

ENGINEER'S REPORT

for

**MORAGA GEOLOGIC HAZARD ABATEMENT DISTRICT
RANCHO LAGUNA DEVELOPMENT
MORAGA, CALIFORNIA**

May 20, 2015

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ENGINEER'S REPORT

MORAGA
GEOLOGIC HAZARD ABATEMENT DISTRICT
RANCHO LAGUNA DEVELOPMENT ANNEXATION
(Pursuant to the Public Resources Code of the State of California, Section 26500 et seq.)

CERTIFICATION OF FILING

The Geologic Hazard Abatement District (“GHAD”) provides monitoring and maintenance of improvements related to geologic hazard management and other responsibilities as a landowner, within the Rancho Laguna Development portion of the Moraga GHAD and levies and collects assessments in order to perform its activities.

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

This report consists of eight parts, as follows:

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

The undersigned respectfully submits the enclosed Engineer's Report.

Date: May 20, 2015

By: ENGEO Incorporated



Paul C. Guerin, GE
Paul C. Guerin

I HEREBY CERTIFY that the enclosed Engineer's Report was approved and confirmed by the GHAD Board on the 10thrd day of June 2015.

Roger Wykle
Chair of the Board
Moraga Geologic Hazard Abatement District
Moraga, California

ENGINEER'S REPORT

for

MORAGA GEOLOGIC HAZARD ABATEMENT DISTRICT RANCHO LAGUNA DEVELOPMENT MORAGA, CALIFORNIA for the ESTABLISHMENT OF AN ASSESSMENT LIMIT

I. INTRODUCTION

The Moraga Town Council formed the Moraga Geologic Hazard Abatement District (“GHAD” or “District”) on March 11, 2015 (Resolution No. 31-2015), under the authority of the California Public Resources Code, Division 17, Section 26500 et seq. The members of the Moraga Town Council act as the Board of Directors of the GHAD.

II. BACKGROUND

The developer of the Rancho Laguna development (“Site”) has submitted the Moraga GHAD Plan of Control for the Rancho Laguna Development (“Plan of Control”) that describes the GHAD’s responsibilities to permanently monitor and maintain GHAD improvements within the Site. This Engineer’s Report describes the establishment of an assessment level to fund GHAD activities necessary or incidental to geologic hazard mitigation, abatement and control.

III. GEOLOGIC HAZARD ABATEMENT DISTRICT BOUNDARIES

The boundaries for the GHAD Annexation Area are shown in the legal description and plat attached hereto as Exhibit A.

IV. SERVICE LEVELS

The GHAD’s activities are those that are 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 operations, including reporting to the GHAD Board of Directors.
2. In conjunction with the County Assessor’s Office, setting the annual levying of assessments on the property tax rolls.

3. Engagement of technical professionals to perform the monitoring duties as described in the Plan of Control.
4. Performance of GHAD maintenance activities in accordance with the Plan of Control. These maintenance activities include:
 - Monitoring of developer or GHAD constructed retaining walls and maintenance, if structural integrity of a wall or adjacent structure(s) is threatened.
 - Water detention basin facility maintenance, including access road.
 - Debris benches.
 - Emergency vehicle access (EVA) and maintenance roads.
 - Maintenance of lined and unlined drainage ditches in developed areas and open space.
 - Vegetation control within open space.
 - Maintenance of storm drain system improvements, subdrains, and subdrain outlets in open space (Parcels “A”, “B”, and “D”).
 - Subdrains and subdrain outlets.
 - Fuel management for fire suppression (Parcels “A”, “B”, and “D”).
 - Fencing (Parcels “A”, “B”, and “D”).
 - Gravel surfaced parking area and developed trails.
 - Selected Wetland Mitigation Program (WMP), Public Trail System Plan, and Open Space Management Plan (OSMP) activities within the deed restricted parcels.
5. The GHAD will also have maintenance, monitoring and repair responsibilities for slopes, which will include natural, reconstructed or partially reconstructed landslides.
6. Preparation of annual GHAD budgets for approval by the GHAD Board of Directors.

V. DESCRIPTION OF THE IMPROVEMENTS MAINTAINED BY THE GHAD

The GHAD-maintained improvements are described in the Plan of Control. In general, these improvements include water quality facilities; drainage systems, including lined and unlined ditches in developed areas and open space; open-space storm drain inlets and outlets; subdrains and outlets; retaining walls; access roadways; and habitat features.

VI. ASSESSMENT METHOD

The improvements and GHAD responsibilities described in Section V are distributed within the GHAD Annexation Area. 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
4. Protection from wild land fires associated with unmanaged vegetation
5. Protection of habitat features within the deed restricted parcels

The GHAD assessment is distributed among all residential property owners within the GHAD Annexation Area. The improvements and responsibilities listed in Section V provide specific benefits to the properties within the GHAD Annexation Area and the improvements are constructed for the benefit of those assessed and not the general public.

Single-family residential lots are assessed as one unit. The Site consists of 27 single-family residences. The total number of equivalent residential units within the Site was considered in light of the annual GHAD Annexation Area budget in developing the annual assessment amount. The Engineer hereby finds that residential properties within the GHAD Annexation Area receive substantially equal special benefit.

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 GHAD Annexation Area. In preparation of the budget, several factors were considered including:

- Site geology
- Remedial grading
- Proximity of geologic hazards to proposed residences
- Improvements or structures
- Site access considerations
- Elements Requiring Routine Maintenance, including:
 1. Surface Drainage Facilities
 2. Graded Slopes
 3. Retaining Walls
 4. Detention Basin Facilities
 5. Trails and Fire Breaks
 6. Habitat Features

VII. ASSESSMENT - BUDGET

The purpose of this Engineer's Report is to establish the assessment level and the apportionment of the assessment within the GHAD Annexation Area as required under Proposition 218. The annual budget in each subsequent fiscal year will apprise the GHAD Board of Directors of the estimated budget for the upcoming year.

Based on the estimated expenses for on-going operations, and allowing for larger (approximately \$150,000) geologic events at 10-year intervals, a budget was prepared for the purpose of estimating initial assessment levels (Exhibit B).

The Engineer recommends an annual assessment limit for the Rancho Laguna portion of the Moraga GHAD of \$4,044 per detached single-residential unit (Fiscal Year 2014/15 dollars). The proposed initial assessment level will be automatically adjusted annually on June 30 to reflect the percentage change in the San Francisco-Oakland-San Jose Consumers Price Index for All Urban Consumers. The initial levy for Rancho Laguna development should be set to \$3,559 per single-family unit to reflect the anticipated income from land lease agreements with AT&T and Verizon. If the lease revenue becomes unavailable to the GHAD, we anticipate that the annual levy will set at the inflation adjusted assessment limit.

While the assumptions, estimated expenses, and reserve listed in Exhibit B were used to determine the assessment levels for the GHAD Annexation Area, they do not represent the actual budget for any 1 year of the GHAD's operation, since assessment of the individual parcels will be based on the close of escrow, which will occur over a number of years. In addition, the Engineer anticipates that the projected expense amounts will be reached over time and that these amounts will be inflation-adjusted in the year that the expenses occur.

Pursuant to the schedule set forth in Funding and Acceptance of Responsibility by the District (Exhibit E within the Plan of Control), the GHAD reserve at the time of transfer will be, at a minimum, \$237,000. Funds collected and remaining from the levy of assessments during the period that the developer is responsible for performing monitoring and maintenance activities shall be applied to meet the required GHAD reserve amount. In addition, receivables from the Contra Costa County Tax Collector will be included to meet the minimum reserve amount.

VIII. DEVELOPER RESPONSIBILITIES

The developer of the Site is responsible for managing and maintaining the Rancho Laguna portion of the Moraga GHAD until the GHAD accepts responsibility for the GHAD Improvements as set forth in the Plan of Control. In addition, the developer is responsible for funding any necessary GHAD functions or business undertaken for the Rancho Laguna portion of the Moraga GHAD that the GHAD Officers or Board of Directors determine are necessary before the GHAD accepts the GHAD Improvements. If the developer fails to fund all or a portion of these costs, these costs shall be covered by the funds generated by and for the Rancho Laguna portion of the Moraga GHAD (i.e., through the assessment) and the developer

shall be required to reimburse the GHAD for such costs before the GHAD can accept monitoring and maintenance responsibilities for the GHAD Improvements.

The GHAD may utilize funds generated by or for the Rancho Laguna development to conduct any necessary GHAD functions or business for the Rancho Laguna portion of the Moraga GHAD required before the GHAD accepts the GHAD improvements. Such functions and business can include periodic reporting to the GHAD Board of Directors and work performed by GHAD Officers to verify the GHAD is implemented in accordance with the Plan of Control and GHAD Law.

EXHIBIT A

Legal Description and Plat to Accompany Legal Description

EXHIBIT 'A'

ALL THE REAL PROPERTY SITUATED IN THE TOWN OF MORAGA, COUNTY OF CONTRA COSTA, AND STATE OF CALIFORNIA; AND BEING ALL OF PARCELS A THRU D AND PARCEL H, AND LOTS 1 THRU 27 AS CREATED BY THAT CERTAIN MAP ENTITLED "SUBDIVISION 9330, RANCHO LAGUNA II" AND FILED ON _____ AND RECORDED IN BOOK _____ OF MAPS AT PAGES _____ THROUGH _____, OFFICIAL RECORDS OF CONTRA COSTA COUNTY.

PREPARED BY:

MARK E. WOODS
R.C.E. 29851

DATED

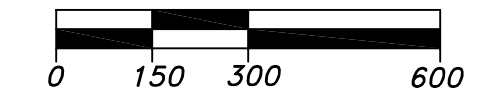
SUBDIVISION 9330 RANCHO LAGUNA II

BEING A PORTION OF LOTS 132, 133, 135, 144, 145, 146, 147, 169,
170, 171, 172, 185, 186, 187, 211, 212, MAP OF RANCHO COLORADOS,
FILED AUGUST 8, 1916, IN BOOK 15 OF MAPS PAGE 308
TOWN OF MORAGA, COUNTY OF CONTRA COSTA, CALIFORNIA

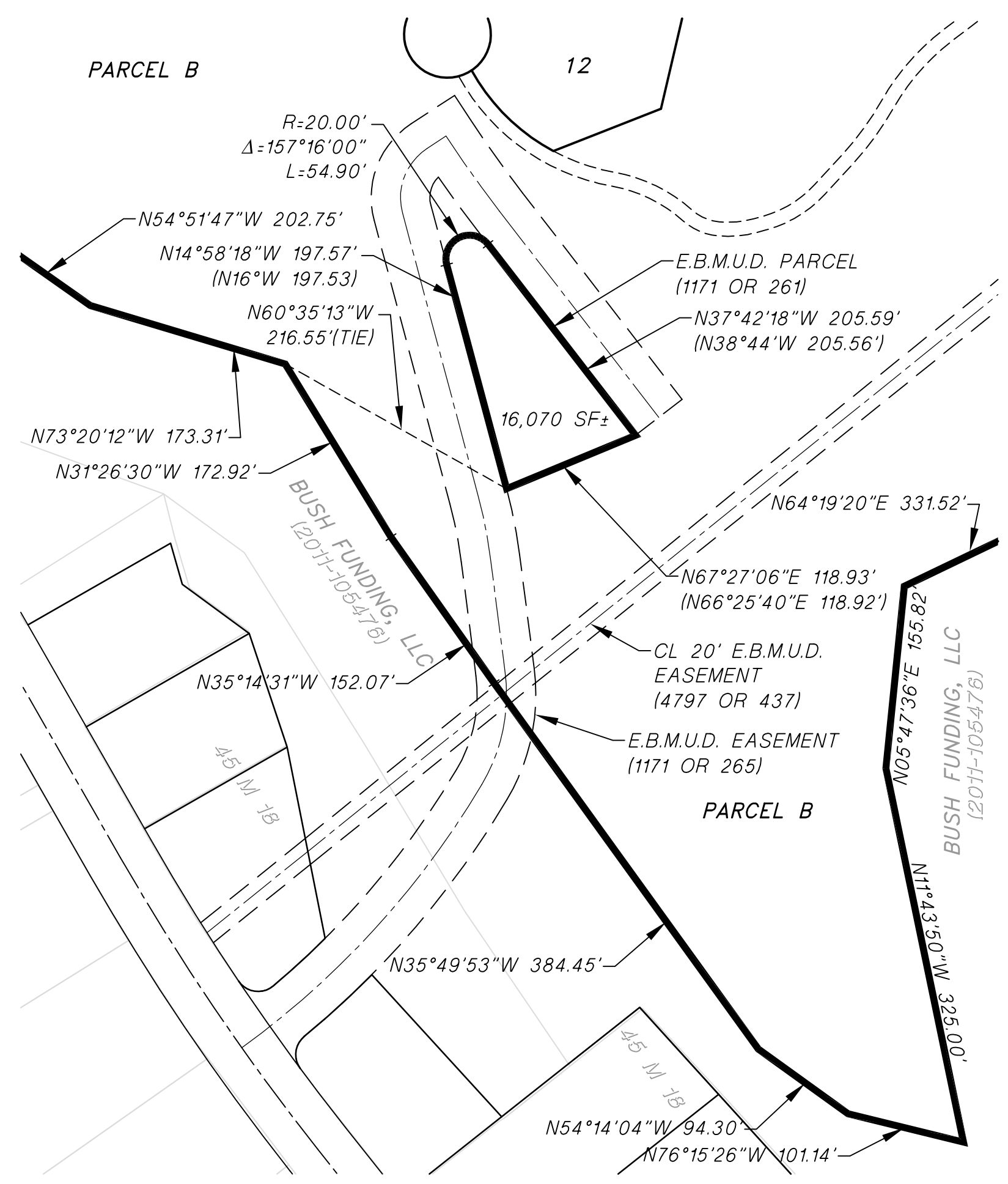
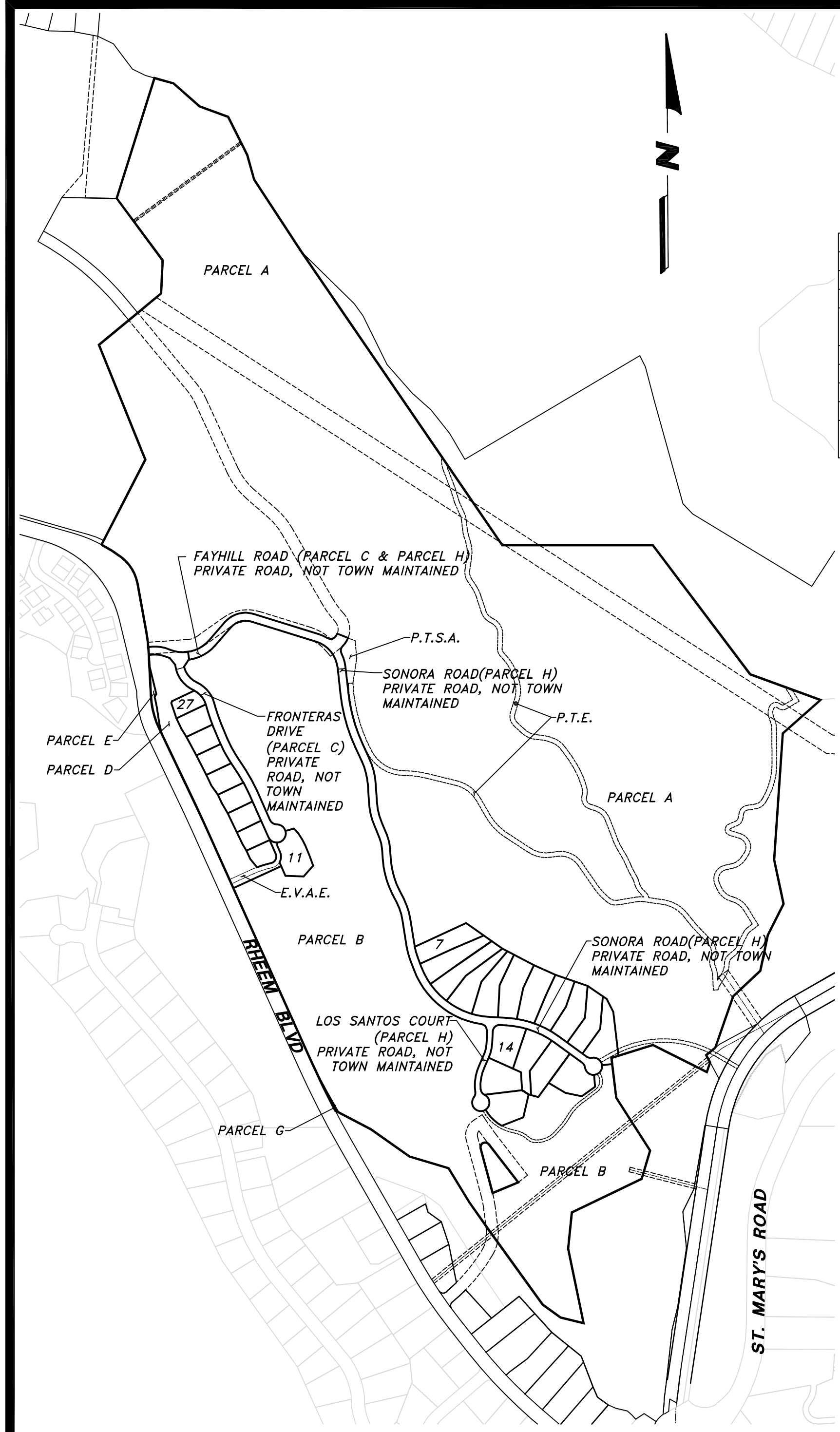
PA Design Resources, Inc.
Planning ■ Engineering ■ Surveying

3021 Citrus Circle, Suite 150
Walnut Creek, California 94598-2635 TEL (925) 210-9300

SCALE: 1" = 400' JANUARY, 2015



PARCEL INDEX				
PARCEL	SIZE	SHEET	DEDICATION	CATEGORY
A	5,269,585 S.F.±	12,16-21	G.H.A.D.	C.A.
B	1,701,547 S.F.±	12-19	G.H.A.D.	C.A.
FAYHILL ROAD, (C&H) FRONTERAS DRIVE (C)	41,124 S.F.±	12,13	H.O.A., C.C.C.S.D., E.B.M.U.D., P.U.E., E.V.A.E., P.P.A.E., P.T.E.	PRIVATE R.O.W.
D	113,337 S.F.±	12	G.H.A.D.	C.A.
E	3,803 S.F.±	12	TOWN OF MORAGA	
F	NOT USED			
G	755 S.F.±	15	TOWN OF MORAGA	
SONORA ROAD, LOS SANTOS COURT (H)	120,265 S.F.±	12,16-19	H.O.A., C.C.C.S.D., E.B.M.U.D., P.U.E., E.V.A.E., P.P.A.E.	C.A. PRIVATE R.O.W.



LEGEND

- ⊙ SET COUNTY STANDARD STREET MONUMENT STAMPED RCE 29851
- ⊙ FOUND STREET MONUMENT AS NOTED
- SET 1/2" REBAR AND CAP TAGGED RCE 29851
- FOUND BRASS DISK PER EBMUD PROPERTY AND RIGHTS OF WAY MAP 4698-G-1
- RIGHT OF WAY
- LOT LINE
- MONUMENT LINE
- EASEMENT LINE
- TRACT BOUNDARY
- ▤ RELINQUISHMENT OF ABUTTERS RIGHTS
- S.F. SQUARE FEET
- (R) RADIAL
- M-M MONUMENT TO MONUMENT
- (T) TOTAL
- C.A. COMMON AREA
- E.V.A.E. EMERGENCY VEHICLE ACCESS EASEMENT
- P.T.E. PUBLIC TRAIL EASEMENT
- P.T.S.A. PUBLIC TRAIL STAGING AREA
- P.U.E. PUBLIC UTILITY EASEMENT
- P.P.A.E. PUBLIC PEDESTRIAN ACCESS EASEMENT
- P.S.D.E. PRIVATE STORM DRAIN EASEMENT
- P.V.A.E. PUBLIC VEHICLE ACCESS EASEMENT
- G.H.A.D. GEOLOGIC HAZARD ABATEMENT DISTRICT
- G.S.S.D.E. G.H.A.D. SLOPE AND STORM DRAINAGE EASEMENT
- H.O.A. HOME OWNERS ASSOCIATION
- R.O.W. RIGHT OF WAY
- S.D.E. STORM DRAIN EASEMENT
- S.S.E. SANITARY SEWER EASEMENT (PUBLIC)
- C.C.C.S.D. CENTRAL CONTRA COSTA SANITARY DISTRICT
- E.B.M.U.D. EAST BAY MUNICIPAL UTILITY DISTRICT
- (171) CURVE LABEL
- (L209) LINE LABEL

SEE SHEET 21 FOR CURVE AND LINE TABLES

BASIS OF BEARINGS:

IS BETWEEN FOUND MONUMENTS RH-1 AND RH-11 LOCATED IN RHEEM BOULEVARD AS SHOWN ON COUNTY RIGHT OF WAY RECORD MAP 2844-61. BEARINGS AND DISTANCES SHOWN ARE BASED ON THE CALIFORNIA COORDINATE SYSTEM, ZONE III, NAD 83. MULTIPLY DISTANCES SHOWN BY 1.0000912 TO OBTAIN GROUND DISTANCES.

REFERENCES:

- (R-1) COUNTY RIGHT OF WAY RECORD MAP 2844-61(GRID)
- (R-2) 113 M 1, TRACT 3562(GRID)
- (R-3) EBMUD RIGHT OF WAY MAP 4698-G-1, -2(GRID)
- (R-4) EBMUD RIGHT OF WAY MAP 4427-G(GRID)
- (R-5) 2002-0360178 (GRANT DEED)(GRID & GROUND)
- (R-6) 6010 OR 660 (WESTERN TITLE)(GROUND)
- (R-7) 48 PM 28(GROUND)
- (R-8) CALTRANS RW RECORD MAP R-127 RESCINDED ROUTE(GRID)
- (R-9) 45 M 18 (RHEEM GLEN)(GROUND)
- (R-10) 96-5792 (BIGBURY)(GROUND & GRID)
- (R-11) 5760 OR 677 (MALONEY)(GROUND)

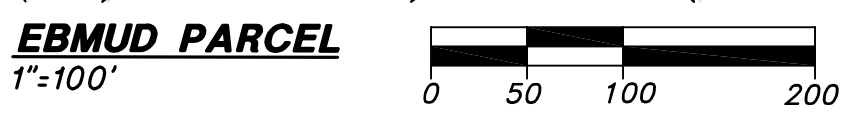


EXHIBIT B

Moraga GHAD Budget

Rancho Laguna Development

**Moraga Geologic Hazard Abatement District
Rancho Laguna Development**

Budget

ASSUMPTIONS

Total No. of Single Family Residential Units	27
Annual Assessment per Unit (FY 2014/2015 \$)	\$4,044
Annual Adjustment in Assessment (estimated)	3.0%
Inflation (estimated)	3.0%
Investment Earnings (estimated)	5.0%
Frequency of Large-Scale Repair (years)	10
Cost of Large-Scale Repair (current \$)	\$150,000

ESTIMATED ANNUAL EXPENSES IN FY 2014/15 DOLLARS

Administration and Accounting	\$9,969
Professional Services - Monitoring	\$7,625
Subdrains and Subdrain Outlets	\$200
Sediment Removal - Concrete Structures	\$3,205
Slope Stabilization, Erosion, Minor Repairs	\$10,000
Detention Basin/Associated Improvement Maintenance	\$5,250
Trail Maintenance	\$1,436
Fence Maintenance	\$1,000
Vegetation Management	\$2,500
Wetlands Mitigation Program	\$6,655
Concrete Lined Drainage Ditch Replacement	\$1,607
Water Quality/Detention Basin Improvements	\$800
Open Space Storm Drain Improvements Replacement	\$1,120
Retaining Wall Replacement	\$2,450
Fence Replacement	\$500
Gravel Surfaced Parking Area	\$747
Major Repair (Annualized)	\$15,000
Reserve Accumulation	<u>\$39,124</u>
Total	<u>\$109,188</u>