

Project No.  
**5188.002.024**

January 7, 2025

Mr. Kevin Jenkins  
Leona Quarry Geologic Hazard Abatement District  
Oakland City Hall  
One Frank Ogawa Place  
Oakland, CA 94612

Subject: Monte Vista Villas and Campus Drive Residences  
Oakland, California

**GEOLOGIC HAZARD ABATEMENT DISTRICT  
MONITORING – FALL 2024**

Dear Mr. Jenkins:

ENGEO is pleased to submit this monitoring report for the Leona Quarry Geologic Hazard Abatement District (GHAD). As described in the Leona Quarry Plan of Control (Reference 1), the purpose of this monitoring is to observe and report on the conditions of the open space and associated improvements within the Monte Vista Villas development and adjacent residences on Campus Drive. This monitoring event was conducted on October 29, 2024, and included the following parcels.

**TABLE 1: Assessor's Parcel Numbers**

ASSESSOR'S PARCEL NUMBER	PARCEL DESIGNATION (VESTING TENTATIVE MAP)	TRACT
37A-3163-9	A	7351
37A-3163-2	C	7351
37A-3163-3	D	7351
37A-3163-4	E	7351
37A-3163-5	F	7493
37A-3163-11	R	7493

**SCOPE OF SERVICES**

Site monitoring included the observation of the following items.

- Open-space slopes and debris benches
- Concrete-lined, asphaltic, and earthen surface drainage ditches
- Fencing, locks, and signage
- Rockfall protection barriers
- Emergency vehicle access and maintenance roadways
- Designated trails
- Drainage courses
- Subdrain outlets
- Storm drain inlets, outfalls, and pipelines

- Debris basin
- Detention basin
- Piezometers and inclinometers
- Settlement monuments

## **OPEN-SPACE SLOPES AND DEBRIS BENCHES**

The open-space slopes and debris benches were observed for evidence of slope instability, including landslides, mudflows, rockfall hazards, or erosion. During our site visit, we did not observe significant distress to the slopes or debris benches within the six parcels that were accepted by the Leona Quarry GHAD with the exception of the conditions described below on Parcel F.

Slopes on Parcel F and along the edge of Parcel R are in an oversteepened condition and are subject to shallow slope instability, erosion, and raveling. We previously noted in fall 2022 that an erosion gully was located on Parcel F above the concrete-lined drainage ditch and wood-lagging debris wall. Access to this portion of the slope has been prevented in years past by fallen tree debris (Figure 1, Site Condition A, Photograph 1). The tree debris should be removed to increase flow within the drainage ditch. However, the most recent maintenance has provided a path to lower portions of the concrete-lined drainage ditch. We observed that soil material from this erosion gully continues to deposit in the concrete-lined drainage ditch below these slopes. These oversteepened slopes shed debris, leaves, soil, and fallen trees into the concrete-lined drainage ditch located below the erosion gully and also near the intersection of concrete-lined drainage ditches on Parcel F (Figure 1, Site Condition B). Debris has continued to accumulate within the concrete-lined drainage ditch, reducing its capacity. We believe the GHAD should consider extending the nearby existing debris wall to assist with debris capture. We expect the shedding of material from these slopes will continue.

On the western side of Parcel R, a fire occurred on September 26, 2017, that burned approximately 16 acres of slope (“Burn Area”). A portion of the Burn Area was revegetated as part of the Leona Quarry Slope Revegetation Plan (Reference 3). We have since observed that the burn area has been successfully revegetated and no distress is evident.

## **ROCKFALL PROTECTION BARRIERS AND WALLS**

Rockfall barriers were installed to protect a portion of Skyview Drive, along with the adjacent residences and improvements from unstable materials on the oversteepened uphill slope. There appears to be adequate catchment capacity behind these rockfall barriers. There were no rocks in the nets, the nets were not damaged, and braking elements had not been engaged. There were no rubble or debris ramps observed behind the system. The GHAD will remove material that collects behind the debris walls and barriers as it accumulates to maintain the catchment capacity and reduce the risk of jump platforms forming.

The GHAD installed wood-lagging debris walls between the concrete-lined drainage ditch and the uphill oversteepened slope, where significant raveling is occurring, including on Parcel F above Blue Rock Court. We previously noted in spring 2020 that there was significant raveling and erosion from the uphill slope, and there was no longer any catchment capacity behind the

wood-lagging debris wall. As previously noted, we recommend the GHAD consider extending the nearby existing debris wall to assist with debris capture.

We previously noted that approximately 90 feet of the wood-lagging debris wall on the western side of Parcel R needed to be replaced due to fire damage in 2017. During this monitoring event, we observed that the GHAD has restored the wall to its previous condition.

## **MAINTENANCE ROADWAYS AND DESIGNATED TRAILS**

We observed the condition of the maintenance roadway paralleling Interstate 580 at the southern end of the site, as well as the maintenance roadway surrounding the detention basin in that same area. The gravel-surfaced roadways appeared to be in good condition. As part of the ongoing GHAD maintenance activities, vegetation will be removed on and along the maintenance roadways.

A trail is located along the southeastern edge of Parcel R that extends from Bayview Drive to Campus Drive. The trail alignment also serves as an access route to debris benches located along the slope. We did not observe significant erosion or slope instability on the trail segment.

## **DRAINAGE COURSES**

Chimes Creek located in the eastern portion of Parcel F was observed for potential creek-bank failures. In general, the creek has moderate to dense vegetation cover and appears to be in stable condition. Water was not flowing at the time of our visit. We did not observe areas of significant creek-bank failure or creek channels that could potentially impact site improvements.

## **SURFACE DRAINAGE DITCHES**

Concrete, asphaltic, and earthen surface drainage ditches were viewed for evidence of sediment accumulation and distress, such as cracking or shifting. As shown in Figure 1, there are approximately 22,500 linear feet of concrete-lined drainage ditches within the GHAD-maintained parcels. The concrete-lined drainage ditches were relatively free of debris and overgrowth. We expect that regular maintenance of the concrete-lined drainage ditches to remove debris and overgrowth will be necessary to maintain the conditions observed. This maintenance should include trimming all branches and plants 6 inches back from the ditch on either side to allow proper access for monitoring.

Additionally, some surface drainage ditches are undergoing erosion along their downslope side. We observed some minor cracking in the concrete drainage ditches that did not appear to significantly impair ditch integrity, and several ditches collected debris from the raveling of the oversteepened uphill slopes. As part of the ongoing GHAD maintenance activities, debris will be removed from the drainage ditch.

## SUBDRAIN OUTLETS

Table 2 below presents subdrain flow rates as measured during this monitoring event. In general, the subsurface drains located appeared to be in good order and free of obstructions and debris.

**TABLE 2: Subdrains**

LABEL	FLOW (gallons/day)	COMMENTS
SD1	-	Unable to Monitor
SD2	-	Unable to Monitor
SD3	-	Unable to Monitor
SD4	0	Wet
SD5	0	Dry
SD6	0	Dry
SD7	0	Dry
SD8	1,100	Steady Flow (Estimate)
SD9	0	Wet
SD10	0	Dry
SD11	250	Steady Flow
SD12	0	Wet
SD13	0	Damp
SD14	-	Unable to Locate
SD15	0	Wet
SD16	0	Dry
SD17	550	Steady Flow (Estimate)
SD18	-	Unable to Monitor
SD19	0	Dry
SD20	0	Damp
SD21	-	Unable to Monitor

We have not had access to Subdrain Outlet SD14 and SD18 during our monitoring events since 2018. The GHAD will clear the dense vegetation to provide access to Subdrain Outlet SD14 and SD18.

As shown in Figure 1, Subdrain Outlets SD1, SD2, SD7 through SD13, and SD20 are located within GHAD parcels but have not yet been acquired by the GHAD for monitoring and maintenance responsibilities. We collected and provided data for future maintenance requirements when the GHAD acquires the parcels.

## PIEZOMETERS

Table 3 below presents piezometer groundwater levels measured during this monitoring event.

**TABLE 3: Piezometers**

LABEL	GROUNDWATER LEVEL FROM TOP OF PIEZOMETER (FEET)	COMMENTS
PZ-1	16.7	
PZ-2	11.0	
PZ-5	171.5	Possibly dry. Reading is near bottom of piezometer.
PZ-6	Unable to Locate	
PZ-7	Unable to Locate	
PZ-8	Unable to Locate	
PZ-9	28.0	
PZ-10	54.7	Possibly dry. Reading is near bottom of piezometer.

We have not located Piezometers PZ-6 through PZ-8 since 2018. The GHAD will locate these piezometers in the field for future monitoring.

As shown in Figure 1, Piezometers PZ-3 and PZ-4 are located within GHAD parcels where the GHAD has not yet acquired monitoring and maintenance responsibilities. When monitoring and maintenance responsibilities for the parcels containing these piezometers are acquired, data will be collected and included in future monitoring letters.

## INCLINOMETERS

There are four inclinometers within the GHAD, as shown in Figure 1. The GHAD obtained readings for Inclinometers SI-1, SI-2, and SI-3. A review of the readings of Inclinometers SI-1 and SI-2 did not show displacement indicative of slope movement. Due to abnormalities in previous readings from SI-3, possibly due to deformation of the casing, the October 2022 reading will be used as a new baseline. The inclinometer data from SI-3 obtained during this monitoring event indicates there is no apparent downslope movement. The GHAD will continue monitoring the inclinometers periodically for indications of slope movement during scheduled monitoring events or as needed.

## DETENTION BASIN AND DEBRIS BASIN

A detention basin (located in Parcel C) and a debris basin (located in Parcel F) were observed for evidence of trash and debris within the inlets, outfalls, and trash racks, and to see that vegetation within the basins did not exceed 5 feet in height. There was minimal litter and debris at the inlets within the basins. As part of the scheduled maintenance, the GHAD will cut and remove vegetation, and remove litter and debris from the basins. Attached is the monitoring report form for the detention basin located on Parcel C. Other than annual vegetation growth, the debris basin on Parcel F appeared to be in good condition.

## FENCING, LOCKS, AND SIGNAGE

Fences, locks, and signage were observed for damage within the GHAD.

We previously noted in spring 2018 that a section of fence along the maintenance roadway on the southwestern portion of Parcel E, paralleling Interstate 580, was pulled back, allowing access. This damage to the fence remained during this monitoring event. Since the fence borders Interstate 580 and is within State of California property, the GHAD put in a maintenance request in 2018 with Caltrans to have the fence repaired. The work has yet to be completed at the time of this monitoring, and the GHAD will follow up with Caltrans on the status of this work.

If you have any questions concerning the observations made during this reconnaissance, please do not hesitate to contact us.

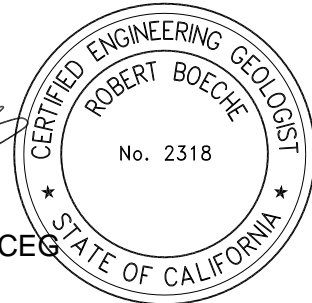

Sincerely,

ENGEO Incorporated



Nick Inserra

ni/kk/rhb/cb



Robert H. Boeche, CEG

Attachments: Selected References  
Site Photograph  
Parcel C Water Quality/Detention Pond, Site Monitoring and Maintenance Form  
Figure 1 – Site Plan

## SELECTED REFERENCES

1. ENGEO. 2005. Amendment 1 to the Plan of Control for Leona Quarry Geologic Hazard Abatement District (GHAD), Oakland, California. August 13, 2004; Latest Revision February 23, 2005. Project No. 5188.1.001.02.
2. ENGEO. 2010. Geologic Hazard Abatement District (GHAD) Plan of Control Transfer Monitoring, Leona Quarry Geologic Hazard Abatement District (GHAD), Monte Vista Villas, Oakland, California. October 28, 2010. Project No. 5188.002.010.
3. H. T. Harvey & Associates. 2004. Leona Quarry Slope Revegetation Plan, Prepared for the DeSilva Group. April 16, 2004. Project No. 1950-04.
4. ENGEO. 2024. Geologic Hazard Abatement District Monitoring – Spring 2024, Monte Vista Villas and Campus Drive Residences, Oakland, California. June 28, 2024. Project No. 5188.002.023.



**SITE PHOTOGRAPH**

**Site Condition A – Tree debris blocking concrete-lined drainage ditch.**





**MONITORING REPORT**

Leona Quarry  
Oakland, California

**PARCEL "C" WATER QUALITY/DETENTION POND  
OPERATIONS AND MAINTENANCE  
SITE MONITORING AND MAINTENANCE REPORT FORM**

(TO BE COMPLETED QUARTERLY IN JANUARY, APRIL, JULY, AND  
OCTOBER AND AS NECESSARY DURING HEAVY RAINFALL)

Inspector: Nick Inserra

Date: 10/29/2024

Weather Conditions: Sunny

Days since last rainfall: > 30 days

Dry Season?

Wet Season?

Pond Water Level: Approximately 12 inches

Sediment Accumulated since Last Monitoring Event: Yes

MONITORED CONTROL	YES	NO	N/A	COMMENTS/ SUGGESTED MAINTENANCE
1. Are inlet and outlet structures functioning properly, allowing the pond to drain and are they in satisfactory condition?	X			Parcel F uphill concrete-lined ditches require cleaning to remove tree debris
2. Are access roads in satisfactory condition?	X			
3. Is all perimeter fencing in good condition without breaks, gaps or damage?	X			
4. Have the debris racks been cleaned and are they in good condition?	X			
5. Are embankments surrounding the pond in good condition without rills or failures?	X			
6. Is the vegetation less than 5 feet in height?	X			
7. Are embankment slopes protected with mulch or vegetation?	X			
8. Has sediment removal been undertaken in the last 3 months?	X			

MONITORED CONTROL	YES	NO	N/A	COMMENTS/ SUGGESTED MAINTENANCE
9. Is there evidence of chemical sheen or odor, contaminated runoff, litter or blowing debris in or near the pond?		X		
10. Do any pond devices require maintenance to provide more effective function?		X		
11. Are there signs of leaking irrigation systems?		X		
12. Are there any signs of vandalism?		X		
13. Are mosquitoes evident?		X		
14. Has mosquito abatement been undertaken since the last monitoring event?		X		
15. Are there remedial/repair tasks that should be undertaken in the near future?		X		
16. Is there evidence or information received in the last 3 months to indicate a lengthy drain time?		X		

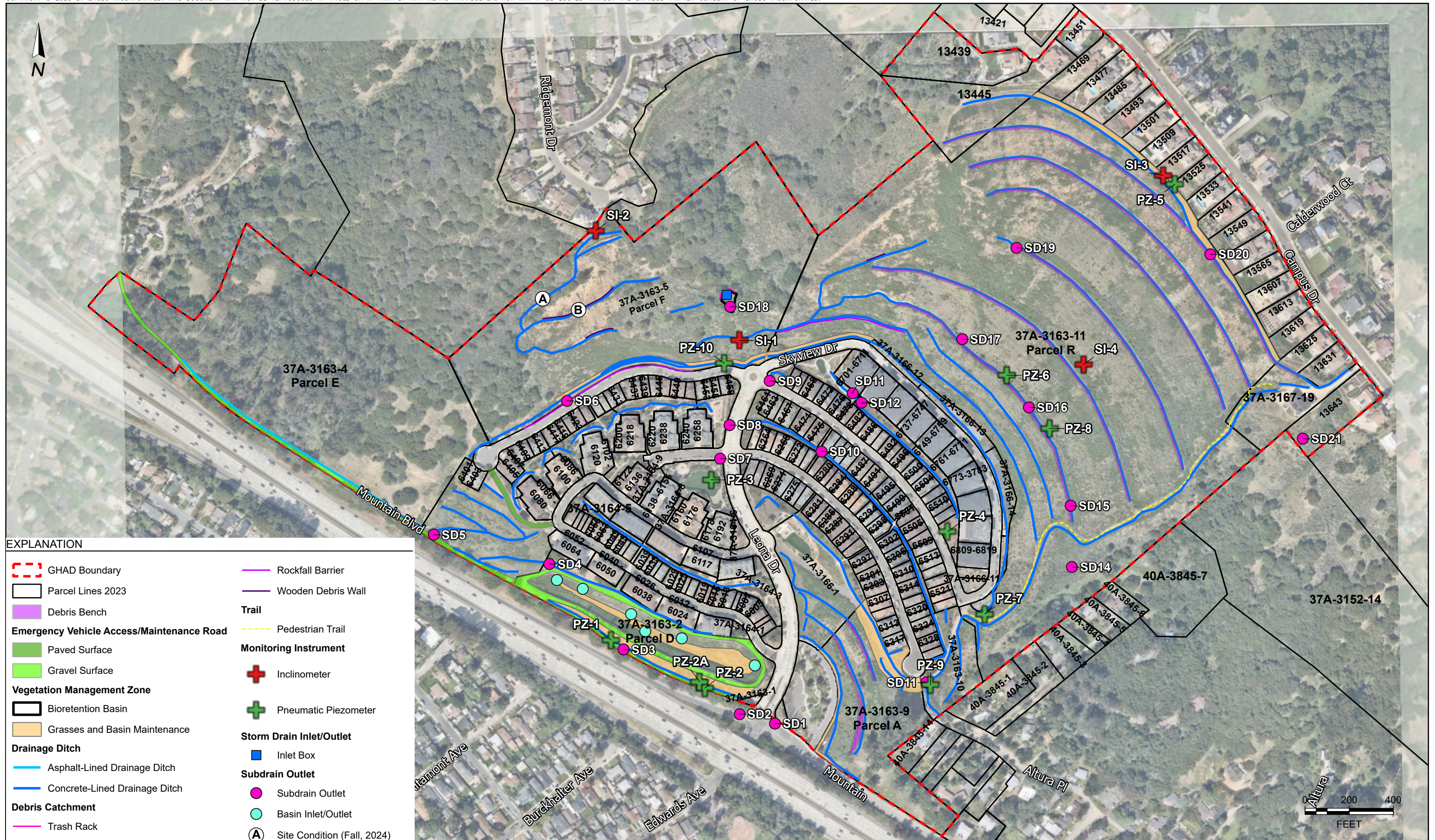
**“No” answers to Items 1-7 or “Yes” answers to Items 8-16 may require a corrective action.**



**FIGURE 1**

**Site Plan**





**EXPLANATION**

- - - GHAD Boundary
- Parcel Lines 2023
- Debris Bench
- Emergency Vehicle Access/Maintenance Road**
- Paved Surface
- Gravel Surface
- Vegetation Management Zone**
- Bioretention Basin
- Grasses and Basin Maintenance
- Drainage Ditch**
- Asphalt-Lined Drainage Ditch
- Concrete-Lined Drainage Ditch
- Debris Catchment**
- Trash Rack
- Rockfall Barrier
- Wooden Debris Wall
- Trail**
- Pedestrian Trail
- Monitoring Instrument**
- + Inclinometer
- + Pneumatic Piezometer
- Storm Drain Inlet/Outlet**
- Inlet Box
- Subdrain Outlet**
- Subdrain Outlet
- Basin Inlet/Outlet
- Site Condition (Fall, 2024)