



Project No.  
**3417.001.001**

January 7, 2025

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Subject: Magee Ranch Development GHAD  
Danville, California

### **MAGEE RANCH GEOLOGIC HAZARD ABATEMENT DISTRICT MONITORING FALL 2024**

To Whom It May Concern:

We are pleased to submit this monitoring report for the development within the Magee Ranch Geologic Hazard Abatement District (GHAD). As described in the GHAD Services Contract (Reference 1), the purpose of this monitoring is to observe and report the conditions in the development and associated improvements, as shown in Figure 1. The site-monitoring event was completed by qualified geotechnical staff on November 14, 2024.

### **SCOPE**

The site monitoring included the following tasks within the Magee Ranch GHAD.

- Geologic reconnaissance of the slopes and debris benches/walls for indications of erosion or slope failure
- Assessment of previously completed slide repair conditions
- Inspection of concrete-lined drainage ditches
- Observation of storm drain facilities
- Observation of drainage courses

### **OPEN SPACE AND SLOPE MONITORING**

Slopes within the GHAD limits appeared to be performing well except for minor sloughing or shallow slides. The observed slope failures are limited in depth and extent or otherwise too far away from residences to be an immediate hazard (Figure 1, Table 1). We did not observe any indication of impending global failure within the project area.

**Table 1 – Slope Failure Site Conditions**

| SITE CONDITION | DESCRIPTION   | COMMENTS            |
|----------------|---|---------------------|
| A              | Shallow slide, scarp is approximately ½ foot deep and 20 feet wide. Debris accumulates downslope due to erosion during rain events. (Figure 1, Photograph 1). | Continue to Monitor |
| A.2            | Shallow slide, scarp is approximately 1 foot deep and 30 feet wide. Slide depth estimated to be 1 foot deep.  | Continue to Monitor |
| A.3            | Cracking within the slope generates scarps approximately ½ foot deep.   | Continue to Monitor |
| A.4            | Material eroding along concentrated drainage channel and building up at the base of the channel. (Figure 1, Photograph 2).                                    | Continue to Monitor |
| A.5            | Sloughing within high angle slope, material eroding downslope.  | Continue to Monitor |
| A.6            | Cracking within the slope generates scarps approximately ½ foot deep.   | Continue to Monitor |
| A.7            | Shallow slide, scarp is approximately ½ foot deep and 15 feet wide. Debris accumulates downslope due to erosion during rain events.                           | Continue to Monitor |
| A.8            | Sloughing above the recent slide area.  | Continue to Monitor |

The observed slope conditions do not appear to require maintenance at this time, but we will continue to monitor slopes and notify the GHAD if measures are required.

The recently repaired landslide areas (Reference 2) appeared to be performing well. We will continue to monitor previously repaired slide areas to assess their condition.

During monitoring, we observed several concentrated drainage areas (Figure 1) that could concentrate water during heavy rainfall events. We observed some mitigation measures in place and evaluated the condition of the walls in a future section. Overall, these areas did not indicate significant mobilization of debris, and the catchment basin areas appeared to be in good condition (Figure 1, Site Condition B, Photograph 3).

**Table 2 – Natural Drainage Channels**

| SITE CONDITION | DESCRIPTION  | COMMENTS   |
|----------------|--|--|
| B              | Natural terrain creates areas of concentrated flow during heavy rainfall events. | Continue to Monitor. GHAD will assess the need for erosion control per monitoring event. |

## CONCRETE-LINED SURFACE DRAINAGE DITCHES

Concrete-lined surface drainage ditches were viewed for evidence of sediment accumulation and distress, such as cracking or shifting. As shown in Figure 1, there are extensive concrete-lined drainage ditches within the GHAD-maintained parcels. The drainage ditches were variable in condition. The majority of drainage ditches observed appeared to be in good condition and free of debris. In some areas, we observed sediment accumulation or overgrowth in the ditch (Figure 1, Site Conditions C, Photograph 4). As part of the ongoing GHAD maintenance activities, debris will be removed from the drainage ditch. In the drainage ditch in the southeast portion of the site, we observed cracking and displacement within the concrete-lined ditch (Figure 1, Site Condition D, Photograph 5). Cracking should be covered over and repairs made to displaced ditches in order to restore proper flow to the channel.

**Table 2 – Concrete-Lined Drainage Ditch Site Conditions**

| SITE CONDITION | DESCRIPTION  | COMMENTS   |
|----------------|--|--|
| C              | Debris accumulating and/or vegetation overgrowth within concrete-lined drainage ditch. | Remove debris and cut back overgrowth from drainage ditch. |
| D              | Cracking in concrete-lined drainage ditch.   | Repair cracking to allow flow within drainage ditch.       |

## SUBDRAIN OUTLETS

We observed a number of storm drain outlets within the GHAD (Figure 1). In general, the subsurface drains located appeared to be in good order and free of obstructions and debris. We did not observe flow in any of the outlets. As we continue to monitor the site, additional or new subdrain outlets will be added to the monitoring report.

**Table 4 – Subdrain Outlets**

| LABEL | FLOW (gallons/day) | COMMENTS |
|-------|--------------------|----------|
| SD1   | -                  | Dry      |
| SD2   | -                  | Dry      |
| SD3   | -                  | Dry      |
| SD4   | -                  | Dry      |
| SD5   | -                  | Dry      |
| SD6   | -                  | Dry      |
| SD7   | -                  | Dry      |

## MSE DEBRIS WALLS

We observed a number of erosion control walls within the GHAD area. These included areas of straw wattle, gabion walls, and soil debris walls (Figure 1, Site Condition E, Photograph 6). We observed the area behind the walls to ensure that mobilized debris would be prevented from running downslope during a future storm event. Removal of built up material behind the walls may be required following future heavy storm events, but overall the walls appeared to be in good condition during our visit.

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

Sincerely,

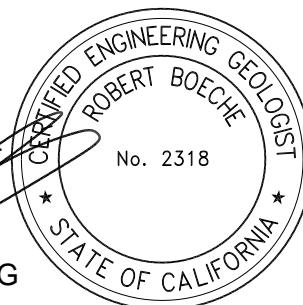

ENGEO Incorporated



Nick Inserra

ni/rhb/jg

Attachments: Selected References  
Site Photographs  
Figure 1 – Site Plan – Fall 2024



Robert H. Boeche, CEG

### **SELECTED REFERENCES**

1. ENGEO. 2024. Magee Ranch Geologic Hazard Abatement District Manager Services Contract, Magee Ranch, Danville, California. Project No. 3417.000.001. March 7, 2024.
2. ENGEO. 2024. Magee Ranch GHAD Repairs, Danville, California, Testing and Observation Services During Repair Work. Project No. 3417.000.002. February 2, 2024.
3. ENGEO. 2023. Magee Ranch Geologic Hazard Abatement District, Geotechnical and Geological Consultation Related to Storm Events, Danville, California, Request for Proposals. Project No. 3417.000.001. March 27, 2023; revised March 30, 2023.



## SITE PHOTOGRAPHS

**Site Condition A** – Photograph 1 (top), Photograph 2 (bottom)





**Site Condition B – Photograph 3, Concentrated Drainage Area**





**Site Condition C – Photograph 4, Debris in Concrete-Lined Drainage Ditch**





**Site Condition D – Photograph 5, Cracking in Concrete-Lined Ditch**



**Site Condition E – Photograph 6, MSE Walls and Recent Slope Repairs**





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- EXPLANATION**  
ALL LOCATIONS ARE APPROXIMATE
- GHAD BOUNDARY
  - CONCRETE-LINED DRAINAGE DITCH
  - MSE WALL (EARTHEN OR GABION)
  - SITE CONDITION - SLOPE FAILURES
  - SITE CONDITION - CONCENTRATED NATURAL DRAINAGE
  - SITE CONDITION - CONCRETE-LINED DRAINAGE DITCH DEBRIS
  - SITE CONDITION - CONCRETE-LINED DRAINAGE DITCH CRACKING
  - SITE CONDITION - WALL CONDITION
  - CATCH BASIN
  - REBUILT SLOPE
  - REBUILT SLOPE (GEOGRID)
  - SUBDRAIN OUTFALL
  - STORM DRAIN INLET
  - SEEP
  - PARCEL BOUNDARY
  - STREET ADDRESS NUMBER
  - SITE PHOTOGRAPH AND DIRECTION

