

**OAKLAND AREA GEOLOGIC HAZARD ABATEMENT DISTRICT (GHAD) BOARD
STAFF REPORT**

TO: Chair and Boardmembers of the Oakland Area GHAD
FROM: GHAD Manager
DATE: July 1, 2016

**RE: CONSIDERATION OF RESOLUTION TO APPROVE REVISED
OAKLAND AREA GHAD PLAN OF CONTROL FOR THE SIENA HILL
DEVELOPMENT (NO. 10)**

**DECLARE THE GHAD'S INTENT TO ORDER A REVISED
ASSESSMENT FOR THE SIENA HILL DEVELOPMENT AND SET A
DATE FOR A PUBLIC HEARING TO CONSIDER THE PROPOSED
ASSESSMENT AND ANY PROTESTS THERETO (NO. 11)**

SUMMARY

On December 5, 2006, the Oakland Area GHAD Board adopted Resolution No. 5 approving the Oakland Area GHAD Plan of Control for the Siena Hill Project ("Project") and adopted Resolution Nos. 6 and 7 ordering the levy of a real property assessment for Siena Hills to fund the GHAD. The GHAD has not been able to accept responsibilities for the Siena Hill area since not all improvements have been constructed as required by the Plan of Control.

On May 11, 2016, the GHAD Manager received from Shevette Swayze-Venters, President of the Siena Hill Homeowners Association, and on June 7, 2016, the GHAD Manager received from Keven Kwok of Oakland Siena LLC ("Applicants"), applications requesting amendments to the Plan of Control and a reduction in the real property assessment ("GHAD Applications"). The main purpose of this request is to allow the GHAD to accept and maintain certain improvements at an earlier date and to reduce maintenance responsibilities for the GHAD to thereby reduce the assessment and levy of the assessment amount.

Plan of Control Amendments

The requested amendments to the Plan of Control are intended to reflect the following:

- Revision of the *Responsibility for GHAD Activities* section to allow for individual Assessor's Parcels to be transferred to the GHAD.
- Revision of the *GHAD Maintenance and Monitoring Schedule* section to acknowledge existing site conditions and improvements.
- Update of the *Background* section to summarize developments since the last revision of the Plan of Control in 2006.
- Revision of miscellaneous items to clarify or update the 2006 Plan of Control.

Change to Assessment

The current assessment limit for the 2015/16 fiscal year (FY) starting July 1, 2015 was \$3,262.24/unit. This assessment was based on the total build out of the project at 32 homes. Only 10 building permits have been issued to date and those properties are subject to the assessment. In response the Applicants' request to reduce this assessment, the GHAD Manager recommends changes to the Plan of Control to allow a reduction in the annual assessment limit (FY 2016/17 dollars) to \$2,500 per residential unit. This assessment would apply to the 10 existing homeowners. When and if building permits are pulled on the 22 vacant lots, the assessment would then apply to those homes. The annual assessment limit would be adjusted annually based on the San Francisco-Oakland-San Jose Consumer Price Index (CPI). The assessment can be levied at a lower amount than the annual assessment limit, and the GHAD Manager recommends the amount be levied for FY 2016/17 at \$1,119 per residential unit. This amount levied is adequate to provide GHAD services to the 10 homeowners as reflected in the revised Plan of Control.

The purpose of this meeting is to request the GHAD Board to 1) approve the revised Plan of Control, and 2) declare its intent to order the revised assessment set forth in the attached Engineer's Report and set a public hearing to consider the assessment and any objections thereto.

FISCAL IMPACT

The Applicants are paying for this request and the developer is responsible for paying for GHAD services until the GHAD assumes responsibilities under the Plan of Control. In addition, the GHAD is a self-sustaining district and is funded through the real property assessments.

BACKGROUND

On July 18, 2006, the Oakland City Council adopted Resolution No. 80058 approving the formation of the GHAD and appointed itself to serve as the GHAD Board of Directors.

On December 5, 2006, the GHAD Board adopted Resolution No. 5 approving the GHAD Plan of Control, dated May 9, 2006, and revised August 31, 2006. At this same meeting, the GHAD Board adopted Resolution Nos. 6 and 7 accepting Canvas of Votes for the GHAD and Confirming Assessment for the GHAD and Ordering Levy and Collection of the Assessment.

The GHAD only includes the Siena Hill Project which was approved in June 2005 for 32 semi-detached residential units. The Project is located at Keller Avenue and Greenridge Drive. The Project includes retaining walls and appurtenant drainage facilities which are located in an easement outside of the Project boundary, which benefit the Project and will be maintained by the GHAD once accepted.

To date, 10 of the 32 residences have been constructed. In 2007, the first assessments were levied by the GHAD and since 2008, 10 parcels have been subject to the annual assessment. Even though these 10 property owners have been paying the assessment, they are not receiving GHAD services. In addition to other items, the current Plan of Control requires all retaining walls to be erected before the GHAD can assume responsibility and provide services in this area.

The retaining walls on the 22 vacant lots have not been constructed. Thus, under the current Plan of Control, the improvements are not eligible for transfer to the GHAD and the GHAD cannot provide services. These improvements remain the responsibility of the property owners and developer.

In 2013, the Applicants filed applications with the City of Oakland's Planning Department to remove a condition of approval imposed on the Project requiring that it be included in a GHAD. The purpose of this request was to remove the Project from the GHAD. On May 13, 2016, the GHAD Manager received a letter from Shevette Swayze-Venters, President of the Siena Hill HOA, withdrawing this application and on June 11, 2016 the GHAD Manager received from David Eckert, representing Oakland Siena LLC, a similar letter withdrawing its application with the City. These letters allow the GHAD to move forward with the GHAD Applications.

Request to Amend Plan of Control

The Applicants are requesting that the Plan of Control be amended to allow the GHAD to accept improvements in the area wherein the 10 homes have been built. This request will require the Plan of Control to be amended so it does not require all retaining walls to be built before the GHAD improvements become eligible for transfer to the GHAD. In addition, the Applicants have requested that the responsibilities and improvements to be maintained by the GHAD be reduced to allow a lower assessment and thus levy.

As described in the 2006 Plan of Control, GHAD maintained improvements included bioswales were not constructed as part of the Siena Hill improvements. The revised Plan of Control eliminates GHAD responsibility for monitoring and maintenance of bioswale improvements. In addition, the GHAD has been able to observe performance of the site improvements including slopes, retaining walls, and drainage facilities over the past 10 years. Based on our experience and on site observations this has allowed us to reduce the monitoring schedule and selected maintenance items while still maintaining a robust and prudent GHAD preventative monitoring, maintenance, and repair program.

Change to Assessment

The Applicants are requesting that the responsibilities of the GHAD be reduced which will thereby reduce the assessment and request the assessment to be levied at a lower level than the assessment amount.

The original Engineer's Report estimated annual expenses of \$97,900 per year. Based on the updated GHAD responsibilities in the revised Plan of Control, the revised Engineer's Report has reduced the annual revenue to approximately \$41,000 per year. As described above, an annual assessment limit in FY 2016/17 dollars of \$2,500 per residential unit is recommended with an actual levy of \$1,119 per residential unit. The \$1,119 assessment will allow the GHAD to fund estimated administrative, monitoring, maintenance, and repair expenses. The difference between the assessment limit and the actual levy will allow the GHAD to fund unanticipated expenses in the future should they occur.

RECOMMENDATIONS

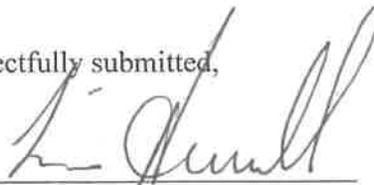
GHAD Manager recommends that the GHAD Board:

1. ADOPT Resolution No. 10 stating that the revised Plan of Control for the Siena Hill Development is approved and the GHAD Manager is directed to prepare a final version of the revised Plan of Control, consistent with the GHAD Board's approval. Thereafter, the revised Plan of Control is to be filed with the GHAD Clerk.
2. ADOPT Resolution No. 11 declaring the GHAD's intent to order the revised assessment set forth in the attached Engineer's Report and set a public hearing to consider the assessment and any objections thereto.
3. DIRECT the GHAD Manager to mail, by first class mail, the "Notice of Adoption of Resolution" (attached as Attachment 11-C to Resolution No. 11) to each owner of real property (as shown on the last equalized property tax roll of the County) that is within the GHAD. The sealable Ballot (attached as Attachment 11-D to Resolution No. 12) and the Engineer's Report (attached as Attachment 11-B to Resolution No. 11) shall be attached to the Notice of Adoption of Resolution. The Engineer's Report is on file with the GHAD Manager.

ACTION REQUESTED BY THE GHAD BOARD

The GHAD Manager recommends that the GHAD Board accept the Agenda Report and take the appropriate actions as specified herein.

Respectfully submitted,



ERIC HARRELL, ENGEIO INC.
GHAD Manager

ATTACHMENTS:

- A. Redline comparison of the approved Plan of Control with the proposed revisions (dated April 25, 2016).
- B. Redline comparison of the approved Engineer's Report with proposed revisions (dated April 26, 2016).

ATTACHED RESOLUTIONS:

1. Resolution No. 10 approving the revised Oakland Area GHAD Plan of Control for the Siena Hill Development.
2. Resolution No. 11 declaring the GHAD's intent to order an assessment for the Oakland Area GHAD and set a date for a public hearing to consider the proposed revised assessment and any protests against the assessment.

**GEOLOGIC HAZARD ABATEMENT DISTRICT (GHAD)
PLAN OF CONTROL**

**SIENA HILL DEVELOPMENT
OAKLAND AREA GHAD
OAKLAND, CALIFORNIA**

SUBMITTED

TO

HILLSIDE HOMES GROUP, INC.

WALNUT CREEK, CALIFORNIA

PREPARED

BY

Submitted to:
Oakland Area GHAD Board of Directors
Oakland, California

Prepared by:
ENGEO Incorporated

PROJECT NO. 6964.1.001.01

May 9, 2006
REVISED AUGUST 31, 2006

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Latest Revision April 25, 2016

Project No:
6964.002.015

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The logo for ENGEO is rendered in large, white, 3D block letters. The letters are set against a background of a landscape featuring a body of water, a rocky shoreline, and a forested hillside under a cloudy sky. The letters 'E', 'N', 'G', 'E', and 'O' are positioned in a slightly staggered, overlapping manner, with the 'G' and 'E' in the middle row appearing to be behind the 'N' and 'O' in the top row. The 'O' is a simple circle, while the other letters have a slight depth and shadow.

Expect Excellence

Project No.
6964.1.001.01002.015

May 9, 2006
Revised August 31, 2006

Mr. Ed Patmont
Hillside Homes Group, Inc.
184 Rudgear Drive
Walnut Creek Latest Revision April 25, 2016

Chair Desley Brooks
Oakland City Hall
One Frank Ogawa Place
Oakland, CA 9459694612

Subject: Siena Hill Development
Oakland Area Geologic Hazard Abatement District (GHAD)
Oakland, California

**GEOLOGIC HAZARD ABATEMENT DISTRICT (GHAD)
PLAN OF CONTROL**

Dear ~~Mr. Patmont~~ Chair Brooks:

ENGEO Incorporated ~~is pleased to present this~~, acting as the Oakland Area Geologic Hazard Abatement District (GHAD) Manager, is pleased to present this revision of the Oakland Area GHAD Plan of Control.

~~We~~ The amendments to the Plan of Control are pleased intended to reflect the following:

1. Revision of the *Responsibility for GHAD Activities* section to allow for individual Assessor's Parcels to be of service to you on this project. transferred to the GHAD.
2. Revision of the *GHAD Maintenance and Monitoring Schedule* section to acknowledge existing site conditions and improvements.
3. Update of the *Background* section to summarize developments since the last revision of the Plan of Control in 2006.
4. Revision of miscellaneous items to clarify or update the 2006 Plan of Control.

If you have any questions concerning the contents of our report, please do not hesitate to contact us.

Very truly yours,

ENGEO INCORPORATED

Reviewed by:

Eric Harrell, CEG

Uri Eliahu, GE

Jeffrey A. Adams, PhD
ch/jaa/ue/ap:ghadjf

DRAFT

6671.1.001.01
November 1, 2005

DRAFT A

6964.002.015
May 9, 2006

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SELECTED REFERENCES

APPENDIX A--: Figure 1 - GHAD Boundary
 Exhibit A - Legal Description of Siena Hill Property
 Exhibit B - Legal Description of Siena Hill Easement Area
 Exhibit C - Retaining Walls Outside of Project Area

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2.01.0 AUTHORITY AND SCOPE

~~The Oakland Area Geologic Hazard Abatement District (“GHAD” or “District”) is proposed to be formed under authority of the California Public Resources Code (Division 17, commencing with Section 26500).~~

On July 18, 2006, the Oakland City Council adopted Resolution No. 80058, formed the GHAD, and appointed itself as the Oakland Area GHAD Board of Directors (“Board”). On October 3, 2006, the Board appointed interim officers to the GHAD, a GHAD Manager, Attorney, and Treasurer/Clerk. On June 17, 2015, by Resolution No. 09, the GHAD Board appointed a new GHAD treasurer and appointed the GHAD attorney to also act as the GHAD Clerk.

Section 26509 of the Public Resources Code requires a Plan of Control, prepared by a State-Certified Engineering Geologist, as a prerequisite to formation of a GHAD. The Plan of Control was adopted by the GHAD Board on December 5, 2006. Pursuant to Section 26509, this Plan of Control was prepared by an Engineering Geologist certified pursuant to Section 7822 of the Business and Professions Code and describes, in detail, the geologic hazards, their location, and the area affected by them. It also provides a plan for the prevention, mitigation, abatement, or control thereof.

As used in this Plan of Control, and as provided in Section 26507, “geologic hazard” means an actual or threatened landslide, land subsidence, soil erosion, earthquake, fault movement, or any other natural or unnatural movement of land or earth.

2.11.1 PROPERTY IDENTIFICATION

~~The proposed GHAD boundary is shown in Figure 1- (“Property”). The GHAD area includes the areas within the proposed Siena Hill project. The legal description of the land to be included within the Siena Hill GHAD is included in Exhibit A.~~

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3.02.0H. — BACKGROUND

The ~~Siena Hill~~ Property is located at Keller Avenue and Greenridge Drive in Oakland, California. The irregularly shaped siteProperty has approximately 950 feet of frontage on Keller Avenue and extends approximately 250 feet in width. Prior to the grading activities, elevations ranged from a low of about 340 feet above mean sea level (msl) near Keller Avenue to a high of about 450 feet above msl in the most elevated portion of the siteProperty.

3.12.1 CURRENT AND PROPOSED DEVELOPMENT

A geotechnical investigation was completed by Gary E. Underdahl (2001) for the Siena Hill site. Geotechnical ~~corrective recommendations provided in this report have presumably been incorporated into plans prepared by A.C.K. Engineering and Surveying dated March 3, 2005.~~ Current grading plans for the Siena Hill project show a total of 32 multi-family residential lots. The building pads and streets will be 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. Final grading work at the site will have been completed prior to acceptance of the property by the GHAD. At final buildout, a total of 32 residential lots are planned for the Siena Hill development. Currently 10 residences have been constructed on the site and have been occupied since 2008.

3.22.2 EASEMENT AND KELLER AVENUE RIGHT-OF-WAY

~~As part of the proposed development, Retaining walls and appurtenant drainage facilities are to be~~ have been constructed within an ~~off-site~~onsite easement (Easement) and within the Keller Avenue right-of-way (Right-of-Way). Although these areas are located outside of the Property boundary, the GHAD will be responsible for the maintenance of the retaining walls and appurtenant drainage facilities, as they directly benefit the Siena Hill project. The legal description of the Easement and a depiction of the retaining walls outside of the Property are presented in Exhibits B and C, respectively.

The GHAD is charged with responsibilities that relate to the prevention, mitigation, abatement, or control of geologic hazards, which ~~includes~~include the maintenance of facilities that enhance geologic as well as hydrogeologic stability such as drainage facilities and associated improvements. This may include the monitoring and maintenance of drainage facilities which, if subject to improper care, could result in decreased slope 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 and filter systems, concrete-lined drainage ditches, storm drain facilities, and drain inlets.

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The GHAD will mitigate or abate landslide or erosion hazards that could directly affect improved, developed, and accepted properties (as defined in Section ~~VII~~7) within the project, in accordance with Section ~~VI~~6. The GHAD will also perform maintenance of water control and conveyance facilities.

DRAFT

4.03.0III. — SITE GEOLOGY

4.13.1 GEOLOGIC SETTING

The ~~Siena Hill~~ Property is located within the Coast Ranges geologic province of California, a series of northwest-trending ridges and valleys. Bedrock in the province has been folded and faulted during regional uplift beginning in the Pliocene period, roughly 4 million years before present. According to a geotechnical investigation report prepared by Gary E. Underdahl (2001), the ~~Siena Hill~~ Property is situated on geologically young volcanics, labeled as Leona Rhyolite (Radbruch (1969), Dibblee (1980) and Crane (1988)). The bedrock strength of the formation reportedly varies considerably in strength and hardness. Nilsen (1975) has mapped the site as rock and colluvial-filled swales. The Nilsen map reportedly identifies colluvium and numerous landslides on adjacent hillsides and swales.

4.23.2 GEOLOGIC UNITS

The geologic units mapped on the site include bedrock and surficial deposits consisting of artificial fill, topsoil, and colluvium that are described below. The fill and topsoil geologic units were ~~described~~identified in the Underdahl (2001) geotechnical investigation report. and describe the pregraded site conditions

4.2.13.2.1 Artificial Fill

—The upper soil 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.

~~4.2.23.2.2 Topsoil. The natural layer, under the fill, is a firm and dry sandy clay topsoil, ranging from 6 to 18 inches in thickness. The topsoil is moderately to highly plastic and probably highly expansive. Sand and gravel content is relatively high.~~

The natural layer, under the fill, is firm and dry sandy clay topsoil, ranging from 6 to 18 inches in thickness. The topsoil is moderately to highly plastic and probably highly expansive. Sand and gravel content is relatively high.

4.2.33.2.3 Colluvium

—Mantling the unquarried bedrock and filling swales are colluvial deposits. These sediments are derived from weathering of the underlying bedrock and consist mostly of silty clay. This material generally is moderately expansive and has low strength. Where colluvium is located on sloping

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ground, it may be characteristically unstable. Within swales, the colluvial deposits tend to be relatively thicker and may be subject to flow or slip downslope.

4.33.3 GROUNDWATER

Groundwater was not encountered during the field investigation performed by Underdahl. Fluctuations in groundwater levels may occur seasonally and over a period of years because of precipitation, changes in drainage patterns, irrigation and other factors. ~~Future irrigation may cause an overall rise in groundwater levels.~~

4.43.4 SEISMIC SOURCES

No faults are have been mapped as crossing the site (Underdahl, 2001). The nearest State of California-zoned, active¹ fault is the Hayward fault ~~located~~mapped trace about ~~3503,500~~3503,500 feet southwest of the site. As discussed in the geotechnical investigation, there is a high probability that the site and any improvements will be subject to strong ground shaking and some deformation of the site slopes during the lifetime of the project.

¹ An active fault is defined by the State Mining and Geology Board as one that has had surface displacement within Holocene time (about the last 10,000 years) (Hart, 1994). The State of California has prepared maps designating zones for special studies that contain these active earthquake faults.

5.04.0IV. — GEOLOGIC HAZARDS

The following geologic hazards were identified for the Property in the previous site studies and are expected to remain to some extent after site grading has been completed.

- Slope instability
- Seismically induced ground shaking

5.14.1 SLOPE INSTABILITY

Earth stability is the GHAD's prime geotechnical concern at this site. This is not unique to this project, but is of importance for hillside projects in the San Francisco Bay Area. This section describes several types of slope instability which are within the GHAD's responsibility, subject to the provisions of Sections VI and VII.

Landslides are a common geologic phenomenon and are part of the process of mass wasting. Weathered or fractured bedrock and soil are transported downslope over geologic time as a result of gravitational and hydrostatic forces. Landslides and earth movement in this bedrock formation are typically rotational slumps and earthflows. Depth of movement is typically about 10 to 30 feet below the ground surface. Earthflows are confined to the upper 3- to 5-foot-thick clayey soil mantle. In the winter rainy season, these earthflows can move at a rate of several feet per day.

A landslide is a deposit of soil and/or bedrock moving downward from its original position under the influence of gravity. Landslides include a variety of morphologies and are further defined by type of materials, wetness, and mode of movement. They can consist of mass movements of earth materials that are primarily intact, and occur along discrete shear surfaces. These surfaces (shear or slip planes) can be rotational (conchoidal or concave), such as for earth slumps, or planar, as for translational earth slide or bedrock block slides. Most landslides are truly "complex landslides", sliding, falling and flowing with more than one type of movement and/or material. According to the Underdahl report, numerous landslides have been mapped on hillsides and within swales adjacent to the ~~Siena Hill property.~~ Property. Additionally, a small landslide area is mapped by Nielsen (1975) near the north boundary of the Property (DMA, 2006).

Falls are an abrupt free-fall of earth materials off cliffs, steep cuts, or steep stream banks while earthflows are mass movements of earth materials in which the type of movement is one of flowing. When composed of soil finer than gravel size, the flowing material is commonly called a mudflow. A debris flow/debris avalanche is composed of natural earth materials, artificial fill,

and/or organic debris which flow downslope with speed. Most of the material is transported away from the area of initial ground failure.

Slope failures are also often triggered by increased pore water pressure due to the infiltration of rainwater. The resulting decrease of shear resistance (internal resistance to deformation by shearing) can cause the slope to move. The level of groundwater table varies with the amount of rainfall for the area. If rainfall is higher than average during the winter season, the water table will become higher than average on a hillslope and groundwater pressures may become sufficiently high to activate the hillside.

Soil creep is the slow, often imperceptible, deformation of slope materials under low stress levels, which normally affects the shallow portion of the slopes, but can be deep seated where a weak zone of soil or bedrock exists. It results from gravitational and seepage forces, and may be indicative of conditions favorable for landsliding. Creep can be caused by wetting and drying of clays, by solution and crystallization of salts, by the growth of roots, by burrowing animals and by downslope movement of saturated ground. Colluvium refers to the mantle of loose soil and weathered bedrock debris that progresses down hillsides by creep.

The District shall also be concerned with erosion and sedimentation affecting developed lots or improvements. Erosion is defined as the process by which earth materials are loosened and removed by running water on the ground surface or in the subsurface. Sedimentation is the depositing or settling of soil or rock particles from a state of suspension in a liquid.

Hilly terrain in a natural condition or particularly on excavated slopes can be subject to erosion. Landslide deposits which are sometimes in a loosened condition are particularly prone to erosion. Earth flow-, debris flow- and mud flow-type landslides typically have an area of deposition or accumulation (sedimentation area) at their base. Graded slopes in the District, particularly those not sufficiently vegetated, can be subject to erosion, and therefore, a source of transported sediment.

It is necessary that field-verified geologic field mapping will be prepared during mass grading operations. The detailed maps showing bedrock structure, springs, and landslide limits and repairs should be provided to the GHAD when available. The cuts should be viewed by the project geologist during grading to provide mitigation schemes for unsuspected slope conditions which could decrease the slope stability. Such conditions include unfavorable bedrock attitudes and seepage conditions.

In repaired or buttressed landslide areas, the landslide debris should be overexcavated to firm undisturbed materials below the landslide plane as determined by the Geotechnical Engineer or Engineering Geologist at the time of grading. In the case of the complete removal of a landslide,

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systems of surface and subsurface drains should be installed to collect the subsurface waters which may have initially caused the landslide. The configuration of each subdrainage system should be tailored to the individual landslide at the time of grading. The Geotechnical Engineer and/or the Engineering Geologist should determine the location and depths of subdrains at that time. The location and elevation of subdrains and outlets should be recorded by survey. Each landslide subexcavation then would be reconstructed to final grade by keying and benching below the landslide plane with compacted, drained, engineered fill.

5.24.2 SEISMICALLY INDUCED GROUND SHAKING

As identified in the geologic and geotechnical reports pertaining to the project, an earthquake of moderate to high magnitude generated within the San Francisco Bay Region could cause considerable ground shaking at the Property, similar to that which has occurred in the past. To mitigate the shaking effects, all structures should be designed using sound engineering judgment and the latest building code requirements, as a minimum.

Seismic slope stability analysis has presumably been incorporated in the corrective grading plans for the graded portions of the Property; however, seismically generated slope failures could occur in open space areas outside of the development limits.

6.05.0 V. — CRITERIA FOR GHAD RESPONSIBILITY

In forming the GHAD and establishing the assessment levels and budgets for the District, it is important to clearly define the limits of the GHAD’s responsibilities. The GHAD will accept responsibility for property and retaining walls and appurtenant drainage facilities within the Easement and the Right-of-Way as described in Section VI of this Plan of Control. However, the intent of this Plan of Control is not to extend the GHAD’s responsibilities to every potential situation of instability; rather, the following are exclusions from GHAD responsibility.

6.15.1 ISOLATED OR REMOTE FEATURE REQUIRING MITIGATION

The GHAD shall not have responsibility to monitor, abate, mitigate or control slope instability that does not involve damage to or pose a significant threat to damage site improvements or retaining walls and appurtenant drainage facilities within the Easement and/or the Right-of-Way.

6.25.2 SINGLE PROPERTY

The GHAD will not prevent, mitigate, abate or control geologic hazards which are limited in area to a single parcel of property unless the geologic hazard has damaged, or poses a significant threat of damage to site improvements located on other property within the GHAD boundaries. As used herein, the term “site improvements” means buildings, roads, sidewalks, utilities, improved trails, swimming pools, tennis courts, gazebos, cabanas, geologic stabilization features, or similar improvements. ~~This exclusion does not apply to geologic hazards existing on commercial property, recreational property, and open space property owned by any homeowner’s associations or within the GHAD-owned property.~~

6.35.3 GEOLOGIC HAZARDS RESULTING FROM NEGLIGENCE OF PROPERTY OWNER

The GHAD may, in the ~~general~~GHAD manager’s sole discretion, decline to prevent, mitigate, abate or control geologic hazards which occurred or resulted from any negligence of the homeowner and/or the homeowner’s contractors, agents or employees in developing, investigating, grading, constructing, maintaining or performing or not performing any post-development work on the subject property as long as the geologic hazard is limited to a single lot, pursuant to exclusions described herein.

6.45.4 PROPERTY NOT ACCEPTED

The GHAD shall not have responsibility to repair damage, which is situated on a parcel of real property, which the GHAD has not accepted in accordance with Section ~~VI~~VI, below. The GHAD, however, may monitor, abate, mitigate or control geologic or hydrogeologic hazards on a parcel of real property which the GHAD has not accepted in accordance with Section ~~VI~~VI, below, and is not excluded from GHAD responsibility by Paragraphs 1, 2 and 3; provided, however, that GHAD responsibility on such parcel shall be limited to the extent necessary to address damage or a significant threat to damage site improvements which are within a parcel of real property which the GHAD has accepted in accordance with Section ~~VI~~VI, below.

6.55.5 GEOLOGIC HAZARD WHICH REQUIRES EXPENDITURE IN AMOUNT EXCEEDING THE VALUE OF THE THREATENED OR DAMAGED IMPROVEMENT

The GHAD may elect not to prevent, mitigate, abate or control a geologic hazard where, in the ~~general~~GHAD manager's sole discretion, the anticipated expenditure required to be funded by the GHAD to prevent, mitigate, abate or control the geologic hazard will exceed the value of the structure(s) and site improvement(s) threatened with damage or loss.

6.65.6 GHAD FUNDING OR REIMBURSEMENT FOR DAMAGED OR DESTROYED STRUCTURES OR SITE IMPROVEMENTS

In the event a residence or any other structure, site improvement or landscaping is damaged or destroyed due to, or as a result of, a geologic hazard, the GHAD may fund or reimburse the property owner for the expenses necessary to repair or replace the damaged or destroyed structure, site improvement or landscaping. Unless authorized by the Board of Directors, the dollar amount of the GHAD funding or reimbursement may not exceed ten percent (10%) of the costs incurred by the GHAD in preventing, mitigating, abating or controlling the geologic hazard responsible for the damage. In the event the geologic hazard damaged or destroyed a structure, site improvement or landscaping which violated any provisions of the City Building Code or City Ordinance Code at the time of its installation or improvement, the GHAD may decline to provide any funding, or reimbursement to the property owner, for repair or replacement of the damaged structure, improvement or landscaping.

6.75.7 NO REIMBURSEMENT OF EXPENSES INCURRED BY PROPERTY OWNERS

The GHAD will not be obligated to reimburse a property owner for expenses incurred for the prevention, mitigation, abatement, or control of a geologic hazard absent a written agreement between the property owner and the GHAD to that effect, which agreement has been executed prior to the property owner incurring said expenses, and following an investigation conducted by the GHAD.

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7.06.0 VI. — ACCEPTANCE

7.16.1 ACTIVATION OF ASSESSMENT

An annual assessment shall be promptly authorized on all residential parcels in the GHAD. The assessment shall be levied by the GHAD on each individual parcel beginning the first fiscal year following issuance of a building permit for that parcel or at the time of legal parcel formation when the Final Map is adopted, whichever is later.

7.26.2 RESPONSIBILITY FOR GHAD ACTIVITIES

The party that, on the date the Final Map within the boundaries of the GHAD is approved by the City of Oakland, owns the developable parcels shown on that Final Map shall have the responsibility to perform all the activities of the GHAD on property within that Final Map. Such responsibility shall become eligible for transfer to the GHAD on the day exactly three years after the first residential building permit is issued by the City of Oakland, two years following final approval of all-retaining wall construction, or two years following final approval of site grading, whichever is later. This turn-over date may be extended at the sole discretion of the project developer provided that the assessments shall continue to be levied during the extension period and that notice of such extension is delivered to the District Manager at least 30 days prior to the turn-over date. The Board of the GHAD intends that the period between the levying of the GHAD assessment and the GHAD becoming responsible to perform activities on property within the Final Map will allow the District to accumulate reserve funds without incurring significant expenses.

7.36.3 PROCESS FOR TRANSFERRING RESPONSIBILITY FOR GHAD ACTIVITIES

After the Transfer Eligibility Date for parcel(s), the process for transferring responsibility for performing GHAD activities on such parcel(s) shall be as follows:

- A. In the calendar year of the Transfer Eligibility Date or in any subsequent year, at its discretion, the developer, HOA, or current property owner may apply to the GHAD ("Transfer Application") to transfer the responsibility for performing GHAD Activities for parcel(s) to the District.
- B. Within 30 days of receiving such notice, a representative of the GHAD shall verify that all the facilities for which the GHAD will have maintenance responsibility have been constructed and maintained according to the city-approved plans and specifications for the individual improvements, and that such facilities are operational and in good working order.

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- C. Within 15 days of such inspection, the GHAD will send the developer, HOA, or current property owner a list ("Punch list") of all of the items that need to be constructed, repaired or otherwise modified in order to comply with the city-approved plans and specifications.
- D. The developer, HOA, or current property owner may notify the GHAD when it has completed the items identified on the Punch list.
- E. Within 30 days of receipt of such notice, the GHAD shall verify that all Punch list items have been completed and notify the developer, HOA, or current property owner that the District accepts responsibility for performing all future GHAD Activities on the parcel(s).

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8.07.0 VII. 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.

8.17.1 GENERAL LANDSLIDE AND EROSION HAZARD MITIGATION

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. ~~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.

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- 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 often 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.

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9.08.0 VIII. PRIORITY OF GHAD EXPENDITURES

Emergency response and scheduled repair expenditures by the GHAD are to be prioritized by the General GHAD Manager, utilizing his or her discretion, based upon available funds and the approved operating budget. When available funds are not sufficient to undertake all of the identified remedial and preventive stabilization measures, the expenditures are to be prioritized as follows in descending order of 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, developer-constructed retaining walls 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.

10.09.0 IX. — MAINTENANCE AND MONITORING SCHEDULE

Geologic features and GHAD-maintained facilities should be inspected by GHAD staff or GHAD-assigned consultants as presented below. The site inspections should be undertaken at appropriate intervals as determined by the GHAD manager using supporting documents prepared for the site and its improvements. The GHAD budget should provide for ~~four~~three or more inspections in years of heavy rainfall. Generally, the inspections should 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.

Following are guidelines for a monitoring plan. The actual timing, scope, frequency and other details regarding such maintenance, inspection and similar activities shall be at the discretion of the GHAD manager.

- ~~The~~An Engineer and/or Geologist retained by the District should carry out an inspection of lined surface ditches at least twice a year, budget permitting. One inspection should be in the fall prior to the onset of winter rains. The inspection shall check for sedimentation and cracking or shifting of the concrete lined ditches. Repairs and maintenance, as needed, should be undertaken including removal of excess silt or sediment in ditches and patching or replacement of cracked or broken ditches, prior to the beginning of the next rainy season.
- An Engineer and/or Geologist should carry out a geologic reconnaissance of the site slopes including walkways for indications of erosion or slope failures.

Developer-constructed retaining walls should be inspected for evidence of distress, such as tilting and/or structural failure. Repairs and maintenance would be undertaken only in the event that the structural integrity of the wall has been compromised or if the wall distress poses a threat to the integrity of adjacent structures.

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- ~~Subsurface drain outlets and horizontal drilled drain outlets, if any, should be checked. Water flowing from these outlets should be measured and recorded during each inspection. The inspections should take place at least twice annually, preferably in the fall and spring. Any suspicious interruption in flow should signal a need to unplug or clean by flushing the affected drain.~~
- Piezometers to measure groundwater levels, or instruments such as inclinometers or tiltmeters measuring potential slope instability should be monitored quarterly as recommended, if installed.
- Settlement monitoring devices, if any, should be measured annually and tracked. In the event of anomalous readings or excessive settlement, the monitoring frequency should be increased to once per quarter.
- Inlets, outfalls or trash racks, if used, must be kept free of debris and spillways maintained. It is anticipated that initially at least once every two (2) years, cleanup of vegetation and removal of silt would be in order. ~~Attention should be given to plantings or other obstructions which may interfere with access by power equipment.~~
- An annual inspection shall be made by the engineer and/or engineering geologist to assess the effectiveness of the preventive maintenance program and to make recommendations as to which landslide or erosion measures should be undertaken in the next fiscal year. Any appropriate site-specific study of landslide or erosion conditions shall be determined at that time. Consultants, if necessary, will be retained to undertake the needed studies. An annual inspection report to the GHAD shall be prepared by the District Engineer and/or Engineering Geologist.

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SELECTED REFERENCES

A.C.K. Engineering and Surveying, Siena Hill Subdivision, Oakland, California, dated March 3, 2005.

California Division of Mines and Geology, January 1, 1982, State of California Earthquake Fault Zones, Oakland East 7-½' Quadrangle.

Darwin Myers Associates, April 7, 2006, Engineering Geology Peer Review, Proposed Siena Hill GHAD, Keller Avenue at Greenridge Drive, Oakland, California; Project Number 2002.06.

Graymer, R. W., 2000, Geologic Map and Map Database of the Oakland Metropolitan Area, Alameda, Contra Costa and San Francisco Counties, California: United States Geological Survey MF-2342.

Nilsen, T. H., 1975, Preliminary Photointerpretation Map of Landslide and Other Surficial Deposits of the Oakland East 7½' Quadrangle, Alameda and Contra Costa Counties, California; USGS Open File Map 75-277-14.

Oakland City Council, Resolution No. 80058, Approving Formation of the Oakland Area GHAD and Appointing Members of the City Council to Act as the GHAD Board of Directors, July 18, 2006.

Oakland Area GHAD, Resolution No. 1, Appointment of Chair and GHAD Officers, October 3, 2006.

Oakland Area GHAD, Resolution No. 9, Appointment of GHAD Clerk and Treasurer, June 17, 2015.

Radbruch, D.H., 1969, Areal and Engineering Geology of the Oakland East Quadrangle, Alameda and Contra Costa Counties, California; USGS GQ769.

Underdahl, G. E., September 10, 2001, Geotechnical Investigation, Planned Townhouse Development, Keller Avenue, Oakland, Alameda County, California, Project Number 9460501023.

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May 9, 2006

Revised August 31, 2006

Latest Revision April 26, 2016

SELECTED REFERENCES (Continued)

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APPENDIX A

Figure and Exhibits

Figure 1	GHAD Boundary
Exhibit A	Legal Description of Siena Hill Property
Exhibit B	Legal Description of Siena Hill Easement Area
Exhibit C	Retaining Walls Outside of Project Area

ENGINEER'S REPORT

for

OAKLAND AREA GEOLOGIC HAZARD ABATEMENT DISTRICT

CITY OF OAKLAND, CALIFORNIA

AUGUST 31, 2006

Revised April 26, 2016

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ENGINEER'S REPORT

GEOLOGIC HAZARD ABATEMENT DISTRICT-OAKLAND AREA
(Pursuant to the Public Resources Code of the State of California, Section 26500 et seq.)

CERTIFICATION OF FILING

ENGEO Incorporated makes this report as directed by the GHAD Board of Directors. The GHAD is intended to provide geologic hazard improvements for Oakland area projects development and to levy and collect assessments sufficient to pay for those improvements.

The improvements, which are the subject of this report, are defined as any activity necessary or incidental in the prevention, mitigation, abatement, or control of a geologic hazard, construction, maintenance, repair, or operation of any improvement; or the issuance and servicing of bonds issued to finance any of the foregoing (Section 26505).

This report consists of seven parts, as follows:

- I. INTRODUCTION
- II. BACKGROUND
- III. GEOLOGIC HAZARD ABATEMENT DISTRICT BOUNDARIES
- IV. SERVICE LEVELS
- V. DESCRIPTION OF GHAD IMPROVEMENTS
- VI. ASSESSMENT METHOD
- VII. ASSESSMENT LIMIT - BUDGET PROJECTION

The undersigned respectfully submits the enclosed Engineer's Report.

Date: _____ By: ENGEO Incorporated

_____, GE

I HEREBY CERTIFY that the enclosed Engineer's Report was filed on the _____ day of _____.

Clerk of the Board
Oakland Area
Geologic Hazard Abatement District
Oakland, California

I HEREBY CERTIFY that the enclosed Engineer's Report was approved and confirmed by the GHAD Board on the _____ day of _____.

~~President~~Chair of the Board
Oakland Area
Geologic Hazard Abatement District
Oakland, California

APPROVED _____

ENGINEER'S REPORT

for

OAKLAND AREA
GEOLOGIC HAZARD ABATEMENT DISTRICT

for the

ESTABLISHMENT OF AN ASSESSMENT LIMIT

I. INTRODUCTION

The Oakland Area Geologic Hazard Abatement District (GHAD) was formed under the authority of the California Public Resources Code, Division 17, Section 26500 et seq.

II. BACKGROUND

The Oakland City Council adopted Resolution 80058 C. M. S. on July 18, 2006, approving the formation of the Oakland Area Geologic Hazard Abatement District ("GHAD" or "District").

III. GEOLOGIC HAZARD ABATEMENT DISTRICT BOUNDARIES

The boundaries for the GHAD are shown in the diagram attached hereto as Exhibits A through C.

IV. SERVICE LEVELS

The GHAD provides for activity that is necessary or incidental to the prevention, mitigation, abatement, or control of geologic hazards including construction, maintenance, repair, or operation of any improvement; and the issuance and servicing of bonds issued to finance any of the foregoing.

The GHAD provides for the administration and review of facilities within the budgeted limits, including the following services:

1. Oversight of GHAD activities.

2. In conjunction with the County Assessor's Office, setting the annual levying of assessments on the property tax rolls.
3. Retention of geotechnical professionals to perform the monitoring duties as described in the GHAD Plan of Control.
4. Performance of GHAD maintenance activities in accordance with the GHAD Plan of Control. These maintenance activities include:
 - Lined drainage ditches.
 - Storm drain inlets, outfalls and pipelines ~~within common areas.~~
 - Subdrains.
 - Retaining wall and appurtenant drainage facility maintenance.
 - ~~Bioswale maintenance.~~
 - Erosion management.
5. Slope reconstruction.
6. Preparation of annual GHAD budgets.

V. DESCRIPTION OF THE GHAD IMPROVEMENTS

The GHAD Improvements are described in the Plan of Control prepared for the Oakland Area GHAD, dated May 9, 2006 (~~revised August 31, 2006~~; latest revision April 26, 2016). In general, improvements include drainage systems (including concrete v-ditches in open space, open-space storm drain inlets and outlets and subdrains in open space), retaining walls with appurtenant drainage systems, and reconstructed slopes.

VI. ASSESSMENT METHOD

With the exception of the retaining walls and appurtenant drainage facilities within the Easement and the Right-of-Way, the improvements and GHAD responsibilities described in Section V are distributed within the GHAD boundaries. ~~Maintenance and protection of these boundary.~~ The improvements ~~provide a~~ described in this document will confer the following special benefit/benefits to the assessed parcels:

1. Protection from slope instability.
2. Protection from erosion due to uncontrolled surface water.
3. Protection of water quality.

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Revised April 26, 2016

The GHAD assessment is distributed among all residential property owners within the GHAD. The improvements and responsibilities listed in Section V provide specific benefits to the properties within the GHAD and the improvements are constructed for the benefit of those assessed and not the general public. The District Engineer hereby finds that the properties within the District receive approximately equal special benefit from the work and improvements within the GHAD. ~~As a result, the GHAD assessment is distributed among all property owners within the GHAD.~~

As listed above and in Section 7VII of the Plan of Control, the GHAD will monitor and maintain retaining walls and appurtenant drainage facilities within the Easement and the Right-of-Way. Although this area is outside the GHAD boundary, the maintenance of these facilities is necessary for site access and to reduce the potential for uncontrolled stormwater infiltration, erosion, and other potential geologic hazards that could affect properties and improvements within the GHAD.

The total number of residential units within the District is divided into the annual District budget to develop the annual assessment amount. A financial analysis was performed to provide a framework for an operating budget for the on-going abatement, mitigation, prevention and control of geologic hazards within the Oakland Area GHAD ~~area~~. In preparation of the budget, several factors were considered including:

- Site geology.
- Proposed remedial grading.
- Proximity of geologic hazards to proposed residences.
- Site access considerations.
- Elements requiring routine maintenance including:
 1. Surface drainage facilities
 2. Graded slopes
 3. Storm drain inlets, outfalls and pipelines ~~within common areas~~
 4. Retaining wall and appurtenant drainage facility maintenance
 5. ~~Bioswale maintenance~~
 6. 5 Erosion management

VII. ASSESSMENT LIMIT - BUDGET

6964.1.001.01002.015

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Revised April 26, 2016

Based on the updated estimated expenses for on-going operations, and allowing for larger (approximately \$~~750~~250,000) geologic events at ~~15~~20-year intervals, a budget was prepared for the purpose of estimating initial assessment levels (Exhibit D). ~~In order to establish a reasonable reserve in the early years following formation of the GHAD, there will be an initial deferral of GHAD expenses as described in the Plan of Control.~~

The District Engineer recommends an annual assessment limit (~~2006~~FY 2016/17 dollars) of \$~~2,632~~500 per residential unit to be levied in conjunction with the issuance of building permits or at the time of legal parcel formation when the Final Map is adopted, whichever is later, as described in the Plan of Control. ~~This~~The actual levy will be set to \$1,119 per residential unit. The limit will escalate annually based on the San Francisco-Oakland-San Jose Consumer Price Index.

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EXHIBITS A - C

GHAD Boundary

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EXHIBIT D

Oakland Area GHAD Budget

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EXHIBIT D
Oakland Area Geologic Hazard Abatement District
Budget – ~~August 31, 2006~~ April 26, 2016

ASSUMPTIONS

Total No. of Units	32
Annual Assessment per Unit	\$2,632 <u>500</u>
Annual Adjustment in Assessment	3.0%
Inflation	3.0%
Investment Earnings	<u>6</u> 5.0%
Frequency of Large-Scale Repair (years)	<u>1</u> 5 <u>20</u>
Cost of Large-Scale Repair (current \$)	\$750 <u>250,000</u>

ESTIMATED ANNUAL EXPENSES IN 2006FY 2016/17 DOLLARS

Bioswale Maintenance	1,000
Erosion Management/Repair	42,500
GHAD Monitoring Program	3,500
Private Street Drainage Maintenance	<u>1,000</u> 500
Retaining Wall Maintenance/Replacement	1,000
Major Landsliding (Annualized)	50,000 12,500
Revegetation	<u>1,000</u> 500
Slope Stabilization (incl. minor landsliding)	5,000
Technical Consultants	6,500 <u>1,000</u>
Attorney Fees	32,500
GHAD Staff/Administration	7,000
Accounting	5,000
Misc & Contingency (10%)	<u>8,900</u>
TOTAL	\$97,900<u>41,000</u>

**THE BOARD OF DIRECTORS OF OAKLAND AREA
GEOLOGIC HAZARD ABATEMENT DISTRICT**

RESOLUTION NO. 10

**RESOLUTION APPROVING THE REVISED OAKLAND AREA GEOLOGIC HAZARD
ABATEMENT DISTRICT PLAN OF CONTROL FOR THE SIENA HILL
DEVELOPMENT**

WHEREAS, on July 18, 2006, the Oakland City Council adopted Resolution No. 80058 approving the formation of the Oakland Area Geologic Hazard Abatement District (“GHAD”) and appointing itself to serve as the GHAD Board of Directors;

WHEREAS, on October 3, 2006, the GHAD Board adopted Resolution No. 2 accepting the GHAD Plan of Control for the 32 lot Siena Hill development (“Plan of Control”) and set a hearing for December 5, 2006 to consider objections to the Plan of Control;

WHEREAS, on December 5, 2006, the GHAD Board, without any objections to the Plan of Control, adopted Resolution No. 5 approving the Plan of Control dated May 9, 2006 and revised August 31, 2006;

WHEREAS, the Plan of Control, among other criteria, requires all retaining walls within the Siena Hill development to be constructed before the GHAD improvements become eligible for transfer to the GHAD; the GHAD can only assume responsibilities for the GHAD improvements under the Plan of Control once the GHAD improvements are transferred; the property owners remain responsible for the GHAD improvements until the GHAD assumes responsibility;

WHEREAS, only 10 homes have been built within the Siena Hill development; the retaining walls required for the 22 vacant lots have yet to be constructed thereby preventing the GHAD improvements from being eligible for transfer to the GHAD;

WHEREAS, the property owners of the 10 homes have been assessed with a real property assessment to fund the GHAD and are not receiving GHAD services;

WHEREAS, Oakland Siena LLC is the owner of the property comprising the 22 vacant lots and are not subject to the real property assessment; the assessment is only imposed after a residential building permit is issued on a parcel;

WHEREAS, on May 11, 2016 the Siena Hill Homeowners Association (“HOA”) filed an application with the GHAD Manager to seek amendments to the Plan of Control and Engineer’s Report;

WHEREAS, on June 7, 2016 Oakland Siena LLC filed an application with the GHAD Manager to seek the same amendments to the Plan of Control and Engineer’s Report as those sought by the HOA (these applications are collectively referred to as “GHAD Applications”);

WHEREAS, the GHAD Applications seek to amend the Plan of Control to allow the GHAD to accept certain improvements in the area wherein the 10 homes have been built and to reduce certain responsibilities of the GHAD and in an effort to reduce the assessment limit and levy of the assessment amount;

WHEREAS, a revised Plan of Control for the Siena Hill development has been prepared consistent with Public Resources Code sections 26558 and 26509 and is attached hereto as Attachment 10-A.

WHEREAS, the revised Plan of Control is exempt from the provisions of the California Environmental Quality Act (Pub. Res. Code §§ 21000 *et seq.*) in accordance with Public Resources Code sections 21080(b)(4) and 26559.

NOW THEREFORE, the GHAD Board of Directors resolves and orders that:

1. The revised Oakland Area GHAD Plan of Control for the Siena Hill development, dated May 9, 2006 as revised April 26, 2016, is hereby approved and adopted.
2. This Resolution shall become effective immediately upon its passage and adoption.

OAKLAND, CALIFORNIA, _____, 2016

PASSED BY THE FOLLOWING VOTE:

AYES:

NOES:

ABSENT:

ABSTAIN:

ATTEST:

Clerk of the GHAD Board

Attachments: Attachment 10-A (Oakland Area GHAD Plan of Control for Siena Hill Development)

ATTACHMENT 10A

**OAKLAND AREA GHAD PLAN OF CONTROL FOR SIENA HILL
DEVELOPMENT**

(TO BE ATTACHED UPON APPROVAL)

**THE BOARD OF DIRECTORS OF OAKLAND AREA
GEOLOGIC HAZARD ABATEMENT DISTRICT (GHAD)**

RESOLUTION NO. 11

**RESOLUTION OF INTENTION TO ORDER AN ASSESSMENT FOR THE OAKLAND
AREA GHAD AND SETTING A DATE FOR A PUBLIC HEARING TO CONSIDER
THE PROPOSED ASSESSMENT AND PROTESTS AGAINST THE ASSESSMENT**

WHEREAS, on July 18, 2006, the Oakland City Council adopted Resolution No. 80058 approving the formation of the Oakland Area Geologic Hazard Abatement District ("GHAD") and appointing itself to serve as the GHAD Board of Directors;

WHEREAS, on October 3, 2006, the GHAD Board adopted Resolution No. 3 approved the GHAD Budget, dated August 31, 2006.

WHEREAS, on October 3, 2006, the GHAD Board adopted Resolution No. 4 approving issuance of a Notice of Intent to Order an Assessment and setting a Public Hearing to Consider the Assessment;

WHEREAS, on December 5, 2006, the GHAD Board, without any objections to the Plan of Control, adopted Resolution No. 5 approving the Plan of Control dated May 9, 2006 and revised August 31, 2006;

WHEREAS, on December 5, 2006, the GHAD Board adopted Resolution Nos. 6 and 7 accepting Canvas of Votes for the GHAD and Confirming Assessment for the GHAD and Ordering Levy and Collection of the Assessment;

WHEREAS, the Plan of Control, among other criteria, requires all retaining walls within the Siena Hill development to be constructed before the GHAD improvements become eligible for transfer to the GHAD; the GHAD only assumes responsibilities for the GHAD improvements under the Plan of Control once the GHAD improvements are transferred; the property owners remain responsible for the GHAD improvements until the GHAD assumes responsibility;

WHEREAS, only 10 homes have been built within the Siena Hill development; the retaining walls required for the 22 vacant lots have yet to be constructed thereby preventing the GHAD improvements from being eligible for transfer to the GHAD;

WHEREAS, the property owners of the 10 homes have been assessed with a real property assessment to fund the GHAD and are not receiving GHAD services;

WHEREAS, Oakland Siena LLC is the owner of the property comprising the 22 vacant lots and are not subject to the real property assessment; the assessment is only imposed after a building permit is issued;

WHEREAS, on May 11, 2016 the Siena Hill Homeowners Association (“HOA”) filed an application with the GHAD to seek amendments to the Plan of Control and Engineer’s Report;

WHEREAS, on June 7, 2016 Oakland Siena LLC filed an application with the GHAD to seek the same amendments to the Plan of Control and Engineer’s Report as those sought by the HOA (these applications are collectively referred to as “GHAD Applications”);

WHEREAS, the GHAD Applications seek to amend the Plan of Control to allow the GHAD to accept certain improvements within the area of the already built 10 homes and to reduce certain responsibilities of the GHAD in an effort to reduce the assessment limit and levy of the assessment amount;

WHEREAS, on _____, 2016, the GHAD Board adopted Resolution No. 10 approving the revised GHAD Plan of Control for the Siena Hill development dated _____, 2016 with a revised listing and scope of services for GHAD maintained improvements;

WHEREAS, the GHAD Board Application also seeks to reduce the assessment limit to reflect the changes in the Plan of Control;

WHEREAS, in order to pay for the cost and expenses of maintaining and operating the GHAD improvements as set forth in the revised Plan of Control, it is appropriate to revise the Engineer’s Report and the assessment for GHAD services;

WHEREAS, Public Resources Code sections 26650 *et seq.* authorize, after a noticed public hearing, the levy and collection of an assessment upon specially benefited property within the GHAD to pay for the maintenance and operation of GHAD improvements. Article XIII(D) of the California Constitution imposes additional requirements for the levy and collection of said assessment;

WHEREAS, the property within the GHAD is identified in the map attached hereto as Attachment 11-A, and each parcel to be assessed is identified on the map; and

WHEREAS, an Engineer’s Report has been prepared by the GHAD Manager to reflect the revised Plan of Control adopted by the GHAD Board on _____; the GHAD Manager is a registered professional engineer, certified in the State of California, in compliance with Public Resources Code section 26651(a) and section 4(b) of Article XIII (D) of the California Constitution; the Engineer’s Report attached hereto as Attachment 11-B sets forth the purpose of the GHAD, the estimated budget, the total assessment that will be chargeable to the entire GHAD, the proposed estimated assessment to be levied against each parcel of property within the GHAD, and a description of the method used in formulating the estimated assessments.

NOW THEREFORE, the GHAD Board of Directors resolves and orders that:

1. The GHAD Board declares its intention, consistent with the requirements of Article XIII (D) of the California Constitution, Public Resources Code sections 26650 *et seq.*, Government Code section 53750, and Elections Code section 4000, to order that the cost and expenses of maintaining and operating any GHAD improvements acquired or constructed

pursuant to Public Resources Code sections 26500 *et seq.* shall be assessed against the property within the GHAD, which is benefited by the GHAD.

2. The GHAD Board further declares its intention to reduce the current assessment amount on the property within the GHAD as set forth in the Engineer's Report and levy that said amount on the 10 existing homes.

3. Notwithstanding Paragraph 2 above, the GHAD Board shall not order this assessment if a majority protest exists as defined in Section 4(e) of Article XIII(D) of the California Constitution. In the event that the assessment described in this document is not approved by vote of the property owners within the GHAD, the existing assessment will remain in place.

4. Each of the parcels identified in Attachment 11-A will receive a particular and distinct special benefit in the form of GHAD facilities and services that are over and above the general benefits received by the general public. Specifically, in order to control geologic hazards within the GHAD, the GHAD may, without limitation: (a) evaluate the performance of the natural, cut and reconstructed slopes, the surface drainage and ditches to prevent certain geologic hazards within the GHAD; (b) perform certain temporary and permanent mitigation, repairs and improvement measures to prevent, mitigate, abate and control geologic hazards within the GHAD; (c) maintain debris benches, drainage systems and instruments such as piezometers, settlement monitors and inclinometers; and (d) establish a reserve to fund, prevent, mitigate, abate or control geologic hazards within the GHAD. These special benefits are described in detail in the GHAD Plan of Control.

5. Whenever a residential building permit is issued on the vacant 22 parcels identified in Attachment 11-A, that lot will be assessed on an equal basis with each single family in the Project. The annual assessment amount for each residential unit will be calculated by dividing the annual GHAD budget by the number of residential units then existing within the GHAD boundaries. It is anticipated that upon completion of the Siena Hill development, the GHAD boundaries will cover the 32 unit subdivision site, and improvements within the access easement and associate right-of-way areas.

6. The GHAD Board has reviewed and considered the GHAD Engineer's Report. The special benefit derived from the GHAD by each parcel is proportionate to the entire costs of the GHAD, and the amount of the assessment is proportional to, and no greater than, the benefits conferred on each parcel. The assessment does not exceed the reasonable cost of the proportional special benefit conferred on each parcel.

7. No later than three (3) days after adoption of this Resolution, the GHAD Board shall direct the Clerk of the GHAD to cause to be mailed the "Notice of Adoption of Resolution and Notice of Assessment" of the Public Hearing, in substantially the same form as in Attachment 11-C, to the record owners of each parcel upon which the assessment will be imposed. The sealable Ballot, attached hereto as Attachment 11-D, and the GHAD Engineer's Report, shall be attached to the Notice.

8. The GHAD Board will conduct the public hearing on _____ at 6:00 p.m. or thereafter at Council Chambers, 1 Frank H. Ogawa Plaza, and Oakland, California. The Clerk of the GHAD shall deliver all sealed ballots received from record owners of parcels within the Oakland Area GHAD boundaries to the GHAD Board prior to the start of the public hearing. The ballots shall remain sealed until they are tabulated. The GHAD Board shall permit a change, withdrawal, or submittal of a ballot at any time prior to the conclusion of the public testimony on the proposed assessment at the public hearing. The GHAD Board shall then close the public hearing and consider all protests against the proposed assessment. After the GHAD Board closes the public hearing, the Clerk of the GHAD, or some other impartial person not having a vested interest in the outcome of the proposed assessment, shall tabulate the ballots, and shall weight the ballots according to the proportional financial obligation of the affected property. The GHAD Board shall not impose the assessment if there is a majority protest as that term is defined by Section 4(e) of Article XIII (D) of the California Constitution. If there is no majority protest, the GHAD Board shall authorize the assessment. Following the public hearing, the GHAD Board shall consider the adoption of the canvas of votes for the GHAD.

9. Upon authorization of the assessment, the GHAD Board shall levy the authorized assessment on each existing homeowner and levy the assessment on the remaining and now vacant 22 parcels the first fiscal year following issuance of a residential building permit for each of those parcels.

10. This Resolution shall become effective immediately upon its passage and adoption.

OAKLAND, CALIFORNIA, _____

PASSED BY THE FOLLOWING VOTE:

AYES:

NOES:

ABSENT:

ABSTENTIONS:

ATTEST: _____

Clerk of the GHAD Board

Attachments: Attachment 11-A (Map of Oakland Area GHAD Boundaries)
Attachment 11-B (Engineer's Report)
Attachment 11-C (Notice of Adoption of Resolution and Notice of Assessment)
Attachment 11-D (Ballot)

SIENA HILL PROPERTY

The land referred to is situated in the County of Alameda, City of Oakland, State of California, 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 Maps, Page 27, Alameda County Records.

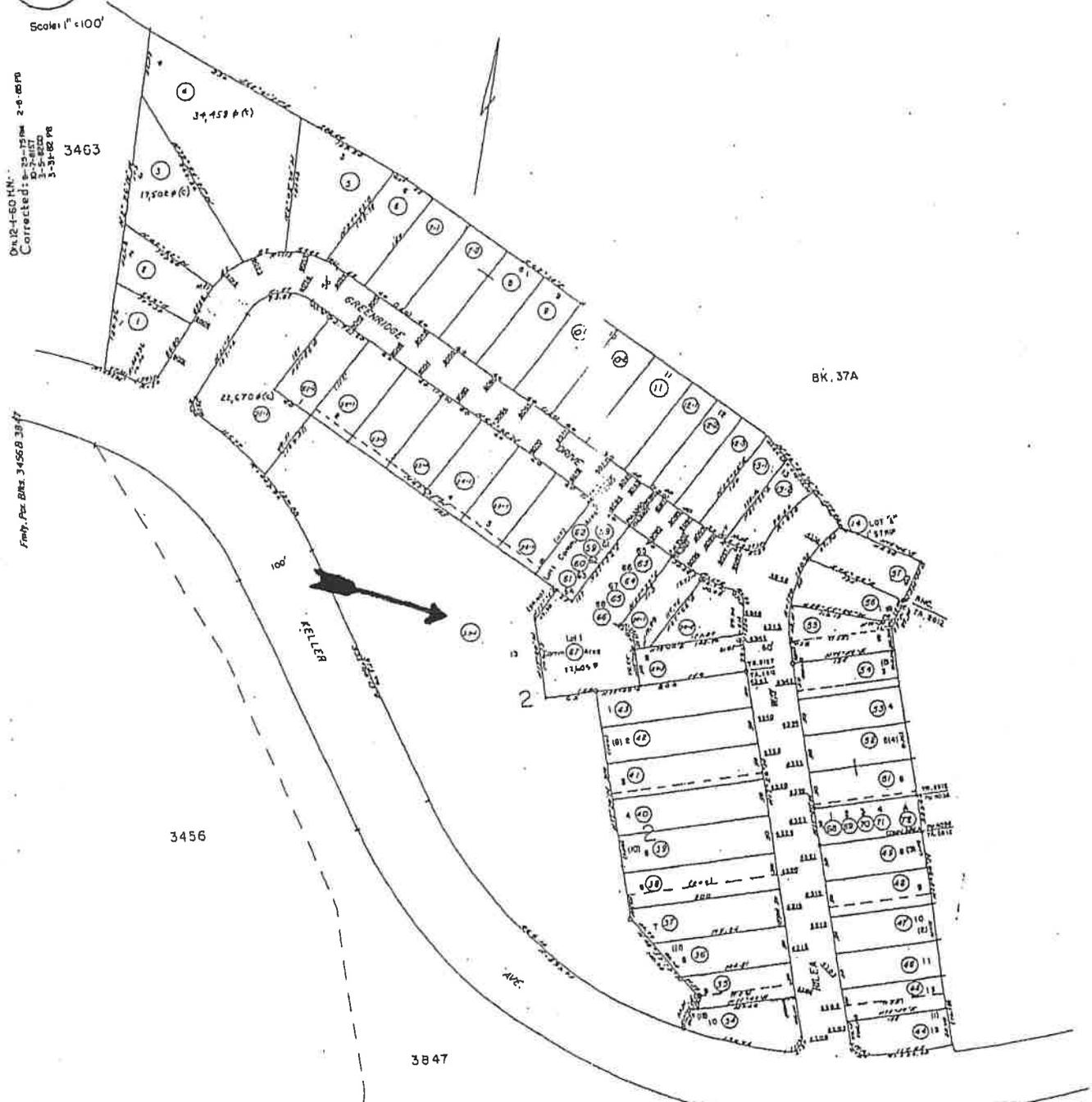
EXCEPTING THEREFROM: Those portions thereof described in Parcels 2, 3, 4, 5, 6, 7 and 8, as described in the Deed by Sterling Development Company to Oddstead Homes, dated February 12, 1962, recorded February 19, 1962, Reel 518, Image 315, Instrument No. AT/22269, Alameda County Records.

(BEING APN 040A-3457-033-01)

ASSESSOR'S MAP 40A

3457

SIENA HILL PROPERTY



DL 12-1-60 MN
 Corrected: 3-2-61
 3-5-62
 3-31-62 Pa

Final Per. Bks. 3456B 3847

"Notice: This is neither a plat nor a survey. It is furnished merely as a convenience to aid you in locating the land indicated hereon with reference to streets and other Land. No liability is assumed by reason of any reliance hereon."

MPN 72

ROADWAY EASEMENT ON ADJACENT PROPERTY

EASEMENT FOR INGRESS & EGRESS

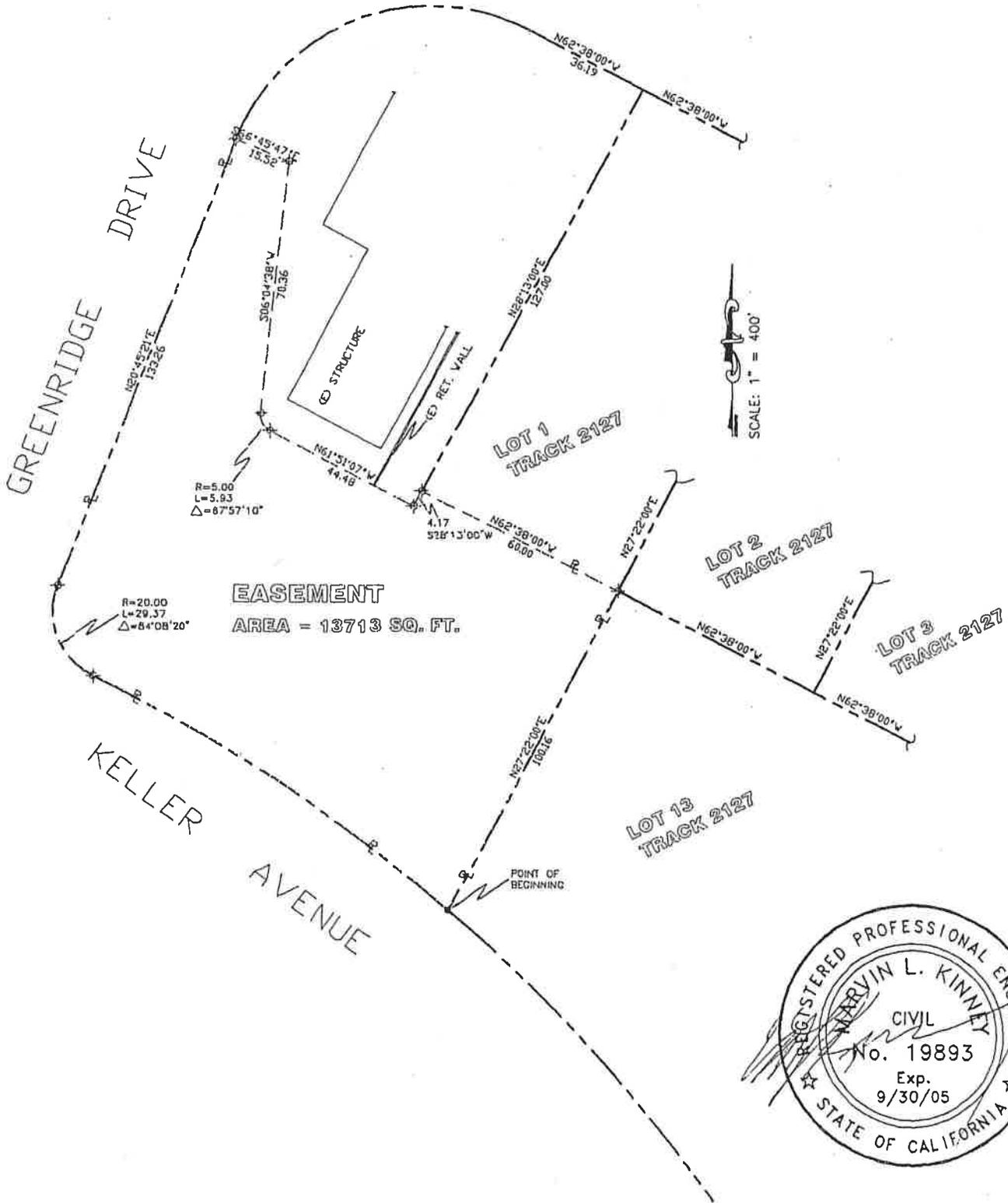
AN EASEMENT FOR INGRESS & EGRESS AND PUBLIC UTILITIES INCLUDING STORM DRAINAGE IN THE CITY OF OAKLAND, COUNTY OF ALAMEDA, STATE OF CALIFORNIA BEING DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTHWEST CORNER OF LOT 13 IN BLOCK 2 AS SHOWN ON THE MAP OF "TRACT 2127, OAKLAND, ALAMEDA COUNTY, CALIFORNIA", FILED JULY 28, 1960 IN BOOK 42 OF MAPS, PAGE 27, ALAMEDA COUNTY RECORDS, SAID POINT ALSO BEING ON THE NORTHERLY RIGHT-OF-WAY LINE OF KELLER AVENUE; THENCE ALONG THE WESTERLY LINE OF SAID LOT 13, NORTH 27° 22' 00" EAST, 100.16 FEET, MORE OR LESS TO THE SOUTHWEST CORNER OF LOT 1 AS SHOWN ON SAID MAP OF "TRACT 2127"; THENCE ALONG SAID SOUTHERLY LINE OF SAID LOT 1, NORTH 62° 38' 00" WEST, 60 FEET TO THE SOUTHWEST CORNER OF SAID LOT 1; THENCE SOUTH 28° 13' 00" WEST, 4.17 FEET; THENCE NORTH 61° 51' 07" WEST, 44.48 FEET, THENCE ALONG A CURVE TO THE RIGHT HAVING A RADIUS OF 5 FEET, AN ARC LENGTH OF 5.93 FEET AND A CENTRAL ANGLE OF 67° 57' 10"; THENCE ALONG A LINE TANGENT TO THE CURVE NORTH 06° 04' 38" EAST, 70.36 FEET; THENCE NORTH 66° 45' 47" WEST, 15.52 FEET TO A POINT ON THE EASTERLY RIGHT-OF-WAY LINE OF GREENRIDGE DRIVE; THENCE ALONG THE SAID RIGHT-OF-WAY LINE SOUTH 20° 45' 21" WEST, 133.26 FEET; THENCE ALONG A CURVE TO THE LEFT THROUGH A CENTRAL ANGLE OF 84° 08' 20", AN ARC LENGTH OF 29.37 FEET AND A RADIUS OF 20.00 FEET TO POINT ON THE NORTHERLY RIGHT-OF-WAY LINE OF KELLER AVENUE; THENCE ALONG THE SAID NORTHERLY RIGHT-OF-WAY LINE, BEING A CURVE TO THE RIGHT HAVING A RADIUS OF 449.96 FEET, AN ARC LENGTH OF 115.77 FEET AND THROUGH A CENTRAL ANGLE OF 14° 44' 31" TO THE POINT OF BEGINNING.

CONTAINING 13,713 SQUARE FEET.

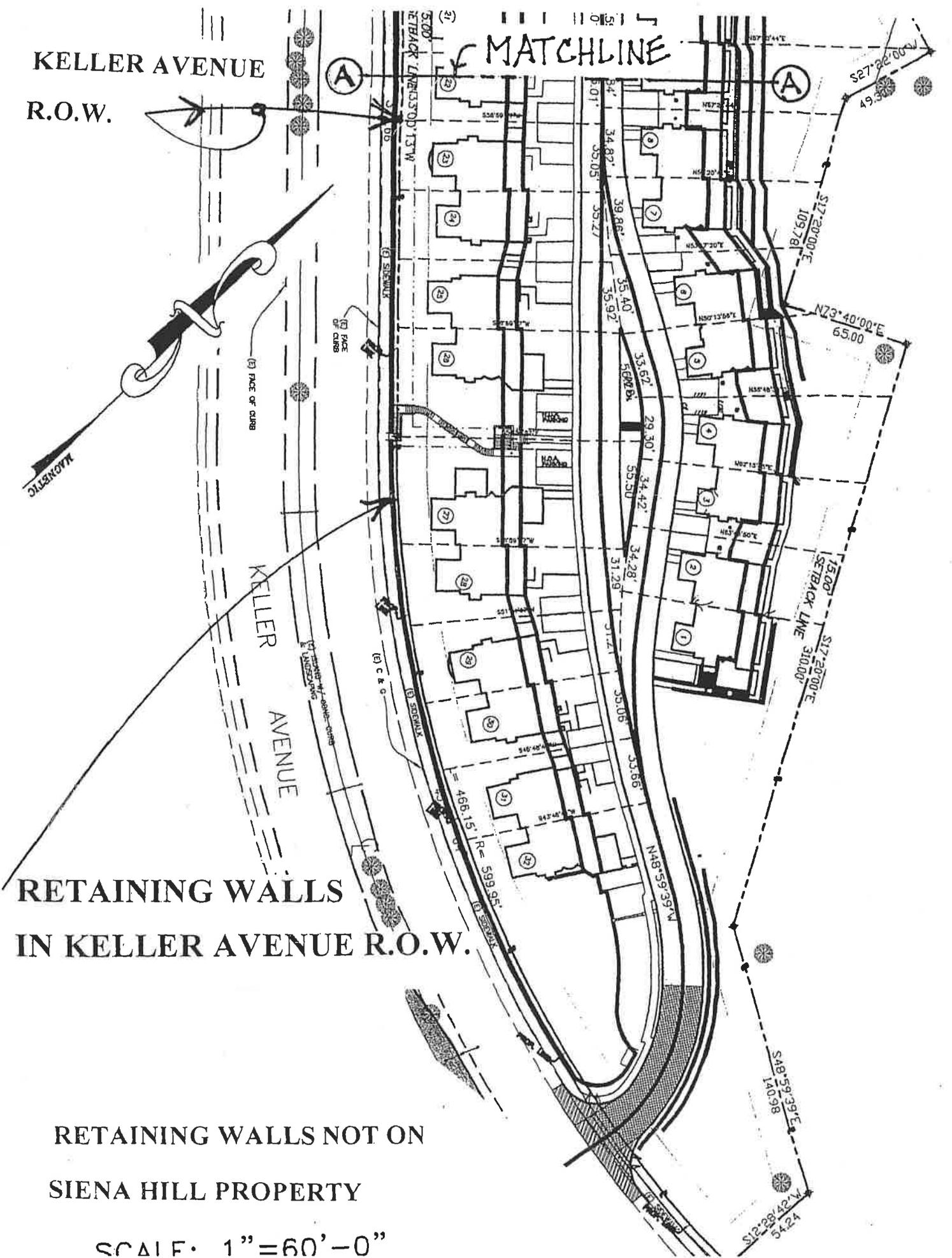


ROADWAY EASEMENT ON ADJACENT PROPERTY



KELLER AVENUE
R.O.W.

MATCHLINE



RETAINING WALLS
IN KELLER AVENUE R.O.W.

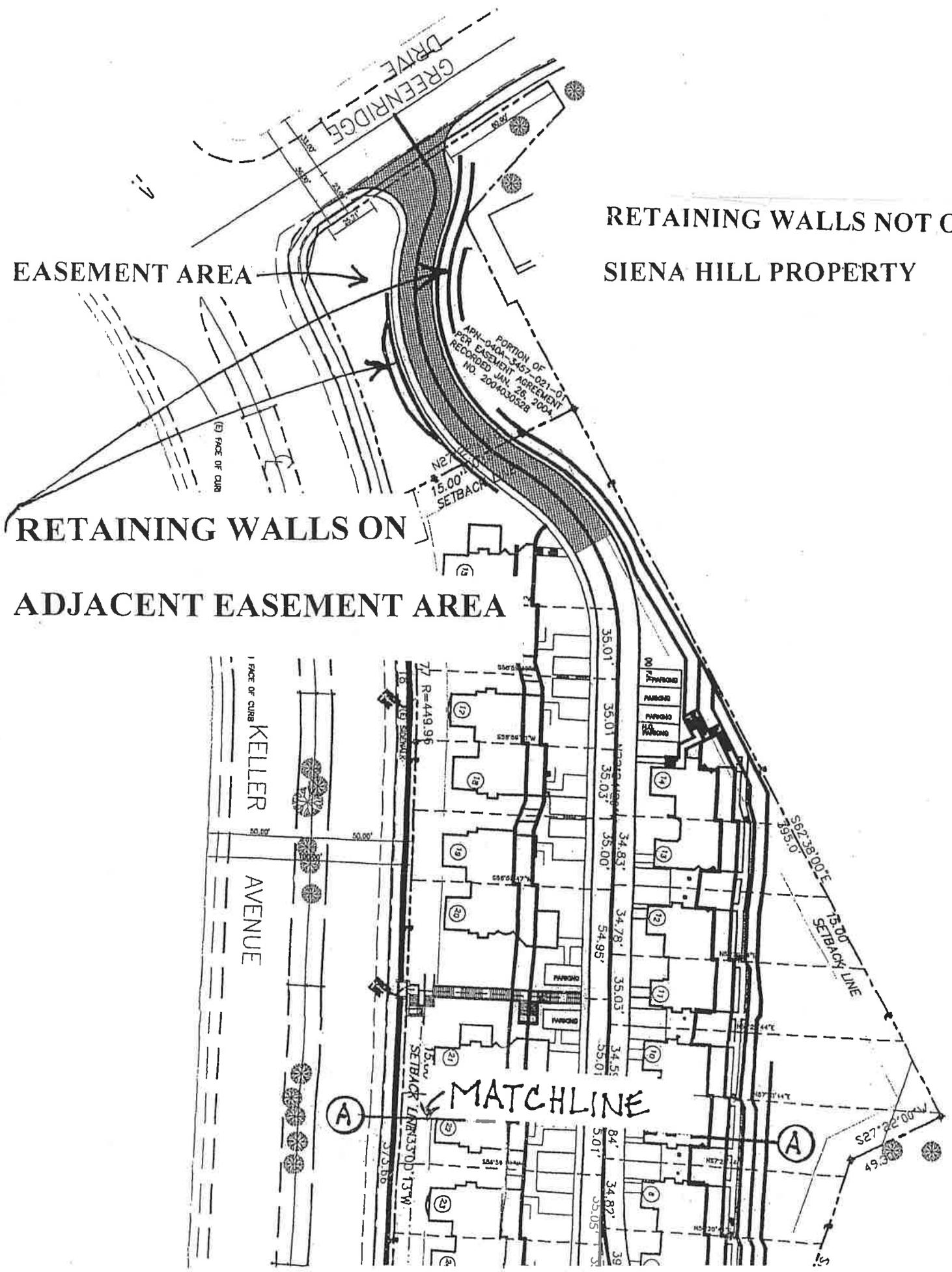
RETAINING WALLS NOT ON
SIENA HILL PROPERTY

SCALE: 1"=60'-0"

EASEMENT AREA

RETAINING WALLS NOT ON
SIENA HILL PROPERTY

RETAINING WALLS ON
ADJACENT EASEMENT AREA



ENGINEER'S REPORT

for

OAKLAND AREA GEOLOGIC HAZARD ABATEMENT DISTRICT

CITY OF OAKLAND, CALIFORNIA

AUGUST 31, 2006

Revised April 26, 2016

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ENGINEER'S REPORT

GEOLOGIC HAZARD ABATEMENT DISTRICT-OAKLAND AREA
(Pursuant to the Public Resources Code of the State of California, Section 26500 et seq.)

CERTIFICATION OF FILING

ENGEO Incorporated makes this report as directed by the GHAD Board of Directors. The GHAD is intended to provide geologic hazard improvements for Oakland area projects development and to levy and collect assessments sufficient to pay for those improvements.

The improvements, which are the subject of this report, are defined as any activity necessary or incidental in the prevention, mitigation, abatement, or control of a geologic hazard, construction, maintenance, repair, or operation of any improvement; or the issuance and servicing of bonds issued to finance any of the foregoing (Section 26505).

This report consists of seven parts, as follows:

- I. INTRODUCTION
- II. BACKGROUND
- III. GEOLOGIC HAZARD ABATEMENT DISTRICT BOUNDARIES
- IV. SERVICE LEVELS
- V. DESCRIPTION OF GHAD IMPROVEMENTS
- VI. ASSESSMENT METHOD
- VII. ASSESSMENT LIMIT - BUDGET PROJECTION

The undersigned respectfully submits the enclosed Engineer's Report.

Date: June 30, 2016

By: ENGEO Incorporated

 _____, GE

I HEREBY CERTIFY that the enclosed Engineer's Report was filed on the ____ day of _____.

Clerk of the Board
Oakland Area
Geologic Hazard Abatement District
Oakland, California

I HEREBY CERTIFY that the enclosed Engineer's Report was approved and confirmed by the GHAD Board on the ____ day of _____.

Chair of the Board
Oakland Area
Geologic Hazard Abatement District
Oakland, California

APPROVED _____

ENGINEER'S REPORT

for

OAKLAND AREA
GEOLOGIC HAZARD ABATEMENT DISTRICT

for the

ESTABLISHMENT OF AN ASSESSMENT LIMIT

I. INTRODUCTION

The Oakland Area Geologic Hazard Abatement District (GHAD) was formed under the authority of the California Public Resources Code, Division 17, Section 26500 et seq.

II. BACKGROUND

The Oakland City Council adopted Resolution 80058 C. M. S. on July 18, 2006, approving the formation of the Oakland Area Geologic Hazard Abatement District ("GHAD" or "District").

III. GEOLOGIC HAZARD ABATEMENT DISTRICT BOUNDARIES

The boundaries for the GHAD are shown in the diagram attached hereto as Exhibits A through C.

IV. SERVICE LEVELS

The GHAD provides for activity that is necessary or incidental to the prevention, mitigation, abatement, or control of geologic hazards including construction, maintenance, repair, or operation of any improvement; and the issuance and servicing of bonds issued to finance any of the foregoing.

The GHAD provides for the administration and review of facilities within the budgeted limits, including the following services:

1. Oversight of GHAD activities.
2. In conjunction with the County Assessor's Office, setting the annual levying of assessments on the property tax rolls.

3. Retention of geotechnical professionals to perform the monitoring duties as described in the GHAD Plan of Control.
4. Performance of GHAD maintenance activities in accordance with the GHAD Plan of Control. These maintenance activities include:
 - Lined drainage ditches.
 - Storm drain inlets, outfalls and pipelines.
 - Subdrains.
 - Retaining wall and appurtenant drainage facility maintenance.
 - Erosion management.
5. Slope reconstruction.
6. Preparation of annual GHAD budgets.

V. DESCRIPTION OF THE GHAD IMPROVEMENTS

The GHAD Improvements are described in the Plan of Control prepared for the Oakland Area GHAD, dated May 9, 2006 (latest revision April 26, 2016). In general, improvements include drainage systems (including concrete v-ditches in open space, open-space storm drain inlets and outlets and subdrains in open space), retaining walls with appurtenant drainage systems, and reconstructed slopes.

VI. ASSESSMENT METHOD

With the exception of the retaining walls and appurtenant drainage facilities within the Easement and the Right-of-Way, the improvements and GHAD responsibilities described in Section V are distributed within the GHAD boundary. The improvements described in this document will confer the following special benefits to the assessed parcels:

1. Protection from slope instability.
2. Protection from erosion due to uncontrolled surface water.
3. Protection of water quality.

The GHAD assessment is distributed among all residential property owners within the GHAD. The improvements and responsibilities listed in Section V provide specific benefits to the properties within the GHAD and the improvements are constructed for the benefit of those assessed and not the general public. The District Engineer hereby finds that the properties within the District receive approximately equal special benefit from the work and improvements within the GHAD.

As listed above and in Section 7 of the Plan of Control, the GHAD will monitor and maintain retaining walls and appurtenant drainage facilities within the Easement and the Right-of-Way. Although this area is outside the GHAD boundary, the maintenance of these facilities is necessary for site access and to reduce the potential for uncontrolled stormwater infiltration, erosion, and other potential geologic hazards that could affect properties and improvements within the GHAD.

The total number of residential units within the District is divided into the annual District budget to develop the annual assessment amount. A financial analysis was performed to provide a framework for an operating budget for the on-going abatement, mitigation, prevention and control of geologic hazards within the Oakland Area GHAD. In preparation of the budget, several factors were considered including:

- Site geology.
- Proposed remedial grading.
- Proximity of geologic hazards to proposed residences.
- Site access considerations.
- Elements requiring routine maintenance including:
 1. Surface drainage facilities
 2. Graded slopes
 3. Storm drain inlets, outfalls and pipelines
 4. Retaining wall and appurtenant drainage facility maintenance
 5. Erosion management

VII. ASSESSMENT LIMIT - BUDGET

Based on the updated estimated expenses for on-going operations, and allowing for larger (approximately \$250,000) geologic events at 20-year intervals, a budget was prepared for the purpose of estimating initial assessment levels (Exhibit D).

The District Engineer recommends an annual assessment limit (FY 2016/17 dollars) of \$2,500 per residential unit to be levied in conjunction with the issuance of building permits or at the time of legal parcel formation when the Final Map is adopted, whichever is later, as described in the Plan of Control. The actual levy will be set to \$1,119 per residential unit. The limit will escalate annually based on the San Francisco-Oakland-San Jose Consumer Price Index.

EXHIBITS A through C

GHAD Boundary

EXHIBIT A - I

SIENA HILL PROPERTY

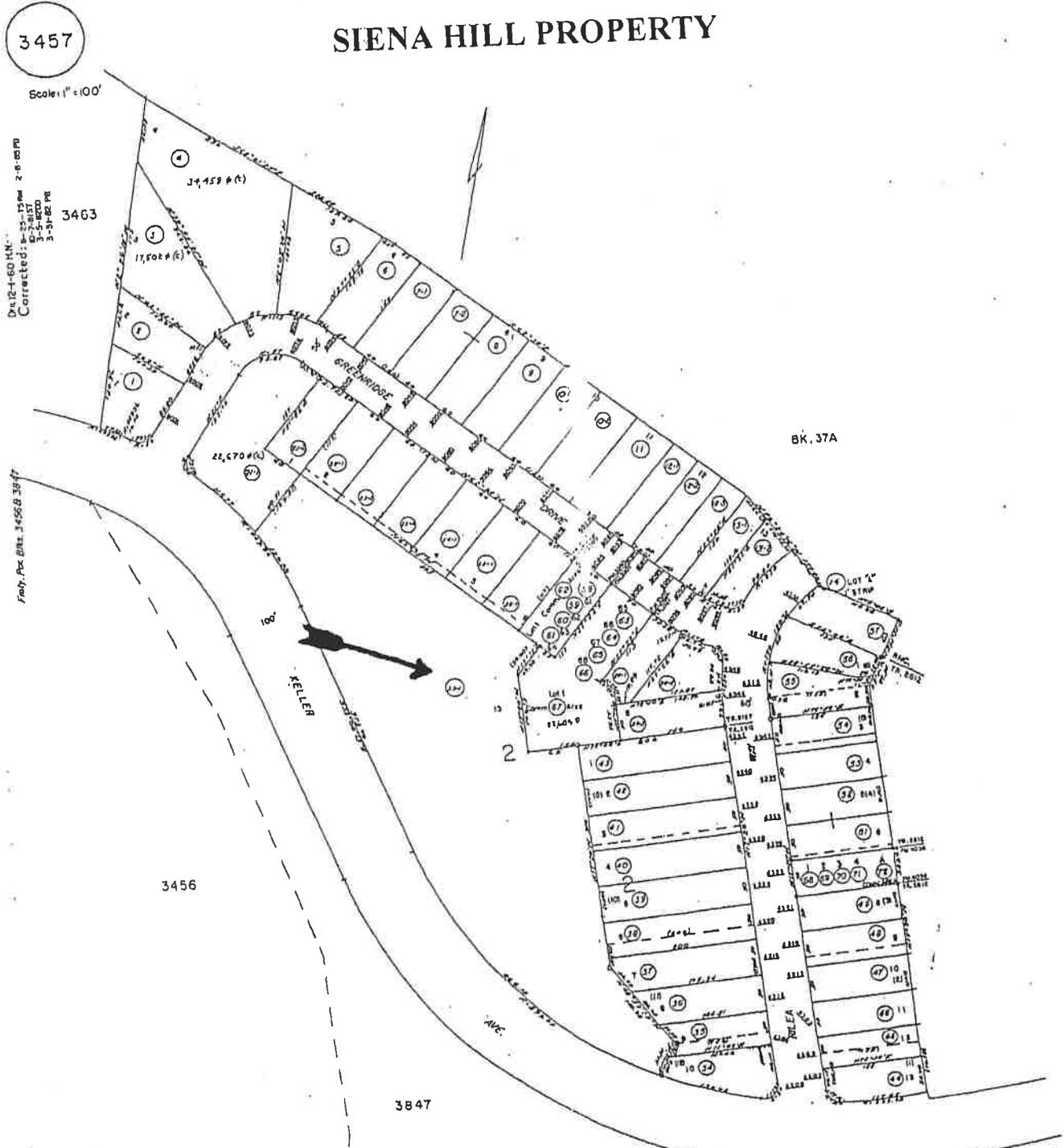
The land referred to is situated in the County of Alameda, City of Oakland, State of California, and is described as follows:

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 Maps, 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.

(BEING APN 040A-3457-033-01)

SIENA HILL PROPERTY



Dns 12-1-60 H.N.
 Corrected: 1-15-1966 2-6-66 PM
 9-2-67 20
 3-31-62 PE

"Notice: This is neither a plat nor a survey. It is furnished merely as a convenience to aid you in locating the land indicated hereon with reference to streets and other Land. No liability is assumed by reason of any reliance hereon."

EXHIBIT B - 1

ROADWAY EASEMENT ON ADJACENT PROPERTY

EASEMENT FOR INGRESS & EGRESS

AN EASEMENT FOR INGRESS & EGRESS AND PUBLIC UTILITIES INCLUDING STORM DRAINAGE IN THE CITY OF OAKLAND, COUNTY OF ALAMEDA, STATE OF CALIFORNIA BEING DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTHWEST CORNER OF LOT 13 IN BLOCK 2 AS SHOWN ON THE MAP OF "TRACT 2127, OAKLAND, ALAMEDA COUNTY, CALIFORNIA", FILED JULY 28, 1960 IN BOOK 42 OF MAPS, PAGE 27, ALAMEDA COUNTY RECORDS, SAID POINT ALSO BEING ON THE NORTHERLY RIGHT-OF-WAY LINE OF KELLER AVENUE; THENCE ALONG THE WESTERLY LINE OF SAID LOT 13, NORTH 27° 22' 00" EAST, 100.16 FEET, MORE OR LESS TO THE SOUTHWEST CORNER OF LOT 1 AS SHOWN ON SAID MAP OF "TRACT 2127"; THENCE ALONG SAID SOUTHERLY LINE OF SAID LOT 1, NORTH 62° 38' 00" WEST, 60 FEET TO THE SOUTHWEST CORNER OF SAID LOT 1; THENCE SOUTH 28° 13' 00" WEST, 4.17 FEET; THENCE NORTH 61° 51' 07" WEST, 44.48 FEET, THENCE ALONG A CURVE TO THE RIGHT HAVING A RADIUS OF 5 FEET, AN ARC LENGTH OF 5.93 FEET AND A CENTRAL ANGLE OF 67° 57' 10"; THENCE ALONG A LINE TANGENT TO THE CURVE NORTH 06° 04' 38" EAST, 70.36 FEET; THENCE NORTH 66° 45' 47" WEST, 15.52 FEET TO A POINT ON THE EASTERLY RIGHT-OF-WAY LINE OF GREENRIDGE DRIVE; THENCE ALONG THE SAID RIGHT-OF-WAY LINE SOUTH 20° 45' 21" WEST, 133.26 FEET; THENCE ALONG A CURVE TO THE LEFT THROUGH A CENTRAL ANGLE OF 84° 08' 20", AN ARC LENGTH OF 29.37 FEET AND A RADIUS OF 20.00 FEET TO POINT ON THE NORTHERLY RIGHT-OF-WAY LINE OF KELLER AVENUE; THENCE ALONG THE SAID NORTHERLY RIGHT-OF-WAY LINE, BEING A CURVE TO THE RIGHT HAVING A RADIUS OF 449.96 FEET, AN ARC LENGTH OF 115.77 FEET AND THROUGH A CENTRAL ANGLE OF 14° 44' 31" TO THE POINT OF BEGINNING.

CONTAINING 13,713 SQUARE FEET.



EXHIBIT B - 2

ROADWAY EASEMENT ON ADJACENT PROPERTY

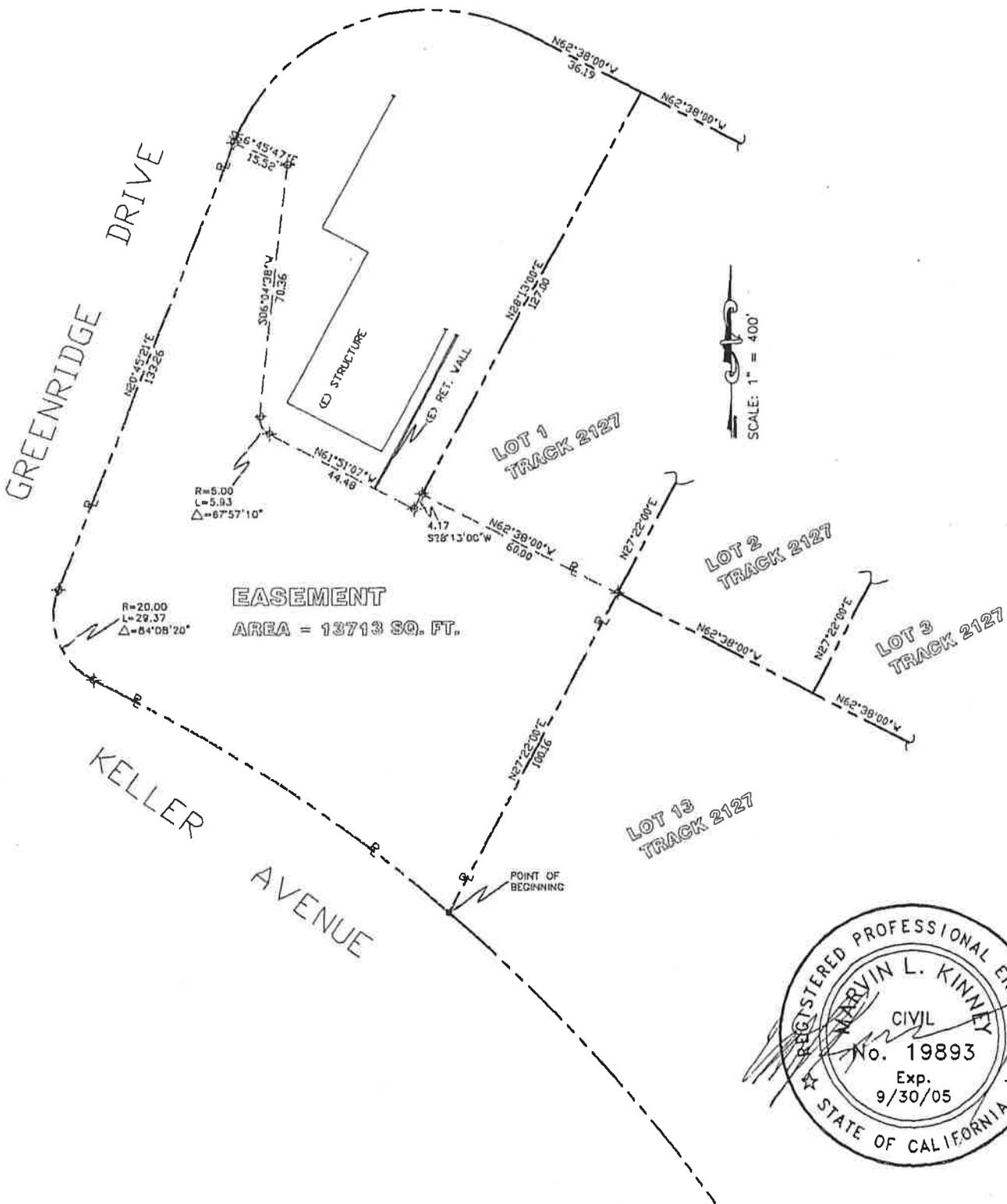


EXHIBIT D

Oakland Area GHAD Budget

6964.002.015
August 31, 2006
Revised April 26, 2016

EXHIBIT D
Oakland Area Geologic Hazard Abatement District
Budget – April 26, 2016

ASSUMPTIONS

Total No. of Units	32
Annual Assessment per Unit	\$2,500
Annual Adjustment in Assessment	3.0%
Inflation	3.0%
Investment Earnings	5.0%
Frequency of Large-Scale Repair (years)	20
Cost of Large-Scale Repair (current \$)	\$250,000

ESTIMATED ANNUAL EXPENSES IN FY 2016/17 DOLLARS

Erosion Management/Repair	2,500
GHAD Monitoring Program	3,500
Private Street Drainage Maintenance	500
Retaining Wall Maintenance/Replacement	1,000
Major Landsliding (Annualized)	12,500
Revegetation	500
Slope Stabilization (incl. minor landsliding)	5,000
Technical Consultants	1,000
Attorney Fees	2,500
GHAD Staff/Administration	7,000
Accounting	5,000
TOTAL	\$41,000

NOTICE OF ADOPTION OF RESOLUTION BY THE BOARD OF DIRECTORS OF THE
OAKLAND AREA GEOLOGIC HAZARD ABATEMENT DISTRICT AND NOTICE OF
ASSESSMENT

On January 18, 2006, the Oakland City Council adopted Resolution No. 80058, approving and ordering the formation of the Oakland Area Geologic Hazard Abatement District (“GHAD”) and appointing itself to act as the Board of Directors of the GHAD (“GHAD Board”). Subsequently, the GHAD Board imposed assessments on the properties within the GHAD to fund monitoring and maintenance of improvements described in the Oakland Area GHAD Plan of Control dated May 9, 2006, as revised August 31, 2006. On _____, 2016, the GHAD Board approved the revised Oakland Area GHAD Plan of Control for the Siena Hill development dated _____, 2016. On _____, 2016, the GHAD Board adopted Resolution No. 10 approving an Oakland Area GHAD Plan of Control for the Siena Hill development dated _____, 2016 with a revised listing and scope of services for GHAD-maintained improvements.

NOTICE IS HEREBY GIVEN that:

On _____, 2016, the GHAD Board adopted Resolution No. 11 declaring its intention to impose an assessment on the property to be annexed and fixing a public hearing to consider adoption of this assessment to finance the Oakland Area GHAD. The total yearly estimated budget for the Oakland Area GHAD as set forth in the current Engineer’s Report is \$41,000. If the assessment is adopted, it will replace the existing assessment, and each detached single-family parcel will be assessed a maximum of \$2,500.00 per year (Fiscal Year 2016/17), plus an annual adjustment to reflect the percentage change in the San Francisco-Oakland-San Jose Consumers Price Index (CIP) for All Urban Consumers. The actual levy will be set to \$1,119 per residential unit for Fiscal Year 2016/17. The assessment for any new residential unit will be levied beginning the first fiscal year after issuance of the building permit for that parcel. The assessment will continue to be levied in perpetuity.

The attached Engineer’s Report for the Siena Hill development within the Oakland Area GHAD was prepared by a registered engineer, certified in the State of California, and describes in detail the reason for the assessment and the basis upon which the amount of the proposed assessment was calculated. The Engineer’s Report specifically sets forth the yearly estimated budget, the total assessment, the proposed estimated assessments to be levied each year against each parcel of property, and a description of the method used in formulating the estimated assessment. A copy of the Engineer’s Report is also available for inspection at ENGEIO Incorporated, 1630 San Pablo Avenue, Oakland, California, 94612.

The GHAD Board will conduct the public hearing on _____, 2016, at 6:00 p.m., Council Chambers, 1 Frank H. Ogawa Plaza, Oakland, California, on the proposed assessment.

The following paragraph provides the procedure for returning and tabulating the ballots. A copy of this Notice of Adoption of Resolution, a sealable ballot, and the Engineer’s Report

have been sent to each of the property owners within the Oakland Area GHAD.

The ballot may be completed and mailed or hand delivered to Oakland Area GHAD c/o ENGEEO Incorporated, 2010 Crow Canyon Place, Suite 250, San Ramon, California, 94583 or may be submitted at the public hearing. Each ballot may be submitted, withdrawn, or changed at any time prior to the conclusion of the testimony on the proposed assessment at the public hearing. Immediately before the hearing, the GHAD Clerk shall tabulate the ballots. At the hearing, the GHAD Board shall consider any objections or protests to the assessment and certify the tabulation of the ballots.

The GHAD Board shall not impose the assessment if there is a majority protest. A majority protest exists if, upon conclusion of the hearing, ballots submitted in opposition to the assessment exceed the ballots submitted in favor of the assessment. In tabulating the ballots, the ballots shall be weighted according to the proportional financial obligation of the affected property. In the event that the assessment described in this document is not approved by vote of the property owners within the Oakland Area GHAD, the existing assessment will remain in place.

Inquiries regarding the proposed assessment may be made by mail to: Oakland Area GHAD c/o ENGEEO Incorporated, Attn: Eric Harrell, 1630 San Pablo Avenue, Oakland, California 94612 by phone at (925) 866-9000, or by e-mail at eharrell@engeo.com .

Ballot
Oakland Area Geologic Hazard Abatement District

Identification of Parcel: _____

Record Owner: _____

_____ Yes, I approve the proposed annual benefit assessment described in the attached Notice on the property described by the parcel numbers identified in this Ballot.

_____ No, I do not approve the proposed annual benefit assessment described in the attached Notice on the property described by the parcel numbers identified in this Ballot.

Signature of Record Owner or
Authorized Representative of the
above identified parcel(s)

Dated: _____

Mail or deliver sealed Ballot to:

GHAD General Manager
Oakland Area Geologic Hazard Abatement District
c/o ENGEEO Incorporated
Attention: Eric Harrell
1630 San Pablo Avenue
Oakland, CA 94612

Attachment 11-D