

Project No.  
**3586.002.022**

November 2, 2022

Wiedemann Ranch GHAD Board of Directors  
Chair Diane Burgis  
Vice Chair Federal D. Glover  
Boardmember John M. Gioia  
Boardmember Candace Andersen  
Boardmember Karen Mitchoff

Wiedemann Ranch Geologic Hazard Abatement District  
651 Pine Street, Room 107  
Martinez, CA 94553-1229

Subject: Henry Ranch  
San Ramon, California

**GEOLOGIC HAZARD ABATEMENT DISTRICT  
MONITORING – FALL 2022**

Dear Chair Burgis and Board Members:

ENGEO is pleased to submit this monitoring report for the Henry Ranch development within the Wiedemann Ranch Geologic Hazard Abatement District (GHAD). As described in the Wiedemann Ranch Plan of Control (Reference 1), the purpose of this monitoring is to observe and report the conditions on the open space and associated improvements within the Henry Ranch development and adjacent easement. This monitoring event was completed on October 6, 2022.

**SCOPE**

Site monitoring included observation of the following features.

- Common area and open-space slopes, debris benches, and swales located adjacent to improvements
- Access roadways
- Drainage courses
- Subdrain outlets installed during the mass grading
- Concrete-lined surface drainage ditches
- Storm drain inlets
- Detention basin

In 2009, the Wiedemann Ranch GHAD acquired a 3.52-acre easement area from Philip and Pamela Henry (Figure 1). The Easement Area is located at the western end of Winding Creek Way and allows the GHAD access to the slope below 16 and 18 Winding Creek Way. As provided in the Access and Maintenance Easement Agreement, the GHAD is responsible for providing monitoring and maintenance on the improvements shown on the Contra Costa County approved plan dated June 1, 2005, and revised December 19, 2006, and specifically includes debris walls,

retaining walls, concrete- and riprap-lined drainage ditches, the storm drain system, and mechanically stabilized earth retaining walls. In addition, the GHAD responsibilities include monitoring and maintenance of the slopes, subdrains, and subdrain outfalls, and mitigation of erosion, landslides, or other geologic hazards if conditions outlined in the Plan of Control are met. Although outside of the limits of the GHAD, reporting of the conditions within the easement are included in this monitoring report.

### **COMMON AREA AND OPEN-SPACE SLOPES, DEBRIS BENCHES, AND SWALES**

The common area and open-space slopes, debris benches, and swales were observed for evidence of slope instability, including landslides, mudflows, erosion, diverted drainage, or standing water. During this monitoring event, we observed that the site slopes in some locations were severely disturbed from animal burrowing activity (Site Condition I, Appendix A, Figure 1). This activity has resulted in bare soil and surface voids. We will continue to monitor these disturbed areas for instability in the future. There are a number of unrepaired landslides within the ungraded portions of the HOA-owned parcels. These landslides moved in the past and will likely do so in the future when wet conditions occur. The landslides within the ungraded portion of the site appeared to be in a similar condition to that described during development of the site.

We previously noted that the slopes adjacent to the gravel-surfaced access road within the easement area were in an oversteepened condition and subject to shallow slope instability. Retaining walls or debris walls were constructed to protect the road from unstable materials from the uphill slope. During our most recent monitoring, soil continued to slough into the drainage ditch (Site Condition J, Appendix A, Figure 1). Erosion continued on portions of the slope, behind the debris wall (Site Condition A, Appendix A, Figure 1). The GHAD will remove soil materials that collected behind the debris walls to maintain the catchment capacity and from the ditch to allow for proper drainage.

We noted in spring 2020 that the rear fence at 6025 Westside Drive was tilted in the downslope direction, which is an indication of soil creep. Fluctuations in moisture regimes of expansive soil may result in movement of soil related to shrinkage and swelling, which may result in adverse impact to overlying improvements. Soil creep involves the downslope movement of expansive soil due to wetting and drying of the soil. At the time of this site visit, the condition of the fence appeared to be in a similar condition as observed during our last monitoring event (Site Condition B, Appendix A, Figure 1). We also observed the soil creep to be localized directly adjacent to and along the fence alignment and common area irrigation/sprinkler line (Site Condition B, Appendix A, Figure 1). Fences are not a GHAD-maintained improvement. The GHAD will continue to monitor this condition.

During our spring 2018 monitoring event, we noted several areas were significantly disturbed with saturated soil adjacent to the rear property fences along Henry Ranch Drive. During our fall 2020 monitoring event, we noted that new extensive damage to the slopes was inflicted by rooting pigs. Irrigation lines and sprinklers were broken resulting in excessive water expelled and saturation of the slopes. Areas disturbed due to pig rooting are shown in Figure 1. We noted during our spring 2022 monitoring that the irrigation lines were repaired, and the slopes had partially revegetated, but the damage of the slopes from pig rooting activity remained the same (Site Condition G, Appendix A, Figure 1). The damage to the slopes does not appear to be impacting the nearby improvements. We will continue to monitor these slopes for evidence of instability and will repair the slopes, as needed.

During our fall 2021 monitoring event, we noted erosion and rooting activities occurred on the slope adjacent to Winding Creek Way. The erosion exposed bare soil but did not appear to be impacting the sidewalk below or any other nearby improvements at the time of monitoring. During our most recent monitoring, the slope had partially revegetated (Site Condition K, Appendix A, Figure 1). The GHAD will continue to monitor this condition.

We noted during our fall 2021 monitoring event that a large tree had fallen down on the slope adjacent to Terraced Hills Drive, resulting in soil loss from the upended root ball and bare unstable soil. During this monitoring event, we observed that the fallen tree had been removed and the slope conditions remained unchanged (Site Condition L, Appendix A, Figure 1). The GHAD will continue to monitor the condition and stability of the slope where the tree roots were removed.

### ACCESS ROADWAYS

We observed the condition of the gravel-covered access roadways within the easement area, detention basin, and between Westside Drive and the planned extension of Henry Ranch Drive. The gravel-surfaced roadways along the detention basin and between Westside Drive and Henry Ranch Drive appeared to be in good condition. Annual vegetation removal is completed during scheduled routine GHAD maintenance.

### DRAINAGE COURSE

An unnamed tributary of South San Ramon Creek crosses the extreme southern portion of the development. In general, the creek has a moderately incised channel with a moderate to dense vegetation cover. The creek banks, which are oversteepened due to previous down cutting, are generally in an unstable condition. We expect that creek bank failures will continue to occur in the future as the creek banks adjust to lowered creek bed levels. As stated in the Plan of Control, the creek channels will be allowed to mature naturally except where this poses a threat to site improvements. We did not observe areas of the creek channel with the potential to impact site improvements.

### SUBDRAIN OUTLETS

The following subdrain outlets were observed and monitored during the site visit. Discharge levels flowing from the subdrain outlets are summarized on Table 1.

**TABLE 1: Subdrains**

LABEL	FLOW (gallons/day)	COMMENTS
S-1	1,141; EST	Tied into storm drain catch basin, obstructed by calcite deposits
SL-1	456; EST	Four outlet pipes partially obstructed by soil and vegetation, area saturated
SK-2	0	Tied into storm drain catch basin, dry
SK-2A	685; EST	Tied into storm drain catch basin, obstructed by calcite deposits
SL-2	1,141	Outlet onto slope
SK-3	0	Tied into storm drain catch basin, dry
SK-8	-	Unable to monitor, buried
SK-8A	0	Outlet onto slope, dry
SK-9	0	Outlet downslope of maintenance road, dry

Subdrain SL-1 and Subdrain SK-8 outlets were observed to be partially obstructed or buried. The GHAD will perform maintenance on the obstructed outlets to allow for proper drainage

Subdrain SL-2 outlet is located in an adjacent property and not within the GHAD boundary. Since our fall 2019 monitoring, the creek slope below the subdrain outlet appeared to be eroded. During this monitoring event, we observed continued progression of the slope erosion (Site Condition E, Appendix A, Figure 1). If the erosion does threaten GHAD maintained improvements, such as the subdrain pipe, the GHAD will consider repairing the erosion. The area will continue to be monitored in the future.

### **CONCRETE-LINED SURFACE DRAINAGE DITCHES**

The concrete-lined drainage ditches were checked for accumulation of debris/sediment and for obvious distress, such as cracking or shifting of the concrete. As shown on Figure 1, there are approximately 8,600 lineal feet of concrete-lined drainage ditch within the Henry Ranch development. During this monitoring event, we observed that the concrete-lined ditches need clearing of soil and vegetation at some locations. We also observed some minor cracks and off sets in the concrete ditches. The minor cracks and off sets do not appear to compromise the integrity of the ditches. As part of the routine maintenance, the minor cracks will be resealed and filled, as needed, to maintain drainage ditch integrity, and soil and vegetation will be cleaned as part of the routine GHAD maintenance.

We did observe significant damage to the top of the concrete-lined drainage ditch within the easement area (Site Condition C, Appendix A, Figure 1). The damaged concrete will continue to be monitored, as needed, and will be repaired to allow for proper function of the drainage ditch.

During our spring 2018 monitoring event, we noted some cracking was located surrounding the storm drain inlet and sidewalk at the end of the concrete-lined drainage ditch located at the northern end of Lone Tree Lane (Site Condition D, Appendix A, Figure 1). At the time of our monitoring event, the cracking did not appear to be elongating or widening. The sidewalk, which is not a GHAD-maintained improvement, should be repaired to prevent a potential trip hazard.

During our fall 2019 monitoring event, we noted that there is a significant void underneath a portion of drainage ditch at the north end of Lone Tree Lane (Site Condition F, Appendix A, Figure 1). The GHAD will have the maintenance contractor backfill the void to prevent the void from continued enlargement. This area will continue to be monitored in future monitoring events.

During our fall 2020 monitoring event, we noted that significant portions of drainage ditch at the western side of rear yards along Henry Ranch Drive were full of standing water and soil from pig rooting activity. The excessive water appeared to be the result of damaged irrigation lines and sprinklers on the slopes adjacent to the drainage ditch. During this monitoring event, the irrigation and sprinkler damage appeared to be repaired; however, soil continued to accumulate in the drainage ditch. (Site Condition H, Appendix A, Figure 1). The GHAD will continue to remove soil and debris from the concrete-lined drainage ditch during routine maintenance.

## STORM DRAIN INLETS

A number of storm drain inlets within the open space area of the GHAD appear to be in relatively good condition. Some storm drain inlets had accumulated sediment and overgrown vegetation in and around the inlets. As part of routine GHAD maintenance, the storm drain inlets will be cleared of vegetation.

## DETENTION BASIN

A detention basin (Figure 1) is located adjacent to Winding Creek Way. As noted in our previous reports, vegetation within the detention basin includes grasses, cattails, and willow trees. Although vegetation aids in trapping of sediment, the GHAD has removed and will continue to remove regrowth of the willow trees adjacent to the storm drain outfall into the basin to allow for proper surface flow through the basin and maintenance of the inlet and outflow structures.

Monitoring of the detention basin was conducted as part of the Open Space monitoring. The observed conditions for the detention basin are described in the attached Henry Ranch Detention Basin Site Monitoring and Maintenance Form. Contracted ongoing routine maintenance within the water quality/detention basin currently includes roadway maintenance and woody vegetation removal.

## PLANNED SPORTS FIELD PARK

Surface drainage from a planned sports field park, located west of Henry Ranch Drive, flows to a detention basin and then through an above-ground plastic storm drain pipe into a storm drain inlet. Drainage from the access road to the planned sports park, an unpaved extension of Henry Ranch Drive, is captured along a series of berms that drain through 6-inch-diameter above-ground drainage pipes. Surface drainage around the berms has resulted in some minor erosion along the unsurfaced access road. In addition, we observed some damage to and disconnected segments of the 6-inch-diameter pipes. The City of San Ramon indicated that there are no immediate plans to develop the park into its final planned configuration. Currently, no capital improvement project funds have been allocated for the project through Fiscal Year 2022/23. As needed, the GHAD will reconnect and repair the drain pipes to help maintain proper drainage.

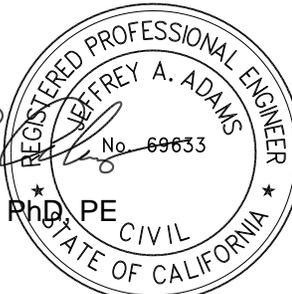
We look forward to continuing our services on this monitoring program. If you have any questions concerning the observations made during this reconnaissance, please do not hesitate to contact us.

Sincerely,  
ENGEO Incorporated



Greg Hudson

gh/faa/ar



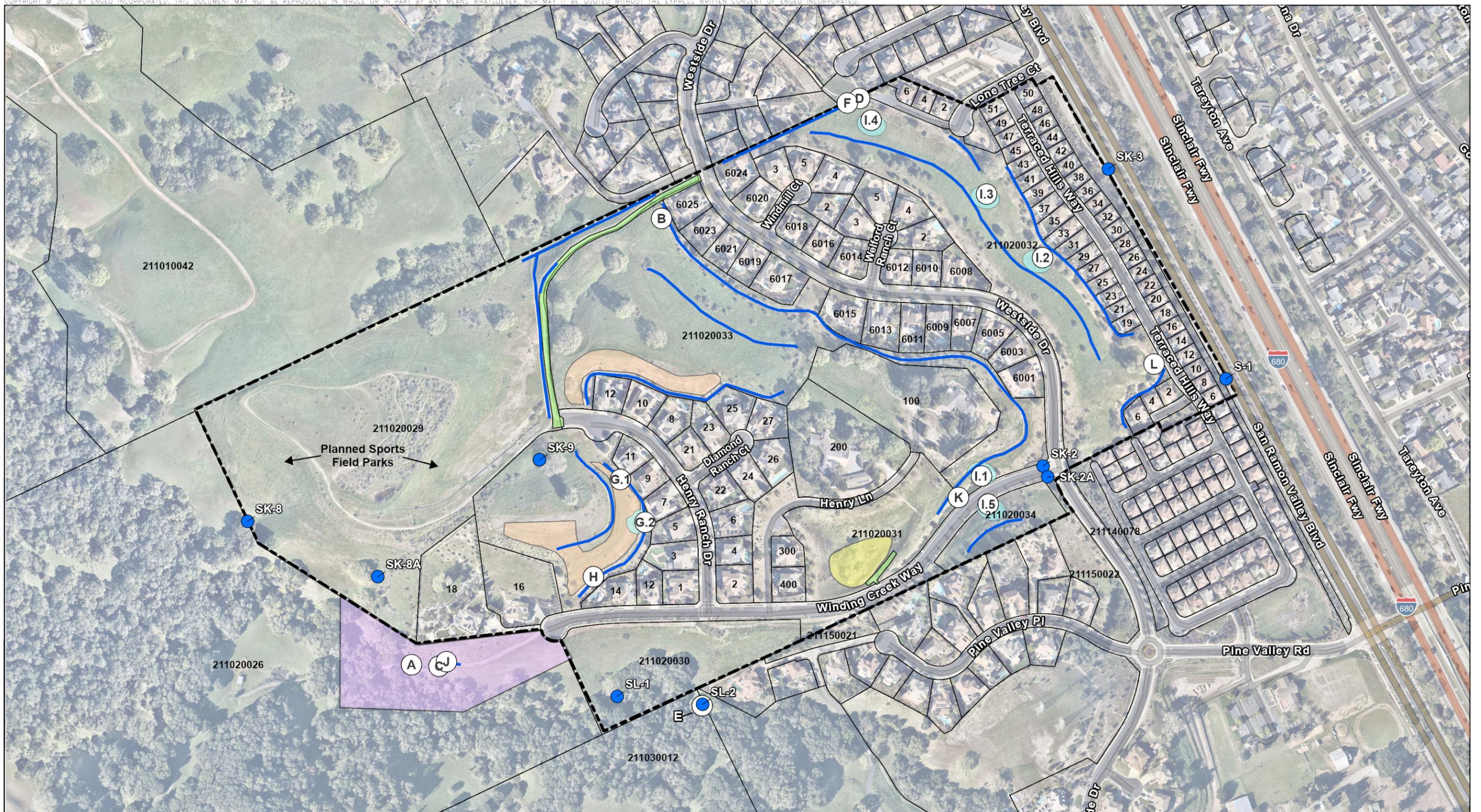
Jeffrey A. Adams, PhD, PE  
REGISTERED PROFESSIONAL ENGINEER  
JEFFREY A. ADAMS  
No. 69833  
CIVIL  
STATE OF CALIFORNIA

Attachments: Selected References  
Figure 1 – Site Plan  
Appendix A – Site Condition Summary with Photographs  
Detention Basin Site Monitoring and Maintenance Form

## SELECTED REFERENCES

1. ENGEO. Amendment 1 to the Wiedemann Ranch Geologic Hazard Abatement District (GHAD), Plan of Control. February 1, 2000, Revised July 12, 2002. Project No. 4412-W3.
2. ENGEO. Geologic Hazard Abatement Monitoring – Spring 2022, Henry Ranch, San Ramon, California. June 30, 2022. Project No. 3586.002.021.
3. ENGEO. Operations and Maintenance Facilities for Detention Basin Facilities, Wiedemann Ranch Geologic Hazard Abatement District – Henry Ranch Detention Basin, San Ramon, California. April 3, 2009. Project No. 3586.120.001.

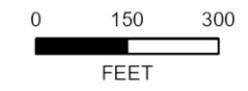
**FIGURE 1 – SITE PLAN**



**EXPLANATION**

ALL LOCATIONS ARE APPROXIMATE

- |                                    |   |                    |                                   |
|------------------------------------|---|--------------------|-----------------------------------|
| ○ SITE CONDITION (FALL 2022)       | — DRAINAGE DITCH                                  | ■ MAINTENANCE ROAD | ■ SIGNIFICANT ANIMAL BURROW       |
| ● SUBDRAIN OUTLET                  | - - - GEOLOGIC HAZARD ABATEMENT DISTRICT BOUNDARY | ■ EASEMENT AREA    | ■ DISTURBED SOIL FROM PIG ROOTING |
| 211020026 ASSESSOR'S PARCEL NUMBER | 6009 ADDRESS                                      | ■ DETENTION BASIN  |                                   |



BASEMAP SOURCE: NEARMAP MAPPING SERVICE 2022



**SITE PLAN**  
WEIDEMANN RANCH - HENRY RANCH  
SAN RAMON, CALIFORNIA

PROJECT NO. : 3586.002.022  
SCALE: AS SHOWN  
DRAWN BY: MAT CHECKED BY: JAA

FIGURE NO.  
**1**

**APPENDIX A**

**Site Condition Summary with Photographs**

---

Site Condition: A  
Observation Date: 10/06/2022  
Description: Oversteepened slope and erosion and sloughing on slope above debris wall.  
Recommendation: Continue to monitor.  
Field Representative: GH



---

Site Condition: B  
Observation Date: 10/06/2022  
Description: Tilted/leaning fence and localized soil creep due to irrigation.  
Recommendation: Continue to monitor.  
Field Representative: GH



---

Site Condition: C  
Observation Date: 10/06/2022  
Description: Damaged concrete-lined drainage ditch within Easement Area  
Recommendation: Continue to monitor.  
Field Representative: GH



---

Site Condition: D  
Observation Date: 10/06/2022  
Description: Offset/cracked sidewalk concrete.  
Recommendation: Continue to monitor.  
Field Representative: GH



---

Site Condition: E  
Observation Date: 10/06/2022  
Description: Slope erosion below subdrain outlet.  
Recommendation: Continue to monitor.  
Field Representative: GH



---

Site Condition: F  
Observation Date: 10/06/2022  
Description: Void beneath concrete-lined drainage ditch.  
Recommendation: Backfill void.  
Field Representative: GH



---

Site Condition: G.1  
Observation Date: 10/06/2022  
Description: Disturbed slope above concrete-lined drainage ditch from pig rooting activity.  
Recommendation: Continue to monitor.  
Field Representative: GH



---

Site Condition: G.2  
Observation Date: 10/06/2022  
Description: Disturbed slope adjacent to concrete-lined drainage ditch from pig rooting activity.  
Recommendation: Continue to monitor.  
Field Representative: GH



---

Site Condition: H  
Observation Date: 10/06/2022  
Description: Soil and debris accumulation in concrete-lined drainage ditch.  
Recommendation: Soil and debris to be removed during scheduled maintenance.  
Field Representative: GH



---

Site Condition: I.1  
Observation Date: 10/06/2022  
Description: Animal burrowing on slope.  
Recommendation: Continue to Monitor.  
Field Representative: GH



---

Site Condition: I.2  
Observation Date: 10/06/2022  
Description: Animal burrowing on slope.  
Recommendation: Continue to Monitor.  
Field Representative: GH



---

Site Condition: I.3  
Observation Date: 10/06/2022  
Description: Animal burrowing on slope.  
Recommendation: Continue to Monitor.  
Field Representative: GH



---

Site Condition: I.4  
Observation Date: 10/06/2022  
Description: Animal burrowing on slope.  
Recommendation: Continue to Monitor.  
Field Representative: GH



---

Site Condition: I.5  
Observation Date: 10/06/2022  
Description: Animal burrowing on slope.  
Recommendation: Continue to Monitor.  
Field Representative: GH



---

Site Condition: J  
Observation Date: 10/06/2022  
Description: Erosion and sloughing on slope above retaining wall.  
Recommendation: Continue to monitor.  
Field Representative: GH



---

Site Condition: K  
Observation Date: 10/06/2022  
Description: Erosion and bare soil on slope above Winding Creek Way.  
Recommendation: Continue to monitor.  
Field Representative: GH



---

Site Condition: L  
Observation Date: 10/06/2022  
Description: Disturbed and bare soil on slope.  
Recommendation: Continue to monitor.  
Field Representative: GH



**DETENTION BASIN SITE MONITORING AND MAINTENANCE FORM**

## MONITORING REPORT

Henry Ranch  
San Ramon, CA

### DETENTION BASIN OPERATIONS AND MAINTENANCE SITE MONITORING AND MAINTENANCE REPORT FORM

Inspector: Greg Hudson

Date: October 6, 2022

Weather Conditions: Sunny

Days since last rainfall: 14

Dry season?  X

Wet season?

Basin Water Level: None

Noteworthy Sediment Accumulated since Last Monitoring Event: No

MONITORED CONTROL	YES	NO	N/A	COMMENTS/ SUGGESTED MAINTENANCE
1. Are inlet and outlet structures functioning properly, allowing the basin to drain and are they in satisfactory condition?	X			
2. Are access roads in satisfactory condition?	X			At the western end of the maintenance road, some soil was eroded and exposed geogrid under the maintenance road. Vegetation overgrown was observed on access road. The GHAD will cut vegetation, monitor the condition of the exposed geogrid in future monitoring events, and consider any repairs, as needed.
3. Is all perimeter fencing in good condition without breaks, gaps, or damage?	X			

MONITORED CONTROL	YES	NO	N/A	COMMENTS/ SUGGESTED MAINTENANCE
4. Is the emergency outlet grate free of debris and is it in good condition?	X			
5. Is the embankment surrounding the basin in good condition without rills or failures?	X			Minor animal burrowing.
6. Is emerging woody vegetation less than 5 feet in height?	X			Willows up to approximately 20 feet in height grew within the detention basin. As provided in the Operations and Maintenance Manual, willows have not significantly impacted basin capacity; however, the GHAD routinely removes willow trees adjacent to the storm drain outfall into the detention basin.
7. Are embankment slopes protected with mulch or vegetation?	X			Animal burrowing activity exposed bare soil in small areas.
8. Has water removal been undertaken in the last 3 months? If so, describe procedure.		X		

MONITORED CONTROL	YES	NO	N/A	COMMENTS/ SUGGESTED MAINTENANCE
9. Has sediment removal been undertaken in the last 3 months?		X		
10. If so, has it been tested as required in the Maintenance Manual?			X	
11. Is there evidence of chemical sheen or odor, contaminated runoff, litter or blowing debris in or near the basin?		X		
12. Do any pond devices require maintenance to provide more effective function?		X		
13. Are there signs of leaking irrigation systems?			X	

MONITORED CONTROL	YES	NO	N/A	COMMENTS/ SUGGESTED MAINTENANCE
14. Are there any signs of vandalism?		X		
15. Are mosquitoes evident?		X		
16. Has mosquito abatement been undertaken since the last monitoring event?		X		
17. Are there other remedial/repair tasks that should be undertaken in the near future?		X		
18. Is there any 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 8-18 may require a corrective action.