proposed project.

Human remains may also be encountered during project construction activities. Mitigation measure CUL-1c states that the project sponsor shall be required to halt work immediately if human remains are found and contact the County Coroner and the appropriate representative of the Native American Heritage Commission.

Geology, Soils, and Seismicity: The project site would likely be subject to strong seismic ground shaking. The project sponsor shall be required to design the buildings and infrastructure in compliance with current building codes. In addition, the proposed project would be placed on moderately expansive soils and these soils would become less stable in the event of an earthquake. To reduce these geologic impacts to a less than significant level, mitigation measures GEO-1, GEO-2, and GEO-4 require the project sponsor to implement the following: design the retaining walls and building foundations in compliance with current building codes and follow the criteria in the Geotechnical Investigation for the DEIR; prepare a grading plan that limits the grades to a maximum 2-to-1 slope ratio with retaining walls; submit detailed grading plans and construction drawings to the City of Oakland Building Services for review and approval; and design building foundations to bear on rock and be drilled piers and grade beams. The project sponsor shall also insure that drainage on the site be designed and maintained following the criteria in the Geotechnical Investigation to minimize surface water and saturation of soils.

Grading and construction on the project site would increase the risk of wind and water erosion. Mitigation measure GEO-3 states that the project sponsor shall prepare a plan that minimizes short-term construction related erosion. The erosion control plan shall incorporate the associated hydrology mitigation measures, including HYDRO-1, HYDRO2a, and HYDRO-2b. Long-term erosion shall be addressed through landscaping and the installation of storm drainage facilities.

Geologic Hazard Abatement District (GHAD). GHADs are governmental districts formed in specific geographic areas to address potential geologic hazards. The purpose of a GHAD (pronounced "GAD") is to prevent, mitigate, control or abate defined geologic hazards through maintenance, improvements, or other means. Financing of a GHAD is accomplished through an assessment of the property owners who live within the boundaries. Issuing and servicing of bonds, notes or other debentures is also authorized

under a GHAD. A GHAD will be required as condition of approval # 24 to address ongoing maintenance of the retaining walls, drainage system, street sweeping, inlet cleaning, and landscaping.

Hydrology: Grading and construction of the project would increase erosion and result in changes to drainage patterns that could degrade downstream waterways. The proposed project would also result in water quality impacts from an increase in pollutants, erosion, and siltation. Pursuant to HYDRO-1, HYDRO-2 and HYDRO-4, the project sponsor shall be required to prepare a Storm Water Pollution Prevention Plan (SWPPP) and submit the plan to the Regional Water Quality Control Board (RWQCB) prior to construction. The sponsor shall apply for a Phase II National Pollutant Discharge Elimination System (NPDES) permit and comply with the Construction Activities Storm Water Permit Requirements of the Clean Water Act. Filter mechanisms must also be installed at all drop inlets.

Storm water from the project site would not be adequately contained by the on-site drainage system in a manner that would result in a controlled release downstream. In response, mitigation measure HYDRO-3 is included that requires the project sponsor to submit final hydrology calculations based on the final drainage and design plans for review and approval by the City Engineer. These calculations shall demonstrate that the existing drainage infrastructure is capable of handling the flows from the proposed development.

Noise: The project would result in long-term construction activities adjacent to residential uses for most phases of construction. Mitigation measure Noise-3 states that the project sponsor shall require its construction contractor to limit the time of construction activities, to implement noise control techniques as required by the City Council, to prepare site-specific noise attenuation measures, and to submit measures to respond to and track complaints about construction noise.

Mitigation measure Noise-4 addresses the potentially impacts of noise from I-580 and Keller Avenue on the proposed residential project. The project shall be constructed using sound-rated building techniques and materials in order to achieve an acceptable indoor noise level.

Traffic and Transportation: Increased traffic generated by the project would affect levels of service at the Keller Avenue/Mountain Boulevard intersection under existing and year 2020 cumulative conditions. In response, the mitigation measure TRAF-1 is included that requires the project sponsor to contribute the project's fair share towards the installation of a traffic signal and other improvements already approved as part of the Leona Quarry project and as outlined in the Leona Quarry Traffic Improvement Program and Traffic Improvement Fee (TIP/TIF). Finally, mitigation measure TRAF-2 states that the project sponsor shall prepare a construction management plan for review and approval by the Public Works Agency, Transportation Services to reduce the impacts of construction-period traffic and parking.

Utilities and Service Systems: The project would create localized flooding since the existing drainage inlets do not have enough capacity to accommodate run-off from the proposed project during a 100-year storm. To reduce this impact to a less than significant level, mitigation measure UTIL-2 is included. This mitigation measure requires that the project sponsor install additional drainage inlets along the Siena Drive.

Under the existing and proposed conditions, pipe capacity for Sub-basin 1, located on the eastern portion of the site, is inadequate to convey drainage flows from a 100-year storm. This impact is mitigated to a less than significant level through implementation of hydrology mitigation measure HYDRO-3 that requires the project sponsor to submit final hydrology calculations based on the final drainage and design plans for review and approval by the City Engineer.

Project Alternatives

As required by the California Environmental Quality Act (CEQA), several alternatives that would avoid or substantially lessen the significant impacts of the project were analyzed in the Draft EIR. These included a No Project Alternative, a 16-Unit Alternative, and a Mitigated Project Alternative. Under the No Project Alternative, the project would not be undertaken and none of the impacts of the project would occur. This alternative would neither meet the project sponsor's objectives nor the City's objective in facilitating the need for new housing units on infill sites that is compatible with the density, scale and desired character of surrounding development. Under the 16-unit Alternative, 16 "detached" single family units would be constructed using the same site configuration as the 32-unit proposal. The lot area and unit size would double and each lot would have two considerable side setback dimensions. This alternative would represent a 50% decrease in the number of vehicular trips compared to the proposed project. The reduced trip generation would minimize the levels of service traffic impact at the Keller Ave./Mountain Blvd. intersection and therefore the 16-unit alternative would be considered slightly less traffic impacts than the proposed project in this regard. However, both this alternative and the proposed project would have less than significant traffic impacts. Under the mitigated project alternative, 32 attached single family units would be constructed using the same site plan as the proposed project. However, this alternative would implement all the measures recommended in the DEIR. The Mitigated Project alternative would meet the both the projects sponsor's and the City's objectives and is considered the environmentally superior alternative.

The DEIR also discusses other project alternatives that were not further analyzed. The applicant originally submitted a proposal to construct 44 attached single family homes on the project site with a different access configuration. This site plan was rejected by Planning and Zoning, Building Services, and the Public Works Agency, Transportation Services due to an increase in visual impacts associated with the amount and height of the retaining walls, grading impacts, and traffic design hazards. The applicant voluntarily reduced the number of units from 44 to 32 in response to the impacts and also comments from the various City departments. Accordingly, the proposed project reviewed in the DEIR represents an alternative that was already substantially mitigated from the original 44-unit submittal. In addition, a 32-unit "detached" alternative with the same road alignment as the 44-unit proposal was considered but rejected. Since the proposal resulted in more extensive grading impacts, an increase in the height of the required retaining walls, and the increased visual impact of housing dispersed over a greater area of the site, this option was not studied further.

CONCLUSION

The proposal seeks to develop an underutilized parcel into an attractive residential community that will enhance the surrounding residential neighborhood while maximizing the efficient use of the parcel. The project meets the primary goal of providing new high quality housing units on an infill site. Furthermore, the project is clearly in conformance with many General Plan goals and policies including orienting units toward the street, providing adequate parking, and creating an attractive streetscape. The planned unit development permit and variances for the minimum height and separation of retaining walls, minimum amount of front yard paving, and building length along side lot lines are warranted and are not anticipated to create adverse impacts, pursuant to the attached Findings and Conditions of Approval.

Therefore, staff recommends that the Planning Commission:

1) Adopt the CEQA findings, including Certifing the Final EIR; and

2) Adopt the attached conditions of approval for the mitigated project alternative including the Mitigation Monitoring and Reporting Program; and

3) Approve the applications for the Planned Unit Development (Preliminary Development Plan and Final Development Plan for the first phase only), Design Review, and Variances subject to the attached findings and conditions of approval.

Respectfully submitted:

CLAUDIA CAPPIO
Director of Development

Prepared by:

Heather Klein
Planner II, Major Development Projects

Attachments:
A. Project Architectural, Engineering, and Landscape Plans
B. Public Comments
C. Final EIR (Delivered under separate cover)

CEQA FINDINGS

A. Certification of EIR Findings (CEQA Guidelines § 15090)

1. That the Draft EIR was prepared by the City of Oakland as the Lead Agency, was properly circulated for public review and comment for 45 days (November 22, 2004 through January 5, 2005), was independently reviewed and analyzed by the City Planning Commission, and reflects the independent judgment of the Planning Commission.

2. That the Final EIR was properly circulated, independently reviewed and analyzed by the City Planning Commission and reflects the independent judgment of the Planning Commission. That such independent judgment is based on review and consideration of the information contained in the Final EIR and on substantial evidence in the record (even though there may be differences between or among the different sources of information and opinions offered in the documents, testimony, public comments and such responses that make up the Final EIR and the administrative record as a whole). The Final EIR included some minor revisions to the project description, land use and policy section, and the utilities and service systems section of the Draft EIR. That the Planning Commission recognizes that the Final EIR contains certain additions, clarifications, modifications or other revisions (as the result of the public review and comments on the Draft EIR, public agency responses to those comments, and refinements to the project description), but that such work does not present significant new information requiring re-circulation of the Draft EIR. That such information, revisions and additional data do not include any new significant environmental impacts that would result from the project or from a new mitigation measure and that they do not reflect any substantial increase in the severity of any environmental impact, nor do they propose any additional feasible project alternative or mitigation measure that is materially different from others previously analyzed that would clearly lessen the significant environmental impacts of the project that has not been adopted. Thus, no recirculation of the Draft EIR is required. No information indicates that the Draft EIR was inadequate or conclusory or that the public was deprived of a meaningful opportunity to review and comment on the Draft EIR.

3. The Final EIR and its findings and conclusions are adopted by the City Planning Commission as its source of environmental information, except where otherwise expressly stated; and that the Final EIR is legally adequate and was completed in compliance with CEQA and the City's Environmental Review Regulations.

CEQA Findings for Project Approval)(CEQA Guidelines § 15091-15093)

Environmental Impacts

1. That the Final EIR identifies all potential significant adverse environmental impacts and feasible mitigation measures that would reduce these impacts to a less-than-significant level. All of the mitigation measures identified in the Draft and Final EIR, as they may have been modified, and again in the Mitigation Monitoring and Reporting Program, will be adopted and implemented as condition of approval # 13 for the Project.

2. That the approval of project complies with CEQA; and that the Final EIR was presented to the City Planning Commission, which reviewed and considered the information contained therein prior to acting on any of the development approvals for the project.

3. That the Initial Study included as Appendix A in the Draft EIR evaluated the proposed project and found, after an initial review, the impacts listed in the *Environmental Review Section* of the March 2, 2005 staff report to be less than significant: All the reasons stated in the DEIR, as well as the responses to comments in the FEIR, as to why the foregoing impacts are less than significant are hereby adopted and incorporated by reference as if fully set forth herein.

4. The EIR evaluated the proposed project and identified significant potential adverse impacts in the following environmental categories *Environmental Review Section* of the March 2, 2005 staff report]. The EIR found that there would be less than significant environmental impacts associated with many of these categories. All the reasons stated in the DEIR, as well as the responses to comments in the FEIR, as to why many of the foregoing impacts are less than significant are hereby adopted and incorporated by reference as if fully set forth herein.

5. As detailed previously in this report, the EIR also recommends mitigation measures that, if implemented, would avoid or reduce some of the identified significant effects to less-than-significant levels. These measures are included within the attached Mitigation Monitoring and Reporting Program, and these measures are incorporated into the Conditions of Approval #13 for the Project.

FINDINGS FOR APPROVAL

This proposal meets the required findings under Oakland Municipal Code Sections 17.140.080 (Planned Unit Development Criteria), 17.140.060 (Planning Commission Action for a Final Planned Unit Development for Phase 1), 17.148.050 (Variance Criteria), 17.136.070 (Design Review Criteria), and Government Code Section 65589.5(j) (Reducing Density for Housing Developments) as set forth below. Required findings are shown in **bold** type; explanations as to why these findings can be made are in normal type. The project's conformance with the following findings is not limited to the discussion below, but is also included in all discussions in this report and elsewhere in the record.

Section 17.140.080 Preliminary Planned Unit Development Permit

A. That the location, design, size, and uses are consistent with the Oakland Comprehensive Plan and with any other applicable plan, development control map, or ordinance adopted by the City Council.

The proposed residential project is located within the Detached Unit Residential General Plan land use designation. Although the project is proposing attached single family homes with a 0' setback along one side lot line, the project is under the maximum allowable density for the DU designation. The applicant has worked with staff during the past 3 years to propose a density fitting the project's topographic and access constraints.

Several policies in the General Plan encourage cluster development as shown on the project plans. Land Use and Transportation Element (LUTE) Policy N7.6 states that development on subdivided parcels should be allowed where the site and building design minimize environmental impacts, building intensity and activity can be accommodated by available and planned infrastructure, and site and building designs are compatible with neighborhood character. Open Space, Conservation, and Recreation Element Policy OS-1.3 states that creative architecture and site planning which minimizes grading should be encouraged. By clustering development, an integrated site plan with a lower residential density and reduced visual and grading impacts is achieved.

In addition, the project implements several General Plan Land Use and Transportation Element policies related to the construction of new, high quality housing units on infill sites (including Objective N3 and Policies N3.1, N3.2, N3.8, N3.10, N6.2, N7.1, N7.4, and N7.8). Therefore, the project is consistent with the intensity and uses allowed by the General Plan land use designations, as well as with several General Plan policies.

B. That the location, design, and size are such that the development can be well integrated with its surroundings, and, in the case of a departure in character from surrounding uses, that the location and design will adequately reduce the impact of the development.

The "Italian hilltown" theme of the proposed project represents a clear difference to the surrounding single and multifamily homes that were built in a 1950-1950's boxlike style. Since the proposed project is located at the edge of this development and because the existing homes are not visible from Keller Avenue, staff believes that the style difference is not an issue. The location of the homes with a 20' setback from Keller Avenue and a 15-95' setback from the rear property line, along with a muted earthtone color scheme will reduce any visual impacts from the proposed project. Currently, the project site is mostly void of vegetation. The applicant is proposing an extensive landscape plan that will visually improve the aesthetic of the parcel. The elevations, with distinct architectural details in the facades and roof forms will also provide visual interest.

C. That the location, design, size, and uses are such that traffic generated by the development can be accommodated safely and without congestion on major streets and will avoid traversing other local streets.

Plans for Siena Drive show a reduced width and a small portion divided by a median. One-way signage is required as a condition of approval. This street is designed for project traffic and does not support high speed or large volumes of traffic. The proposed project will generate some additional traffic at a few intersections. However, the EIR determined that with implementation of the required mitigation measures the cumulative traffic impacts of the project will be less than significant.

D. That the location, design, size, and uses are such that the residents or establishments to be accommodated will be adequately served by existing or proposed facilities and services.

The proposed project site is located in a developed area that is adequately served by existing utilities and service systems including water supply, wastewater treatment, storm water drainage, and solid waste disposal as documented in the Initial Study and the EIR. The proposed project will also provide additional services for the area and improvements to the existing infrastructure.

E. That the location, design, size, and uses will result in an attractive, healthful, efficient, and stable environment for living, shopping, or working, the beneficial effects of which environment could not otherwise be achieved under the zoning regulations.

The proposed project could not otherwise be achieved under the zoning regulations due to the site's topographic and access constraints. Construction of a private road on the parcel required that a planned unit development permit be requested. This PUD permit allowed the applicant the flexibility to achieve an appropriate density and design for the project site off the proposed road. The proposed project is an attractive, high quality residential development that will benefit the surrounding area by developing a barren infill parcel. The project's interior private drive is designed to create an attractive and intimate neighborhood setting. The applicant has successfully designed the rear facades of the downslope units so they appear to be oriented to Keller Avenue. The design is attractive and appropriate for the location.

F. That the development will be well integrated into its setting, will not require excessive earth moving or destroy desirable natural features, will not be visually obtrusive and will harmonize with surrounding areas and facilities, will not substantially harm major views for surrounding residents, and will provide sufficient buffering in the form of spatial separation, vegetation, topographic features, or other devices.

Although the project will require earthmoving, the project was designed to respect and follow the existing 2:1 slope. Since the slope was created as a result of the construction of Keller Avenue and the site is mostly void of vegetation, no desirable natural features will be destroyed. The structures' bulk and mass step down the hill in response to the steep grade and retaining walls are used to stabilize the slope. Extensive landscaping, as shown on the plans, will soften the structures and increase the visual aesthetic of the hillside. The proposed earthtone colors for the walls and roofs will reduce visual impacts and allow the structures to "blend" into the hillside background. Varied roof forms and distinct elevations, including projections and recesses, provide shadow lines, depth, and texture to the structures. The height of the structures will not impact views across Interstate 880 from the upslope units. As demonstrated in the project EIR, all visual impacts can be reduced to a less than significant level.

Section 17.140.060 (Planning Commission Action for Final Planned Unit Development for Phase 1 only):

The proposal conforms to all applicable criteria and standards and conforms in all substantial respects to the preliminary development plan, or, in the case of the design and arrangement of those portions of the plan shown in generalized, schematic fashion, it conforms to applicable design review criteria.

The proposed Final Development Plan for Phase 1 conforms to all applicable criteria and standards and is consistent with the Preliminary Development Plan for the project. The design is attractive and appropriate for the location.

Section 17.136.070A (Residential Facilities Design Review Findings)

1. That the proposed design will create a building or set of buildings that are well related to the surrounding area in their setting, scale, bulk, height, materials, and textures;

As stated above, the Italian "hilltown" theme of the proposed project represents a clear style difference from the surrounding single and multi-family buildings built in the 1950-1960's. Since the project is located along the edge of this existing development, staff does not believe that the style is an issue. However, the project is well related to the surrounding area in terms of materials and textures. Many of the buildings are stucco, have pitched roofs over the entrances, wood windows and shutters and metal balconies and railings. The existing buildings range in height from 1-2 stories for single-family homes and 2-3 stories for multi-family buildings located on a slope. The building height for the proposed project is consistent with the height of these multi-family buildings.

2. **That the proposed design will protect, preserve, or enhance desirable neighborhood characteristics;**

The project is located on a barren hillside that is already surrounded by a significant amount of residential development. The proposed project is consistent to those homes in many respects, including materials, height, and roof forms. The proposed project protects desirable neighborhood characteristics such as preserving the top of the ridgeline and protecting views from the existing upslope homes. The high quality design and building articulation will enhance the neighborhood. The project has an appropriate site layout with typical setbacks, large open areas at the project's entrance and exit, and new landscaping.

3. **That the proposed design will be sensitive to the topography and landscape;**

The proposed project is located on a 2:1 slope as a result of the construction of Keller Avenue. Construction of the units and the private road will require a significant amount of grading. A final grading plan will be prepared that will limit and retain the 2:1 slope proportion. In addition, the units have been designed to step down the slope. The variations in the structure's elevations and roof forms provide visual interest, reduce the bulk and mass of the project, and decrease the "wall-like" effect that is often noticeable on hillside homes. The project's earthtone colors will blend into the hillside and minimize visual impacts. Although the site is mostly void of vegetation, the applicant is proposing extensive landscaping for the parcel, including trees, shrubs, groundcovers and vines. Staff has included as a condition of approval that the infill and theme trees (as described on the landscape plans) be of a boxed size to soften the structures and produce an immediate landscape effect that would otherwise take years to achieve.

4. **That, if situated on a hill, the design and massing of the proposed building relates to the grade of the hill;**

As stated above, the project site is located on a steep hillside. The unit's bulk and massing have been designed to step down the slope in relation to the grade. The bulk and massing is typical of hillside development and the "Italian hilltown" theme of the project. The front, side, and rear elevations provide visual interest using variety in materials, roof forms, projections, recesses, and architectural details. Staff has included as a condition of approval that the lower floor's skirt walls on the downslope units provide a deep recess to add a shadow line and further reduce the mass of the structures. The buildings' height will follow the topography and preserve views from the existing homes above the project site.

5. **That the proposed design conforms in all significant respects with the Oakland Comprehensive Plan and with any applicable district plan or development control map which has been adopted by City Council.**

As stated above in the PUD findings, the project is consistent with the General Plan land use designation of Detached Unit Residential. The project supports many of the objectives and policies of the Land Use and Transportation Element (LUTE) for this area including the construction of high quality residential units on infill or orphaned lots, orienting residential development toward the streets, adequately locating off-street parking to avoid visual prominence, and the creation of intimately designed streets. This use and density is permitted under the Planning Code and appropriate to the area.

Section 17.148.050 (Minor Variance Criteria for a) the minimum height and separation between retaining walls, b) the minimum amount of front yard paving, and c) the building length along side lot lines):

1. **That strict compliance with the specified regulation would result in practical difficulty or unnecessary hardship inconsistent with the purposes of the zoning regulations, due to unique physical or topographic circumstances or conditions of design; or, as an alternative in the case of a minor variance that such strict compliance would preclude an effective design solution improving livability, operational efficiency, or appearance.**

   a) Per Section 17.102.400(E) of the Planning Code, no retaining wall shall exceed six feet in height and provide less than a four foot separation distance between retaining walls. Due to the steep slope of the site, the project will include construction of retaining walls. Many of these are over 6' in height, but none would be taller than 10'. In a couple of insistences, the minimum separation between retaining walls is approximately 3'. These retaining walls are necessary for slope stability and would be incorporated into the foundations of the homes. Strict compliance with this regulation would preclude an effective design solution and require additional retaining walls or a steeper grade between them. A steeper grade between the retaining walls would be in direct conflict with Mitigation Measure Geo-2a of the EIR. The addition of more retaining walls that adhere to the minimum separation distance would limit the amount of tree planting and landscaping. This extensive landscaping is necessary to screen the walls, provide additional slope stability, prevent the establishment of non-native French broom, and improve the visual aesthetic for the project.

   b) Both Traffic Engineering and Fire Services have required that there be no off-street parking on Siena Drive due to the reduced road width for a private drive. In order to accommodate unit and guest parking, the applicant provided 3 parking spaces per unit, 1 space in the garage, 1 space in the driveway, and 1 space in a parking area between the planting area and the driveway. This amounts to more than 50% of a paved front yard, which would require a variance per Section 17.102.400(A) of the Planning Code. Strict compliance with this regulation would preclude an effective design solution to providing parking for the units. Approximately 32 unit or guest parking spaces would need to be provided at either end of the development. Scattering the parking throughout the design, buffered by planting areas, provides a more effective design solution than essentially creating large parking lots at the entrance and exit of the development. Since the proposed project is requesting a PUD, each unit will have the same front yard design and therefore an integrated site plan is achieved.

   c) Per Section 17.16.040 of the Planning Code, when the site area to be covered by the principal building exceeds a slope of 20%, the building length facing a side lot line shall be limited to 35' if within 10' of the side lot line. The downslope units exceed the required building length by 23'. The unit sizes are typical for hillside development. Strict compliance with this

regulation would require shorter units with an increased height or larger setbacks and reduction in the number of units. The additional height to accommodate the shorter building length would require a variance and be inconsistent with the heights for the surrounding homes. Providing increased setbacks would reduce the number of units which is otherwise permitted by the zoning density. Staff believes that a variance for building length is warranted due to the varied projections and recesses shown on the side elevations. Architectural details such as turrets, windows, chimneys and balconies provide visual interest and extensive landscaping will screen the further building length. In addition, the planned unit development regulations allow for reduced yards to create an integrated site plan.

2. **That strict compliance with the regulations would deprive the applicant of privileges enjoyed by owners of similarly zoned property; or, as an alternative in the case of a minor variance, that such strict compliance would preclude an effective design solution fulfilling the basic intent of the applicable regulation.**

a) The basic intent of the minimum height and separation of the retaining walls regulations is to provide hillside stability, planting areas to screen walls, and ensure that the slope respects the existing topography of the site. The retaining walls will be installed at the same slope ratio as the existing topography. Strict compliance with the minimum height would preclude an effective design solution that would require additional retaining walls thereby decreasing the amount of landscaping. This would reduce the visual aesthetic of the development.

b) The basic intent of the minimum paved front yard area is to create an intimate and well-designed residential streetscape. Since the project is creating a new street and only units within the PUD will front onto the street, this is an internal issue to the project. Strict compliance would require the creation of parking lots at either end of the development to accommodate 32 parking spaces. Scattering parking spaces throughout the development, buffering them with planting areas and lawns, and using visually distinct materials for each paved area are more appropriate design solutions that fulfill the intent of the regulations.

c) The basic intent of the maximum building length regulation is to reduce blank facades that are visible from adjacent units and the street and to protect unit privacy. The project elevations show visually interesting side elevations which include turrets, windows, balconies, and varied building and roof projections and recesses. In addition, the building length will be appropriately screened with extensive landscaping. These design solutions fulfill the basic intent of the regulations.

3. **That the variance, if granted, will not adversely affect the character, livability, or appropriate development of abutting properties or the surrounding area, and will not be detrimental to the public welfare or contrary to adopted plans or development policy.**

a) Granting a variance for the height and separation of retaining walls will not adversely affect the character, livability, or appropriate development of the abutting properties since the development will occur on a parcel already surrounded by residential development. The retaining walls will help to stabilize the homes upslope from the development at the existing 2:1 slope ratio. In addition, the retaining walls will be designed of an appropriate material and finish for residential properties as recommended in the conditions of approval. Furthermore, they will be appropriately screened with extensive tree and shrub planting and the tops planted with trailing vines.

b) Granting a variance for the amount of front yard paving will not adversely affect the character, livability, or appropriate development of the abutting properties since the development will occur on a parcel already surrounded by residential development. The project will also include the construction of a new private road for the units, so this is an internal issue to the development. The landscape plans show that these paved areas are buffering by lawns, planting areas, and landscaped strips. Staff has included as a condition of approval that the driveways, walkways, and parking areas be constructed with different materials to provide visual interest and that a portion of the hardscape be of a pervious material to provide increased water absorption on the site.

c) Granting a variance for the building length along side lot lines will not adversely affect the character, livability, or appropriate development of the abutting properties or the surrounding area since the development will occur on a parcel already surrounded by residential development. The side facades of each structure provide visual interest through projections, recesses, and architectural details. Extensive landscaping will also screen the building length as surrounding residents drive along Keller Avenue.

4. **That the variance will not constitute a grant of special privilege inconsistent with limitations imposed on similarly zoned properties or inconsistent with the purposes of the zoning regulations.**

a, b, and c) The variances, in conjunction with the PUD permit, are necessary to create a well-designed and integrated site plan and will not constitute a granting of special privilege inconsistent with limitations imposed on other similarly zoned properties. As stated above the variances are consistent with the basic intent of the zoning regulations and are internal issues to the project. In addition, similar variances have been granted for other hillside properties that were not associated with a PUD permit.

Findings Pursuant to State Government Code Section 65589.5 (j)

Pursuant to Government Code section 65589.5(j), the Planning Commission finds that the proposed housing development cannot have its density reduced because:

(a) The project is consistent with the general plan and zoning regulations; and

(b) There is no specific, adverse impact upon the public health or safety as a result of the project.

According to Government Code section 65589.5 (j), if a "housing" project is consistent with a City's General Plan and zoning ordinance, and does not present a threat to public health and safety at its current density, a lower density project cannot be considered as a feasible alternative. Thus, it is not legally feasible to reduce the density of a "housing" project that meets the requirements of Government Code section 65589.5 (j). Under the statute, a "housing" project is defined as residential units only or mixed use developments in which nonresidential uses are limited to neighborhood serving commercial uses on the first floor of buildings. As described elsewhere in this report, the proposed residential project is consistent with the City General Plan and zoning regulations (pursuant to the granting of the planned unit development permit and the variances relating to the minimum height and separation of retaining walls, the amount of front yard paving, and the building length along side lot lines) and there is no specific, adverse impact on the public's health and safety as a result of the project. As defined by the statute, a

"specific, adverse impact" means a significant, quantifiable, direct and unavoidable impact, based upon objective, identified written public health or safety standards, policies or conditions as they existed on the date the application was deemed complete." Thus, the proposed housing project cannot have its density reduced.

CONDITIONS OF APPROVAL

STANDARD CONDITIONS

1. **Approved Use.**
   a. Ongoing.
   The project shall be constructed and operated in accordance with the authorized use as described in this staff report and the engineering plans dated January 24, 2005, the architectural plans dated May 6, 2004, and the landscape plans dated January 31, 2005 and as amended by the following conditions. Any additional uses other than those approved with this permit, as described in the project description, will require a separate application and approval.

2. **Effective Date, Expiration, and Extensions and Phasing Requirements**
   a. Ongoing through project completion.
   These approvals shall become effective upon satisfactory compliance with these conditions. These approvals for the project site shall expire on **March 2, 2006** unless actual construction of the first phase of the project has begun under necessary permits by this date. Upon written request and payment of appropriate fees prior to the expiration of the approvals, the Zoning Administrator may grant a one-year extension of these dates, with additional extensions subject to approval by the Planning Commission.

   b. Within two (2) years of this approval.
   Failure of the applicant to obtain a Final PUD approval for the second phase within two (2) years of the effective date of this Preliminary PUD approval shall invalidate this approval. Failure of the applicant to obtain a Final PUD approval for the third phase within two (2) years of a certificate of occupancy being issued for the second phase shall invalidate this approval. Provided further, that upon written request, the Planning and Zoning Division may grant a one year extension of the deadline, with additional extensions subject to approval by the City Planning Commission.

   c. Prior to issuance of building permit

   The project sponsor shall submit a Construction Phasing and Management Plan, incorporating all applicable conditions of approval. The plan shall also include the following additional measures and standards:

   a. A site security and safety plan to assure that grading and construction activities are adequately secured during off-work hours.

   b. A fire safety management plan for all phases of work, including provisions for access, water, and other protection measures during grading and construction activities.

   c. A construction period litter/debris control plan to ensure the site and surrounding area is kept free of litter and debris.

   d. Prior to issuance of certificate of occupancy.
   Final inspection and a certificate of occupancy for any unit or other structure within a phase, as set forth above, shall not be issued until (a) all landscaping and on and off-site improvements for that phase are completed in accordance with this Approval, or (b) until cash, an acceptably rated bond, a certificate of deposit, an irrevocable standby letter of credit

or other form of security (collectively "security"), acceptable to the City Attorney, has been posted to cover all costs of any unfinished work related to landscaping and public improvements plus 25 percent within that phase, unless already secured by a subdivision improvement agreement approved by the City. For purposes of these Conditions of Approval, a certificate of occupancy shall mean a final certificate of occupancy, not temporary or conditional, except as the City determines may be necessary to test utilities and services prior to issuance of the final certificate of occupancy.

3. Scope of This Approval

a. Ongoing.

The project is approved pursuant to the Planning Code only and shall comply with all other applicable codes and requirements imposed by other affected departments, including but not limited to the Building Services Division and the Fire Marshal. Minor changes to the approvals may be approved administratively by the Planning Director; major changes to the approvals, shall be subject to review and approval by the City Planning Commission.

4. Modification of Conditions or Revocation

a. Ongoing.

The City reserves the right, after notice and public hearing, to alter Conditions of Approval or revoke this conditional use permit if it is found that the approved use or facility is violating any of the Conditions of Approval, any applicable codes, requirements, regulation, guideline or causing a public nuisance.

5. Recording of Conditions of Approval

a. Prior to issuance of building permit or commencement of activity.

The applicant shall execute and record with the Alameda County Recorder's Office a copy of these conditions of approval on a form approved by the Zoning Administrator. Proof of recordation shall be provided to the Zoning Administrator.

6. Reproduction of Conditions on Building Plans

a. Prior to issuance of building permit.

These conditions of approval shall be reproduced on page one of any plans submitted for a building permit for this project.

7. Indemnification

a. Ongoing.

The applicant shall defend, indemnify, and hold harmless the City of Oakland, its agents, officers, and employees from any claim, action, or proceeding (including legal costs and attorney's fees) against the City of Oakland, its agents, officers or employees to attack, set aside, void or annul, an approval by the City of Oakland, the Office of Planning and Zoning Division, Planning Commission, or City Council relating to this project. The City shall promptly notify the applicant of any claim, action or proceeding and the City shall cooperate fully in such defense. The City may elect, in its sole discretion, to participate in the defense of said claim, action, or proceeding.

8. Waste Reduction and Recycling

a. Prior to issuance of a building or demolition permit.

Prior to issuance of any building permits including the grading and/or demolition permit the project applicant will submit a demolition/construction waste diversion plan and operational

waste reduction plan for review and approval by the Public Works Agency. The plan will specify the methods by which the development will make a good faith effort to divert 50% of the demolition/construction waste generated by the proposed project from landfill disposal. After approval of the plan, the project applicant will implement the plan. The operational diversion plan will specify the methods by which the development will make a good faith effort to divert 50% of the solid waste generated by operation of the proposed project from landfill disposal. After approval of the plan, the project applicant will implement the plan.

9. Subsequent Conditions or Requirements.

a. Ongoing.

This approval shall be subject to the conditions of approval contained in any subsequent Tentative Tract Map, Tentative Parcel Map or mitigation measures contained in the approved environmental document for this project.

10. Electrical Facilities

a. Prior to installation.

All new electric and telephone facilities, fire alarm conduits, streetlight wiring, and similar facilities shall be placed underground. Electric and telephone facilities shall be installed in accordance with standard specifications of the servicing utilities. Street lighting and fire alarm facilities shall be installed in accordance with the standard specifications of the Building Services Department.

11. Improvements in the Public Right-of-Way

a. Prior to issuance of building permit for work in the public right-of-way

The applicant shall submit Public Improvement Plans for adjacent public rights-of-way showing all proposed improvements and compliance with conditions of approval and City requirements including but not limited to curbs, gutters, sewer laterals, storm drains, street trees, paving details, locations of transformers and other above ground utility structures, the design specifications locations of facilities required by the East Bay Municipal Utility District (EBMUD), and accessibility improvements compliant with applicable standards and any other improvements or requirements for the project as provided for in this approval, including the approved landscape plans, the design of the pedestrian paths, and the street tree locations and planting specifications. In addition, the plans shall also include how the public improvements will be phased concurrent with the proposed project phasing, in order to assure that units can be occupied and meet access, life safety and other requirements. This plan shall be reviewed and approved by the City Engineer and used as the confirmation of compliance with all phases of the project. Encroachment permits shall be obtained as necessary for any applicable improvements.

12. Phased Public Improvement Plan

a Prior to issuance of building permit for work in the public right-of-way

The applicant shall submit Public Improvement Plans for improvements to be installed with each phase of the development.

SPECIFIC PROJECT CONDITIONS

13. Mitigation Monitoring and Reporting Program

a. Ongoing.

The following mitigation measures shall be incorporated into the project. The measures are taken directly from the environmental impact report for the Siena Hill Project. For each measure, this Mitigation Monitoring and Reporting Program (MMRP) indicates the entity (generally, an agency or department within the City of Oakland) that is responsible for carrying out the measure ("Responsible Implementing Entity"); the actions necessary to ensure compliance with the applicable measure ("Monitoring Action(s)") and the entity responsible for monitoring this compliance ("Monitoring Responsibility"); and the time frame during which monitoring must occur ("Monitoring Timeframe").

AIR QUALITY

A. Impact AQ-2: Project construction would contribute to an increase in levels of ROG, NOx and/or PM10.

Mitigation Measure AQ-2: The applicant shall implement a construction dust abatement program. BAAQMD suggests a range of best management practices (BMPs) for minimizing construction dust. The project shall incorporate the following BMPs:

a. Water all active construction areas at least twice daily and more often during windy periods. Active construction areas would be considered to be those under excavation at a given time, storage piles and internal roadways. Watering methods may include water trucks for roadways and hoses or sprinklers for storage piles and active excavation.

b. Cover all trucks hauling soil, sand, and other loose materials offsite, or require all trucks to maintain at least 2 feet of freeboard.

c. Pave, apply water three times daily, or apply non toxic soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites;

d. Sweep daily with water sweepers all paved access roads, parking areas, and staging areas at construction sites;

e. Sweep streets daily with water sweepers if visible soil material is carried onto adjacent public streets;

f. Hydroseed or apply non toxic soil stabilizers to inactive construction areas;

g. Enclose, cover, water twice daily, or apply non toxic soil binders to exposed stockpiles (dirt, sand, etc.);

h. Limit traffic speeds on unpaved roads to 15 mph;

i. Install sandbags or other erosion control measures to prevent silt runoff to public roadways;

j. Replant vegetation in disturbed areas as quickly as possible.

k. Install wheel washers for all exiting trucks, or wash off the tires or tracks of all trucks and equipment leaving the site; and

l. Suspend excavation and grading activity when winds (instantaneous gusts) exceed 25 mph

Responsible Implementing Entity: CEDA, Building Services Division

Monitoring Action(s): CEDA, Building Services Division shall review and approve the construction dust abatement program and conduct spot-checks as deemed necessary throughout construction period.

Monitoring Responsibility: CEDA, Building Services Division

Monitoring Timeframe: Prior to the issuance of a grading permit and throughout construction.

B. Impact AQ-5: The project would expose sensitive receptors to increased concentrations of PM10 during construction.

Mitigation Measure AQ-5: This impact would be reduced to a less-than-significant level by implementation of Mitigation Measure AQ-2.

Responsible Implementing Entity: CEDA, Building Services Division

Monitoring Action(s): CEDA, Building Services Division shall conduct spot-checks as deemed necessary throughout construction period.

Monitoring Responsibility: CEDA, Building Services Division

Monitoring Timeframe: Prior to the issuance of a grading permit and throughout construction.

BIOLOGICAL RESOURCES

C. Impact BIO-1: Grading and construction activities on the site would have the potential to harm special-status species or habitat for special-status species.

Mitigation Measure BIO-1a: A project applicant shall retain a qualified botanist as approved by the City to conduct detailed preconstruction surveys in spring (March and May) to confirm absence of any special-status plant species on the site. The survey shall focus on the twelve special-status plant species listed in Table 4 of the Draft EIR considered to have a remote (highly unlikely) probability of occurrence on the site. The surveys shall be completed and a report of findings shall be submitted to the City before the onset of any initial ground-disturbing activity or construction.

Responsible Implementing Entity: Project Sponsor, CEDA, Planning Division

Monitoring Action(s): CEDA, Planning and Zoning shall review the preconstruction surveys and findings taken in both March and May to confirm the absence of any special status-plant species listed in table 4 of the Draft EIR.

Monitoring Responsibility: CEDA, Planning Division

Monitoring Timeframe: Prior to issuance of grading permit or ground disturbing activities.

Mitigation Measure BIO-1b: If populations of any special-status plant species are encountered, the project applicant shall ensure that construction-related impacts are avoided or adequately mitigated by retaining a qualified botanist to develop and implement a Special-Status Plant Species Mitigation and Monitoring Plan. A Mitigation and Monitoring Plan shall only be required if a listed species, or those maintained on Lists 1B or 2 of the CNPS Inventory are encountered during the preconstruction survey. Potential impacts on any species maintained on Lists 3 and 4 of the CNPS Inventory would not be considered significant and no additional mitigation would be required for these species if encountered during the preconstruction survey.

The Mitigation and Monitoring Plan shall be prepared in consultation with the CDFG and shall be approved by the City prior to any initial ground-disturbing activity or construction. The Mitigation and Monitoring Plan shall be based on the status and vulnerability of the species present with avoidance of all or a majority of any populations on the site the preferred method of

mitigation. Where complete or even partial avoidance of any special-status plant populations on the site is considered infeasible, options for mitigation may include a program to salvage and re-establish the population at an alternative, suitable location. Details of any salvage and habitat recreation effort shall include the following criteria and performance standards:

a. Collection of seeds during the appropriate developmental stage of the plant.

b. Procedures for sowing techniques appropriate to the life cycle of the plant.

c. Development of a maintenance and monitoring plan specific to the environmental conditions necessary for survival of the new population. Maintenance and monitoring shall be provided for a minimum of five years to determine success of re-seeding and habitat creation, and need for additional preservation.

d. Identification of funding sources by the applicant to provide implementation of the plan in consultation with the qualified plant ecologist, landscape architect, and civil engineer.

e. In addition, preservation of another existing occurrence of the affected special-status plant species shall be required if monitoring indicates that the re-establishment efforts have not been successful after five years. The preservation program shall provide for permanent protection of a different existing population in Alameda County, which is equal or larger in size than that encountered on the site (minimum 1:1 replacement), through land acquisition or use of a conservation easement. Any off-site mitigation lands shall include establishment of a management endowment as necessary to provide for long-term management of the preserved population.

Responsible Implementing Entity: Project Sponsor, CEDA, Planning Division

Monitoring Action(s): If special-status plant species are found, the CEDA, Planning Division shall review the mitigation and monitoring plan in consultation with the CDFG to determine appropriate mitigation measures.

Monitoring Responsibility: CEDA, Planning Division

Monitoring Timeframe: Prior to issuance of grading permit or ground disturbing activities.

D. Impact BIO-3: Although no native live oak saplings on the site would be removed as part of the project, they could be harmed by construction.

Mitigation Measure BIO-3: The six native sapling live oaks along the upper elevations of the site shall be preserved to the extent possible and adequate measures taken to prevent removal or damage as part of grading. The applicant shall work with a consulting arborist as approved by the City and with the Tree Services Division of the Public Works Agency to create a tree protection plan. This plan shall include measures such as surveying and mapping the trunk locations and elevations of individual trees and adjusting the grading plan where feasible to preserve individual trees. Trees to be preserved shall be clearly flagged prior to any grading, and temporary construction restriction fencing shall be installed to prevent inadvertent removal, entrance of construction equipment or storage of construction materials.

Where tree removal is unavoidable, the project applicant must apply for a tree removal permit, as required by the Tree Removal/Preservation Ordinance. This application process includes a detailed review of site plans and tree surveys by the Office of Planning and Zoning, the Office of Parks and Recreation, and the Public Works Agency. The proposed tree removal must be re-viewed and approved by all relevant City offices. Any trees that are removed shall be replaced at

a 3:1 ratio and incorporated into the Landscape Plan recommended in Mitigation Measure BIO-5b.

Responsible Implementing Entity: Project Sponsor; CEDA, Planning Division; Public Works Agency, Tree Division

Monitoring Action(s): Public Works Agency, Tree Division shall review the tree protection plan and provide mitigation measures to prevent the mortality of these trees.

Monitoring Responsibility: CEDA, Planning Division; Public Works Agency, Tree Division

Monitoring Timeframe: Prior to issuance of grading permit or ground disturbing activities.

E. Impact BIO-4: The proposed project would necessitate the removal of one redwood in the median of Keller Avenue which is protected under the City's Tree Protection/Removal Ordinance.

Mitigation Measure BIO-4: The project applicant must apply for a tree removal permit for the removal of the redwood, as required by the Tree Protection/Removal Ordinance. This application process includes a detailed review of site plans and tree surveys by the City Planning Department, the Office of Parks and Recreation and the Office of Public Works. The proposed tree removal must be reviewed and approved by all relevant City offices.

Responsible Implementing Entity: Project Sponsor; CEDA, Planning Division; Public Works Agency, Tree Division

Monitoring Action(s): The Public Works Agency, Tree Division shall review and approve the application for a tree removal permit.

Monitoring Responsibility: CEDA, Planning Division; Public Works Agency, Tree Division

Monitoring Timeframe: Prior to issuance of grading permit or ground disturbing activities.

F. Impact BIO-5: Grading would create suitable growing conditions for further establishment of invasive French broom on the site, which would limit habitat values unless carefully controlled.

Mitigation Measure BIO-5a: A program to remove French broom shall be incorporated into the Final Landscape Plan for the project to eliminate this species from the site and prevent its reestablishment. Graded slopes and areas disturbed as part of the project shall be monitored to prevent reestablishment and spread of broom. The removal and monitoring program shall include annual late winter removal of any rooted plants when soils are saturated, and cutting back of any remaining flowering plants in the spring before seed begins to set in late April. Monitoring and routine removal shall be provided on an annual basis for a minimum of five years to prevent reestablishment.

Responsible Implementing Entity: Project Applicant, CEDA, Planning Division

Monitoring Action(s): The applicant shall retain a qualified botanist, as approved by the City, who will monitor the site at the appropriate time for the reappearance of this species and will submit a report to the City, either confirming the absence of the plant or detailing measures for removal.

Monitoring Responsibility: CEDA, Planning Division

Monitoring Timeframe: The Final Landscape Plan shall be submitted prior to issuance of a grading permit; monitoring for French Broom shall be conducted on an annual basis for a minimum of five years.

Mitigation Measure BIO-5b: A Final Landscape Plan shall be prepared by a qualified landscape architect which emphasizes the use of native, drought tolerant and fire resistant tree, shrub, and groundcover species in landscape plantings, and recognizes the difficult growing conditions created by proposed cut slopes on the site. The following requirements and restrictions shall be incorporated into the Plan.

a. Unsuitable species include: blue gum (Eucalyptus globulus), acacia (Acacia spp.), pampus grass (Cortaderia selloana), broom (Cytisus spp. and Genista spp.), gorse (Ulex europaeus), bamboo (Bambusa spp.), giant reed (Arundo donax), English ivy (Hedera helix), German ivy (Senecio milanioides), and periwinkle (Vinca sp.).

b. Suitable species include: coast live oak, California bay (Umbellularia californica), big leaf maple (Acer macrophyllum), California buckeye (Aesculus californica), toyon (Heteromeles arbutifolia), California fuchsia (Epilobium canum), sticky monkeyflower (Mimulus aurantiacus), California sagebrush (Artemisia californica), purple needlegrass (Nasella pulchra), and buckwheat (Eriogonum fasciculatum).

c. Plantings in the vicinity of the coast live oak saplings shall follow the recommendations of the California Oak Society's Compatible Plants Under and Around Oaks booklet.

Responsible Implementing Entity: CEDA, Planning Division and Fire Services; Public Works Agency, Environmental Services Division

Monitoring Action(s): The CEDA, Planning Division, Fire Services, and the Public Works Agency, Environmental Services Division shall review the final landscape plan to ensure compliance with applicable standards and regulations.

Monitoring Responsibility: CEDA, Planning Division and Fire Services; Public Works Agency, Environmental Services Division

Monitoring Timeframe: The Final Landscape Plan shall be submitted prior to issuance of a grading permit.

CULTURAL RESOURCES

G. Impact CUL-1: Although no evidence of cultural resources or human remains has been discovered on the site, it is possible that construction activities could disturb undiscovered buried cultural resources or human remains.

Mitigation Measure CUL-1a: If previously-undetected cultural resources of significance are encountered during the course of any construction, all earthmoving activity in the area of impact shall stop until the applicant retains the services of a qualified archaeological consultant. The archaeological consultant shall examine the findings, assess their significance and offer proposals for any procedures deemed appropriate to further investigate and/or mitigate adverse impacts to those cultural resources which have been encountered.

Responsible Implementing Entity: CEDA, Planning Division

Monitoring Action(s): CEDA, Planning Division shall receive notice that an archeologist has been retained and verify that construction work has been suspended if significant resources are found. CEDA, Planning Division shall review the archaeological resources report.

Monitoring Responsibility: CEDA, Planning Division and Building Services Division

Monitoring Timeframe: Throughout grading and construction.

Mitigation Measure CUL-1b: If previously undetected paleontological resources of significance are encountered during the course of any construction, all earthmoving activity in the area of impact shall stop until the applicant retains the services of a qualified paleontologist. The paleontologist shall examine the findings, assess their significance and offer proposals for any procedures deemed appropriate to further investigate and/or mitigate adverse impacts to those cultural resources which have been encountered

Responsible Implementing Entity: CEDA, Planning Division

Monitoring Action(s): CEDA, Planning Division shall receive notice that a paleontologist has been retained and verify that construction work has been suspended if significant resources are found. CEDA, Planning Division shall review the paleontological resources report.

Monitoring Responsibility: CEDA, Planning Division, Paleontologist Consultant

Monitoring Timeframe: Throughout grading and construction.

Mitigation Measure CUL-1c: If previously unknown human remains are encountered during construction, the County Coroner and an appropriate representative of the Native American Heritage Commission shall be informed and consulted, as required by State law.

Responsible Implementing Entity: Project Sponsor; Oakland Community and Economic Development Agency (CEDA), Planning Division; Alameda County Coroner; Native American Heritage Commission

Monitoring Action(s): The project sponsor shall contact the coroner in the event that human remains are encountered. Agencies shall respond to any such discovery as applicable.

Monitoring Responsibility: CEDA, Planning Division; Alameda County Coroner; Native American Heritage Commission

Monitoring Timeframe: Throughout the construction period.

GEOLOGY AND SOILS

H. Impact GEO-1: The proposed project site is within a seismically-active region, and the proposed project site will likely be subject to strong seismic ground shaking during its design life.

Mitigation Measure GEO-1: Structures shall be designed in compliance with current building codes related to seismic safety.

Responsible Implementing Entity: CEDA, Building Services Division

Monitoring Action(s): The Building Services Division shall review and approve the final building plans to demonstrate compliance with current building codes.

Monitoring Responsibility: CEDA, Building Services Division

Monitoring Timeframe: Prior to issuance of first building permit.

I. Impact GEO-2: As the soils on the site become saturated in an earthquake event, the slopes become less stable.

Mitigation Measure GEO-2a: The grading plan for the proposed project shall limit slope grades to a maximum 2-to-1 horizontal to vertical ratio with retaining walls to support this slope.

Responsible Implementing Entity: CEDA, Building Services Division

Monitoring Action(s): CEDA, Building Services shall review and approve the final grading plan including the locations, dimensions, and slope ratio of all retaining walls.

Monitoring Responsibility: CEDA, Building Services Division

Monitoring Timeframe: Prior to issuance of first grading permit.

Mitigation Measure GEO-2b: New retaining walls and foundations shall be designed following the detailed criteria set forth in the Geotechnical Investigation completed for the proposed project.

Responsible Implementing Entity: CEDA, Building Services Division

Monitoring Action(s): CEDA, Building Services shall review and approve the final grading plan and retaining wall design in consultation with the Geotechnical Investigation completed for the proposed project.

Monitoring Responsibility: CEDA, Building Services Division

Monitoring Timeframe: Prior to issuance of first grading permit.

Mitigation Measure GEO-2c: Detailed grading plans and construction drawings shall be submitted to the City of Oakland Building Services Department for approval prior to excavation to ensure that the buildings and retaining walls conform to Uniform Building Code requirements.

Responsible Implementing Entity: CEDA, Building Services Division

Monitoring Action(s): The CEDA, Building Services Division shall review and approve the final grading and construction plans for conformance with the Uniform Building Codes.

Monitoring Responsibility: CEDA, Building Services Division

Monitoring Timeframe: Prior to issuance of first grading permit.

Mitigation Measure GEO-2d: Foundations of the buildings shall bear on rock.

Responsible Implementing Entity: CEDA, Building Services Division

Monitoring Action(s): The CEDA, Building Services Division shall review and approve the final grading and construction plans to ensure that the foundations bear on rock.

Monitoring Responsibility: CEDA, Building Services Division

Monitoring Timeframe: Prior to issuance of first grading permit.

Mitigation Measure GEO-2e: In addition to the requirements contained in Mitigation Measure HYDRO-3, drainage on the site shall be designed and maintained to minimize ponding of surface water and/or saturation of the soils, following the detailed criteria in the geotechnical investigation completed for the project.

Responsible Implementing Entity: CEDA, Building Services Division; Public Works Agency, Engineering Design Services

Monitoring Action(s): The CEDA, Building Services Division and the Public Works Agency, Engineering Design Services shall review the final drainage plans to minimize ponding of surface water.

Monitoring Responsibility: CEDA, Building Services Division; Public Works Agency, Engineering Design Services

Monitoring Timeframe: Prior to issuance of first grading permit.

J. Impact GEO-3: Soils on the site above the fill layer are at risk of erosion.

Mitigation Measure GEO-3a: An erosion control plan to minimize wind and water erosion during the construction period shall be prepared, as is standard during the grading and building permit approval process. This erosion control plan shall incorporate appropriate measures in accordance with the mitigation measures outlined in Mitigation Measure HYDRO-1, HYDRO-2a and HYDRO-2b.

Responsible Implementing Entity: CEDA, Building Services Division; Public Works Agency, Engineering Design Services

Monitoring Action(s): The CEDA, Building Services Division and the Public Works Agency, Engineering Design Services shall review the erosion control plan.

Monitoring Responsibility: CEDA, Building Services Division; Public Works Agency, Engineering Design Services

Monitoring Timeframe: Prior to issuance of the first grading permit.

Mitigation Measure GEO-3b: Long-term erosion shall be addressed through installation of landscaping and storm drainage facilities.

Responsible Implementing Entity: CEDA, Building Services Division and Planning Division; Public Works Agency, Engineering Design Services

Monitoring Action(s): The CEDA, Building Services Division, Planning Division, and the Public Works Agency, Engineering Design Services shall review the erosion control plan.

Monitoring Responsibility: CEDA, Building Services Division; Public Works Agency, Engineering Design Services

Monitoring Timeframe: Prior to issuance of the first grading permit.

K. Impact GEO-4: The proposed project would be placed on slightly to moderately expansive soil and non-expansive bedrock and on steep slopes.

Mitigation Measure GEO-4: Foundations shall be drilled piers and grade beams.

Responsible Implementing Entity: CEDA, Building Services Division

Monitoring Action(s): The CEDA, Building Services Division shall review and approve the final grading and construction plans to ensure that the foundations are drilled piers and beams.

Monitoring Responsibility: CEDA, Building Services Division

Monitoring Timeframe: The geotechnical recommendations shall be incorporated into the final construction drawings to be reviewed and approved prior to issuance of first building permit.

HYDROLOGY AND WATER QUALITY

L. Impact HYDRO-1: Increased erosion caused by the grading of the project site during construction of the project could result in the degradation of downstream waterways.

Mitigation Measure HYDRO-1: The project applicant shall prepare a storm water pollution prevention plan (SWPPP) prior to construction activities, as required by the statewide General Permit for Construction Activities. Implementation of the plan shall start with the commencement of construction and shall continue though the completion of the project. Upon completion of the project, the sponsor must submit a Notice of Termination to the San Francisco RWQCB to indicate that construction is completed. At a minimum, the SWPPP shall include the following requirements:

a. Excavation and grading activities will be scheduled for the dry season only (April 15 to October 15), to the extent possible. This will reduce the chance of severe erosion from intense rainfall and surface runoff, as well as the potential for soil saturation in swale areas.

b. If excavation occurs during the rainy season, storm runoff from the construction area will be regulated through a storm water management/erosion control plan that may include temporary onsite silt traps and/or basins with multiple discharge points to natural drainages and energy dissipaters. Stockpiles of loose material will be covered and runoff diverted away from exposed soil material. If work is stopped due to rain, a positive grading away from slopes will be provided to carry the surface runoff to areas where flow can be controlled, such as the temporary silt basins. Sediment basin/traps will be located and operated to minimize the amount of off site sediment transport. Any trapped sediment will be removed from the basin or trap and placed at a suitable location onsite, away from concentrated flows, or removed to an approved disposal site.

c. Temporary erosion control measures will be provided until perennial revegetation or landscaping is established and can minimize discharge of sediment into nearby waterways. For construction within 500 feet of a water body, straw bales will be placed upstream adjacent to the water body.

d. After completion of grading, erosion protection will be provided on all cut-and-fill slopes. Revegetation will be facilitated by mulching, hydroseeding, or other methods and should be initiated as soon as possible after completion of grading and prior to the onset of the rainy season (by November 1).

e. Permanent revegetation/ landscaping will emphasize drought-tolerant perennial ground coverings, shrubs, and trees to improve the probability of slope and soil stabilization without adverse impacts to slope stability due to irrigation infiltration and long-term root development.

f. BMPs selected and implemented for the project will be in place and operational prior to the onset of major earthwork on the site. The construction-phase facilities will be maintained regularly and cleared of accumulated sediment as necessary.

g. Hazardous materials such as fuels and solvents used on the construction sites will be stored in covered containers and protected from rainfall, runoff, and vandalism. A stockpile of spill cleanup materials will be readily available at all construction sites. Employees will be trained in spill prevention and cleanup, and individuals will be designated as responsible for prevention and cleanup activities.

Responsible Implementing Entity: RWQCB, CEDA, Building Division Public Works Agency, Environmental Services Division

Monitoring Action(s): The RWQCB and Public Works Agency, Environmental Services Division shall review the SWPPP for completeness and the Environmental Services Division shall conducted regular spot checks to ensure compliance with the SWPPP.

Monitoring Responsibility: RWQCB, CEDA, Building Division Public Works Agency, Environmental Services Division

Monitoring Timeframe: The final grading plan and drainage plan shall be reviewed prior to issuance of the first grading permit. Compliance with the SWPPP shall be monitored during grading and construction.

M. Impact HYDRO-3: If storm water runoff from the project is not adequately contained by the on-site drainage system, and exceeds existing subbasin or conveyance system capacity, a significant impact would result.

Mitigation Measure HYDRO-3: Prior to final approval of the project, the applicant shall submit final hydrology/ hydraulics calculations for the project based on final design plans. These calculations shall be reviewed and approved by a City Engineer. The calculations shall demonstrate that the existing drainage infrastructure along Keller Avenue and Greenridge Drive are capable of handling flows from the proposed development. If remedial actions must be taken to ensure that the project would not impact downstream drainage infrastructure, these actions shall be completed prior to construction of the proposed project at the sole cost and expense of the applicant, subject to City review and approval.

Responsible Implementing Entity: Public Works Agency, Engineering Design Services

Monitoring Action(s): The Public Works Agency, Engineering Design Services shall review and approve the final hydrology/ hydraulics calculations for the project based on final design plans.

Monitoring Responsibility: Public Works Agency, Engineering Design Services

Monitoring Timeframe: The applicant has submitted final hydrology calculations and therefore prior to the approval of the public improvement plans for the project, PWA shall confirm the applicant's final hydrology calculations in relation to the design and specifications of the site drainage system.

N. Impact HYDRO-4: The proposed project could result in water-quality impacts including an increase in NPS pollutants and on- or off-site erosion and/or siltation.

Mitigation Measure HYDRO-4a: Filter mechanisms shall be installed at all drop inlets receiving runoff from the project site.

Responsible Implementing Entity: Public Works Agency, Engineering Design Services

Monitoring Action(s): The Public Works Agency, Engineering Design Services shall review and approve the final grading plan and drainage plan prior to issuance of first grading permit.

Monitoring Responsibility: Public Works Agency, Engineering Design Services

Monitoring Timeframe: Public Works Agency, Engineering Design Services

Mitigation Measure HYDRO-4b: The project applicant shall develop a long-term storm water pollution prevention plan (SWPPP) to protect storm water quality after the construction period. The SWPPP shall include the following additional BMPs to protect storm water quality:

a. Proper maintenance of parking lots and other paved areas can eliminate the majority of litter and debris washing into storm drains and thus, entering local waterways. Regular sweeping

is a simple and effective BMP aimed at reducing the amount of litter in storm drain inlets (to prevent clogging) and public waterways (for water quality). The project applicant shall enter into an agreement with the City of Oakland to ensure this maintenance is completed.

b. Proper maintenance of filter mechanisms at drop inlets is essential to maintain functionality. The maintenance of filter mechanisms will be the responsibility of the City of Oakland's Public Works Department. The project applicant shall enter into an agreement with the City of Oakland to ensure this maintenance is completed.

c. The applicant shall prepare informational literature and guidance on residential BMPs to minimize pollutant contributions from the proposed development. This information shall be distributed to all residences at the project site. At a minimum the information should cover: (1) Proper disposal of household and commercial chemicals; (2) Proper use of landscaping chemicals; (3) Clean-up and appropriate disposal of yard cuttings and leaf litter; and (4) Prohibition of any washing and dumping of materials and chemicals into storm drains.

Responsible Implementing Entity: RWQCB; Public Works Agency, Engineering Design Services

Monitoring Action(s): The RWQCB and Public Works Agency, Environmental Services Division shall review the SWPPP for completeness and the Environmental Services Division shall conducted regular spot checks to ensure compliance with the SWPPP.

Monitoring Responsibility: RWQCB; Public Works Agency, Engineering Design Services

Monitoring Timeframe: Final grading plan and drainage plan shall be reviewed prior to issuance of first grading permit. Compliance with the SWPPP shall be monitored during grading and construction.

NOISE

O. Impact NOISE-3: Construction noise would impact nearby existing residential land uses. It is likely that construction noise would exceed the City's quantitative standards for long-term construction noise at nearby residences during most phases of construction.

Mitigation Measure NOISE-3a: The project sponsor shall require construction contractors to limit standard construction activities as required by the City Building Department. Such activities are generally limited to between 7:00a.m.and 7:00 p.m. Monday through Friday, with extreme noise generating activities greater than 90 dBA limited to between 8:00a.m.and 4:00 p.m. Monday through Friday, with no extreme noise generating activity permitted between 12:30 p.m. and 1:30 p.m. No construction activities shall be allowed on weekends until after the building is enclosed, without prior authorization of the Building Services Division, and no extreme noise generating activities shall be allowed on weekends and holidays.

Responsible Implementing Entity: CEDA, Building Services

Monitoring Action(s): The CEDA, Building Services Division shall make regular checks to the project site to ensure that construction hours are restricted to between 7:00a.m.and 7:00 p.m. Monday through Friday.

Monitoring Responsibility: CEDA, Building Services

Monitoring Timeframe: Throughout grading and construction.

Mitigation Measure NOISE-3b: To reduce daytime noise impacts due to construction, the project sponsor shall require construction contractors to implement the following measures:

is a simple and effective BMP aimed at reducing the amount of litter in storm drain inlets (to prevent clogging) and public waterways (for water quality). The project applicant shall enter into an agreement with the City of Oakland to ensure this maintenance is completed.

b. Proper maintenance of filter mechanisms at drop inlets is essential to maintain functionality. The maintenance of filter mechanisms will be the responsibility of the City of Oakland's Public Works Department. The project applicant shall enter into an agreement with the City of Oakland to ensure this maintenance is completed.

c. The applicant shall prepare informational literature and guidance on residential BMPs to minimize pollutant contributions from the proposed development. This information shall be distributed to all residences at the project site. At a minimum the information should cover: (1) Proper disposal of household and commercial chemicals; (2) Proper use of landscaping chemicals; (3) Clean-up and appropriate disposal of yard cuttings and leaf litter; and (4) Prohibition of any washing and dumping of materials and chemicals into storm drains.

Responsible Implementing Entity: RWQCB; Public Works Agency, Engineering Design Services

Monitoring Action(s): The RWQCB and Public Works Agency, Environmental Services Division shall review the SWPPP for completeness and the Environmental Services Division shall conducted regular spot checks to ensure compliance with the SWPPP.

Monitoring Responsibility: RWQCB; Public Works Agency, Engineering Design Services

Monitoring Timeframe: Final grading plan and drainage plan shall be reviewed prior to issuance of first grading permit. Compliance with the SWPPP shall be monitored during grading and construction.

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O. Impact NOISE-3: Construction noise would impact nearby existing residential land uses. It is likely that construction noise would exceed the City's quantitative standards for long-term construction noise at nearby residences during most phases of construction.

Mitigation Measure NOISE-3a: The project sponsor shall require construction contractors to limit standard construction activities as required by the City Building Department. Such activities are generally limited to between 7:00a.m.and 7:00 p.m. Monday through Friday, with extreme noise generating activities greater than 90 dBA limited to between 8:00a.m.and 4:00 p.m. Monday through Friday, with no extreme noise generating activity permitted between 12:30 p.m. and 1:30 p.m. No construction activities shall be allowed on weekends until after the building is enclosed, without prior authorization of the Building Services Division, and no extreme noise generating activities shall be allowed on weekends and holidays.

Responsible Implementing Entity: CEDA, Building Services

Monitoring Action(s): The CEDA, Building Services Division shall make regular checks to the project site to ensure that construction hours are restricted to between 7:00a.m.and 7:00 p.m. Monday through Friday.

Monitoring Responsibility: CEDA, Building Services

Monitoring Timeframe: Throughout grading and construction.

Mitigation Measure NOISE-3b: To reduce daytime noise impacts due to construction, the project sponsor shall require construction contractors to implement the following measures:

a. Equipment and trucks used for project construction shall utilize the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures and acoustically-attenuating shields or shrouds, wherever feasible).

b. Impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for project construction shall be hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used; this muffler can lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves shall be used where feasible, and this could achieve a reduction of 5 dBA. Quieter procedures shall be used, such as drills rather than impact equipment, whenever feasible.

c. Stationary noise sources shall be located as far from adjacent receptors as possible, and they shall be muffled and enclosed within temporary sheds, incorporate insulation barriers, or other measures to the extent feasible.

Responsible Implementing Entity: CEDA, Building Services Division and Planning Division

Monitoring Action(s): The CEDA, Building Services Division shall make regular checks to the project site to that all the methods above are in place to reduce daytime noise impacts.

Monitoring Responsibility: CEDA, Building Services Division

Monitoring Timeframe: Prior to issuance of a grading or building permit and ongoing throughout construction.

Mitigation Measure NOISE-3c: To further mitigate potential extreme noise generating construction impacts, a set of site-specific noise attenuation measures shall be completed under the supervision of a qualified acoustical consultant. Prior to commencing construction, a plan for such measures shall be submitted for review and approval by the City to ensure that maximum feasible noise attenuation will be achieved. These attenuation measures shall include as many of the following control strategies as feasible: Erect temporary plywood noise barriers around the construction site, to shield adjacent uses; Utilize noise control blankets on the building structure as the building is erected to reduce noise emission from the site. Evaluate the feasibility of noise control at the receivers by temporarily improving the noise reduction capability of adjacent buildings. Monitor the effectiveness of noise attenuation measures by taking noise measurements.

Responsible Implementing Entity: CEDA, Building Services Division and Planning Division

Monitoring Action(s): The CEDA, Building Services Division and Planning Division shall review and approve the site specific noise reduction program.

Monitoring Responsibility: CEDA, Building Services Division

Monitoring Timeframe: Prior to issuance of a grading or building permit and ongoing throughout construction.

Mitigation Measure NOISE-3d: Prior to the issuance of each building permit, along with the submission of construction documents, the project sponsor shall submit to the City Building Department a list of measures to respond to and track complaints pertaining to construction noise. These measures shall include:

a. A procedure for notifying the City Building Division staff and Oakland Police Department;

b. A plan for posting signs on-site pertaining to permitted construction days and hours and complaint procedures and who to notify in the event of a problem;

c. A listing of telephone numbers (during regular construction hours and off-hours);

d. The designation of an on-site construction complaint manager for the project;

e. Notification of neighbors within 300 feet of the project construction area at least 30 days in advance of pile-driving and/or other extreme noise-generating activities about the estimated duration of the activity; and

f. A preconstruction meeting shall be held with the job inspectors and the general contractor/on-site project manager to confirm that noise mitigation and practices (including construction hours, neighborhood notification, posted signs, etc.) are completed.

Responsible Implementing Entity: CEDA, Building Services Division and Planning Division

Monitoring Action(s): The CEDA, Building Services Division and Planning Division shall review and approve the site specific noise reduction program.

Monitoring Responsibility: CEDA, Building Services Division

Monitoring Timeframe: Prior to issuance of a grading or building permit and ongoing throughout construction.

P. Impact NOISE-4: Future noise from I-580 and Keller Ave will exceed the State's "normally acceptable" noise level goal of a CNEL of 60 dBA at the residential buildings along these roadways. The noise level will also exceed the State Building Code threshold of a DNL of 60 dBA for new construction.

Mitigation Measure NOISE-4: Sound-rated building construction shall be used to achieve acceptable indoor noise levels as per the State Building Code and City's Noise Element.

Responsible Implementing Entity: CEDA, Building Services Division

Monitoring Action(s): The CEDA, Building Services Division shall review the building plans and verify that noise reduction features have been incorporated.

Monitoring Responsibility: CEDA, Building Services Division

Monitoring Timeframe: Measures shall be incorporated into final construction drawings for approval prior to issuance of first building permit.

TRAFFIC AND CIRCULATION

Q. Impact TRAF-1: With the addition of project-related traffic, the Keller Avenue/Mountain Boulevard intersection, currently controlled by four-way stop signs, would operate at LOS E.

Mitigation Measure TRAF-1: The project applicant shall pay a proportional share towards installation of the previously approved set of improvements at the intersection of Mountain Boulevard and Keller Avenue to improve the level of service ratio to the City of Oakland standard of LOS D. Such payment shall be determined based on the approved cost estimate and a formula as derived from the Leona Quarry Traffic Improvement Program and Traffic Improvement Fee (TIP/TIF). If the TIP/TIF is not approved, the fair share payment shall be based on the adopted cost estimate for the Mountain Boulevard/Keller Avenue intersection as set forth in the Leona Quarry City Council Resolution # 78358.

Responsible Implementing Entity: CEDA, Planning Division

Monitoring Action(s): The project applicant's traffic consultant shall verify the proportional share based on the Leona Quarry Traffic Improvement Program and Traffic Improvement Fee (TIP/TIF). The traffic consultant shall submit the estimated proportional share cost to the CEDA, Planning Division for review and approval.

Monitoring Responsibility: CEDA, Planning Division

Monitoring Timeframe: Payment of a proportional share shall be due when the City issues a certificate of occupancy for each phase of the project.

Q. Impact TRAF-2: Truck traffic during construction of the proposed project could have a significant impact on local roadways.

Mitigation Measure TRAF-2: Prior to construction activity, the project applicant shall submit a construction management plan for review and approval by the City's Traffic Engineering Division. This plan shall include, but is not limited to, the following items:

a. Identification of routes (in a Haul Route Plan) for the movements of construction vehicles that would minimize the impacts on vehicular traffic circulation and safety in the area.

b. Staging of the movements of construction materials and equipment so as not to hinder the general flow of traffic in the immediate vicinity of the project site.

c. Identification of areas required for encroachment within the public right-of-way.

d. Accommodation of on-site placement of construction equipment, construction vehicles, and construction worker vehicles.

e. Provision of adequate notification procedures for any road closures. Designation of an on-site complaint and enforcement manager to respond to and track complaints, as well as posting of signs at the construction site that include permitted construction days and hours, a day and evening contact number for the designated complaint manager, and a day and evening contact number for the City of Oakland in the event of problems.

Responsible Implementing Entity: CEDA, Building Services and Planning Division; Public Works Agency, Traffic Engineering Division

Monitoring Action(s): The CEDA, Building Services, Planning Division and the Public Works Agency, Traffic Engineering Division shall review and approval the construction management plan for the project.

Monitoring Responsibility: CEDA, Building Services and Planning Division; Public Works Agency, Traffic Engineering Division

Monitoring Timeframe: Plans shall be submitted, reviewed and approved prior to issuance of a grading permit. Compliance with plan requirements shall be continuous throughout grading and construction.

UTILITIES AND SERVICE SYSTEMS

R. Impact UTIL-2: Existing inlets at Keller Avenue and Greenridge Drive may not have adequate capacity to accommodate runoff from the proposed project site from a 100-year storm

event. This could create localized flooding in the area immediately surrounding the existing inlets.

Mitigation Measure UTIL-2: The proposed project shall provide additional drop inlets along the new Siena Drive.

Responsible Implementing Entity: Public Works Agency, Engineering Design Services

Monitoring Action(s): The Public Works Agency, Engineering Design Services shall review the final drainage plan to ensure that additional drop inlets along Siena Drive are proposed.

Monitoring Responsibility: Public Works Agency, Engineering Design Services

Monitoring Timeframe: Prior to issuance of first building permit.

S. Impact UTIL-3: The existing pipe capacity in subbasin 1 would be inadequate to convey flows from the 100-year storm event under both existing and proposed conditions.

Mitigation Measure UTIL-3: Potential impacts to subbasin 1 would be mitigated to a less-than-significant level by the implementation of Mitigation Measure HYDRO-3.

Responsible Implementing Entity: Public Works Agency, Engineering Design Services

Monitoring Action(s): The Public Works Agency, Engineering Design Services shall review and approve the final hydrology/ hydraulics calculations for the project based on final design plans.

Monitoring Responsibility: Public Works Agency, Engineering Design Services

Monitoring Timeframe: The applicant has submitted final hydrology calculations and therefore prior to the approval of the public improvement plans for the project, PWA shall confirm the applicant's final hydrology calculations in relation to the design and specifications of the site drainage system.

14. Design Review Requirements

a. Prior to issuance of building permit

The final design elements listed below shall be submitted for review and approval by the Planning Director prior to issuance of the building permit. The Planning Director may exercise his/her standard authority to refer the final design to the Design Review Committee or to the Planning Commission.

a. The materials and installation methods shall be detailed to provide a high-quality, durable, and attractive building façades. Final material selections and installation details shall be submitted for review and approval.
b. Windows shall be of wood or similar material and articulated to provide a two-inch minimum recess from the building façade and projecting mullions in order to create a sufficient shadow line and articulation. The final window details shall be submitted for review and approval.
c. Garage doors shall be of wood or similar material and articulated to provide a two-inch minimum recess from the building façade.
d. Provide colored renderings of all facades for each unit.
e. Provide larger window proportions on the rear façade of the upslope units.
f. Recess the skirt wall on the lower floor of downslope structure (3a and 4) a minimum 8" and add a cornice element to eliminate a blank façade and to create a sufficient shadow line and articulation.

g. Due to the reduced front setback and theamount of impervious surface on the site, the mailboxes should not be located on individual columns but in the front entry porch of each unit.
h. Provide details of the ornamental iron guardrails and handrails.
i. Install a separate paving material at the entrance of Siena Drive to delineate the road as a private drive.
j. Provide a pervious surface for a portion of each unit's driveway or parking area. Use different materials for the driveways, walkways, and parking areas to provide visual interest.
k. Materials and finishes shall be submitted for all retaining walls and fences.
l. If required by the Traffic Engineering Division, the applicant shall fully fund the installation of a one-way street sign at the intersection of Siena Drive and Greenridge Drive and a No-U Turn sign at the proposed left turn lane into Siena Drive from Keller Ave.
m. The final colors must be submitted for review and approval.

15. Covenants, Conditions and Restrictions & Homeowner's Association.

a. Within one year after issuance of the first certificate of occupancy.

The Covenants, Conditions and Restrictions (CC&Rs) for the approved units shall be submitted to the Planning and Zoning Division for review. The CC&Rs shall provide for the establishment of a non-profit homeowners association for maintenance and operation of all on-site sidewalks, pathways, common open space and all common landscaping, driveways, and other facilities, in accordance with approved plans. Membership in the association shall be made a condition of ownership. The developer shall be a member of such association until all units are sold.

16. Building Address Signs.

a. Prior to issuance of first certificate of occupancy.

The applicant shall submit for review and approval of the Planning and Zoning Division, plans showing the design and location of the building address signs of each dwelling unit, structure. All address signs shall be clearly posted, lighted and permanently maintained.

17. Meter Shielding.

a. Prior to issuance of building permits.

The applicant shall submit for review and approval by the Planning and Zoning Division, plans showing the location of any and all utility meters, transformers, and the like located within a box set within the building, located on a non-street facing elevation, or screened from view from any public right of way.

18. Recycling Space Allocation Requirements

a. Prior to issuance of building permit

The design, location and maintenance of recycling collection and storage areas shall comply with the provision of the Oakland City Planning Commission "Guidelines for the Development and Evaluation of Recycling Collection and Storage Areas", Policy 100-28 and with the recycling space requirements of the Planning Code. The recycling location and area shall be clearly delineated on the building permit plans.

19. Lighting Plan

a. Prior to issuance of building permit

A lighting plan for the exterior of the project shall be submitted for review and approval by the Planning Director. The lighting plan shall include the appearance and location of all exterior and lighting fixtures or standards. The plan shall indicate lighting fixtures that are adequately shielded to a point below the light bulb and reflector and that prevent unnecessary glare onto adjacent properties. All lighting shall be architecturally integrated into the site. The project applicant shall install pedestrian-scale light fixtures along the proposed Siena Drive. The outdoor lighting is subject to review by the Public Works Agency, Electrical Services in accordance with the City's outdoor lighting standards.

20. Landscape and Streetscape Plans

a. Prior to issuance of building permit.

The project sponsor shall submit a detailed landscaping plan to the Planning Director for review and approval prior to the issuance of any building permits. This plan shall include:

a. Street tree planting specifications. Consistent street tree species must be provided on the street frontages with the species to be approved by the Office of Parks and Recreation.

b. All infill and theme trees as noted on the final landscape plan shall be a minimum of 24" boxed. The applicant shall install additional trees in front of the retaining walls on the downslope units. The landscape plan shall indicate the installation of 5 gallon shrubs minimum along the skirt wall of each downslope unit. Characteristics of the selected species shall be that it grows to a sufficient size within five (5) years of planting to screen the lower 5-8 feet of the structure above grade.

c. All landscaping areas and related irrigation shown on the approved plans shall be permanently maintained in neat and safe conditions, and all plants shall be maintained in good growing condition and, whenever necessary, replaced with new plant materials to ensure continued compliance with all applicable landscaping requirements. All landscaping shall be served by an automatic irrigation system. All paving or other impervious surfaces shall occur only on approved areas.

21. Signage Plan

a. Prior to issuance of building permit

The project sponsor shall submit a revised monument sign where the base on the upslope side is no more than 8" above grade and the sign is no more than 11' in length. The actual name of the development on the sign can remain 8' in length.

22. Water, Wastewater and Storm Sewer Service

a. Prior to issuance of building permit

The project sponsor shall provide the necessary information to the Public Works Agency, Design and Construction Services Division to confirm the existing capacity of the water, wastewater and storm service systems that serve the project site and the projected project demand. The project sponsor shall be responsible for payment of the required installation or hookup fees to the affected service providers. The project sponsor shall also be responsible for payment of sewer and/or storm water improvement fees as required by the Public Works Agency.

23. Special Inspector

a. Throughout construction

At the discretion, of PWA and Building Services, the project sponsor may be required to pay for an on-call special inspector(s) as needed during the times of most intense grading or construction. Prior to issuance of a grading permit, and the project sponsor may be required to

establish a deposit with the Building Services Division to fund a special inspector who shall be available as needed, as determined by the Building Official or the Planning Director.

24. Geologic Hazards Assessment District

a. Prior to the approval of the final map

Prior to approval of the final map for the project, a Geologic Hazard Abatement District (GHAD) shall be fully operational, and all assessments, reserve funding and/or other long-term financing and other requirements necessary to fully fund the GHAD shall be established and authorized.

APPROVED BY:

City Planning Commission:_____(date)_____(vote)
City Council:_____(date)_____(vote)

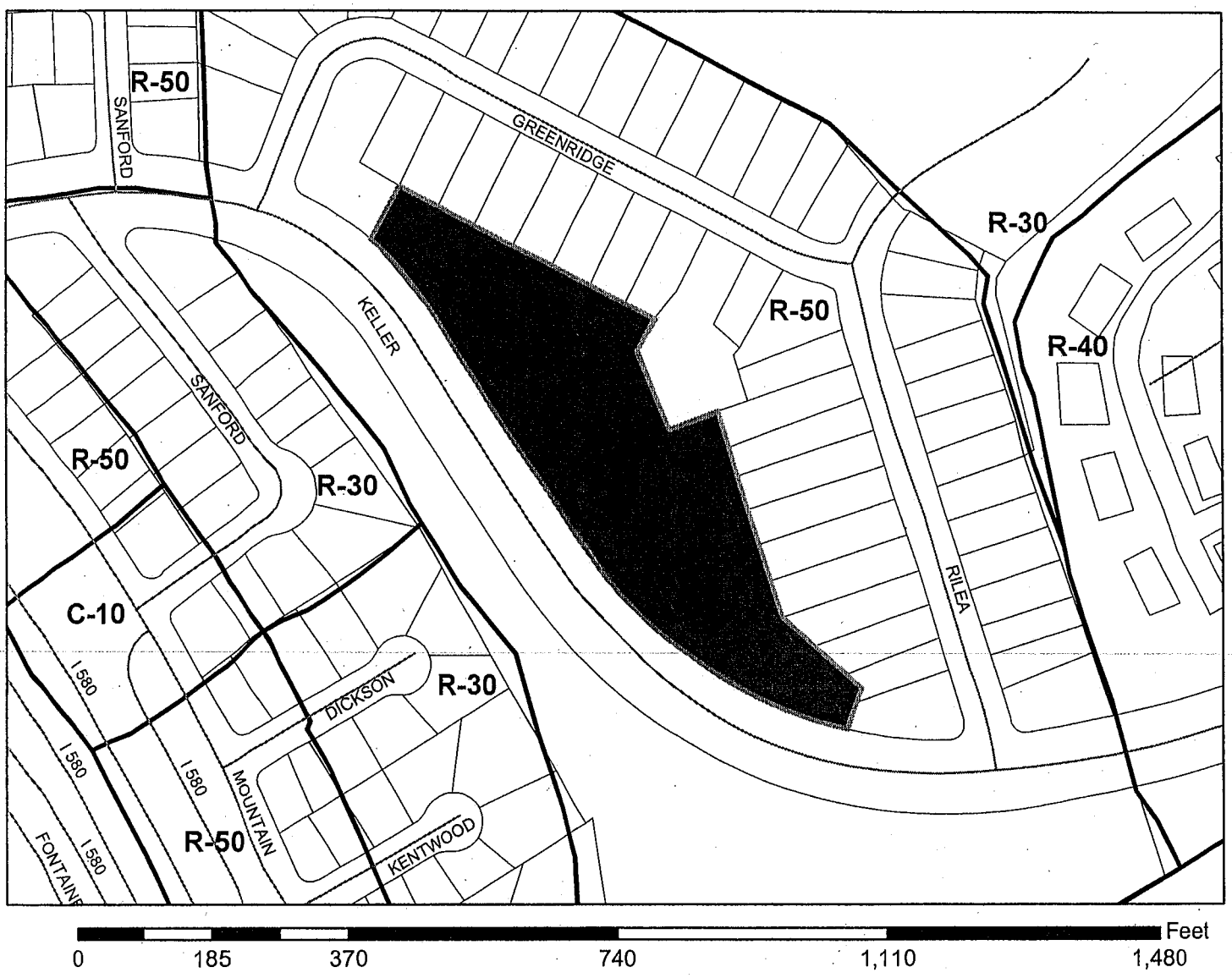
Location:	**Siena Hill (off of Keller Avenue, between Greenridge Drive and Rilea Way); APN: 040A-3457-033-01** **(See map on the reverse)**
Proposal:	To subdivide a 3.86 parcel into 32 lots with an average lot size of 5,300 sq. ft.
Project Sponsor:	Edward Patmont / (925) 946-0583
Owners:	Hillside Homes Group Inc.
Planning Permits Required:	Tentative Tract Map for a 32-lot subdivision and minor variances for street design standards.
General Plan:	Detached Unit Residential
Zoning:	R-50 Medium Density Residential
Environmental Determination:	The Final EIR was certified on March 2, 2005.
Historic Status:	The project site is vacant.
Service Delivery District:	IV-Fruitvale
City Council District:	6
Status:	The Preliminary Planned Unit Development Permit; the Final Planned Unit Development Permit; Minor Variances for height and minimum separation of retaining walls, maximum percentage of front yard paving, and length of building along side lot lines; and Design Review was approved by the Planning Commission on March 2, 2005.
Date Filed:	May 24, 2002
Staff Recommendation	Decision based on staff report
Finality of Decision:	Appealable to City Council within 10 days
For further information:	Contact case planner **Heather Klein** at **510 238-3659** or by e-mail at hklein@oaklandnet.com.

SUMMARY

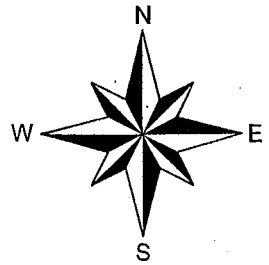
On March 2, 2005 the Planning Commission approved the Preliminary Development Plan (PDP); a Final Development Plan (FDP) for the first phase; Minor Variances; Design Review; and certified an Environmental Impact Report (EIR) for 32 attached single-family dwellings on a 3.86 acre project site located on Keller Avenue between Greenridge Drive and Rilea Way. Plans show the construction of 18 downslope homes and 14 upslope homes, with one home per lot. The homes would range in size from 1,800 to 1,960 S.F. on an average lot size of 5,300 S.F. The project would also include the removal of a portion of the median strip on Keller Avenue in order to create a left turn lane onto proposed Siena Drive, a new private one-way road.

The applicant has now applied for a tentative tract map in order to subdivide this project into 32 lots. Variances are requested for the minimum road and sidewalk width, as well as the construction of only one sidewalk on the project site. Staff recommends approval of the map with the required variances, subject to the conditions, requirements, and findings contained in this staff report.

CITY OF OAKLAND PLANNING COMMISSION



Applicant: Edward Patmont
Address: Siena Hill (OFF of Keller Ave. between Greenridge Dr. & Rilea Way)
Zone: R-50



PROJECT SITE AND SURROUNDING AREA

The 3.86 acre project site is located on the east side of Keller Avenue, between Greenridge Drive and Rilea Way. The surrounding neighborhood includes a variety of land uses and activities. Located to the north are multi-family housing and undeveloped hillsides. Multi-family housing is to the east; single-family homes, convenience stores, auto facilities, and churches are located to the west. Farther west is Interstate 580. To the south of the project site, below Keller Avenue are single-family homes; further south is the former Oak Knoll Naval Hospital.

PROJECT DESCRIPTION

The proposed project consists of 32 attached single-family homes on 32 parcels. The project would include the removal of a portion of the median strip along Keller Avenue in order to create a left turn lane. The homes would be accessed via a private, one-way road, entering off of Keller Avenue and exiting onto Greenridge Drive. The development would also include 103 off-street parking spaces. Plans show 18 downslope homes and 14 upslope homes, with one home per lot. The homes would range in size from 1,800 to 1,960 S.F. on an average lot size of 5,300 S.F. The front setbacks range from 0-20'. Each home has one 0' setback along the side property line, while the other side setback ranges from 6-275'. The rear yards range from 15'-95'.

The buildings are designed in an Italian hillside architectural style. The building materials include stucco in warm terracotta, ochre, and beige colors with clay tile roofs. The building clusters are used as catalysts for variety in the facades. These facade treatments include tower elements, trellises, wrought-iron balconies and railings, and wood window trim. The buildings will step down the slope to Keller, which will reduce the mass and bulk of the buildings while keeping with the "Italian hill town" theme of the project.

GENERAL PLAN ANALYSIS

The General Plan designation for the project site is Detached Unit Residential (DU). The General Plan states the *intent* of the DU designation is "to create, maintain, and enhance residential areas characterized by detached single unit structures." The *desired character* of "future development within this classification should remain residential in character with appropriate allowances for schools and other small-scale civic institutions."

Although the project is proposing attached single family homes with a 0' setback along one side lot line, staff determined early on that this type of project is consistent with General Plan policies and the DU designation. The DU designation states that the maximum allowable density is 11 units per gross acre, which equates to 14.6 units per net acre. Accordingly, a maximum of 43 units would be permitted on the 3.86 acre project site. The proposed 32-unit project is well under the maximum density by 11 units. The applicant has worked with staff during the past 3 years to propose a density fitting the project's topographic and access constraints. Also, the project is representative of the typical form and character of single family development within this classification. The average lot size for the project is 5,300 S.F. and consistent with the typical lot size for the DU designation which ranges from 4,000 to 8,000 S.F. The project is proposing a front, rear, and side yard setback; amount of open space; building footprint, and floor area that is consistent with the single family detached structures.

In addition, several policies in the General Plan encourage cluster development as shown on the project plans. Land Use and Transportation Element (LUTE) Policy N7.6 states that development on subdivided

parcels should be allowed where the site and building design minimize environmental impacts, building intensity and activity can be accommodated by available and planned infrastructure, and site and building designs are compatible with neighborhood character.

Open Space, Conservation, and Recreation Element Policy OS-1.3 states that creative architecture and site planning which minimizes grading should be encouraged.

By clustering development, an integrated site plan with a lower residential density and reduced visual and grading impacts is achieved. The Planning Commission approved a Planned Unit Development (PUD) per the zoning regulations for the project. A PUD is intended to encourage the appropriate development of parcels large enough to allow comprehensive site planning. This approval provides flexibility in the regulations or exceptions to promote an integrated development and create an attractive living environment. For these reasons the proposed project is consistent with the General Plan objectives and the intent and character of the Detached Unit designation. In short, this project should be viewed as a clustered single-family development with a 0' lot line on one side. Each cluster, although only separated by inches, is composed of two completely independent units, thereby consistent with the Detached Unit Residential designation and objective of an integrated site plan.

The proposed project is within the allowable residential density and the uses are consistent with the General Plan designations. In addition, the project implements several General Plan Land Use and Transportation Element policies related to the construction of new, high quality housing units on infill sites (including Objective N3 and Policies N3.1, N3.2, N3.8, N3.10, N6.2, N7.1, N7.4, and N7.8). Therefore, the project is consistent with the intensity and uses allowed by the General Plan land use designations, as well as with several General Plan policies.

ZONING ANALYSIS

The zoning of the site is R-50 or Medium Density Residential. However, due to the residential density in the surrounding neighborhood and the site's environmental constraints staff has applied a "best fit" zone of R-30 One Family Residential to the site. The R-30 regulations are more restrictive than the R-50 and more consistent with the DU General Plan land use designation. The R-50 conditionally permits 1 unit per 1,500 sf for project sites over 10,000 sf while the R-30 allows 1 unit per lot with a minimum lot area of 5,000 sf. The maximum allowable density under the R-30 zoning regulations for the 3.86 acre project site is 33 units. The 32 unit project is 1 unit under the allowable zoning density.

SUBDIVISION MAP REQUIREMENTS AND ISSUES

The proposal seeks to develop an underutilized parcel into an attractive residential community that will enhance the surrounding residential neighborhood while maximizing the efficient use of the parcel.

Proposed Variances
The overall site plan and proposed street offers a unique design solution to locating residential units on a steep hillside lot and avoiding additional grading impacts by reducing the street and sidewalk width. The road is designed for one-way traffic and on-street parking is not permitted. The small scale of the private road creates an integrated and more intimate sense of community. However this design solution varies in several regards with the City's subdivision standards, as follows:

Subdivision Ordinance Requirement	Variance Requested
Minimum width on a local street with lot frontage -30 feet (Section 16.28.040)	16-20 feet (However, this is a private, one-way street)
Sidewalk requirement – 5' paved on both sides of the street (Section 16.28.050)	4' on one side

Given that this is a private street, designed for one-way traffic, will have a controlled access, and carry very limited traffic, the reduction in street width and sidewalk with can be accommodated. The project provides adequate vehicular, emergency, and pedestrian access as well as adequate width dimensions for street improvements. Engineering and Fire Services have reviewed the plan and found that there is no public safety or emergency access concern.

Tentative Tract Map and Final Map

A Tentative Tract Map and a Final Tract Map are required in order to subdivide a parcel of land into 5 or more lots. The applicant will need further City Council approval of the Final Tract Map and the construction of a private street.

Subdivision Improvements and Street Frontage Improvements for the Project
The preliminary Siena Hill street improvements have been previously approved as part of the PUD application. The street improvements included street trees, street lighting, an entry monument, and access stairs from Keller Avenue.

The future maintenance of the common areas and the retaining walls will be an important component of the project as it is occupied. Staff required in the conditions of approval for the PUD that a Homeowner's Association shall be established to maintain and operate all on-site sidewalks, pathways, common open space and all common landscaping, driveways, and other facilities, in accordance with approved plans. Membership in the association shall be made a condition of ownership. The developer shall be a member of such association until all units are sold.

Geologic Hazards Assessment District (GHAD)

GHADs are governmental districts formed in specific geographic areas to address potential geologic hazards. The purpose of a GHAD (pronounced "GAD") is to prevent, mitigate, control or abate defined geologic hazards through maintenance, improvements, or other means. Financing of a GHAD is accomplished through an assessment of the property owners who live within the boundaries. Issuing and servicing of bonds, notes or other debentures is also authorized under a GHAD. Due to the steepness of the site, the amount of grading, the number of retaining walls, and the adjacency of existing upslope and downslope homes, staff required that the prior to approval of the final map for the project, a GHAD be established and fully operational as a condition of approval for the PUD. Similarly, this requirement has been made as a part of the tentative map approval. The required action to form the GHAD is taken by the City Council.

ENVIRONMENTAL REVIEW

An Environmental Impact Report was certified by the Planning Commission as the Lead Agency on March 2, 2005 for the 32 units on 32 parcels along a private one-way road. The project did not result in

any significant and unavoidable impacts. However the Draft EIR analysis identified potentially significant impacts on air quality, biological resources, cultural resources, hydrology, geology and soils, noise, traffic and transportation, utilities. As part of the project, the Planning Commission adopted a Mitigation Monitoring and Reporting Program that would mitigate these potentially significant impacts to less-than-significant levels. The proposed lot layout and road design described on the Tentative Tract Map is the same as the project analyzed in the EIR.

CONCLUSION

The proposal seeks to develop an underutilized parcel into an attractive residential community that will enhance the surrounding residential neighborhood while maximizing the efficient use of the parcel. The project meets the primary goal of providing new high quality housing units on an infill site. Furthermore, the project is clearly in conformance with many General Plan goals and policies including orienting units toward the street, providing adequate parking, and creating an attractive streetscape. The variances for the width of the road and sidewalk are warranted and have been reviewed by both Engineering and Fire Services. They determined that the reduction in width is not anticipated to create adverse impacts or effect public safety or emergency access, pursuant to the attached Findings and Conditions of Approval.

Therefore, staff recommends that the Planning Commission:

1) Approve the Tentative Tract Map for the project, including variances for the minimum street width and minimum sidewalk standards, subject to the conditions of approval set forth in the staff report and the findings required by the Subdivision Map Act and the City's Subdivision Ordinance.

Prepared by:

Heather Klein
Planner II, Major Development Projects

Approved for forwarding to the
City Planning Commission

CLAUDIA CAPPIO
Director of Development

Attachments: A. Tentative Tract Map
B. Memos from Engineering Services dated May 10, 2005 and Fire Services dated May 10, 2005

FINDINGS FOR APPROVAL

This proposal meets the required findings under Oakland Municipal Code Sections 16.08.030 (Subdivision Ordinance), 16.16.170 (Lot Design Standards) and 17.148.050 (Minor Variance Criteria). Required findings are shown in **bold** type; explanations as to why these findings can be made are in normal type. The project's conformance with the following findings is not limited to the discussion below, but is also included in all discussions in this report and elsewhere in the record.

Section 16.08.030 (Subdivision Ordinance) The Advisory Agency shall deny approval of a tentative map if it makes any of the following findings:

A. That the proposed map is not consistent with applicable general and specific plans;

The proposed residential project is located within the Detached Unit Residential General Plan land use designation. Although the project is proposing attached single family homes with a 0' setback along one side lot line, the project is under the maximum allowable density for the DU designation.

Several policies in the General Plan encourage cluster development as shown on the project plans. Land Use and Transportation Element (LUTE) Policy N7.6 states that development on subdivided parcels should be allowed where the site and building design minimize environmental impacts, building intensity and activity can be accommodated by available and planned infrastructure, and site and building designs are compatible with neighborhood character. Open Space, Conservation, and Recreation Element Policy OS-1.3 states that creative architecture and site planning which minimizes grading should be encouraged. By clustering development, an integrated site plan with a lower residential density and reduced visual and grading impacts is achieved.

In addition, the project implements several General Plan Land Use and Transportation Element policies related to the construction of new, high quality housing units on infill sites (including Objective N3 and Policies N3.1, N3.2, N3.8, N3.10, N6.2, N7.1, N7.4, and N7.8). Therefore, the project is consistent with the intensity and uses allowed by the General Plan land use designations, as well as with several General Plan policies.

B. That the design or improvement of the proposed subdivision is not consistent with applicable general and specific plans;

As stated above the proposed subdivision is consistent with the General Plan.

C. That the site is not physically suitable for the type of development;

The site is physically suitable for residential development. Although the project site is steep, the City does not prohibit building on slopes over a certain percentage. In addition and as determined in the certified EIR, the site contains no endangered animal species or hazardous materials. The development is not located on a known landslide or on unstable slopes. The site is not expected to contain any special status plant species, cultural, or prehistoric resources. However mitigation measures are identified if these resources are found.

The project is already surrounded by a significant amount of residential development. The proposed project is consistent to those homes in many respects, including materials, height, and roof forms. The proposed project protects desirable neighborhood characteristics such as preserving the top of the ridgeline and protecting views from the existing upslope homes. The high quality design and building articulation will enhance the neighborhood. The project has an appropriate site layout with typical setbacks and large open areas at the project's entrance.

The units' bulk and massing have been designed to step down the slope in relation to the grade. The bulk and massing is typical of hillside development and the "Italian hilltown" theme of the project. The variations in the structure's elevations and roof forms provide visual interest using variety in materials, roof forms, projections, recesses, and architectural details. The building variations also reduce the bulk and mass of the project, and decrease the "wall-like" effect that is often noticeable on hillside homes. The project's earthtone colors will blend into the hillside and minimize visual impacts and the applicant is proposing extensive landscaping for the parcel, including trees, shrubs, groundcovers and vines.

D. That the site is not physically suitable for the proposed density of development;
As stated above, the EIR determined that site was physically suitable for the proposed development and density. This density was permitted under both the General Plan designation and the proposed reduced density "best fit" zone. The Planning Commission approved findings pursuant to State Government Code Section 65589.5 (j) that stated that the proposed housing development cannot have its density reduced because the project is consistent with the general plan and zoning regulations; and there is no specific, adverse impact upon the public health or safety as a result of the project. Therefore, the site is suitable for the proposed density.

E. That the design of the subdivision or the proposed improvements are likely to cause substantial environmental damage or substantially and avoidably injure fish or wildlife or their habitat;
The EIR analysis concluded that there was a less than significant impact on wildlife or their habitat but that there was a potentially significant impact on special status plant species. The EIR required, in mitigation measure BIO-1a and 1b, that the applicant retain a qualified botanist to conduct pre-construction plant surveys. These surveys will be conducted between March and May to confirm the absence of 12 special-status plant species. If any special-status plant species are found, a qualified biologist shall develop and implement a Mitigation Plan (MP). The MP will be prepared in consultation with the California Department of Fish and Game and shall be approved by the City prior to any ground disturbing activities. The MP could include the complete or partial avoidance of any special-status plant population and/or options for mitigation. With this mitigation measure, the impact from the project is reduced to a less than significant level and the proposed subdivision will not cause any environmental damage.

F. That the design of the subdivision or the type of improvements is likely to cause serious public health or safety problems;
An Initial Study was prepared to determine the level of CEQA review required for the project. All environmental factors outlined in CEQA including the City of Oakland's thresholds of significance were analyzed including public services and hazards and hazardous materials. The Public Services factor analyzes the project's potential to result in adverse physical impacts associated with maintenance of service ratios and response times for fire and police protection. It also analyzes other public services' performance objectives. The Hazards and Hazardous Materials factor analyzes the project's potential to result in adverse physical impacts associated with the release, hauling, handling or emission of hazardous materials. This factor also analyzes the project in regards to exposure of people or structures to risk of loss, injury, or death involving wildland fires. The Initial Study concluded that the project would not have a Public Service or a Hazards and Hazardous Materials impact. Therefore these topics were excluded from further review as part of the EIR.

The tentative tract map was reviewed by the Engineering and Fire Services divisions. They concluded that the project would not result in any public safety or emergency access impacts with inclusion of conditions of approval #3.

In addition, the project can be served by public water and sewer service, and therefore would not require the use of an on-site sewer disposal or domestic water well.

The project will not cause serious public health and safety problems.

G. That the design of the subdivision or the type of improvements will conflict with easements, acquired by the public at large, for access through or use of, property within the proposed subdivision. In this connection, the governing body may approve a map if it finds that alternate easements, for access or for use, will be provided, and that these will be substantially equivalent to ones previously acquired by the public;
No such easements exist on the subject property.

H. That the design of the subdivision does not provide, to the extent feasible, for future passive or natural heating or cooling opportunities in the subdivision.
The design of the project and the subdivision map does not exclude the possibility of the use of passive solar energy or natural heating or cooling opportunities.

I. That the design of the subdivision, if located in a designated water reuse area pursuant to Section 13550 of the Water Code does not provide for the use of recycled water pursuant to Government Code Sections 65601—65607.
The project is not located in a water reuse area.

Section 16.08.030 (Lot design standards):
A. Every lot shall abut on a street.
A new private street is proposed as part of the project. Each lot shall abut and have frontage on this street.

B. Double frontage lots shall not be platted.
The tentative tract map is proposing lots that would technically front onto both Keller Avenue and the new Siena Drive. However the project was approved as part of a Planned Unit Development that allows flexibility in the regulations to develop a comprehensive plan. As part of the plan, the units all front onto Siena Drive with their rear yard fronting onto Keller Avenue. The proposed landscaping, retaining walls, fences, rear access paths, access stairs, and bio-swale, not to mention the steep slopes prevent any lot from using Keller Avenue for lot frontage or driveway access. This is not an alternative or design analyzed in the EIR and this change would result in new environmental review.

C. Reversed frontage of key lots shall be avoided in blocks exclusively residential.
The project is not proposing any key lots with reversed frontage.

D. Lot lines shall be approximately at right angles to the street line on which the lot faces.
The proposed lots are approximately at right angles to the street line.

E. Each lot shall have the minimum area prescribed by the zoning district within which it lies.
The project is located in the R-50 or Medium Density Residential Zone. However, due to the residential density in the surrounding neighborhood and the site's environmental constraints staff has applied a "best fit" zone of R-30 One Family Residential to the site. The R-30 regulations are more restrictive than the R-50 and are more consistent with the DU General Plan land use designation. The R-50 conditionally permits 1 unit per 1,500 sf for project sites over 10,000 sf while the R-30 allows 1 unit per lot with a

minimum lot area of 5,000 sf. The maximum allowable density under the R-30 zoning regulations for the 3.86 acre project site is 33 units. The 32 unit project is 1 unit under the allowable zoning density.

The lot sizes range from 3,269 sf to 11,113 sf. However, the average size lot is 5,300 sf. On March 2, 2005, the Planning Commission approved several permits for the project including a PUD. This allowed the applicant to cluster development to create an integrated site plan with a lower residential density and reduced visual and grading impacts is achieved. The PUD allows waiver several zoning requirements including the minimum lot area. Furthermore, the PUD also allows the overall number of living units to be located within the development without reference to lot lines or blocks.

F. Lots shall be equal or larger in measure than the prevalent size of existing lots in the surrounding area except:
1. Where the area is still considered acreage;
2. Where a deliberate change in the character of the area has been initiated by the adoption of a specific plan, a change in zone, a development control map, or a planned unit development.
A planned unit development was approved by the Planning Commission on March 2, 2005. Therefore the proposed lots do not need to meet the prevalent lot size of the surrounding area.

G. Lots shall be designed in a manner to preserve and enhance natural out-croppings of rock, specimen trees or group of trees, creeks or other amenities. (Prior code § 7-4.31)
The project site consists of a vacant grassy hillside with larger non-native pines and eucalyptus trees along the upslope boundary of the site. Staff worked with the applicant to reduce the project's impact on trees located on the site. The EIR also required several mitigation measures to reduce the project's biological impact.

There are six native sapling live oaks on the project site. These trees are protected under the Tree Protection Ordinance. The applicant is required, per mitigation measure BIO-3, to retain a qualified arborist and to work with the Public Works Agency Tree Division to develop a tree protection plan during grading. If tree removal is unavoidable, the applicant shall obtain approval of a Tree Protection/Removal permit. In addition, the project would necessitate the removal of one mature redwood tree in the Keller Avenue median. This is also a protected tree under the ordinance and the applicant is required to obtain a Tree Removal Permit from the Public Works Agency Tree Division per mitigation measure BIO-4. There are no creeks, natural rock outcroppings, or other amenities on the site to preserve.

Section 17.148.050 (Minor Variance Criteria for the minimum street width and sidewalk standards:

1. **That strict compliance with the specified regulation would result in practical difficulty or unnecessary hardship inconsistent with the purposes of the zoning regulations, due to unique physical or topographic circumstances or conditions of design; or, as an alternative in the case of a minor variance that such strict compliance would preclude an effective design solution improving livability, operational efficiency, or appearance.**

   Strict compliance with the road width and sidewalk width and location requirements would preclude an effective design solution improving the appearance of the project. Compliance would result in additional grading and an additional number and increased height of the retaining walls. Compliance would also result in units pushed closer to Keller Avenue and a reduced rear yard. The addition of more retaining walls or units closer to Keller would limit the amount of tree

planting and landscaping. This extensive landscaping is necessary to screen the walls, provide additional slope stability, prevent the establishment of non-native French broom, and improve the visual aesthetic for the project.

The applicant worked with city staff including Planning and Zoning, Engineering Services, Transportation Services, and Fire Services to develop a roadway cross section that would be feasible, attractive, and not affect public safety and emergency access. All departments agreed that due to the steep site and the amount of grading necessary to build the road, a 30' roadway width and 5' sidewalks on each side would result in a practical difficulty and would not improve livability for the future residents. Fire Services required additional measures that would address the width of the road and sidewalk relating to emergency vehicular and personnel access. These measures included residential fire sprinklers, 2 access stairs from Keller, fire hydrants and landscaping that complies with the vegetation management program among others.

The street is designed for project traffic and does not support high speed or large volumes of traffic. City departments agreed on a private on-way road that would be 20' at the entrance and then taper down to 16' at the exit past the last lot on the street. On-street parking would not be allowed on this street and staff required that additional guest parking spaces be included in the project.

The narrow road with 1 sidewalk 4' in width provides an intimate residential setting and an integrated development.

2. **That strict compliance with the regulations would deprive the applicant of privileges enjoyed by owners of similarly zoned property; or, as an alternative in the case of a minor variance, that such strict compliance would preclude an effective design solution fulfilling the basic intent of the applicable regulation.**

The basic intent of the minimum roadway width and sidewalk regulations is to provide adequate road pavement width for vehicles, emergency access vehicles, and pedestrians. As stated above, the applicant worked with several city departments to determine a road cross section that was feasible, and acceptable to each city department. Since the applicant was requesting a PUD, staff felt that the reduction in road and sidewalk width would create a more integrated development and comprehensive plan. The result is an intimate, attractive environment where the reduction road and sidewalk widths will not result in a public safety or emergency access concern.

3. **That the variance, if granted, will not adversely affect the character, livability, or appropriate development of abutting properties or the surrounding area, and will not be detrimental to the public welfare or contrary to adopted plans or development policy.**

The variances for road and sidewalk width will not adversely affect the character, livability, or development of abutting properties or the surrounding area. The reduction in widths is an internal issue to the project and will result in an attractive development. In fact, the reduced width subsequently reduces the amount of grading necessary were the project to comply. Additional grading and retaining walls with a reduced area for landscaping would affect the visual quality of the project and provide less of a buffer between existing homes and the proposed project.

4. **That the variance will not constitute a grant of special privilege inconsistent with limitations imposed on similarly zoned properties or inconsistent with the purposes of the zoning regulations.**

The variances, in conjunction with the PUD permit, are necessary to create a well-designed and integrated site plan and will not constitute a granting of special privilege inconsistent with limitations imposed on other similarly zoned properties. As stated above the variances are consistent with the basic intent of the zoning regulations and are internal issues to the project. In addition, the variances will not result in a public safety or emergency access concern.

CONDITIONS OF APPROVAL

STANDARD CONDITIONS

1. **Compliance with Previous Approval.**
   a. Ongoing.
   This Tentative Tract Map shall be consistent with the Planning Commission Planned Unit Development Permit, Variance, and Design Review applications approved on March 2, 2005 (PUD02-217,PUDF05-081, ER02-0012) and shall be constructed and operated in substantial accordance with the authorized use as described in this staff report, the architectural plans dated May 6, 2004, and the landscape plans dated January 31, 2005 and the TTM dated April 2005 #TTM7396), as amended by all required conditions of approval. Any additional uses other than those approved with this permit, as described in the project description, will require a separate application and approval. The maximum number of units is 32.

2. **Effective Date, Expiration, and Extensions and Phasing Requirements**
   *a. **Ongoing through project completion**.*
   These approvals shall become effective upon satisfactory compliance with these conditions. These approvals for the project site shall expire on May 18, 2006 unless actual construction of the first phase of the project has begun under necessary permits by this date. Upon written request and payment of appropriate fees prior to the expiration of the approvals, the Zoning Administrator may grant a one-year extension of these dates, with additional extensions subject to approval by the Planning Commission.

3. **Scope of This Approval**
   a. Ongoing.
   The project is approved pursuant to the Subdivision Regulations of the Municipal Code only and shall comply with all other applicable codes, requirements, regulations and guidelines, including but not limited to those imposed by the City's Building Services Division and the City's Fire Marshal. The proposal shall specifically comply with the conditions required by Philip Basada of the Fire Prevention Bureau per the attached memorandum, dated May 10, 2005 and with the items outlined in the attached letter from Jon Ewigleben of Engineering Services on May 10, 2005.

4. **Modification**
   *a. **Ongoing.***
   Any revision of the roadway and lot layout shall be subject to the review and approval of the Planning Director, Engineering Services, and Fire Services at least 45 days prior to the final map.

5. **Recording of Conditions of Approval**
   *a. **Prior to issuance of building permit or commencement of activity.***
   The applicant shall execute and record with the Alameda County Recorder's Office a copy of these conditions of approval on a form approved by the Zoning Administrator. Proof of recordation shall be provided to the Zoning Administrator.

6. **Reproduction of Conditions on Building Plans**
   *a. **Prior to issuance of building permit.***
   These conditions of approval shall be reproduced on page one of any plans submitted for a building permit for this project.

7. Indemnification

a. Ongoing.

The applicant shall defend, indemnify, and hold harmless the City of Oakland, the GHAD and their respective officers, agents, and employees (the "Indemnified Parties") against any and all liability, damages, claims, demands, judgments, or other losses (including, without limitation attorneys fees, expert witness and consultant fees and other litigation expenses), or an initiative relating to, resulting from, or caused by, or alleged to have resulted from or caused by any action or approval associated with the project.

This indemnity includes, without limitation, any legal or administrative challenge, or initiative filed or prosecuted to overturn, set-aside, or otherwise rescind any and all approvals granted in connection with the project, certification of the Environmental Impact Report ("EIR") for the project, and granting any permit issued in accordance with the project. This indemnity included, without limitation, payment of all direct and indirect costs associated with any action specified herein. Direct and indirect costs as used herein shall include, without limitation, any attorneys' fees, expert witness and consultant fee, court costs and other litigation fees, City Attorney time and overhead costs, and other City staff overhead costs and normal day-to-day business expenses incurred by the City ("Litigation Expenses"). The Indemnified Parties, at the applicant's expense in the defense of any action specified in this condition of approval #7. The Indemnified Parties shall take all reasonable steps to promptly notify the applicant of any claim, demand, or legal actions that may create a claim for indemnification under these conditions of approval.

8. Geologic Hazards Assessment District

a. Prior to the approval of the final map

Prior to approval of the final map for the project, a Geologic Hazard Abatement District (GHAD) shall be fully operational, and all assessments, reserve funding and/or other long-term financing and other requirements necessary to fully fund the GHAD shall be established and authorized. The applicant shall prepare a Plan of Control, as defined in Public Resource Code Section 26509. The proceedings for the formation of the district may be initiated by either a petition initiating the formation of a GHAD signed by owners of not less than 10% of the real property to be included in the proposed district or by resolution of City Council initiated by the Planning Department. The Plan of Control shall specify without limitation, that:

a) The GHAD will assume responsibility for the long-term maintenance of the slopes, all drainage facilities and all surface and subsurface storm water run-off and drainage system improvements and maintenance, including street cleaning, within the property.

b) A reserve fund shall be established in the GHAD budget to provide for the restoration, maintenance, repair, and other work associated with a catastrophic event, such as a landslide, or detention basin if applicable.

c) The applicant shall provide start-up funds for the GHAD in the amount to be determined by the City Engineer in accordance with the approved plan of control for the GHAD, which shall be no later than the recordation of the final map for the project. The project applicant shall also assume financial responsibility for all the geotechnical related work for a period of time determined by the City Engineer, such as the implementation of an initial set of site monitoring measures for moisture, lateral movement and vertical movement, including installation of piezometer(s), settlement pins and inclinanometer casings if applicable. The

City Engineer shall determine the specific monitoring measures that will be installed, and such measures shall be installed, to the satisfaction of the City Engineer, by the Project Applicant for a time certain.

d) The GHAD shall include both ongoing activities as well as a plan for unexpected maintenance and event, including events or damages that could occur off-site as a result of the site improvements associated with geotechnical, drainage, or related matters within the GHAD jurisdiction. This work shall be based on the results of the minimum monitoring period, the final grading and specifications for slope construction, and the peer review analysis of the geotechnical report as required by Building Services.

e) The GHAD budget shall separately identify the projected costs associated with 1) geotechnical/slope stability maintenance work; 2) drainage facilities operation and maintenance; 3) storm water quality maintenance and monitoring; and 4) a reserve fund.

f) The project applicant shall fund an independent, qualified engineer to serve as the GHAD manager for the GHAD. The GHAD shall provide the name, phone number and mailing address of the GHAD manager to all residents within the property covered by the GHAD.

g) The GHAD shall submit an annual report to the City detailing 1) any monitoring and reporting requirements specified in the Plan of Control; 2) budgetary and other financial information relevant to the GHAD's operations.

h) The GHAD shall defend, hold harmless, and indemnify the Indemnified Parties (as that is defined in Condition #7 and their insurers against any and all liability, damages, claims, demands, judgments, losses, ("Indemnified GHAD claims") or other forms of legal or equitable relief related to the formation and operation (including, without limitation, maintenance of GHAD owned property) of a Geologic Hazard Abatement District ("GHAD") and in the case of the City Council members, actions taken by said members while acting as the GHAD Board of Directors. This indemnity shall include, without limitation, payment of litigation expenses associated with any action herein. The Indemnified Parties shall have the right to select counsel to represent the Indemnified Parties, at the GHAD's expense, in defense of any action specified in this condition of approval #8i. The Indemnified Parties shall take all reasonable steps to promptly notify the GHAD of any claim, demand, or legal actions that may create a claim for indemnification under these conditions of approval. Within 90 days of the formation of the GHAD, the GHAD shall be required to enter into an Indemnification Agreement in a form acceptable to the City Attorney to establish in more specific detail the terms and conditions of the GHAD's indemnification obligations set forth herein. Any failure of any party to timely execute such Indemnification Agreement shall not be construed to limit any right or obligation otherwise specified in these Conditions of Approval.

i) The GHAD shall obtain general liability insurance and directors' insurance for the GHAD Board of Directors to the extent that a GHAD Board determines in its sole discretion that such insurance is available at commercially reasonable rates. In the event subsidence insurance becomes available, the GHAD also shall obtain such insurance provided that the GHAD Board of Directors determines that premiums for such insurance are a prudent expenditure of the GHAD's financial resources.

j) The assessments authorized for the GHAD must be determined by the GHAD Board following a thorough financial analysis and must include adequate finding for the indemnity and insurance obligations set forth in this condition of approval #8. The GHAD's attorney and the City's attorney shall also review the adequacy of the funding for the indemnity and insurance and any make recommendations regarding such funding.

k) The GHAD will be responsible for hiring its own staff (or contracting with non-City parties to perform such services), including all workers who will undertake operation, maintenance, replacement, repair and other activities of the GHAD, and no City employee, including employees of the City Attorney's office shall perform such services for the GHAD facilities and improvements. Further, the City shall not fund or otherwise administer any of the GHAD's operations, property or facilities.

9. Payment of Fees for Independent Technical Review and Project Coordination and Management

Within 90 days following the Effective Date, the project applicant shall enter into an agreement to establish the terms and conditions of this Condition of Approval. The applicant shall fund the full costs of all independent technical and other consultants the City deems is required to comply with the conditions of approval for the Tentative Tract Map and the Planned Unit Development. All work performed pursuant to this condition of approval shall be under the supervision of the City. Accordingly, the applicant shall establish an "evergreen" deposit fund with the City in order to cover the full costs of independent technical and other types of review, monitoring and inspection, including without limitation, third party plan check fees. The payment of standard plan check fees, building permit fees, special inspection deposits, and other required fees shall, to the extent determined by the City, be credited as part of the "evergreen" fund. The City shall provide the applicant with quarterly detailed statements, including staff names, time entries and description of the work performed, as to the amount of funds used and the amount of deposit required to sustain the fund. The City retains the right to halt work on the project if the applicant fails to make the requested payments to the fund within the time period specified. The applicant may conduct an annual audit of the funds used. Any failure of any party to timely execute such agreement in these conditions of approval shall not be construed to limit any right or obligation otherwise specified in these conditions of approval, including without limitation condition #7.

APPROVED BY:
City Planning Commission:_____(date)_____(vote)
City Council:_____(date)_____(vote)

CITY OF OAKLAND
Community and Economic Development Agency
MEMORANDUM

TO: Heather Klein, Planning and Zoning
FROM: Jon Ewigleben, Building Services
DATE: May 10, 2005

SUBJECT: **TTM 7469 – THIRTY-TWO UNIT TOWNHOUSE DEVELOPMENT WITH COMMON AREA ON NE'LY SIDE OF KELLER AVENUE BETWEEN GREENRIDGE DRIVE AND RILEA WAY WITH PROPOSED PRIVATE STREET TO BE KNOWN AS SIENA DRIVE**

CEDA Building Services wishes the following conditions be complied with prior to filing a final map:

1. A "Private Job" for site and right-of-way improvements, including bonds, shall be in place.
2. A subdivision agreement shall be provided at time of Final Map approval which is related to item 1.
3. Improvements indicated in item 1, even if privately owned and maintained, shall be constructed to Public Work's standard plans and specifications.
4. The driveway from Siena Drive onto Greenridge Drive shall be a standard curb cut. Since the width may exceed the maximum width for residential driveways a Driveway Appeal shall be required. Related to item 1.
5. A peer review of the site geotechnical stabilization plan which will be part of a Grading permit shall be performed and approved. This site is in a hazard area of seismically induced landslides and the geotechnical report shall meet state requirements for this hazard.
6. Provision for retention of site and roof drainage shall be incorporated into the work of items 1 and 5.
7. Conceptual approval of the improvements shown on the Tentative Tract Map will be subject to additional requirements during the approval process of items 1 and 5 and incorporated therein.

If you have any questions please call me at 510.238.6321, fax 510.238.6445
E-mail:jewigleben@oaklandnet.com

CITY OF OAKLAND

DALZIEL BUILDING • 250 FRANK H. OGAWA PLAZA, SUITE 3315 • OAKLAND, CALIFORNIA 94612-2032

Department of Planning, Building and Neighborhood Preservation
Planning & Zoning Services Division

(510) 238-3941
FAX (510) 238-6538
TDD (510) 238-3254

February 28, 2013

David Eckert
Coldwell Banker
6137 La Salle Avenue
Oakland, CA 94611

RE: Case No. PUD02-217 and TTM7396; Siena Hill Project; Oakland Area Geologic Hazard Abatement District

Dear Mr. Eckert:

The purpose of this letter is to respond to your request, at our meeting on March 26, 2012, to remove the Siena Hill project from the Oakland Area Geologic Hazard Abatement District (GHAD). Staff has discussed the issue with the City Attorney's Office and the GHAD Board's staff, including its attorney and manager. Below is a description of the status of the GHAD and Siena Hill Project, as well as the process for removing Siena Hill from the GHAD.

Background

The Siena Hill project was approved by the Planning Commission on March 2, 2005 with a Condition of Approval (#24) that prior to approval of the final map for the project, a Geologic Hazard Abatement District (GHAD) shall be fully operational, and all assessments, reserve funding and/or other long-term financing and other requirements necessary to fully fund the GHAD shall be established and authorized. On June 1, 2005, the Commission approved a Tentative Tract Map for the project which included additional Conditions of Approval (#8) related to the formation of a GHAD. These Conditions of Approval were recommended by the Planning Commission as the project included a private road, extensive hillside grading, construction of numerous retaining walls that contain the site and support the homes, and associated drainage improvements, which warrant on-going monitoring and specialized preventive maintenance to mitigate potential geologic hazards. In addition, a landslide was discovered at the north-western edge of the property. The applicant did not appeal the Conditions of Approval related to formation of the GHAD to the City Council as part of the project approvals.

The applicant initiated formation of the GHAD in May of 2006 and in July 18, 2006 the Oakland City Council adopted a Resolution forming the Oakland Area GHAD. Siena Hill was to be the first but not the last project to be required to join the Oakland Area GHAD. In October of 2006, the GHAD Board was formed, the GHAD staff assigned, a budget for the GHAD was approved, and the GHAD assessments along with protests against the assessments were considered. There were no protests against the property tax assessments and the GHAD became operational and assessments on the parcels were initiated.

In addition to the actions taken in October of 2006, the City Council accepted a Plan of Control which included but was not limited to GHAD maintenance responsibilities for specific improvements, landslide and erosion control mitigations, GHAD repair priorities, and recommendations for prevention and mitigation of existing or potential erosion hazards, and for a maintenance and monitoring schedule. "The Oakland Area GHAD's Plan of Control states that the GHAD Board can only accept the Siena Hill improvements a minimum of 2 years

following final approval of all retaining wall construction." In summary, that is until all of the homes are built and all of the retaining walls and other improvements are constructed, the GHAD Board cannot conduct the formal hearing to accept the Siena Hill improvements **and** all monitoring and maintenance of the Siena Hill improvements remain the responsibility of the owner and the homeowners association.

Finally, neither the previous applicant nor the current owner has fully funded the Oakland Area GHAD which is a requirement of the Conditions of Approval and, further, would be a condition of acceptance of the Siena Hill improvements into the GHAD.

Removing the Siena Hill Project from the Oakland Area GHAD

As formation of the GHAD was included in the Conditions of Approval imposed by the Planning Commission for the Planned Unit Development Permit and the Tract Map, any person wishing to propose removing property from the GHAD would need to first amend the Conditions of Approval at a hearing before the Planning Commission. The applicant would need to submit a letter requesting such action to the Director of Planning and Building along with a fee of $1352.91. It would be staff's recommendation to deny such a request request, given the fact that construction has commenced, the improvements are currently in place, and the lots are accessed off a private road, a responsibility for which the City will not assume.

However, if the Planning Commission authorizes the applicant's request, and removes the Conditions of Approval related to formation of the GHAD, staff would then schedule a publicly noticed meeting before the Oakland City Council as the City Council was the legislative body that initially formed the GHAD. If the Planning Commission denies the applicant's request, the applicant may appeal the Planning Commission's decision to the Oakland City Council.

Staff would recommend against the removal of Siena Hill from the GHAD to the City Council for the reasons stated above. If the City Council agreed with staff's recommendation or denied the appeal, the decision could not be further appealed and Siena Hill would remain in the Oakland Area GHAD. If, however, the City Council disagreed with staff's recommendation or upheld the appeal, then the Council would be required to make findings to support the removal of Siena Hill from the Oakland Area GHAD at the next available meeting date. The GHAD related findings that would need to be made are set forth in the GHAD Law at Public Resources Code Section 26567.1. In this case, the owner and/or the homeowners association would be required to assume the responsibilities and obligation of the GHAD as they relate to Siena Hill. The City would not assume such responsibilities and obligations.

Moreover, it is not clear in GHAD Law whether a property can be removed from a GHAD or if such a "removal" would require the dissolution of the entire GHAD first. If dissolution of the entire GHAD is required to "remove" Siena Hill, the City/GHAD would recommend that the applicant seeking the dissolution also fund the re-creation of the Oakland Area GHAD without the inclusion of Siena Hill.

We hope this letter helps answer your questions regarding the current status of the GHAD, the current responsibilities of the owner, and the possibility of removing Siena Hill from the Oakland Area GHAD. Please do not hesitate to contact case planner, Heather Klein by email at hklein@oaklandnet.com or by phone at (510) 238-3659 should you have any further questions.

Sincerely,

Scott Miller
Interim Planning and Zoning Director

cc: Case File
Keven Kwok
Oakland Siena LLC
28 Bates Boulevard
Orinda, CA 94563

PLAN OF CONTROL PEER REVIEW
PROPOSED OAKLAND AREA GHAD

Keller Avenue at Greenridge Drive
Oakland, California

DMA Project 2002.06

May 3, 2006

Attachment I

DARWIN MYERS ASSOCIATES

DARWIN MYERS ASSOCIATES

ENVIRONMENTAL RESEARCH ■ ENGINEERING GEOLOGY

May 3rd, 2006

Heather Klein
Community & Economic Development Agency
City of Oakland
250 Frank H. Ogawa Plaza, Suite #3315
Oakland, CA 94612

Subject: **Plan of Control Peer Review**
Proposed Oakland Area GHAD
Keller Avenue at Greenridge Drive
Oakland, California
DMA Project # 2002.06

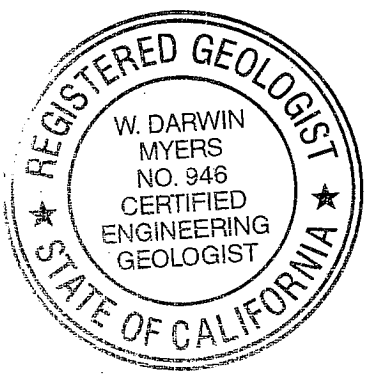
Dear Heather:

Based on your authorization, we performed an engineering geologic peer review of the captioned project. Our approach was to perform a broad-scoped reconnaissance that included review of a recently issued official Seismic Hazard Map, issued by the California Geological Survey. Our investigation also included pertinent maps and reports issued by the U.S. Geological Survey, review of the geotechnical report, consultations and inspections by Underdahl a field reconnaissance of the site and surrounding area, review of the Plan of Control prepared by Engeo, Inc. and preparation of our review letter, which is presented herein.

In our opinion the Plan of Control is a comprehensive. It addresses the hazards and issues pertinent to the Oakland area, providing a basis for prevention, mitigation and abatement of geologic hazards. We trust that this report provides the information that you require. If you have any questions or want additional assistance, please call.

Sincerely,
DARWIN MYERS ASSOCIATES

Darwin Myers, CEG 946
Principal
2002-06rpt.wpd



INTRODUCTION

Location and Topography

The Siena Hill project site is a 3.86 acre parcel that fronts on the northeast side of Keller Avenue, just east of Greenridge Drive intersection. It can be further identified as APN 040A-3457-033-01. Furthermore, the project is approximately 500 feet east of the Keller Avenue / Mountain Boulevard interchange with I-580, in the City of Oakland.

The property is irregularly shaped and may be characterized as a steep, west-southwest facing slope. Elevations range from approximately +330 ft. (in northwest corner of site) to more than +450 ft. (near northeast P/L), and slopes of approximately 50 to 60 percent are representative of broad areas of the site.

Proposed Land Development Project

The Siena Hill project is a 32 lot residential subdivision that is being constructed with engineered slopes possessing 2:1 (horizontal to vertical) gradients, tiered retaining walls, including steel-reinforced poured concrete walls and a pier-supported shotcrete wall. The project was approved by the Oakland Planning Commission on January 18, 2005, and is named Siena Hill. One of the Conditions of Approval required establishment of a Geologic Hazard Abatement District.

Purpose

Geologic Hazard Abatement Districts (GHAD's) are formed pursuant to the provisions of Section 26550 of the Public Resources Code - the Beverly Act. The agency forming the GHAD designates a Board of Directors to govern the District. The Board retains staff and/or consultants to manage the day-to-day operation of the GHAD. GHAD's are most typically funded through special assessments levied on property within its boundaries. While initially envisioned to address specific geologic events such as a large landslide, the use of GHAD's has evolved to include significant preventative maintenance functions. Hence, the Plan of Control, details a "plan" to *prevent, mitigate, abate or control geologic hazards*. Geologic hazards are defined to include actual or threatened landslides, land subsidence, soil erosion or any other natural or unnatural movement of land or earth.

Thus the GHAD is charged with the task of preventing, mitigating, abating and/or control of geologic hazards that have damaged or pose a significant threat of damage to site improvements within the GHAD boundary. In carrying out its duties it protects both the safety and financial interests of the property owners served. It is operated by a manager, and the operation of the GHAD is to be accomplished efficiently, taking into account the needs and concerns of residents.

Plan of Control

A formation of a GHAD must be accompanied by a "Plan of Control", prepared by a certified engineering geologist, "which describes in detail a geologic hazard, its location and the area affected thereby, and a plan for the prevention, mitigation, abatement, or control thereof" (Section 26509). The land within a district need not be contiguous; the only requirement is that lands within a GHAD be benefitted and that formation of a district is required to ensure the health, safety, and welfare of the residents.

As with public works entities, accurate forecasting of the financial needs of the GHAD is critical for its long-term success. Accurate forecasting is best accomplished by very detailed knowledge of site conditions and potential hazards (i.e. landslides, expansive soil problems for residences and other facilities), and by having and accurate knowledge of the costs associated with both preventative maintenance and remedial construction. Ordinarily the properties being considered for a GHAD have unusually thorough investigations to characterize site conditions; and during construction the geotechnical and geologic consultants and civil engineers for the project document their observations by preparing as-graded geologic maps, plans that provide information on subdrains (their location and depth) and a final report that documents a) project construction was consistent with the intent of the geotechnical recommendation, b) provides ASTM compaction test data and c) provides information on any special problems encountered during construction; and how those problems were overcome by special engineering. This as-built information serves as a database for the GHAD.

It should be recognized that the formation of the GHAD by resolution of the City Council does not imply that the GHAD is assuming responsibility for improvements in the District. The developer must first notify the GHAD manager that all the improvements have been installed in accordance with approved plans, including buildout of all residential lots in the project. The GHAD manager will then inspect the site and provide a "punch list" that includes items that are not satisfactory. The developer must then perform corrective work and apply for reinspection. Only when the GHAD manager is satisfied with the project and all punch list items have been corrected does the GHAD assume responsibility to prevent, mitigate, abate or control geologic hazards. For these reasons, project development is ordinarily allowed to proceed during the formation period of the GHAD. If there is a concern regarding the developer's commitment to full implementation of the GHAD, a hold can be placed on the final building inspections of an agreed to number of the residential lots.

APPROACH

As the peer review for GHAD formation, our task is to review site conditions, the geotechnical report for the project and the Plan of Control. As a point of departure for our work, we have reviewed pertinent published literature and made a site visit.

Our peer review letter is organized to first provide background information on site conditions. We then summarize and highlight the Underdahl geotechnical report and supporting documents, and Plan of Control prepared by Engeo, Inc., followed by our evaluation.

GEOLOGIC AND SEISMIC SETTING

Geologic Mapping

The most recent geologic map of the Oakland area is the mapping of the U.S. Geological Survey.[1] It is a digitized, color geologic map that emphasizes bedrock formations, along with showing the location of fault traces. To enhance readability, the published map has been enlarged to a scale of 1" = 0.5 miles.

[1] Graymer, R.W., 2000. *Geologic Map and Database of the Oakland Metropolitan Area, Alameda, Contra Costa and San Francisco Counties, California.* U.S. Geological Survey Miscellaneous Field Studies MF-2342..

Figure 1 indicates the site is within the outcrop belt of keratophyre and quartz keratophyre (Jsv), a bedrock formation which extends in broad, northwest-trending belt that is over 3 miles long, ¾ mile in width and is chiefly just east of the Hayward fault in the project vicinity. Just southwest of the site the map indicates (pillow basalt, basalt breccia and minor diabase" (Jpb). The contact of these units is a shear zone, which may extend into the Keller Avenue right-of-way. The active trace of the Hayward fault is mapped less than ½ mile southwest of the site (see Figure 1). In this vicinity the active trace is a geologic contact separating Jsv (northeast of fault) from Jgb (southwest of fault). Just north of the property is a line-of-section, labeled B-B'.

Figure 2 geologic cross-section B-B'. The features shown include a series of steeply dipping fault. Along the line-of-section the outcrop belt of Jsv is 1 mile. The shear contact that passes just west of the site is shown to be a northeast dipping fault (unrelated to the "creeping strand of the Hayward fault").

Engineering Geology

In 1995 the U.S. Geological Survey issued a professional paper that characterizes the composition and engineering properties of rock and soils that most influence slope stability.[2] Figure 3, Hillside Materials Geologic Map, identifies the rock formation on the site as Unit 215 (Leona Rhyolite). While this is a different nomenclature than was used in Figure 1, it is the same formation. The composition and engineering geology characteristics of this formation can be described as follows:

- **Composition:** Soda rhyolite, largely lithoidal; includes some porphyritic glass, rare vesicular rock, very rare pyroclastic debris. Generally consists of a few percent (locally as much as 15 percent) phenocrysts in groundmass of microcrystalline albite and quartz; less commonly groundmass is spherulitic glass. Rock is commonly a mixture of quartz, argillized feldspar, clay, and wisps of chlorite, and iron-stained pits mark former pyrite grains. Sulfides are universally present in fresh rock and are concentrated near base of unit by secondary sulfide enrichment; largely absent in weathered rock. Average fresh rock contains 1-2 percent pyrite.

- **Hardness:** Largely hard where fresh. Where weathered, most pieces are hard, some firm; rock mass is firm to soft where fracture spacing is close to very close. Breccia zones and altered rock are firm, some soft and clayey.

- **Bedding:** Absent. No signs of layering in even largest quarry exposures. Locally flow banded.

- **Fracture:** Variable and apparently random. Mostly very close to wide spacing, but includes excavated blocks to very large (5 ft., some as much as 8 ft.) That have internal incipient fracture at very close to wide spacing. Much brecciation in places. Weathered vesicular rock has close to very close spacing of weathering fracture in medium spheroids.

- **Permeability:** Bedrock has very low intergranular permeability, low to possibly moderate fracture permeability to depth. Most mantle probably moderate, some to much low to very low.

[2] Ellen, S.D. and C.M. Wentworth, 1995. *Hillside Materials and Slopes in the San Francisco Bay region, California.* U.S. Geological Survey Professional Paper 1357.

- **Weathering:** Variable. Some hard rock extends to ground surface, but some firm weathered rock and spheroidal fracture extends to depths of more than 35 ft.

- **Surficial mantle:** Largely granular, some to much clayey. Most mantle is stony silt; some is stony clay. Soil is generally absent or less than 18 in. thick, but it may accumulate in ravines to more than 12 ft. thick.

- **Expansivity:** Most bedrock is unexpansive, minor severely expansive (gouge and weathered bedrock). Most mantle unexpansive, some expansive.

Some of the key points made by review of engineering properties is that in general the Leona Rhyolite includes sulfides and that as weathering occurs the mineral pyrite (FeS) goes into solution. The products of this chemical weathering process is iron oxide (FeO) and free sulfur, which in some portions of the East Bay combines with groundwater to form sulfuric acid (H_2SO_4) and create acid soils.[3] Therefore it would not be surprising if perched groundwater in the outcrop belt of the Leona Rhyolite, where present, is acidic. This can be important to long term performance of improvements. Acid soils can damage concrete and uncoated steel.

The description also indicates that the formation is not isotropic and homogenous. It is variably fractured (said to be apparently random in orientation), contains breccia zones and altered rock that are described as "firm, some soft, and clayey", and that the rock has low to moderate fracture permeability. Weathered rock, particularly if it is highly fractured, may not stand in oversteepened slopes.

Finally, the bedrock is not expansive, and most of the mantle (i.e. surficial deposits that are the products of physical and chemical weathering of the rhyolite) range from non-expansive to moderately expansive in some areas.

EARTHQUAKE INDUCED LANDSLIDES

Official Seismic Hazard Maps

The parcel that is the subject of the GHAD is within a Seismic Hazard Zone delineated by the California Geological Survey (formerly California Division of Mines & Geology). The Seismic Hazards Mapping Act (Public Resources Code, Chapter 7.8, Division 2) directs the California Geological Survey to delineate seismic hazard zones. The purpose of the Act is to reduce the threat to public health and safety and to minimize the loss of life and property by identifying and mitigating seismic hazards. Cities, counties, and State agencies are directed to use the Seismic Hazard Zone maps in their land use planing and permitting processes. They must withhold development permits for a site within a zone until the geologic and soil conditions of the project site are investigated and appropriate mitigation measures, if any, are incorporated into development plans. The Act also requires sellers (and their agents) of real property within a mapped hazard zone to disclose at the time of sale that the property lies within such a zone. Evaluation and mitigation of seismic hazards are to be conducted under guidelines adopted by the California State Mining and Geology Board. The methodology recommend to evaluate seismically triggered landslide hazards is based on the sliding-block analogy of Newmark (1965). In effect, it treats

[3] $FeS + H_2O \rightarrow FeO + H_2SO_4$

a potential landslide as a rigid rock resting on an inclined plane. The model requires inputs characterizing the susceptibility to slope failure and intensity of earthquake ground motion. In essence, the procedure considers the factors of earthquake magnitude, distance to the fault, strength of geologic material, groundwater conditions, and hill slope gradients. The modeling procedure is described in detail in CGS Report 117.

The official Seismic Hazard Maps were issued at a scale of 1 inch = 2,000 feet. To enhance readability the map of the site and vicinity was enlarged to 1 inch =1,000 feet (see Figure 4). This map indicates the site is within an area where "earthquake-induced landslides" is a hazard. Segments of Keller Avenue immediately downslope of the site are not included within the seismic hazard area, and the hillside area immediately east of the site is not considered to be in an area at risk of earthquake induced landslides. On that basis we presume that the identification of the site as a landslide risk area is a result of the steepness of the slopes on the property in combination with the performance of the Leona Rhyolite on steep slopes elsewhere in the Oakland Hills and proximity to the Hayward fault. Thus, the issue is the outlook for long-term stability of slopes and improvements on the site, particularly under conditions of strong/violent earthquake shaking. According to the Seismic Hazard Map, the site is within an area that has a potentially significant risk of earthquake-triggered slope failure.

Nilsen Landslide Map

In 1975 the U.S. Geological Survey published surficial deposit maps of the entire San Francisco Bay Region at a scale of 1" = 2,000'. These maps were based solely on photointerpretation, which presents a number of difficult problems in an urbanized area, such as the City of Oakland. The problems presented by photointerpretation may be summarized as follows:

- Distinguishing terrace-shaped slump-type landslide deposits from alluvial terrace deposits where both are located adjacent to stream courses.

- Recognizing bedrock cropping out beneath surficial deposits, especially where a creek or stream has cut down through the overlying surficial deposits to expose bedrock along the streambed.

- Determining boundaries between adjacent surficial deposits that laterally grade into or interfinger with one another without leaving an easily discernible topographic boundaries, e.g., the downstream gradation of alluvial terrace deposits into alluvial deposits.

- Recognizing landslide deposit boundaries – whereas the upslope boundary is commonly defined by an easily recognized scarp, the toe or downslope boundary is seldom well defined and is difficult to locate exactly.

- Recognizing stable masses of bedrock within landslide deposits, especially where the bedrock may appear only as a large block within the surrounding landslide deposit.

- Distinguishing between irregular or hummocky topography caused either by variations in the erosional resistance of bedrock or by the erosion of landslide deposits.

- Surficial geologic features can be obscured in urbanized areas by a) modification of the natural landscape by grading (leveling, cutting, filling or terracing), and b) man-made structures that cover the natural land surface.

Even with these limitations the Nilsen map fulfills its intended purpose which is to "red flag" sites that may be at risk from existing landslides. In areas where there is a concentration of landslides or where a slide is mapped on a property, detailed engineering geologic investigations addressing slope stability are needed to characterize site specific conditions and develop corrective grading plans.

Figure 5 shows the site and vicinity at a scale of 1 inch = 1,000 feet. According to this map the only surficial deposits on the site are colluvium (i.e., slope wash deposits) in two drainage swale areas. One is located in the central portion of the property, and another is mapped at the south property corner. Additionally a relatively small slide area (⅓ acre ±) is mapped near the north boundary of the site. The remainder of the property is mapped as bedrock.

Herd Landslide Map

In 1978 a U.S. Geological Survey report was issued, whose purpose was to map the active trace of the Hayward fault (not to map landslides). Through much of Oakland, geomorphic features characteristic of active faults could not be identified, and in these areas the problem of mapping the Hayward fault was attributed to landslides and man's activities (grading, construction, and landscaping) which tend to obliterate or obscure delicate geomorphic features. Figure 6 shows Herd's interpretation, of the site and vicinity. It indicates the site is within a bedrock area.

GEOTECHNICAL INVESTIGATION

Introduction

The project geotechnical engineer is Gary Underdahl (GU). The investigation of the site was performed in 2001. Its purpose was to provide an overview of geologic and seismic hazards, as well as providing specific criteria and standards for site grading, drainage and foundation design. When the 2001 report was issued the project had a hammerhead turnaround at the north boundary of the site; subsequently an access easement was acquired that allowed the hammerhead to be eliminated and the internal road extended north to intersect Greenridge Drive. Update reports were issued by GU on January 17, 2003; April 7, 2003 and May 16, 2003. They evaluated subsurface conditions in the easement area and provided recommendations for road construction across the easement.

Additionally, GU retained Questa Corporation to perform a preliminary evaluation of rock cut slope stability. The results of that study is presented in a March 13, 2002 memorandum issued by Questa. Detailed citations to these submittals of the applicant are presented in the bibliography. The following discussion is intended to highlight and summarize pertinent information presented in the geotechnical submittals of the applicant.

Gary Underdahl

1. Scope. The scope of the Gary Underdahl investigation included a) review of published geologic mapping, b) field reconnaissance, c) routine laboratory testing of selected samples, d) development

of conclusions and recommendations pertaining to potential geologic hazards, slope stability, foundation design and drainage design, and e) preparation of a report documenting the investigation and presenting GU's conclusions and recommendations. The 2001 report includes a list of pertinent references and 17 figures.

- Existing Conditions. The GU report notes that there was an existing cut slope along the Keller Avenue frontage of the site. Prominent terrain features on the site were two swales. Both were filled with soils, which GU suggest could be undocumented fill associated with development of upslope subdivisions. GU researched City files and found no geotechnical reports for construction of the upslope subdivisions, and no geotechnical reports were on file for the construction of Keller Avenue. Furthermore, GU indicates that the City of Oakland has no record of any slide, erosion or drainage complaints pertaining to the site.

- Subsurface Investigation. Apparently because of the cut slope along Keller Avenue that exposed bedrock, the subsurface exploration program was limited to three test pits in the central swale on the property. Figure 2 of the GU report shows the approximate location of the test pits. That figure does not clearly show topography, but the test pits appear to be providing data on the colluvial area mapped in the central portion of the site by Nilsen (see Figure 5). GU does not a) present a geologic map of the site that shows the location of the "soil filled" swales and bedrock outcrops, b) evaluate either the slide area mapped by Nilsen (in northern part of property) or the colluvial area mapped by Nilsen (in the southern portion of the property). Furthermore, no data is provided on subsurface conditions where major walls were proposed.

  The test pit logs indicate up to six feet of a gravelly clay fill overlying 12 to 18 inches of a top soil. The top soil is described as a sandy clay of moderate to low plasticity. The bedrock is described as an orange and dark brown rhyolite that is hard, strong, moderately weathered, dry, with small clay seams.

- Geologic and Seismic Hazards. GU describes the slopes on the site as composed of rock, strong fill and firm natural soils. The soils are considered slightly to moderately expansive. The active Hayward fault is reported to pass approximately 100 meters to the southwest of the site, and GU indicates that no published maps show faults crossing the parcel. On this basis the risk of surface fault rupture was deemed to be very low. GU acknowledges that the site is at risk of potentially damaging levels of ground shaking, but the risk of earthquake induced landsliding and lurch cracking was considered by GU to be "non-existent" because of hard rock at shallow depth. The risk of earthquake induced liquefaction or lateral spreading was deemed "non-existent" because of the absence of saturated clean silts or sands.

  With regard to slope stability GU characterizes the stability of these slopes as satisfactory under the existing conditions; however, the risk of failure increases to unsatisfactory if the soils become saturated, and in the event of a large nearby earthquake. By use of foundations bearing on rock, and grading of the slopes to a maximum gradient of 2:1 (horizontal to vertical), GU considers the risks of damage from the possible slope failure, or soil creep reduced to less-than-significant. The new retaining walls will allow the slopes to remain no steeper than the recommended maximum gradient. GU notes that drainage on the site should be designed and maintained to minimize ponding of surface water and/or saturation of the soils.

- Geotechnical Recommendation. The GU report provides standards and criteria for construction keyways, for pier and grade beam foundations (10-15 ft. deep), reinforced concrete retaining walls, surface and subsurface drainage facilities, along with recommendations for concrete slabs-on-grade and pavement design. The geotechnical parameters for retaining walls are presented on page 6 of the GU report.

  We did not see any standards for placement of engineered fill on the site, nor have we seen a corrective grading plan that shows keyways, area of over-excavation of compressible fill, subdrains with cleanout, etc. The 2001 GU report does not address the issue of review of grading and foundation plans prior to issuance of construction permits, and it is silent on the issue of monitoring and testing services during construction. Such plan reviews and observation services are critical to ensuring that construction is consistent with the intent of geotechnical recommendations in the approved report. Additionally, monitoring is needed in the event that unanticipated conditions are encountered during construction. Supplemental recommendation may be needed. Finally, the GHAD requires details of the as-graded, as-built conditions . For example, in the future, incipient failure of an improvement may be noted. The GHAD manager would refer to the as-graded/as-built plans for information on construction details. Those detailed plans, if they are available, would provide insight into probable significance of the distress feature and be invaluable in guiding the course of action most appropriate.

- Monitoring During Construction. GU issued consultation letters on final design of improvements during the period March 17, 2005 through August 23, 2005. During that six-month period Don Hillebrandt Associates was retained by the project proponent to perform 3rd party reviews. These documents are cited in Table 1.

Grading Commenced in September, 2005 and the first monitoring report was issued by GU on September 21, 2005 and a total of 18 letters were issued during the period September 21, 2005 to March 7, 2006. The letters indicate site visits during construction by the geotechnical engineer to monitor stripping, placement of engineered fill, construction of a subdrain in the keyway, removal of an abandoned 48-inch water pipe (stormdrain?), and observation of pier drilling. No monitoring has been performed by an engineering geologist, and no mapping of bedrock exposures is indicated. In the October 28, 2005 letter GU indicates they

Table 1
Reports, Consultations and 3rd Party Peer Reviews Performed Prior to Issuance of Construction Permits.

Source (date)	Subject
Gary Underdahl (August 23, 2005)	Consultations, Probe hole eastern swale.
Don Hillebrandt Associates (August 16, 2005)	3rd Part Review: geotechnical engineering aspects of plans / specifications / calculations for soil nail walls.
Don Hillebrandt Associates (July 15, 2005)	3rd Part Review: geotechnical engineering aspects of planned development.
Gary Underdahl (July 11, 2005)	Consultation - reconnaissance mapping to show anticipated cut/fill contacts.
Gary Underdahl (June 15, 2005)	Consultation regarding tied-back retaining wall design (provides soil parameters for wall design).
Gary Underdahl (May 26, 2005)	Consultation regarding revisions to foundation pier design.
Gary Underdahl (May 25, 2005)	Consultation regarding plan review prior to issuance of construction permits.
Gary Underdahl (March 17, 2005)	Consultation regarding revisions to recommendations for retaining walls in easement between Station 5 and 7 plan review.

observe pier hole drilling intermittently and on October 21, prior to first pour, they observed 44 previously drilled pier holes.

Questa

The Questa investigation consisted of a site reconnaissance, measuring the orientation of joints in the rhyolite bedrock (12 measurements), and evaluation of the effect of the joints orientation on stability of cut slopes. Although GU had recommended 2:1 gradients for cut slopes in the 2001 report, the engineering geologic review by Questa in 2002 was intended to provide further review of cut slope stability. No technical data was provided in their memo, but Questa concluded that the joint orientations measured were favorable (i.e. 2:1 gradients were expected to perform satisfactorily based on engineering geologic analysis of the data gathered).

PLAN OF CONTROL

Introduction

The Plan of Control was prepared by Engeo, Inc. It defines "geologic hazard" for the GHAD as an actual or threatened landslide, land subsidence, soil erosion, earthquake, fault movement, or any other natural or unnatural movement of land or earth. The earthwork is characterized as follows: building pads and streets developed with cuts of up to about 30 feet, and placement of engineered fill up to approximately 15 feet thick from the original grade. To establish building pads, a number of retaining walls are planned for the site. The Plan of Control states any private open space within the District can be considered an amenity that benefits all of the property owners within the development. Consequently, funding of the maintenance of the open space should be shared by all current and future property owners within the GHAD's boundaries. Oversight of the actual physical maintenance responsibility for any parcels of open space will pass to the GHAD.

The Plan of Control indicates the scope of the GHAD's responsibilities include maintenance of facilities that enhance geologic and hydrogeologic stability such as drainage facilities and associated improvements. Tasks may include the monitoring and maintenance of drainage facilities which, if subject to improper care, could result in decreased slopes stability, the prime concern of the GHAD. As currently planned, the drainage facilities to be maintained by the GHAD include Best Management Practice (BMP) water quality treatment facilities, concrete-lined drainage ditches, and open space storm drain facilities.

The GHAD is also expected to perform maintenance of water control and conveyance facilities (e.g. subdrainage facilities) and may assume other peripherally-related. For example in projects with private open space, GHAD responsibilities, can include erosion control, mowing, trail maintenance. Because of it maintenance responsibilities, GHAD have the right to approve any construction maintenance or repair in the private open space within the District which the GHAD determines has the potential to impact geologic stability.

Background

In addition to the lands within the Siena Hill development, the GHAD Plan of Control indicates it would have maintenance responsibility of two facilities that extend outside of the project. Specifically, a

retaining wall has been constructed in the Keller Avenue right-of-way, along the west boundary of the project; and retaining walls and associated drainage facilities are being constructed with a road easement that extends from the north boundary of the project to Greenridge Drive.

Geologic Hazards

The primary geologic hazards within the GHAD are a) slope instability, and b) seismically induced ground shaking. The GHAD is also concerned with c) erosion and sedimentation. In characterization of geologic hazards, the Plan of Control notes the following:

- It is anticipated by the GHAD that field-verified geologic field mapping will be prepared during mass grading operations. The detailed maps showing bedrock structure, springs and seeps, along with landslide limits and repairs should be provided to the GHAD. Cuts slopes should be inspected by the project geologist during grading to provide mitigation schemes for unsuspected slope conditions which could decrease the slope stability.

- A licensed land surveyor is anticipated to record the location and elevation of subdrains and outlets. Each landslide subexcavation then would be reconstructed to final grade by keying and benching below the landslide plane with compacted, drained, engineered fill.

- Seismic slope stability analysis has presumably been incorporated in the corrective grading plans. It should also be recognized that seismically-generated slope failures could occur in open space areas outside of the development limits.

GHAD Responsibility and Acceptance

Chapter V of the Plan of Control provides what is rather standard language which clarifies the responsibility of the GHAD and responsibilities of owners of residential lots within the Siena Hill GHAD. Chapter VI provides details on activation of assessment, and the process of the transfer of responsibility form the developer to the GHAD. The intent of this provision is to provide a warrantee period for project improvements. The details of this process are clearly stated on pages 13-14 of the Plan of Control, and to have an inspection by the GHAD prior to acceptable to ensure that the facilities to be maintained by the GHAD meet standards, and are operational / in good working order.

Plan of Control

Chapter VII outlines maintenance responsibilities of the GHAD, which include a) inspection and maintenance of lined ditches; b) monitoring and maintenance of measurement devices, such as piezometers, inclinometers, and tiltmeters, if any; c) inspection and maintenance of retaining walls; d) maintenance of designated trails or fences, if any; and inspection and maintenance of surface water quality treatment and detention facilities within the development, if any.

The techniques which may be employed by the GHAD to prevent, mitigate, abate, or control geologic hazards include, but are not limited to, the following: a) removal of the unstable earth mass; b) stabilization (either partial or total) of the landslide by removal and replacement with compacted, drained fill; c) construction of structures to retain or divert landslide material or sediment, d) construction of erosion control devices such as gabions, riprap, geotextiles, or lined ditches; e) placement of drained engineered buttress fill; f) placement of subsurface drainage devices (e.g. underdrains, or horizontal

drilled drains); g) slope correction (e.g. gradient change, biotechnical stabilization, slope trimming or contouring); and h) construction of additional surface ditches and/or detention basins, silt fences, sediment traps, backfill or erosion channels.

GHAD Expenditures

The Plan of Control addresses the scenario when available funds are not sufficient to undertake all identified remedial and preventative stabilization measures. In that case, the expenditures are to be prioritized as follows in descending order or priority:

A. Prevention, mitigation, abatement or control of geologic hazards that have either damaged or pose a significant threat of damage to residences, critical underground utilities or paved streets.

B. Prevention, mitigation, abatement or control of geologic hazards which have either damaged or pose a significant threat of damage to ancillary structures, including but not limited to water quality facilities, pool cabanas or restroom buildings.

C. Prevention, mitigation, abatement or control of geologic hazards which have either damaged or pose a significant threat of damage to open space amenities.

D. Prevention, mitigation, abatement or control of geologic hazards which have either damaged or pose a significant threat of damage limited to loss of landscaping or other similar non-essential amenities.

E. Prevention, mitigation, abatement or control of geologic hazards existing entirely on open-space property and which have neither damaged nor pose a significant threat of damage to any site improvements.

In performing its duties as described above, the GHAD may seek reimbursements from public and private entities including, but not limited to, FEMA, City and County agencies, insurance companies, etc.

Maintenance and Monitoring

Geologic features and GHAD-maintained facilities should be inspected by GHAD staff or GHAD-assigned consultants as presented below. The inspections are to be undertaken at intervals as determined by the GHAD manager using supporting documents prepared for the site and its improvements. The GHAD budget is to provide for four or more inspections in years of heavy rainfall. Generally, the inspections are to take place in October, prior to the first significant rainfall; mid-winter as necessary during heavy rainfall years; and in early April at the end of the rainy season. The frequency of the inspections should increase depending upon the intensity and recurrence of rainfall. Site inspections should increase sufficiently to provide for mitigation of potential hazards.

The GHAD shall obtain copies of geologic or geotechnical exploration reports related to site development and keep these reports on file in the records of the GHAD. In addition, copies of any earthwork related testing and observation reports that will be finalized at the completion of grading, when as-built drawings are available, shall be maintained as part of the GHAD records. Guidelines are included in the Plan of Control which for the actual timing, scope, frequency and other details regarding

such maintenance, inspection and similar activities shall be at the discretion of the GHAD manager.

DMA EVALUATION

Geotechnical Report

The GU report does not include an original geologic map of the site. That map would have shown the distribution of fill and colluvium on the site, mapped bedrock cut slopes along the Keller Avenue frontage, and provided data on any other features that were observed (e.g. rock outcrops, dominant parting, mass wasting features, groundwater seepage). This is particularly significant in the case of the Siena Hill project because the exploration phase of the investigation was unusually abbreviated for a project that had a photointerpretative landslide mapped in the northern portion of the site (Nilsen, 1975), was within an official Seismic Hazard Zone, and which had an aggressive approach to a grading and development of a steep hillside property.

The report presents conclusions regarding potential geologic hazards, but documentation of the field and laboratory data and methodology used to reach the conclusions is either not presented or is fragmentary. In this case the primary issue is the stability of the site and improvements under conditions of strong earthquake shaking. The 2001 GU report states the following:

> *The risks of earthquake induced landsliding and lurch cracking are essentially non-existent on the site, because of the hard rock at shallow depths (GU 2001 report, page4).*

The GHAD relies on technical data and engineering analysis upon which to base future assessments of property owners in the district. To the degree that information provided by a developer is incomplete, the GHAD assessment must error on the side of safety, to ensure that the financial resources of the District are adequate to perform its duties. Additionally, the documentation provided by the base geotechnical report is significant to the GHAD. It is a critical part of the database on site conditions which will be relied upon in future years, when evaluating performance of structures and engineered slopes within the District.

Geotechnical Review of Grading, Drainage and Foundation Plans

The geotechnical report provides recommendations for retaining walls, drainage facilities and other project details. The recommendations were provided 3½ years prior to approval of the project by the City of Oakland. During that time the design details evolved. The grading and improvement plans require review by the geotechnical engineer to determine consistency with the intent of those recommendations, and to provide supplemental recommendations, if warranted, to accommodate the approved project. Before it accepts improvements, the GHAD must be provided with foundation plans for retaining walls and residences, drainage plans and other geotechnical-related aspects of the project, along with documentation that the geotechnical engineer viewed exposed conditions and where final conditions required special design measures, those areas of the site and nature of the as-built conditions are fully documented; and that the construction was consistent with the intent of the geotechnical recommendations.

Finally, the 2001 report provides recommendations for keyway design, but the location of the keyways is unknown. Furthermore, specifications for placement of fill, including size gradation, compaction standards, and utility trench backfilling, along with observation and testing services is missing. That

documentation must be provided to the GHAD prior to accepting maintenance responsibility.

Observation and Testing Services

Observation and testing services are critically important to ensure quality construction. For example, in retaining wall construction on the site, the geotechnical engineer's role is to ensure the pier holes are of adequate depth; that the material penetrated during drilling was the hard, dense, relatively fresh rock anticipated; that the bottom of the hole was relatively free of loose rock; that there was no groundwater or rainwater in the pier hole; that the steel and concrete were properly installed, that the pier connection to the mesh is appropriate; that drainage facilities behind the wall were properly installed, etc.

The Plan of Control is predicated on the assumption that improvements are properly installed and documentation of observation and testing services of the project geotechnical engineer are provided to the GHAD for future use as a part of the database for the District. Table 2 outlines this critical data.

Table 2
Technical Data to be Provided to the Sienna Hills GHAD by Project Proponent Before GHAD Accepts Maintenance Responsibility

- A copy of field-verified geologic field mapping prepared during grading operations. The detailed maps shall show bedrock structure, springs and seeps, along with delineation of any landslide deposits. Documentation of inspection of cut slopes, keyways and retaining wall excavations by the project geologist during grading to provide mitigation schemes for any adverse slope conditions encountered which could decrease the slope stability.
- Map prepared by a licensed land surveyor recording the location and elevation of subdrains and outlets (Landslide colluvium or fill subexcavation then would be reconstructed to final grade by keying and benching below the landslide plane with compacted, drained, engineered fill.
- Seismic slope stability analysis has presumably been incorporated in the corrective grading plans, but that documentation is needed for the GHAD files.

GHAD Plan of Control

The Plan of Control Document issued by Engeo is well written and provides a framework of establishment of the proposed GHAD. Grading and construction is underway, and it remains uncertain what additional documentation of as-graded / as-built conditions will be provided to the GHAD. We have attempted to outline the database needs of the district.

It should also be recognized that formation of a GHAD is not a substitute for a comprehensive engineering geologic and geotechnical study. With quality construction and conservative design, the costs to operate the district can be kept to a practical minimum. However, the District can not assume that the project was designed and constructed in accordance with the approved geotechnical report without adequate documentation. For these reasons the Plan of Control has purposely been kept quite general. As mentioned previously, the existing data provided by the applicant sponsored reports is fragmentary, and the GHAD may need to extend the warrantee period before it accepts the improvements. The GHAD must also be careful to not underestimate its operations costs.

It is anticipated that the Siena Hill GHAD will have a strong emphasis on preventive maintenance and monitoring. The annual budget for the District will include four major components a) preventive maintenance and operations programs, b) major repairs, c) administration, and d) special projects. Preventative Maintenance and Operation Programs typically totals between 25 to 40 percent of the GHAD's annual expenditures. They include inspections, debris cleanup, minor repairs, subdrain and piezometer monitoring, settlement and distress monitoring. Major repairs portion of the GHAD budget involves establishing reserves to fund future major repairs. The Special Projects budget includes funding

for projects that respond to concerns of the Board of Directors, GHAD Manager or homeowners (e.g. updates to Plan of Control, reserve study, development of administrative or operations manuals, public information program, placing monitoring records in a GIS database). The Administration component of the GHAD budget provides funding work of the General Manager and related support staff. Ideally these costs are only 10-20 percent of the GHAD budget, but will be higher due to the small size of this District. They include cost of preparing reports to the Board of Directors, bookkeeping/accounting, responding to homeowner issues, and contracting for technical studies or for maintenance-related repairs.

LIMITATIONS AND ADDITIONAL SERVICES

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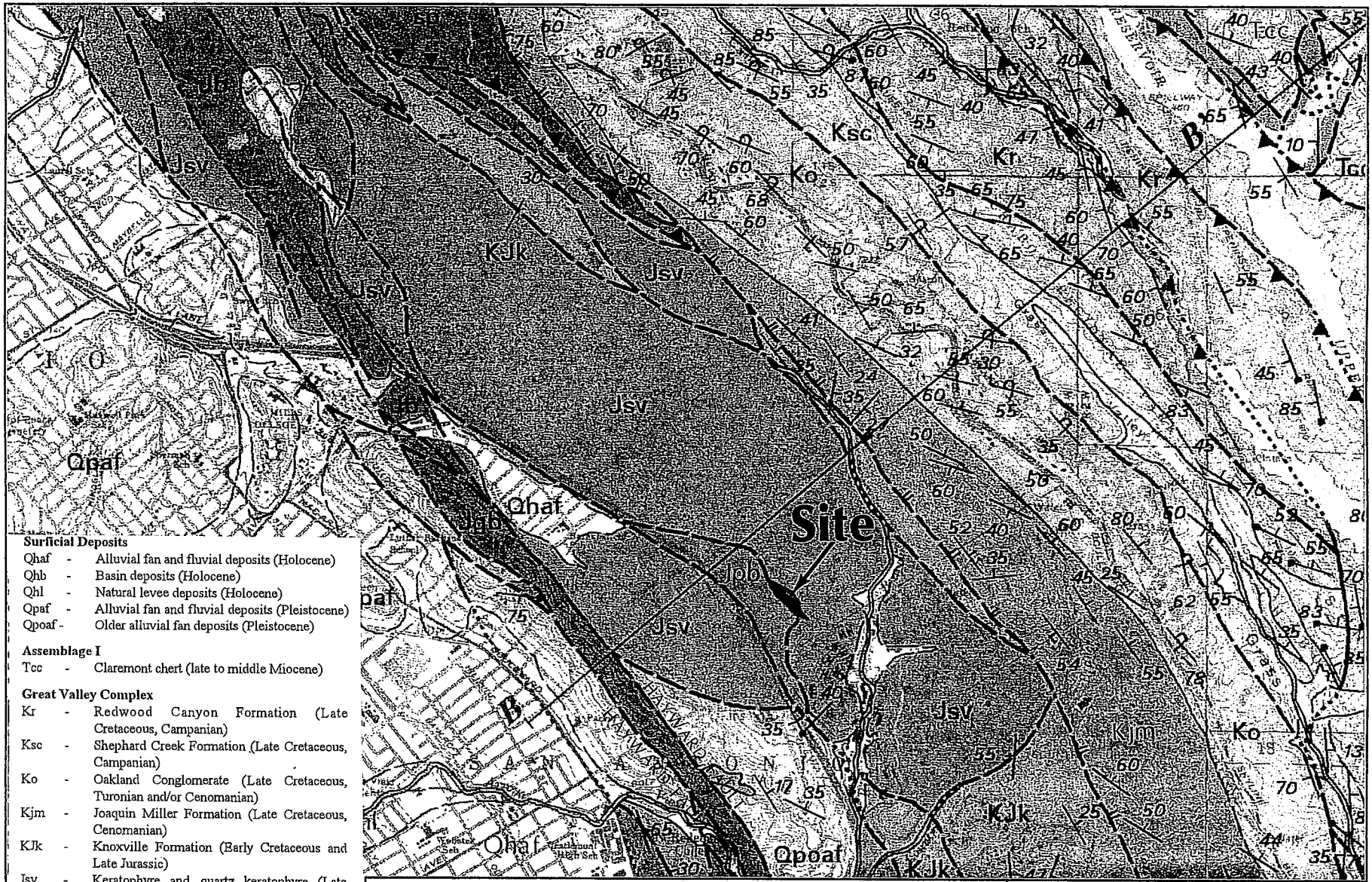


Surficial Deposits

Qhaf	-	Alluvial fan and fluvial deposits (Holocene)
Qhb	-	Basin deposits (Holocene)
Qhl	-	Natural levee deposits (Holocene)
Qpaf	-	Alluvial fan and fluvial deposits (Pleistocene)
Qpoaf	-	Older alluvial fan deposits (Pleistocene)

Assemblage I

Tcc	-	Claremont chert (late to middle Miocene)

Great Valley Complex

Kr	-	Redwood Canyon Formation (Late Cretaceous, Campanian)
Ksc	-	Shephard Creek Formation (Late Cretaceous, Campanian)
Ko	-	Oakland Conglomerate (Late Cretaceous, Turonian and/or Cenomanian)
Kjm	-	Joaquin Miller Formation (Late Cretaceous, Cenomanian)
KJk	-	Knoxville Formation (Early Cretaceous and Late Jurassic)
Jsv	-	Keratophyre and quartz keratophyre (Late Jurassic)

Coast Range Ophiolite (Jurassic)

Jpb	-	Pillow basalt, basalt breccia, and minor diabase
Jb	-	Massive basalt and diabase
Jgb	-	Gabbro
sp	-	Serpentinite

Figure 1

USGS Geologic Map
Oakland Metropolitan Area

Source: Graymer (2000)

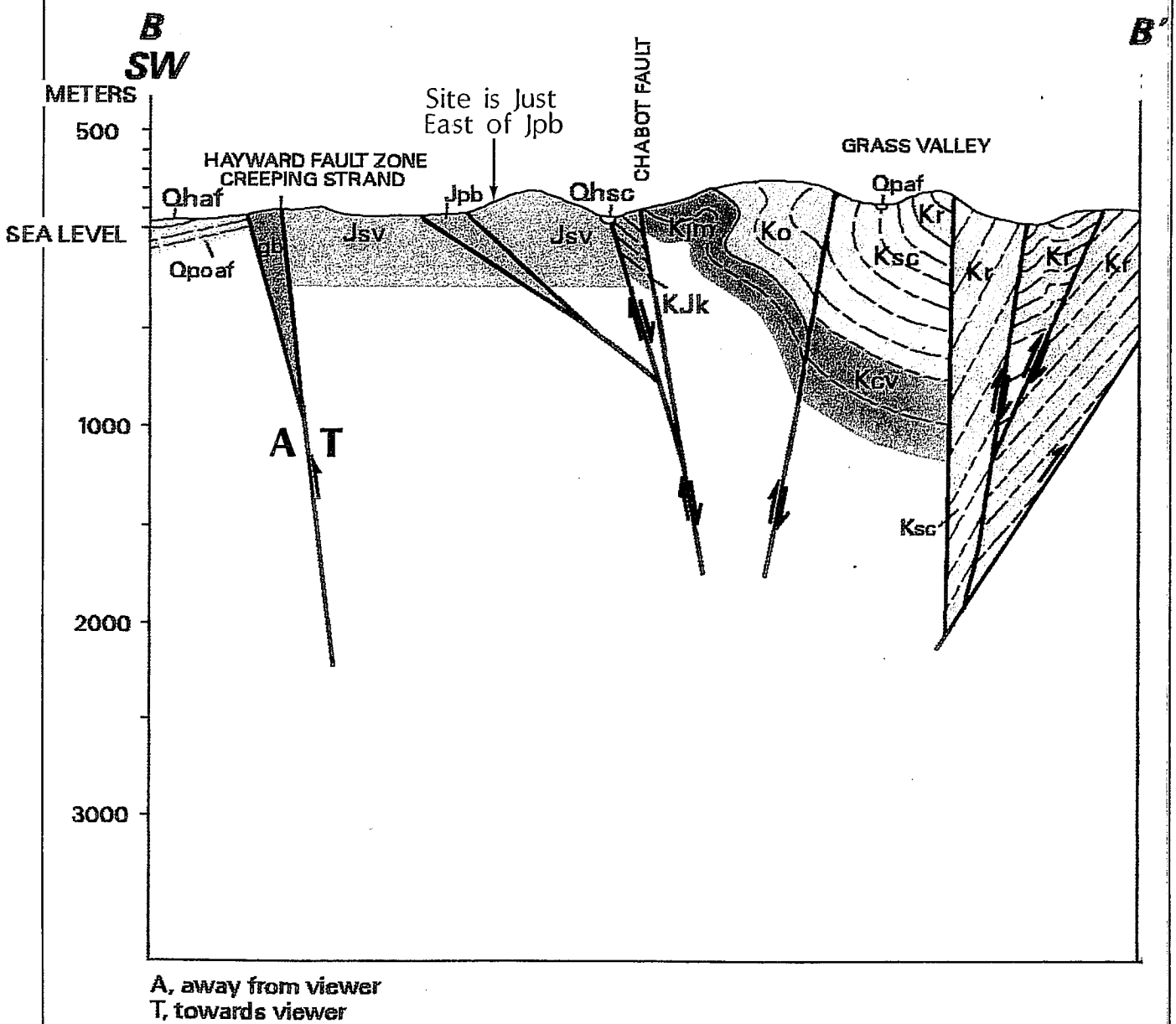


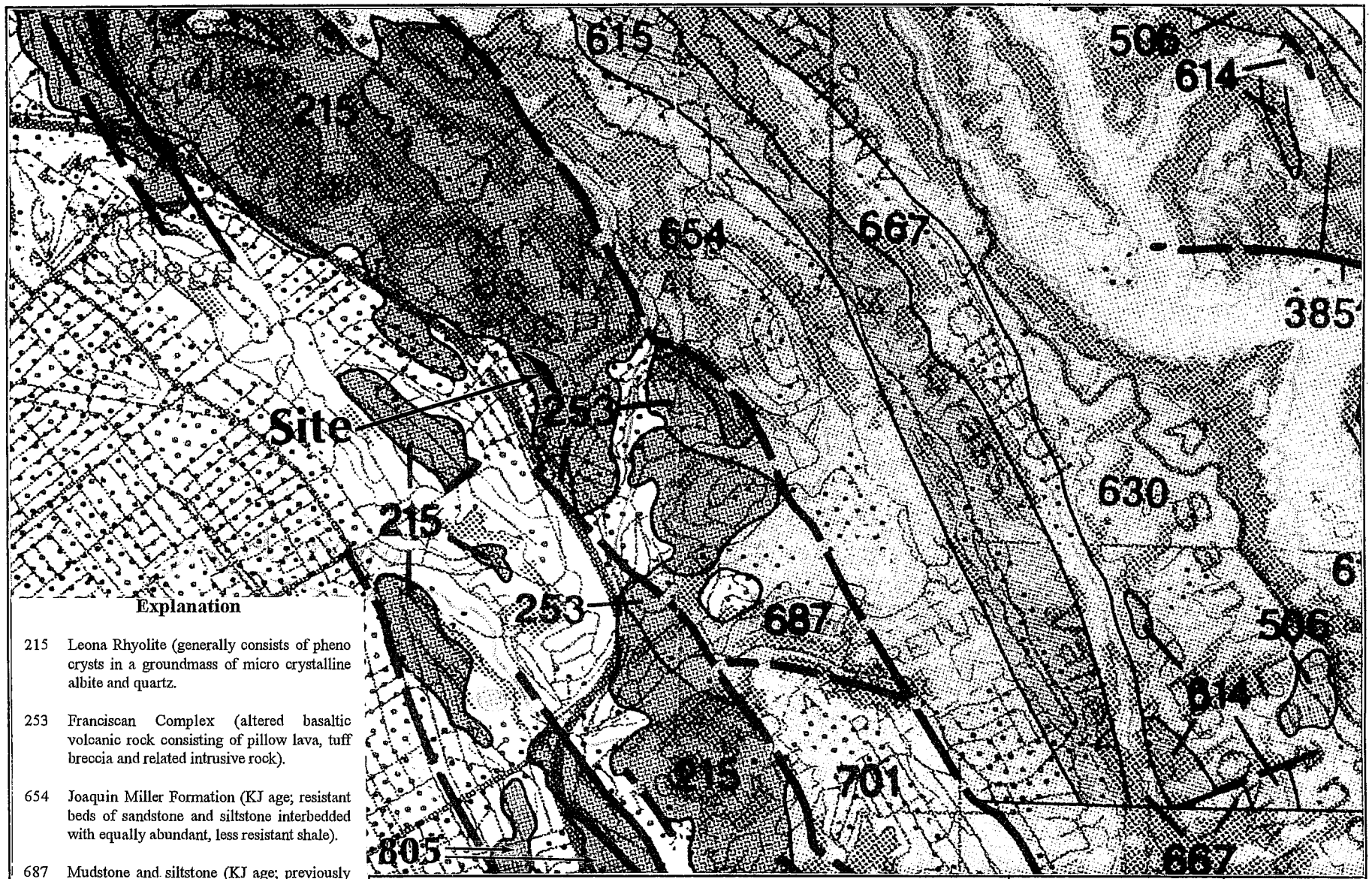
Figure 2

Geologic Cross-Section B-B'

Graphic Scale:

0 0.5 mi.

see Figure 1 for Line-of-Section



Explanation

215 Leona Rhyolite (generally consists of pheno crysts in a groundmass of micro crystalline albite and quartz.

253 Franciscan Complex (altered basaltic volcanic rock consisting of pillow lava, tuff breccia and related intrusive rock).

654 Joaquin Miller Formation (KJ age; resistant beds of sandstone and siltstone interbedded with equally abundant, less resistant shale).

687 Mudstone and siltstone (KJ age; previously mapped as Knoxville Formation on some maps).

805 Sheared serpentinite (most is severely sheared but contains variable abundant hard blocks of serpentine, ultamafic and other rock types).

Figure 3

Hillside Materials Geologic Map

Source: Ellen & Wentworth (1995)

Graphic Scale:

0 0.5 mi.

EXPLANATION

Note: see U.S. Geological Survey Misc. Field Studies Map MF-493, (Preliminary photointerpretation map of landslide and other surficial deposits of the Concord 15 minute quadrangle and the Oakland West, Richmond and part of the San Quentin 7½ minute quadrangles, Contra Costa and Alameda Counties, California, by Tor H. Nilsen 1973) for a more detailed explanation of map symbols.

Landslide deposit

Arrows indicate general direction of downslope movement, Queried where identification uncertain.

Qal

Alluvial deposit

Qme

Merritt sand

Beach or nearshore deposit

Colluvial deposit and/or small alluvial fan deposit

Qaf

Artificial fill

Bedrock

Queried where uncertain

Quarry or gravel pit

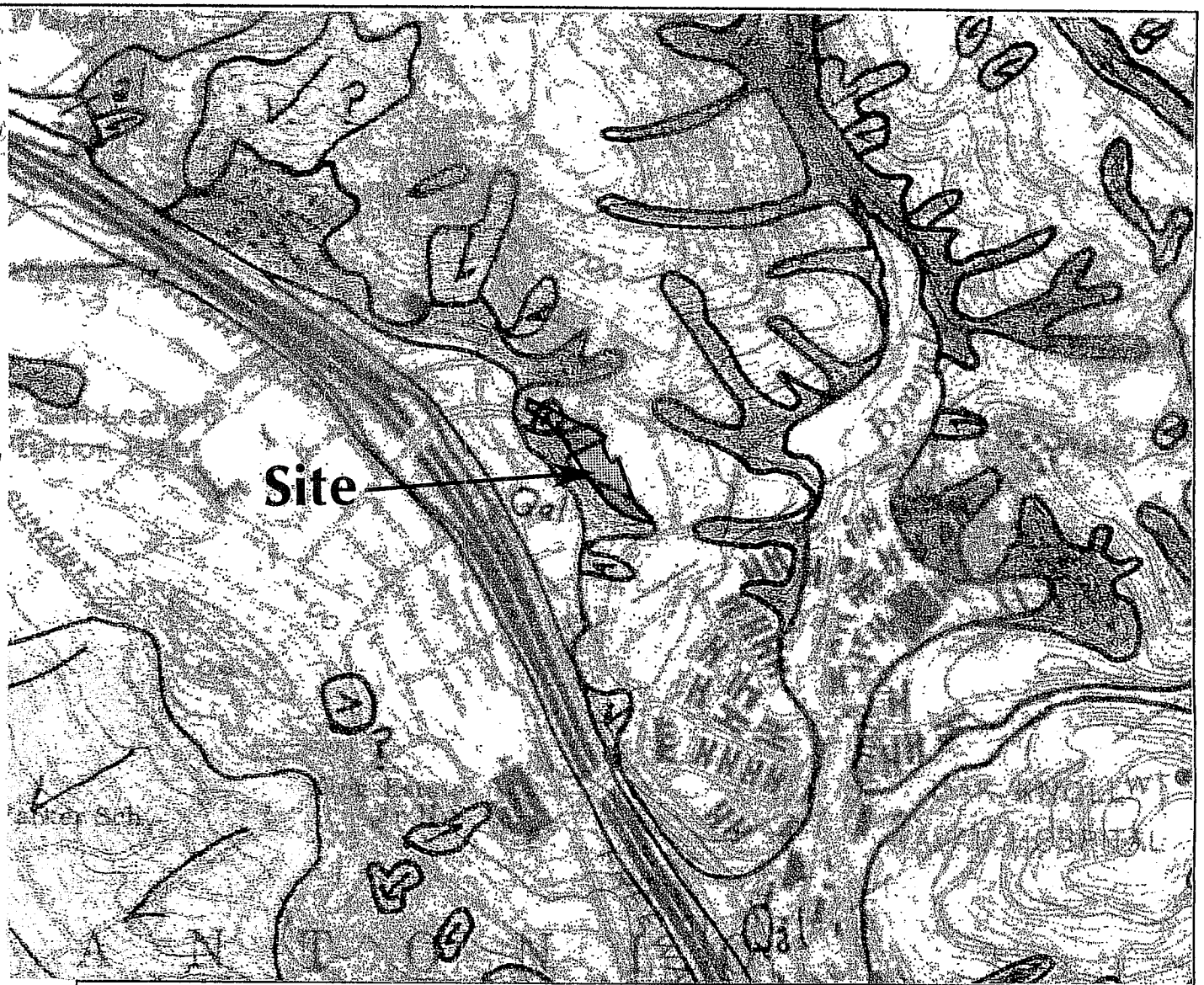


Figure 5

Nilsen Landslide Map

Graphic Scale:

0 1000'

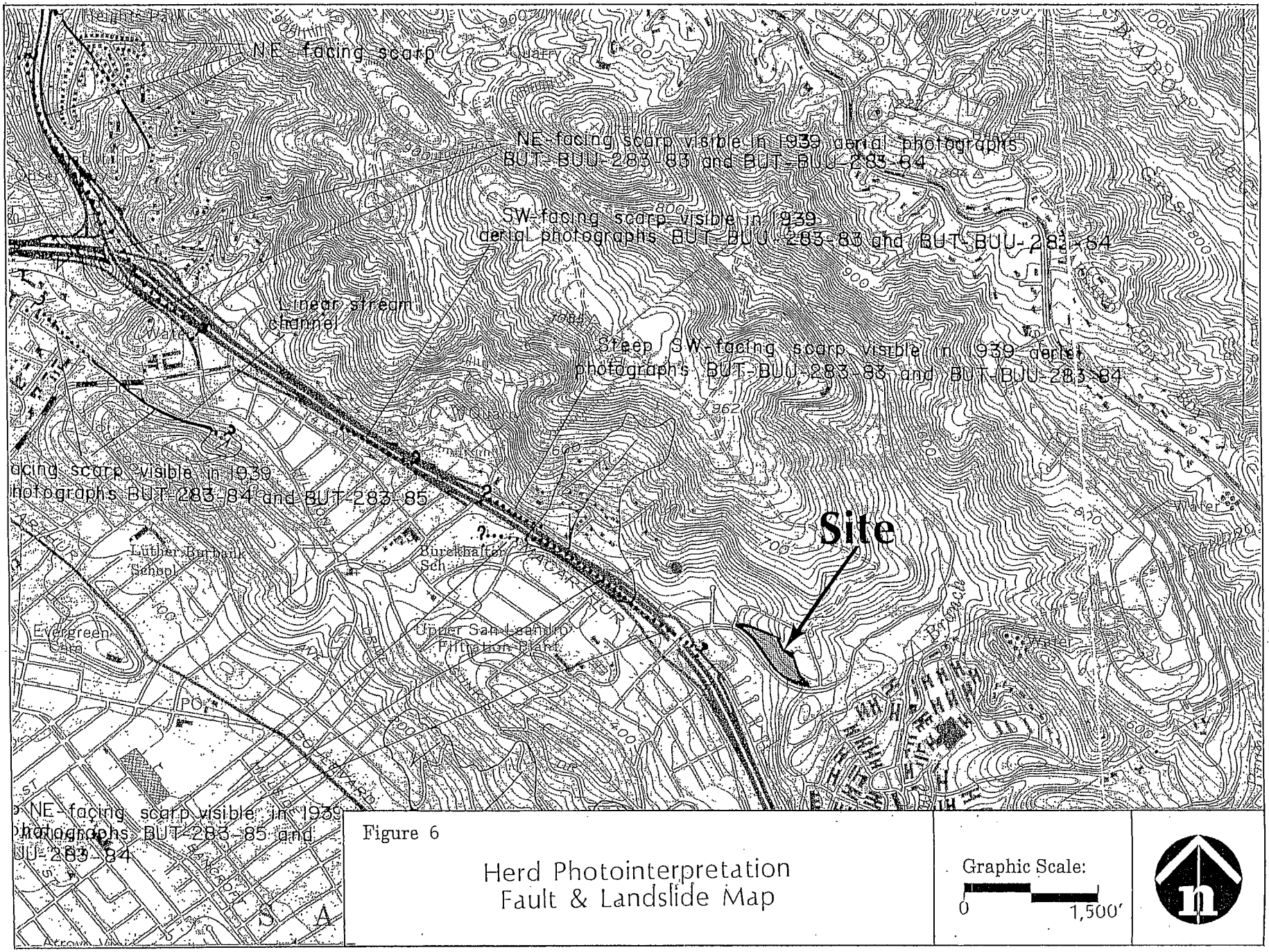


Figure 6

Herd Photointerpretation
Fault & Landslide Map

MAP EXPLANATION

Zones of Required Investigation:

Liquefaction

Areas where historical occurrence of liquefaction, or local geological, geotechnical and ground–water 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.

NOTE: Seismic Hazard Zones identified on this map may include developed land where delineated hazards have already been mitigated to city or county standards. Check with your local building/planning department for information regarding the location of such mitigated areas.

DATA AND METHODOLOGY USED TO DEVELOP THIS MAP ARE PRESENTED IN THE FOLLOWING:

Seismic Hazard Zone Report of the Oakland East and part of the Las Trampas Ridge 7.5–Minute Quadrangles, Alameda County California: California Geological Survey, Seismic Hazards Zone Report 080.

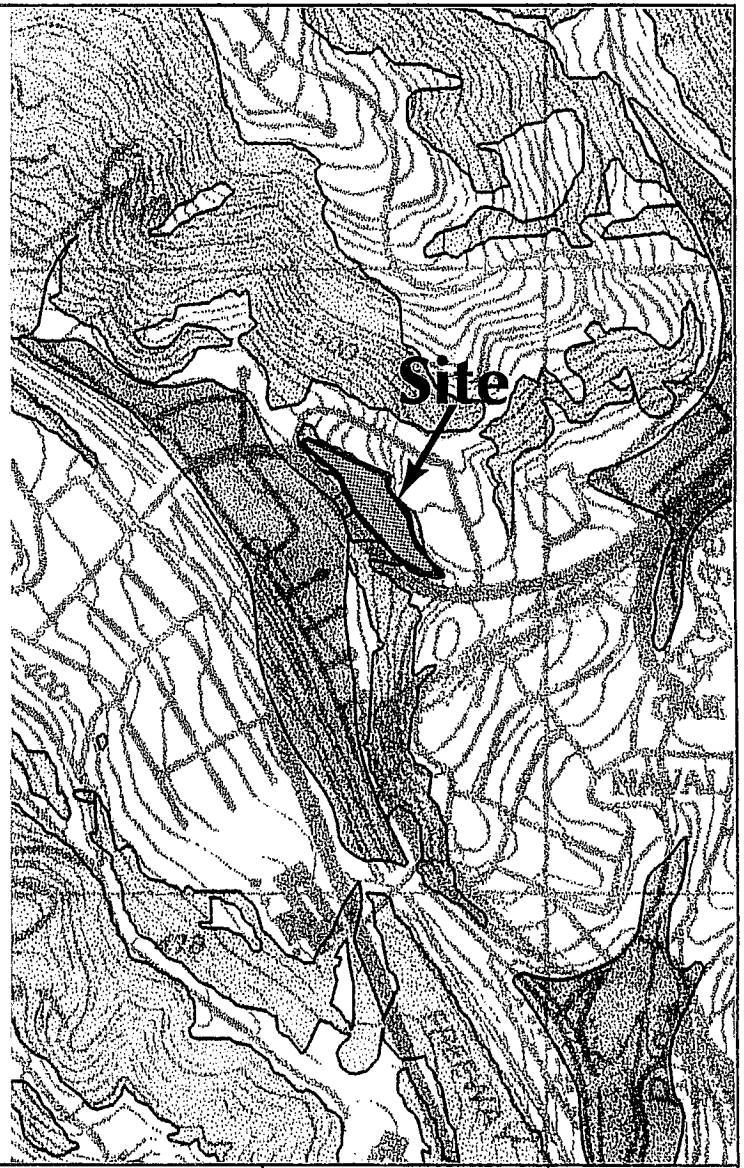


Figure 4

Seismic Hazard Map

Graphic Scale:

0 1,000′

CITY OF OAKLAND

DALZIEL BUILDING • 250 FRANK H. OGAWA PLAZA, SUITE 3315 • OAKLAND, CALIFORNIA 94612-2032

Department of Planning, Building and Neighborhood Preservation
Planning & Zoning Services Division

(510) 238-3941
FAX (510) 238-6538
TDD (510) 238-3254

June 30, 2014

Shevette Swayze Venters
Siena Hill HOA President
84 Siena Drive
Oakland, CA 94605

RE: Case No. PUD02-217 and TTM7396; Siena Hill Project and Landslide

Dear Ms. Swayze-Venters:

The purpose of this letter is to respond to your email dated March 16, 2014 questioning the existence of a landslide at the north-western edge of the property. This issue was discussed in the City's letter to Mr. David Eckert, dated February 28, 2013 (Attachment A), and the City's staff report, dated May 23, 2006, initiating formation of the Oakland Area Geologic Hazard Abatement District with the inclusion of the Siena Hill property (Attachment B). As described in more detail below, evidence of a landslide or lack of landslide at the north-western edge of the Siena Hill property is inconclusive.

The City's reference to a landslide at the north-western edge of the property in the February 28, 2013 letter and May 23, 2006 staff report was based upon several documents, including:

- Gary Underdahl's Geotechnical Investigation, dated September 10, 2001, discusses the 1975 Nilsen Map and states, "[t]he mapping identifies colluvium and numerous landslides on the adjacent hillsides and swales." (Geotechnical Investigation, p. 3.) The Nilsen Landslide Map attached to the Geotechnical Investigation as Figure 12 noted a small landslide area northwest of the project site.
- Darwin Myers Associates' Plan of Control Peer Review ("Peer Review") for the Proposed Oakland Area GHAD, dated May 3, 2006, which describes the 1975 Nilsen Map and states, "Additionally a relatively small slide area (1/3 acre ±) is mapped near the north boundary of the site." (Peer Review, p. 6.) An enlargement of the Nilsen Landslide Map was attached to the report.

On April 3, 2014, City Planning staff contacted Darwin Myers and spoke with City Engineering Services staff, and learned that the Nilsen Maps published in 1975 by the U.S. Geological Survey were based solely on photo-interpretations at a scale of 1"=2,000'. Although at this scale it may be difficult to accurately identify landslide deposits, the Nilsen Maps should be used to conduct further investigation and testing of soils on the site. While Gary Underdahl conducted numerous geotechnical investigations of the site during grading, filling, and sub-drainage and installation of the tie-back piers and prepared his final grading report dated July 26, 2006 (Attachment C), as noted in the Peer Review, none of Underdahl's investigations or reports evaluated either the slide area mapped by Nilsen in the northern part of the property or the colluvium in the southern portion of the property. Furthermore, none of the reports directly confirmed or refuted the presence of a landslide. The Myers Report states that the omission of this information is "particularly significant in the case of the Siena Hill project because the exploration phase of the investigation was unusually abbreviated for a project that had a photo-interpretative landslide mapped on the northern edge of the site and was within an official Seismic Hazard Zone, and had an aggressive approach to grading and development on a steep hillside property."

Based on the information submitted to date and the Nilsen Map limitations, evidence of a landslide at the north-western edge of the Siena Hill property is inconclusive. If you have any reports by a geotechnical engineer documenting the presence or nonexistence of a landslide, please share it with us.

Please note that nothing in this letter either (1) releases the applicant from any of its obligations to comply with all the Conditions of Approval and other legal requirements associated with the project approvals for this project, or (2) affects the City's previous findings supporting formation of the Oakland Area GHAD and inclusion of the Siena Hill project in the GHAD, due to the presence of geologic hazards, unique engineering design and the project site's location in an Earthquake-Induced Landslide Area per the California Geological Survey's Seismic Hazard Zones Map. If you have further questions regarding this matter, please do not hesitate to contact case planner Heather Klein by email at hklein@oaklandnet.com or by telephone at (510) 238-3659.

Sincerely,

Darin Ranelletti
Deputy Director
Bureau of Planning

Attachment A: Letter to David Eckert, dated February 28, 2013
Attachment B: Staff Report initiating formation of the Oakland Area Geologic Hazard Abatement District, May 23, 2006
Attachment C: Gary Underdahl, Final Grading Report, dated July 26, 2006

cc: Case File
Celena Chen, City Attorney
Scott Miller, Zoning Administrator
Patricia Curtain, GHAD Attorney

Keven Kwok
Oakland Siena LLC
28 Bates Boulevard
Orinda, CA 94563

David Eckert
Coldwell Banker
6137 La Salle Avenue
Oakland, CA 94611

Klein, Heather

From: Anagha Dandekar Clifford <adclifford@wendel.com>
Sent: Friday, March 14, 2014 10:13 AM
To: shevette_swayze@hotmail.com; ssimril@aol.com; eastbayhills@gmail.com
Cc: Klein, Heather; Miller, Scott; Chen, Celena; Patricia E. Curtin; eharrell@engeo.com
Subject: Summary of Meeting re Siena Hill
Attachments: Oakland Area GHAD Transfer Application-Draft_2-13-2014.pdf

Summary of Meeting re Siena Hill:

As discussed during our meeting on 3/10, below is a brief summary of the options discussed for the current property owners and developer of Siena Hill, in proceeding with the GHAD. I note for context that the following are not presented as a complete list of options, just those initially discussed during the meeting. Also, as GHAD counsel we are not providing legal advice or prioritizing any option, rather providing these as a point of reference for your information and use.

* The GHAD may be requested, through application, to amend the Plan of Control to accept monitoring and maintenance responsibility for the ten parcels currently being levied the annual GHAD assessment. If approved by the GHAD Board of Directors, this would permit GHAD staff to accept responsibility of those areas and provide GHAD services. A draft application is attached to this email.

* The GHAD may be requested, through application, to recommend a temporary reduction in the annual levied amount of the assessment. This would require a review of the entirety of services and findings, justifying the temporary reduction in assessment. This may require the HOA to take responsibility of certain GHAD services. This request would require approval by the GHAD Board of Directors.

* The GHAD may be requested, through application, to permanently reduce the assessment limit. This would require a more comprehensive review of required services through an engineer's report and then findings therein justifying the scope of services and reduction in assessment limit. This request would require approval by the GHAD Board of Directors.

Also, as we discussed, the project can be removed from the GHAD. This would require an amendment to the PDP and approval by the Planning Commission. Separately, the GHAD would follow the dissolution process for removal as articulated in Public Resources Code section 26567 (distributed at the meeting on 3/10), as there is no process articulated for removal of a project. This process would require approval by the GHAD board (comprised of all members of the Oakland City Council) and approval by the Oakland City Council, for the City to assume the remaining responsibilities and obligations of the GHAD.

For the above noted options, the applicant would be engaging GHAD staff (not City staff) and would therefore be responsible to pay the related fees for their work and time processing the request for GHAD Board approval. The Planning fee to amend the Condition of Approval does not cover of the cost of GHAD staff to prepare for any necessary action by the GHAD Board.

As we mentioned, we are here to assist and answer any questions. Please feel free to contact us if you wish to proceed with an application for any of the above so we can provide you with any additional documents or details.

Thank you and have a nice weekend.

ATTACHMENT K

Anagha Dandekar Clifford
Wendel Rosen Black & Dean
1111 Broadway, 24th Floor
Oakland, CA 94607
Tel: 510.622.7551
Fax: 510.808.4721
www.wendel.com

Please consider the environment before printing this e-mail.

TRANSFER APPLICATION
OAKLAND AREA
GEOLOGIC HAZARD ABATEMENT DISTRICT (GHAD)

Oakland Area Geologic Hazard Abatement District Board of Directors
c/o Oakland Area GHAD Manager
ENGEO Incorporated
2010 Crow Canyon Place, Suite 250
San Ramon, CA 94583

As of _____, 2014, _____is submitting an application for transfer of GHAD activities as provided in Section VI, of the adopted Oakland Area GHAD Plan of Control dated May 6, 2006 and revised August 31, 2006. As specified in Section VI, _____ is submitting this Transfer Application to initiate transfer of the responsibility for performing GHAD activities for the listed parcels to the GHAD. Within 30 days of the submittal of the Transmittal Application, the GHAD will monitor the listed parcels and verify that the facilities that the GHAD will have maintenance responsibility have been constructed and maintained in accordance with the conditions within Section VI. Within 15 days of inspection, the GHAD will send _____ a punch list of all items that need to be constructed, repaired or otherwise modified in compliance with the City of Oakland approved plans and specifications. In addition, the GHAD verify that the items are operational and in good working order. _____ will notify the GHAD upon completion of any punch list items. Within 30 days of receipt of such notice, the GHAD shall verify that all punch list items have been completed and notify _____ that the GHAD accepts responsibility for performing all future GHAD activities on the parcel(s).

We submit the following parcels for the transfer of GHAD activities as provided in the Plan of Control for the Oakland Area GHAD:

Each party is to submit a copy of this application to the other party upon completion of the steps listed below.

GHAD receipt of Transfer Application: Initial of GHAD representative: _____ Date: _____

_____ receipt of punch list from GHAD: Initial of _____ representative: _____ Date: _____

GHAD receipt of notice of completion of punch list items: Initial of GHAD representative: _____ Date: _____

_____ receipt of punch list verification and GHAD acceptance: Initial of _____ representative: _____ Date: _____

Klein, Heather

From: Merkamp, Robert
Sent: Thursday, March 05, 2015 4:13 PM
To: David Eckert; 'Keven Kwok'; 'Patrick Kwok'; 'trevel adanandus'; 'Mark Schoneman'; 'Sonya Simril'; 'Minnie Lin'; 'Tracy Preston'; jesslai6@yahoo.com; 'Golden Venters'; blisssaan2@gmail.com; qstorm59@aol.com; 'Rachael Lozano'; georgemak@yahoo.com; 'David Eckert'; ed@hillsidehomesgroup.com; 'Shevette Swayze-Venters'; Klein, Heather; Chen, Celena
Subject: RE: GHAD fees

Hi Dave,

After having conferred with our attorneys, we will schedule this for the next available hearing. I will point out that March 18th is not available, nor is April 1st due to the amount of work on that calendar already. I will direct you to work with Heather Klein to identify a date.

Please bear in mind that we will not be recommending approval to the Commission and that regardless this will go to the GHAD board. While it is my understanding that the GHAD staff won't participate in the PC hearing, they will provide a letter on their views. While we still believe that having their full participation in the drafting of the report and attending the hearing would provide the Planning Commission with a fuller view of the matter, this letter should be sufficient for a Planning Commission review, as the action they're taking is merely a recommendation.

Respectfully,

Robert D. Merkamp, Development Planning Manager | City of Oakland | Bureau of Planning | 250 Frank H. Ogawa, Suite 2214 | Oakland, CA 94612 | Phone: (510)238-6283 | Fax: (510) 238-4730 | Email: rmerkamp@oaklandnet.com | Website: www.oaklandnet.com/planning

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From: David Eckert [mailto:eastbayhills@gmail.com]
Sent: Thursday, February 26, 2015 1:49 PM
To: Merkamp, Robert; 'Keven Kwok'; 'Patrick Kwok'; 'trevel adanandus'; 'Mark Schoneman'; 'Sonya Simril'; 'Minnie Lin'; 'Tracy Preston'; jesslai6@yahoo.com; 'Golden Venters'; blisssaan2@gmail.com; qstorm59@aol.com; 'Rachael Lozano'; georgemak@yahoo.com; 'David Eckert'; ed@hillsidehomesgroup.com; 'Shevette Swayze-Venters'; Klein, Heather; Chen, Celena
Subject: RE: GHAD fees

Great! Thanks.

David Eckert
Realtor
Coldwell Banker
510-339-4720
david@eastbayhills.com
www.eastbayhills.com
Follow me on Facebook
license #r01239021

ATTACHMENT L

From: Merkamp, Robert [mailto:RMerkamp@oaklandnet.com]
Sent: Thursday, February 26, 2015 1:22 PM
To: David Eckert; Keven Kwok; Patrick Kwok; trevel adanandus; Mark Schoneman; Sonya Simril; Minnie Lin; Tracy Preston; jesslai6@yahoo.com; Golden Venters; blisssaan2@gmail.com; qstorm59@aol.com; Rachael Lozano; georgemak@yahoo.com; David Eckert; ed@hillsidehomesgroup.com; Shevette Swayze-Venters; Klein, Heather; Chen, Celena
Subject: RE: GHAD fees

Hi Dave,

I'm sorry I didn't respond to your previous letter but I've been buried under other things. I am discussing this matter with my management and our attorneys as I would like to respond thoughtfully and I hope to respond to your points within the next few days.

Respectfully,

Robert D. Merkamp, Development Planning Manager | City of Oakland | Bureau of Planning | 250 Frank H. Ogawa, Suite 2214 | Oakland, CA 94612 | Phone: (510)238-6283 | Fax: (510) 238-4730 | Email: rmerkamp@oaklandnet.com | Website: www.oaklandnet.com/planning

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From: David Eckert [mailto:eastbayhills@gmail.com]
Sent: Thursday, February 26, 2015 9:58 AM
To: Merkamp, Robert; Keven Kwok; Patrick Kwok; trevel adanandus; Mark Schoneman; Sonya Simril; Minnie Lin; Tracy Preston; <jesslai6@yahoo.com>; Golden Venters; <blisssaan2@gmail.com>; <qstorm59@aol.com>; Rachael Lozano; <georgemak@yahoo.com>; David Eckert; <ed@hillsidehomesgroup.com>; Shevette Swayze-Venters; Klein, Heather; Chen, Celena
Subject: Re: GHAD fees

Hello Robert,

I sent you an email last week expressing my concerns and pressing for a date on the planner commission calendar. To date all GHAD fees are paid. You have not indicated anything to the contrary. We have paid our application fee almost 2 years ago. Please put out application on the city planning commission calendar within the next 30 days. Thank you for your cooperation.

Sent from my iPad
David Eckert
Coldwell Banker
510-333-2150
R01239021

On Feb 19, 2015, at 6:21 PM, David Eckert <eastbayhills@gmail.com> wrote:

> Hello Robert,
>
> I can't know what the GHAD attorney is telling you, but the notion that GHAD counsel will not be remunerated for any and all of their fees is truly farfetched. A lien on all of the properties was recorded in 2007. I have attached a copy of the lien to this email. GHAD counsel could easily perfect their lien at any time. I am told that GHAD counsel has billed the GHAD $95,000 plus dollars since 2009, and they have always been remunerated by the GHAD clerk, Richard Clark. To date, there are no outstanding invoices due to GHAD counsel. Furthermore, there are still tens of thousands of dollars due in additional design review and permit fees, and if legal fees are due at the time of plan check submittal those fees

could be paid at that time. Is GHAD counsel telling you that there are presently some fees due to them? We have received copies of accounting indicating that they have thus far been paid in full and very well, if I may add. I have attached an accounting of fees as of September of last year to attest to this.

This being the case, we see this latest action as a method to prevent us from effectively exercising our due process rights granted to us by the 5th and 14th amendments of the U.S. Constitution. You, Heather Klein, and Celena Chen all have a duty to the city of Oakland, and we respect those duties, but you also have a duty to us as applicants that obligate you to respect our rights granted to us by our constitution. The city attorney knows this, and the city of attorney has to weigh situations such as this one on a regular basis. I for one know where I would lean on such an issue. A few fees that eventually are guaranteed to be paid versus the constitutional rights of some citizens, this is the dilemma.

Some time ago, I offered a solution that would effectively solve all of our problems. My solution involved the abrogation of the rights of the property owners under GHAD law. The city council is concerned that the dissolution of the GHAD will result in the city being responsible for all of the private and public improvements at the site. A result such as this would be incredibly one sided and none of us want that. By allowing the property owners to abrogate their rights, this would effectively place the long term maintenance and responsibilities of both the private and public improvements at the Siena Hill subdivision in the hands of the property owners. I had the opportunity to pose this question to Patty Curtin at a recent HOA meeting, and she responded by saying that she did not know, if this would be possible. Please let us know if this is something that the city would at least consider. We would be happy to work with an attorney to draft such a proposal. Without a solution, this situation is rapidly moving towards litigation which is someplace that none of us, I believe, want to go. I think that all of us would prefer to solve this problem administratively.

Please process our application with the understanding that all of the GHAD fees have thus far been paid to date. You have the developers held hostage by virtue of having taxing authority to levy design review and permit fees. I don't know where this idea came from that somehow the GHAD attorneys may not be properly remunerated, but it is truly ludicrous. Thank you for your cooperation.

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From: Merkamp, Robert [mailto:RMerkamp@oaklandnet.com]
Sent: Thursday, February 19, 2015 4:09 PM
To: David Eckert
Cc: Chen, Celena; hklein@oaklandnet.com
Subject: RE: GHAD fees

David,

Thanks for your email. Let me try to better explain the City's position. We do indeed have your application with fees that pay for city staff time. However, your proposal needs review and comment by the GHAD staff who, as you know, are separate from the City. We need their input into the report (as well as their participation at any forthcoming Planning Commission hearing) because some of the arguments that you've made as to why the Commission should recommend that the council dissolve the GHAD are based on alleged action by the GHAD staff. Planning staff cannot respond to those statements as we were not involved and can make no assumptions as to their accuracy. The Planning Commission will want and expect that someone respond to those statements and that is why Planning will expect the GHAD staff to participate. This is why we requested (and still request) written confirmation that the GHAD staff will be able to utilize the GHAD assessment fees so they can complete their review and we can move this project towards a hearing.

Respectfully,

Robert D. Merkamp, Development Planning Manager | City of Oakland | Bureau of Planning | 250 Frank H. Ogawa, Suite 2214 | Oakland, CA 94612 | Phone: (510)238-6283 | Fax: (510) 238-4730 | Email: rmerkamp@oaklandnet.com | Website: www.oaklandnet.com/planning

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From: David Eckert [mailto:eastbayhills@gmail.com]
Sent: Wednesday, February 11, 2015 10:12 PM
To: Merkamp, Robert; Chen, Celena
Subject: Re: GHAD fees

Hello Robert and Celena,

Will my last response suffice in order to move this to the planning commission hearing or is the city refusing to process an application for which it collected its fee at the time of submittal? Thank you.

Sent from my iPad
David Eckert
Coldwell Banker
510-333-2150
R01239021

On Feb 11, 2015, at 5:08 PM, David Eckert <eastbayhills@gmail.com> wrote:

> **Hello Robert,**
>
> **You already have a written agreement from all of the owners of all of the properties located within the Siena Hill subdivision. It is a formal application deemed complete by staff in 2013. Please proceed with the scheduling of the planning commission meeting as soon as possible. Thank you for your cooperation.**
>
> Dave,
>
> I have reviewed the e-mails that you sent to Heather Klein and Celena Chen dated February 5, 2015. Removing the Siena Hill Project from the Oakland Area GHAD
>
> The Planning Commission will either be denying the request for an amendment or making a recommendation to the City Council and GHAD Board regarding removal of the GHAD Condition of Approval from the Planned Unit Development Permit and the Tract Map. Prior to taking action, the Planning Commission will need to understand that such

a recommendation would mean dissolution of the GHAD. As such, the GHAD staff will need to perform legal research as well as prepare and review sections of the Planning Commission staff report to ensure that the Planning Commissioners are fully aware of the implication of their recommendation. Not providing the Planning Commission with this information is both disingenuous and a breach of our trust and responsibility to the Planning Commission.

In addition, the documents you submitted supporting removal of the Conditions of Approval specifically reference matters that solely involves the GHAD staff such as budgetary and mismanagement issues. Only the GHAD staff can respond to these concerns. Therefore, it would be inappropriate for staff to schedule this item for hearing until the City is assured that the GHAD staff can contribute to their sections of the report and attend the hearing. Without their participation, the Planning Commission would not have all the facts at hand and we would be wasting their time taking this matter to them.

Finally, it is standard practice that only items that are current with payments to the City and our consultants may proceed to the Planning Commission for a decision. This same practice applies the GHAD staff and we will expect that the fees due to the GHAD staff to complete the work on the staff report are paid prior to scheduling the meeting or that both the developer and the HOA agree in writing that the funds to process the amendment will be deducted from the GHAD reserves and that developer will reimburse the GHAD reserve.

Therefore, until City staff receives the written agreement noted above we will not schedule this item for hearing.

Regards,

Robert D. Merkamp, Development Planning Manager | City of Oakland | Bureau of Planning | 250 Frank H. Ogawa, Suite 2214 | Oakland, CA 94612 | Phone: (510)238-6283 | Fax: (510) 238-4730 | Email: rmerkamp@oaklandnet.com | Website: www.oaklandnet.com/planning

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From: David Eckert [mailto:eastbayhills@gmail.com]
Sent: Thursday, February 05, 2015 12:08 PM
To: Klein, Heather; Merkamp, Robert; Chen, Celena
Cc: 'Keven Kwok'; 'Patrick Kwok'; 'trevel adanandus'; 'Mark Schoneman'; 'Sonya Simril'; 'Minnie Lin'; 'Tracy Preston'; jesslai6@yahoo.com; 'Golden Venters'; blisssaan2@gmail.com; qstorm59@aol.com; 'Rachael Lozano'; georgemak@yahoo.com; 'David Eckert'; ed@hillsidehomesgroup.com; 'Shevette Swayze-Venters'
Subject: GHAD fees

Hello Heather et al,

I am in receipt of Patty Curtin's email pertaining to legal fees in preparation of the planning commission meeting. I understand the rationale from staff that a legal analysis is needed in order for the planning commission to properly evaluate the ramifications of their vote. Since the planning commission's vote would not dissolve the GHAD any fees generated by Patty Curtin's office would be premature. Why spends tens of thousands of dollars on an attorney when the vote before us would not even result in the GHAD's dissolution? If we prevail at the planning commission meeting, then Patty's office should

begin their legal review not before. If this opinion is flawed then please point out the reasons. Thank you for your cooperation.

David Eckert
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Coldwell Banker
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<GHAD lien.pdf>

<GHAD fees.pdf>

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1111 Broadway, 24th Floor
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T: 510-834-6600
F: 510-808-4729

www.wendel.com
pcurtin@wendel.com

April 6, 2015

VIA EMAIL HKLEIN@OAKLANDNET.COM

Ms. Heather Klein
Planner III
City of Oakland, Planning, Building and
Neighborhood Preservation
250 Frank H. Ogawa Plaza, Suite 3315
Oakland, CA 94612

Re: Response to Siena Hills HOA Request to Remove Property from GHAD

Dear Ms. Klein:

As you know, we are the attorney for the Oakland Area Geologic Hazard Abatement District (GHAD). This letter is in reference to the proposal by the Siena Hill Homeowners Association to remove the Siena Hill subdivision (Project) from the GHAD. The City required the Project to be placed into a GHAD as a condition of approval. Siena Hill is currently the only project within the GHAD boundaries. It is anticipated that other "smaller" projects (less than 100 units) may be annexed into this GHAD in the future.

The Project includes construction on steep slopes with a series of tall retaining walls and was located in a Seismic Hazard Zone. The City determined there was a need for on-going specialized preventive maintenance to reduce the risk of landsides and other geologic hazards. To ensure that such maintenance occurred at the developers or homeowners expense and to protect the City and homeowners in the vicinity, staff recommended a GHAD to best ensure ongoing compliance of the conditions of approval and related mitigation.

Currently, the property owners in the Project are paying an annual assessment to the GHAD. The GHAD assessment is levied at the time a building permit is pulled and so far, 10 building permits have need issued (full build is 32 homes). The GHAD has not been asked by the developer of the Project to accept responsibility for the improvements. The GHAD cannot accept responsibility until certain requirements are met as outlined in the GHAD Plan of Control, which was reviewed by the City Council at GHAD formation and subsequently adopted by the GHAD. One such requirement is the building of all retaining walls. The developer has not built all the required retaining walls. Thus, while the homeowners are paying an assessment to the GHAD, the GHAD is not yet maintaining any improvements in the Project.

Attachment M

There is no statutory process for removing property from a GHAD. GHAD law does have a process for dissolving a GHAD. We believe that the dissolution process should apply to this request for removal. The dissolution process pursuant to California Public Resources Code 26567.2 requires certain findings to be made before the GHAD can be dissolved. In addition to the required findings, the law states that "[a]fter the dissolution of the district, the legislative body shall assume all remaining responsibilities and obligations of the district." This means that the City (as the legislative body) would be required by law to accept all responsibilities of the improvements of the GHAD, including retaining walls, roads, etc.

We believe removal from the GHAD creates vulnerability for the property owners within the Project and the City itself. In addition, we do not believe the City is in a position to accept all responsibilities of the GHAD as would be required by the law. Accordingly, as the GHAD attorney, we will not recommend that the GHAD support the request for removal. Rather, we believe the following alternatives should be considered to alleviate the financial burden on property owners and/or commence the provision of services through limited acceptance of responsibility. These alternatives were discussed with, but not ultimately pursued by, the property owners.

1. The GHAD may be requested, through application, to amend the Plan of Control to accept monitoring and maintenance responsibility for the 10 parcels currently being levied the annual GHAD assessment. If approved by the GHAD Board of Directors, this would permit the GHAD to accept responsibility of those areas and provide GHAD services.

2. The GHAD may be requested, through application, to recommend a temporary reduction in the annual levied amount of the assessment. This would require a review of the entirety of services and findings, justifying the temporary reduction in assessment. This may require the homeowners to take responsibility of certain GHAD services. This request would require approval by the GHAD Board of Directors.

3. The GHAD may be requested, through application, to permanently reduce the assessment limit. This would require a more comprehensive review of required services through an engineer's report and then findings therein justifying the scope of services and reduction in assessment limit. This request would require approval by the GHAD Board of Directors.

Please continue to notify us on the developments of this request. Specifically, please put us on the mailing list for any public hearings or meetings. We understand a planning commission meeting will soon be scheduled to consider this request.

Thank you.

Very truly yours,

WENDEL, ROSEN, BLACK & DEAN LLP

Patricia E. Curtin

PEC:slk

cc: GHAD Board of Directors
Eric Harrell, GHAD Manager
Richard Clark, GHAD Treasurer
Shevette Swayze-Venters, President of Siena Hill HOA
David Eckert, Developer/Owner
Edward Patmont, Developer/Owner

VII. SIENA HILL GHAD PLAN OF CONTROL

The GHAD shall be responsible for the maintenance of geologic stabilization and hydrogeologic features within the GHAD boundaries and retaining walls and appurtenant drainage facilities within the Easement and the Right-of-Way. The GHAD's maintenance responsibilities include prevention, abatement, vegetation control, and control of landslide and erosion hazards within the project as applicable, as provided in this Plan of Control.

General maintenance of the surface drainage improvements in the open space will be the GHAD's responsibility. Additionally, the GHAD will have the following maintenance responsibilities as outlined below:

- Inspection and maintenance of lined ditches.
- Monitoring and maintenance of measurement devices, such as piezometers, inclinometers, and tiltmeters, if any.
- Inspection and maintenance of retaining walls.
- Maintenance of designated trails or fences, if any.
- Inspection and maintenance of surface water quality treatment and detention facilities within the development, if any.

<u>General Landslide and Erosion Hazard Mitigation</u>

The techniques which may be employed by the GHAD to prevent, mitigate, abate, or control geologic hazards include, but are not limited to, the following.

A. Removal of the unstable earth mass.

B. Stabilization (either partial or total) of the landslide by removal and replacement with compacted, drained fill.

C. Construction of structures to retain or divert landslide material or sediment.

D. Construction of erosion control devices such as gabions, riprap, geotextiles, or lined ditches.

E. Placement of drained engineered buttress fill.

F. Placement of subsurface drainage devices (e.g. underdrains, or horizontal drilled drains).

G. Slope correction (e.g. gradient change, biotechnical stabilization, slope trimming or contouring).

H. Construction of additional surface ditches and/or detention basins, silt fences, sediment traps, or backfill or erosion channels.

Potential landslide and erosion hazards can be mitigated best by controlling soil saturation and water runoff and by maintaining the surface and subsurface drainage system. Maintenance shall be provided for lined surface drainage ditches and drainage terraces including debris benches or drop inlets.

CITY OF OAKLAND

250 FRANK H. OGAWA PLAZA

OAKLAND, CALIFORNIA 94612

Date: June 12, 2015

To: Oakland City Planning Commission

From: Michael Neary, P.E., Assistant Director, Oakland Public Works
Miguel Trujillo, Fire Marshall, Oakland Fire Department
David Harlan, P.E., Engineering Manager, Bureau of Building
Darin Ranelletti, Deputy Director, Bureau of Planning

Re: Siena Hill Property Owners' Request to remove the Geologic Hazard Abatement District (GHAD)-related Conditions of Approval from the Planned Unit Development Permit and Tentative Tract Map and that the Siena Hill project be removed from the Oakland Area GHAD.

The purpose of this memo is to document the City's' position regarding the request by the Siena Hill Homeowners Association and owners of the vacant parcels to 1) amend the Planned Unit Development Permit and Tentative Tract Map Conditions of Approval removing the Geologic Hazard Abatement District (GHAD) requirement or 2) remove the Siena Hill project from the Oakland Area GHAD.

As detailed below, the City recommends denial of the request that the Conditions of Approval be amended or the Siena Hill Project be removed from the GHAD.

Furthermore, GHAD staff has proposed appropriate and reasonable solutions which would meet the City's purposes for requiring the GHAD, allow the existing homeowners to benefit from the GHAD prior to construction of Phase 2 and Phase 3 improvements, and potentially allow a temporary or permanent reduction in the GHAD assessments. The City agrees that these solutions should be implemented.

Background

On May 25, 2002, Hillside Homes submitted an application for the Siena Hill project which included 43 townhomes off a private road splitting into two dead-end streets. The project applicant proposed a unique construction method by which the steep hillside would be extensively graded and then retained and stabilized through a series of approximately 20 soil-nailed retaining walls, up to 13' in height and up to 810' long, parallel to the site. These retaining walls would not only cross property lines, but also bisect the proposed building foundations multiple times, essentially "linking" all the upslope townhomes and downslope townhomes in each phase together. In addition a 6' retaining wall and emergency stairs were proposed within the City right of way. These walls were designed with the anticipation and understanding that ongoing and specialized maintenance would be necessary to assure their effective performance in perpetuity.

ATTACHMENT O

The City required the preparation of an Environmental Impact Report (EIR) for several reasons, including the fact that the project was located in an area identified with a potential for seismically induced landslides per the Seismic Hazards Zone Map published by the US Geological Survey. The EIR identified four geologic impacts associated with the site.

1. Impact GEO-1: The proposed project site is within a seismically-active region, and the proposed project site will likely be subject to strong seismic ground shaking during its life.

2. Impact GEO-2: As soils become saturated in an earthquake event, the slopes become less stable.

3. Impact GEO-3: Soils on the site above the fill layer are at risk for erosion.

4. Impact GEO-4: The proposed project would be placed on slightly to moderately expansive soil and non-expansive bedrock and steep slopes.

Nine mitigation measures were imposed to address these impacts. Specifically, Mitigation Measure GEO-2e stated:

> "In addition to the requirements contained in Mitigation Measure HYDRO-3, drainage on the site shall be designed and maintained to minimize ponding of surface water and/or saturation of the soils, following the detailed criteria in the geotechnical investigation completed for the project."

The Geotechnical Investigation proposed several measures to reduce the buildup of hydrostatic pressure that could undermine the retaining walls, including specific back drainage measures to minimize seepage on grade and subgrade of the walls, sloping surface V-lined ditches to prevent ponding, cleanouts for the backdrains, maintenance for the drains, and positive grading away from foundations or a combination of surface and subdrains placed adjacent to perimeter foundations where the slope does not drain positively away from the foundations.

The project was later revised to include the construction of 32 units in three phases along a private road (Siena Drive) with privately owned street lighting and utilities. However, the project still included extensive grading, attached townhomes, and multiple retaining walls constructed across property lines to stabilize the site and which bisect the building foundations in multiple places.

During the Planning entitlement review, the City determined that the steep slopes and the geologic impacts identified in the EIR met the definition of a "geologic hazard" per Public Resources Code section 26507, which defines "geologic hazard" as an actual or threatened landslide, land subsidence, soil erosion, earthquake, or any other natural or unnatural movement of land or earth.

Furthermore, formation of a GHAD was appropriate due to the unique construction method tying the building foundations, retaining walls and emergency stairs together and the need for consistent, on-going, specialized preventive maintenance of these improvements as noted in Mitigation Measure Geo-2e. Specifically, Public Resources Code section 26525 states that the purpose of a GHAD is to prevent, mitigate, abate or control a "geologic hazard" on the property through maintenance, improvements, or other means. Therefore, the City required the applicant to form and fully fund a GHAD for the project.

Analysis and Recommendation

The City has thoroughly reviewed and analyzed the request to remove the GHAD-related Conditions of Approval and remove the project from the Oakland Area GHAD. For several reasons, as noted in more detail below, the City recommends denial of the request to remove of the GHAD-related Conditions of Approval or remove the project from the GHAD.

First, during the Planning entitlement review, the City had several health and safety concerns with the proposal. First, the slope was too steep at the entrance of Siena Drive and Keller Avenue to facilitate fire truck and emergency access. Second, to accommodate upslope and downslope units, the applicant proposed to reduce the standard road width from 30' to 20'. To address these issues, the City required the project applicant to (1) obtain an access easement to connect Siena Drive to Greenridge Avenue, (2) maintain Siena Drive not as a City street but as a privately maintained road, (3) to include two emergency access stairs from Keller Avenue to Siena Drive, and (4) install additional emergency stairways to access the rear of the upslope structures. These improvements were determined necessary from a life safety perspective.

Each of these life safety improvements require long-term maintenance. The easement agreement requires the Siena Hill property owners to accept all maintenance responsibilities of the portion of road, retaining walls and drainage within the easement. Furthermore, Resolution 80386. C.M.S. conditionally approving the Final Map for Siena Hill, requires long-term maintenance of the private road, sidewalks, curbs, and gutters not within the easement, which is supported via retaining walls and with drainage is located behind the walls. A GHAD, as a state agency, with identified staff to monitor, perform maintenance and mitigate any geologic hazard through a protected and ongoing property assessment, was identified as the most secure framework to address the ongoing maintenance required in the EIR for these life safety improvements.

Second, the City also required formation of a GHAD because they were concerned that a homeowners association was an inadequate mechanism to ensure long-term and consistent funding of the extensive project improvements (building shells, private road, street lighting, utilities, and landscaping) across the 3.9 acre site as well as the multiple retaining walls and drainage improvements. In addition, the homeowners association has discretion to redirect funding and budgeting and, reserve funds might not be adequate or available for the retaining walls and drainage improvements. For example, the homeowners association may choose to re-pave the private street and might not allocate funding for maintenance of the retaining walls. Finally, homeowners associations may file for bankruptcy. Again, the GHAD, with a property tax assessment, provides the most secure mechanism for the necessary long-term maintenance of these improvements.

Third, as noted above, the applicant requested Minor Variances for retaining wall height and spacing. The City made the necessary Findings as required, without which, the project would not have been approved. In addition, the City required Condition of Approvals for the project.

The Findings for the Certification of the EIR noted that all of the mitigation measures identified in the Draft and Final EIR will be adopted and implemented as condition of approval # 13 for the Project. Furthermore, approval of the project complies with CEQA; and that the Final EIR was presented to the City Planning Commission, which reviewed and considered the information contained therein prior to acting on any of the development approvals for the project. In sum, the Planning Commission certified that the EIR was appropriately prepared and the analysis was reviewed and correct including the geologic impacts.

Mitigation measures would be implemented to address the impacts including long-term maintenance of improvements following the detailed criteria in the geotechnical investigation completed for the project. To further address this issue and conclude a less than significant impact, the City required the GHAD Condition of Approval.

The Findings for the retaining wall height and spacing Minor Variance noted that the retaining walls are necessary for slope stability and would be incorporated into the foundations of the homes. Strict compliance with the Planning Code required retaining wall height and spacing would preclude an effective design solution and require additional retaining walls or a steeper grade between them. A steeper grade between the retaining walls would be in direct conflict with Mitigation Measure Geo-2a of the EIR. The addition of more retaining walls that adhere to the minimum separation distance would limit the amount of tree planting and landscaping which is also necessary to provide additional slope stability. In sum, the Findings to approve the Minor Variance noted that the retaining walls were necessary for slope stability. Slope stability or land subsidence is a "geologic hazard" per the Public Resources. While the Findings did not specifically reference Mitigation Measure Geo-2e regarding maintenance of the drainage behind the retaining walls or the Condition of Approval requiring the GHAD, the City would not have been able to make the Minor Variance Finding 3: That the variance, if granted, will not adversely affect the character, livability, or appropriate development of abutting properties or the surrounding area, and will not be detrimental to the public welfare or contrary to adopted plans or development policy, without approval of the GHAD Condition.

The City required Conditions of Approval for the project and approval of the project would not have been granted but for the applicability and validity of each and every one of the specified conditions and/or mitigations, including the GHAD condition. The GHAD guarantees funding and implementing the long-term maintenance obligations for all improvements in the Plan of Control, something the City would never have accepted responsibility for. Removing Conditions of Approval that were imposed to address appropriate and prudent City concerns regarding the proposed development, sets a dangerous precedent to other developers that Conditions of Approval do not need to implemented, enforced or adhered to and can be modified or removed after implementation. This is in direct conflict with the purpose of requiring Conditions of Approval.

Fourth, both the City and GHAD attorneys are proposing that the dissolution process should apply to the request for removal as there is process to remove a project from a GHAD within GHAD law. If the GHAD is dissolved, then GHAD law is clear that:

> "[a]fter the dissolution of the district, the legislative body shall assume all remaining responsibilities and obligations of the district."

City of Oakland Public Works Department is **NOT** in any position to accept the responsibility and obligations (maintenance, monitoring, mitigation, and abatement) of private improvements on this property as outlined in the GHAD's Plan of Control. The City **DOES NOT** have the staff or expertise to assume such responsibilities. The requirement for a GHAD for this development specifically anticipated the need for the expertise that a GHAD is best situated to maintain. In addition, the City **DOES NOT** have funding to contract for these services.

The GHAD budget was approved by City Council with the costs for maintenance, monitoring, mitigation, and abatement of the improvements in the Plan of Control based on staff administration and maintenance costs as well as the actual improvement reconstruction adjusted for inflation. Therefore,

the cost to the City and Oakland taxpayers would likely be the same as the assessment and proposed reserve that the homeowners are currently paying (of approximately $3,000 per homeowner) per year. Furthermore, the City **DOES NOT** have the available funds necessary in reserve to address the significant site improvements.

As noted above, one of the main purposes of requiring GHAD formation was to ensure that the property owners remain solely responsible for the costs and long-term maintenance obligations for all of the extensive site improvements. Furthermore, this requirement for long term maintenance of the improvements is reiterated in the Siena Hill owner's easement agreement for the portion of Siena Drive connecting to Greenridge Avenue, the encroachment permit for the retaining wall and emergency stairs in the City right-of-way, and in the Resolution approving the Final Tract Map, it was required that Siena Drive be maintained as a private road. The City **NEVER** would have approved the project without these Conditions of Approval, nor accepted responsibility and liability for these private improvements. In an era of fiscally constrained government, the City is already struggling to maintain and repair existing public improvements such as streets, lighting, infrastructure, parks, etc., all of which serve ALL the residents of Oakland.

Finally, GHAD staff has proposed appropriate and reasonable solutions which would meet the City's purposes for requiring the GHAD. Alternative solutions include:

1) Amend the Plan of Control to accept the monitoring and maintenance responsibility for improvements already built for the 10 parcels currently being levied the annual GHAD assessment (which would result in the homeowners receiving services in return for their assessments);

2) Temporarily reduce the annual levied amount of the GHAD assessments (which would require a review of the entirety of services and findings, justifying the temporary reduction in assessment and may require the homeowners' association to take responsibility of certain GHAD services); and

3) Permanently reduce the assessment limit (which would require a more comprehensive review of required services through an engineer's report and then findings justifying the scope of services and reduction in assessment limit).

Conclusion

As detailed above, the City is recommending denial of the request to remove the GHAD-related Conditions of Approval or removal of the project from the GHAD. The City recommends that the property owners move forward with one or more of the alternatives listed above.

Furthermore, in reviewing the property owners' request to remove the GHAD-related Conditions of Approval and remove the project from the Oakland Area GHAD, City staff also noted additional concerns related to emergency access to the site. The property was required to have access at two separate locations because dead-end streets greater than 600 feet are not permitted. Gated communities or enclaves of housing projects have not been allowed due to impaired access by emergency vehicles. In addition, the Resolution approving the Final Tract Map required a public access easement over the street and prohibited gates, bollards, wheel stops or other mechanical or electronic apparatus that would impede, delay, prevent, or otherwise ingress and egress to the general public. Spikes (or prongs) commonly applied to parking facilities and private sites have not been allowed due to impacted fire truck access. Preventing site access by installing spikes at one end to Greenbrier Street eliminates the

secondary access requirement of City Ordinance 13208 C.M.S. and is inconsistent with the Resolution allowing public access to the site.

Concurrence:

Michael Neary, P.E., Deputy Director, Oakland Public Works Department

Miguel Trujillo, Fire Marshall, Oakland Fire Department

David Harlan, P.E. Engineering Manager, Bureau of Building

Darin Ranelletti, Deputy Director, Bureau of Planning