

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).

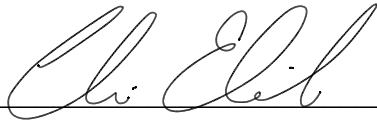
This report consists of seven parts, as follows:

- 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.

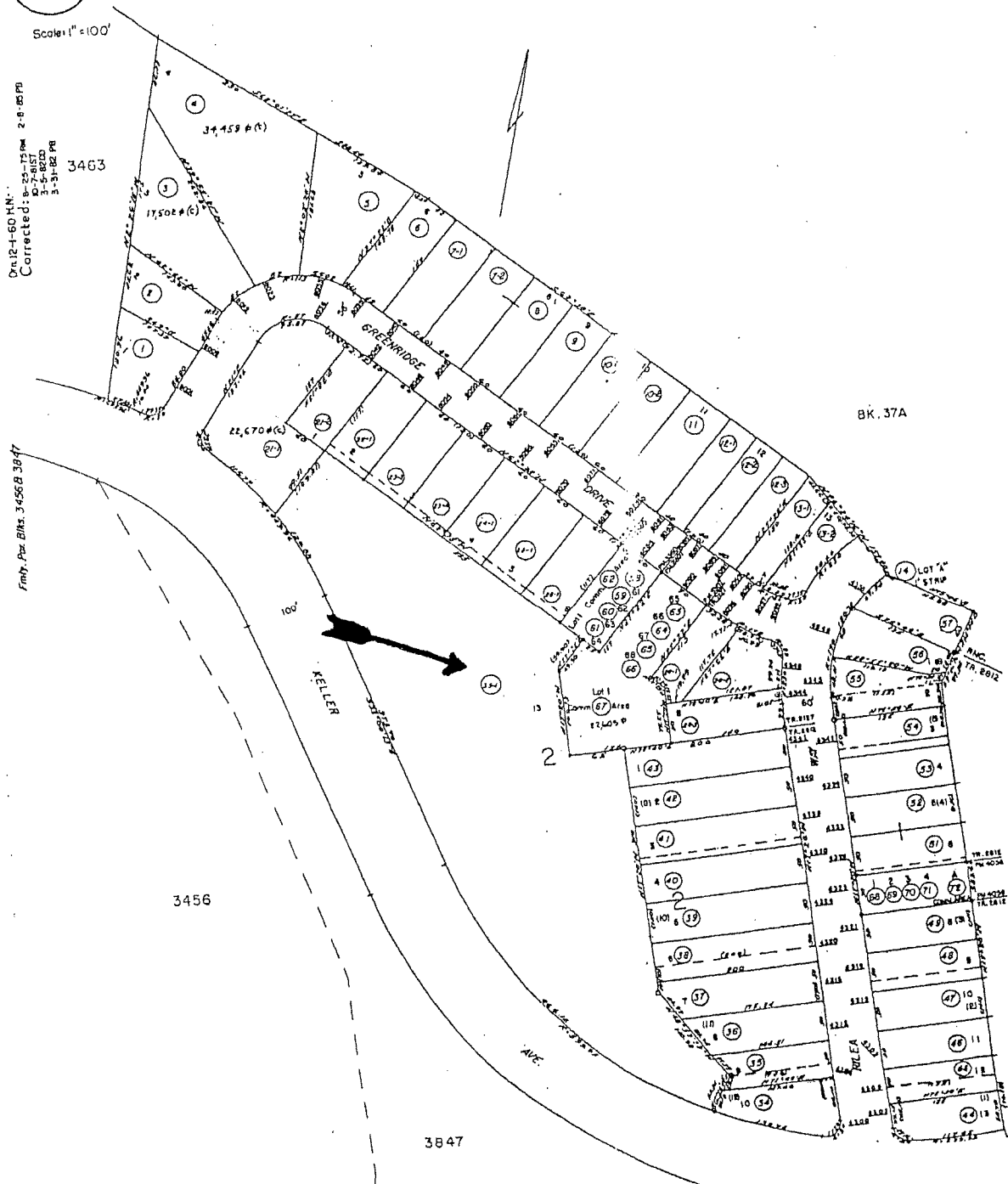
(BEING APN 040A-3457-033-01)

3457

SIENA HILL PROPERTY

Scale 1" = 100'

On 12-1-60 H.N.
 Corrected: 9-25-75
 2-8-85 PM
 3-31-82 PM



"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."

HPN 72

EXHIBIT B - 1

ROADWAY EASEMENT ON ADJACENT PROPERTY

EASEMENT FOR INGRESS & EGRESS

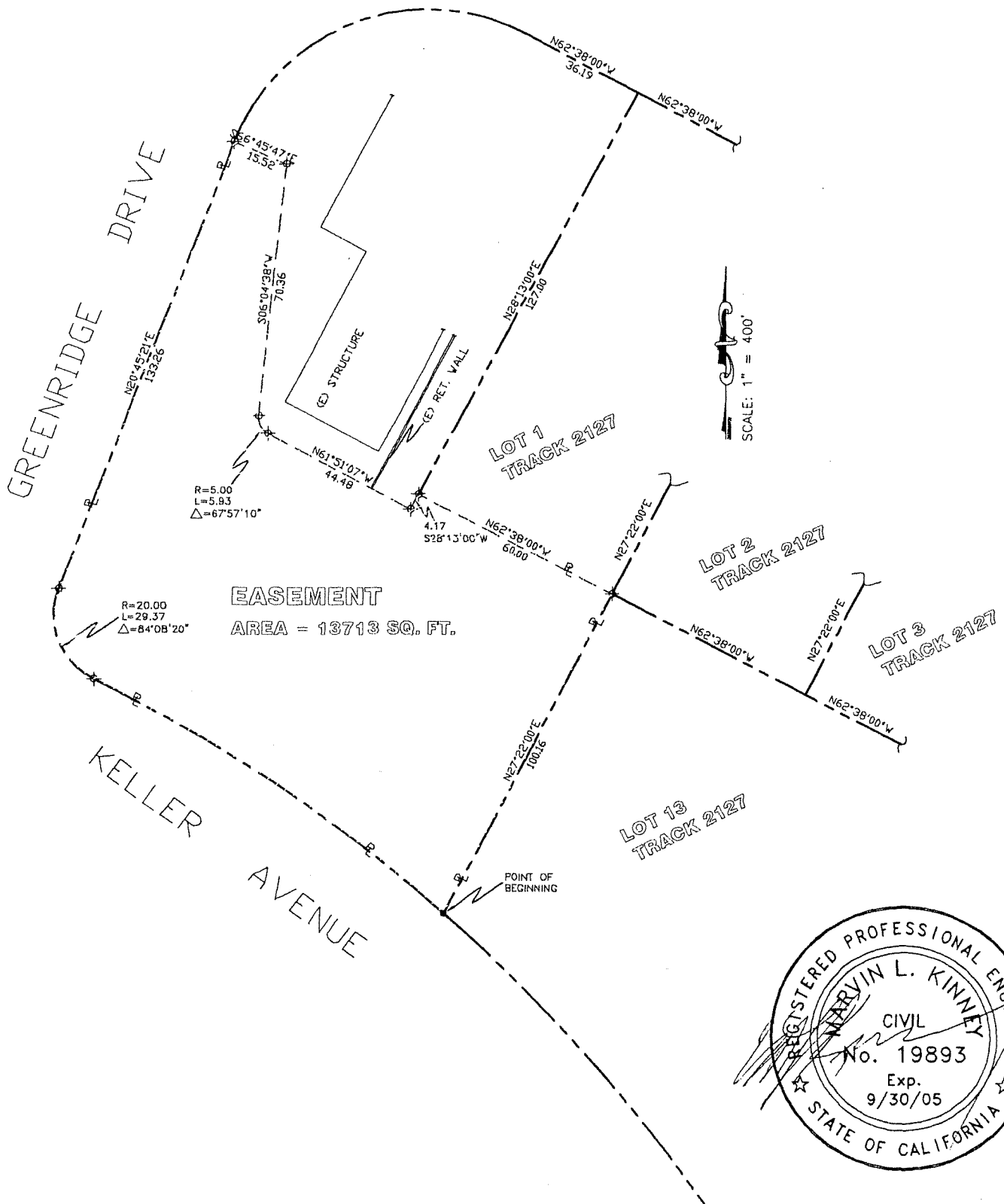
AN EASEMENT FOR INGRESS & EGRESS AND PUBLIC UTILITIES INCLUDING STORM DRAINAGE IN THE CITY OF OAKLAND, COUNTY OF ALAMEDA, STATE OF CALIFORNIA BEING DESCRIBED AS FOLLOWS:

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.



ROADWAY EASEMENT ON ADJACENT PROPERTY



KELLER AVENUE
R.O.W.

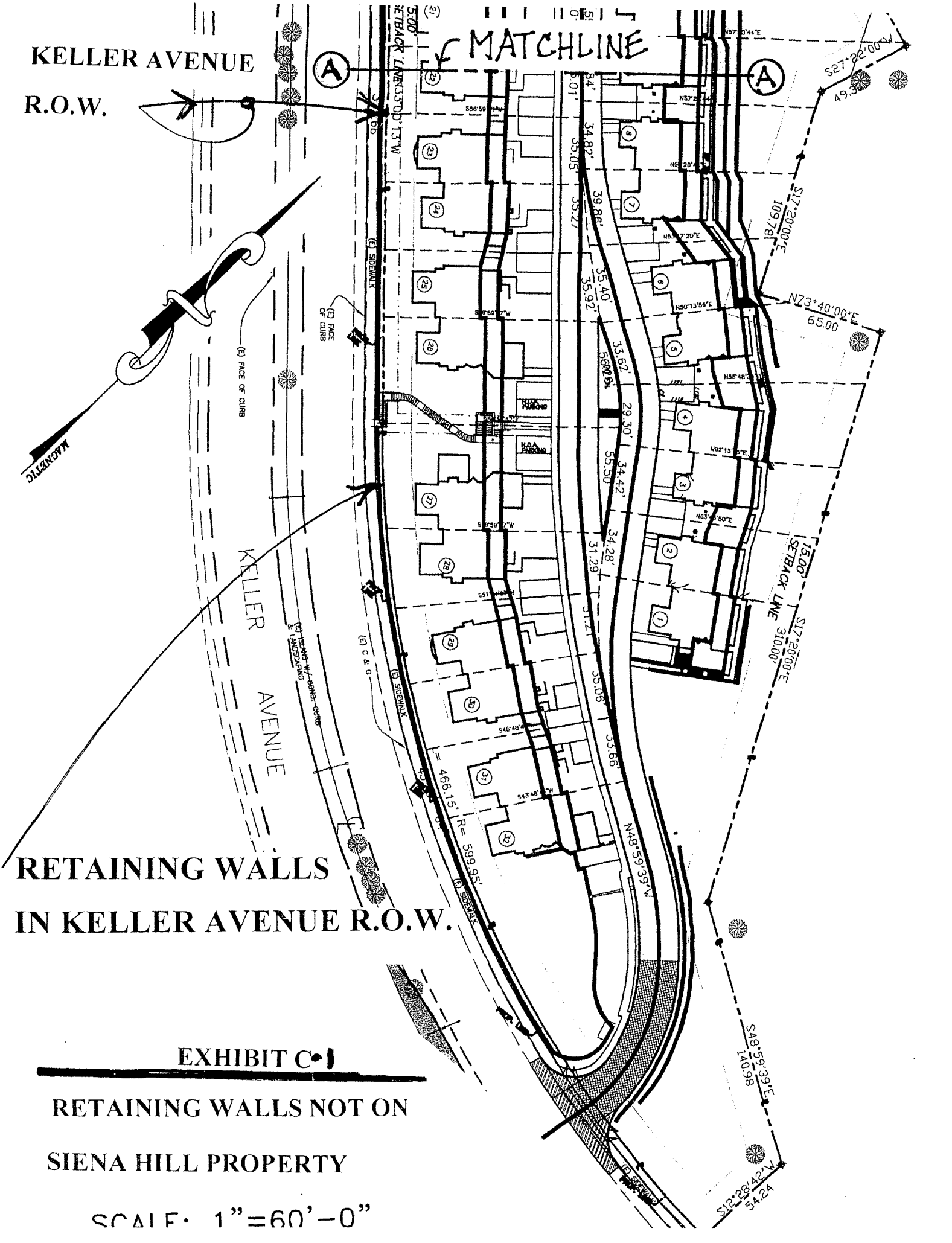
MATCHLINE

RETAINING WALLS
IN KELLER AVENUE R.O.W.

EXHIBIT C-1

RETAINING WALLS NOT ON
SIENA HILL PROPERTY

SCALE: 1"=60'-0"



RETAINING WALLS NOT ON SIENA HILL PROPERTY

RETAINING WALLS ON ADJACENT EASEMENT AREA

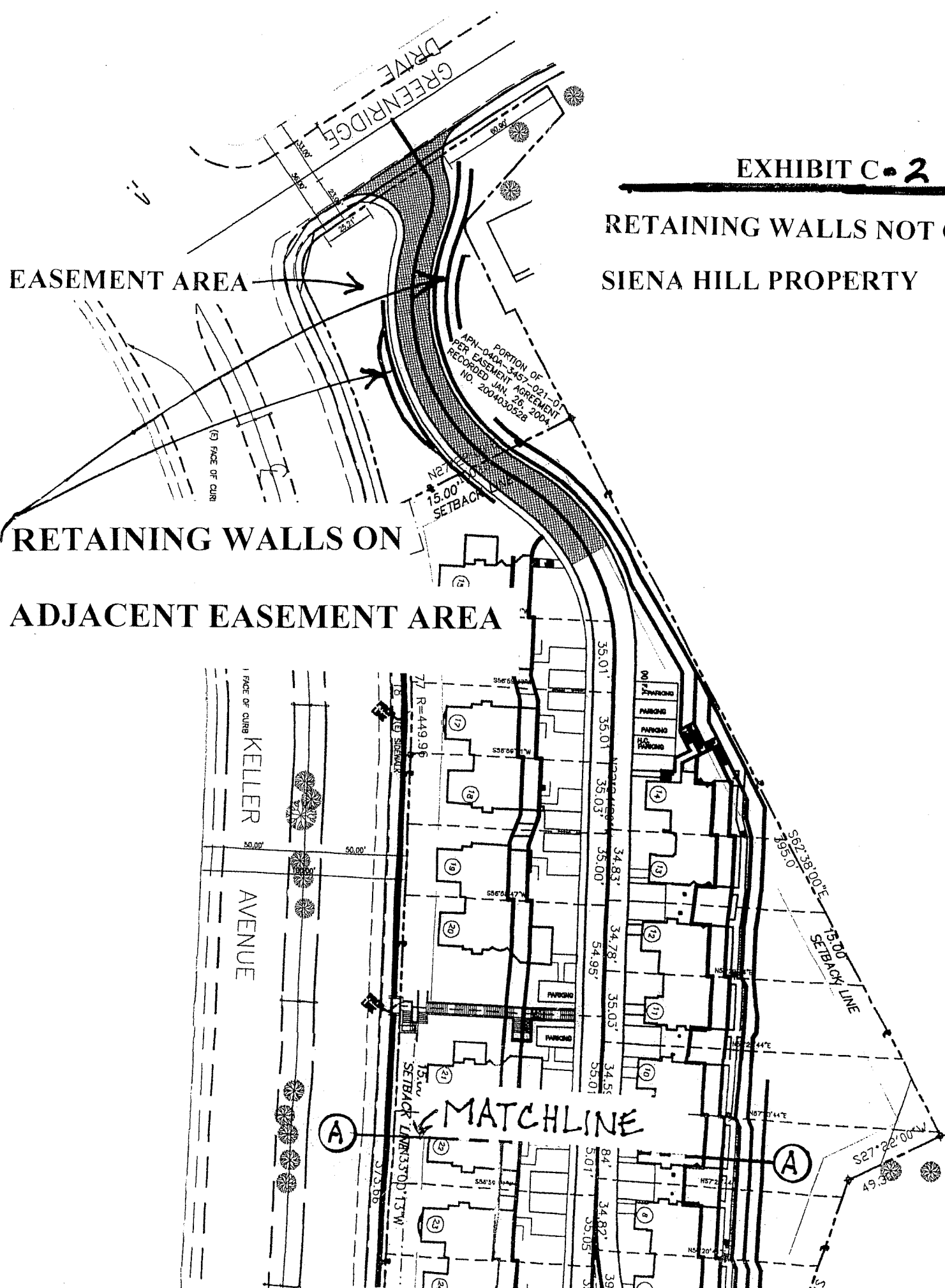


EXHIBIT D

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