

Project No.
4748.002.023

March 7, 2024

Schaefer Ranch Geologic Hazard Abatement District Board of Directors
% Ms. Laurie Sucgang
City of Dublin, Public Works Department
100 Civic Plaza
Dublin, CA 94568

Subject: Schaefer Ranch Development
Schaefer Ranch Geologic Hazard Abatement District
Dublin, California

MAINTENANCE PLAN

Reference: ENGEO. 2006. Plan of Control for Schaefer Ranch Geologic Hazard Abatement District (GHAD), Dublin, California. November 1, 2006. Project No. 4748.500.01.

Dear Ms. Sucgang:

Attached is the Maintenance Plan for the Schaefer Ranch Development within the Schaefer Ranch Geologic Hazard Abatement District (GHAD).

If you have any questions regarding the contents of this plan, please contact us.

Sincerely,

ENGEO Incorporated, GHAD Services Consultant
ENGEO Project No. 4748.002.023



Greg Hudson



Robert H. Boeche, CEG



Haley Ralston

gh/rhb/hr/ca

Attachments: Maintenance Plan
Figures 1 and 2

SCHAEFER RANCH GEOLOGIC HAZARD ABATEMENT DISTRICT (GHAD) MAINTENANCE PLAN

The Schaefer Ranch GHAD includes all residences within the Schaefer Ranch development and surrounding open space. The parcels listed below are GHAD-owned and maintained.

ASSESSOR'S PARCEL NUMBER
941-2832-009 through 941-2832-011
941-2832-013 through 941-2832-026
941-2832-029
941-2832-030-4
941-2832-031 through 941-2832-037
941-2833-001
941-2833-002
941-2837-002 through 941-2837-005
Portions of 941-2837-022 through 941-2837-027
941-2847-1 and 941-2847-2
941-2847-3-1
941-2848-1 through 941-2848-4

As described in the referenced Plan of Control, GHAD maintenance responsibilities within the above-listed parcels (GHAD-owned Property) include open-space vegetation management, maintenance, repair, and replacement of detention/water quality basins, sediment and debris removal from concrete structures, replacement of storm drain pipe and concrete-lined drainage ditch, maintenance and repair of emergency vehicle access (EVA) and maintenance roadways, and subdrain outfall maintenance (Figure 2). Emergency response to geologic hazards for landslides and other slope instability concerns occur throughout the entire GHAD, whether on GHAD-owned Property or not, as described in the Plan of Control.

The GHAD performs the following within the GHAD-owned Property.

VEGETATION MANAGEMENT

- Cut grasses and perennial vegetation (less than 6 feet in height) within fuel management zones to 3 inches or less in height for a minimum width of 100 feet from the rear side of vertical structures and 30 feet from roadways. Intentionally planted shrubs and trees to remain. The clearing of vegetation includes areas adjacent to fences, retaining walls, ditches, and other structures. Annual vegetation may be disposed of on site within vegetation management areas if spread to a thickness of less than 3 inches. Perennial vegetation shall be removed from within the fuel management zones and disposed of off site in a proper manner.
- Complete annual vegetation management by the deadline set annually by the Alameda County Fire Department (ACFD). ACFD weed abatement deadlines are usually between April 15 and June 1 of each year.
- Perform a second cutting of grasses and perennial vegetation as necessary or requested by ACFD. A second cutting, if needed, usually occurs in late spring or early summer.
- Remove tree branches from the ground surface to a height of 6 feet.

DETENTION/WATER QUALITY BASINS

Maintenance, repair, and replacement of detention/water quality basins include vegetation management, sediment removal, storm drain structures, slopes, and fencing.

- Woody vegetation in excess of 5 feet in height, not including cattail vegetation, will be removed to within 6 inches of the ground surface and disposed of off site in a proper manner. Heavy equipment will not be used during vegetation removal. The clearing of vegetation will be completed once a year.
- Vegetation and debris will be removed from outfall structure grates and properly disposed of off site in a proper manner. Vegetation and debris removal will be completed at least once a year.
- Inflow and outflow structures in basins will be regularly cleared of excess vegetation and debris with proper off-site disposal. If more than one-quarter of inflow structure is obstructed, remedial maintenance is required. The clearing of vegetation and debris around the inflow and outflow structures within the basins shall be completed once a year.
- Excess sediment from basins will be removed and properly disposed of off site in a proper manner, as needed, to allow for proper function of basins. If sediment in excess of 18 inches or 10 percent of the storage capacity, whichever is greater, has accumulated above design grades, sediment removal shall be undertaken before the next winter. Heavy equipment will not be used within the basin unless authorized by the GHAD Manager or designee.
- Erosion, rills, slumps, or landslides within basin slopes will be repaired, as determined by the GHAD Manager or designee, to allow for proper function of basins.
- Fences surrounding basins will be maintained and repaired, as determined by the GHAD Manager or designee.

EARTHEN DRAINAGE DITCHES

- Perform routine maintenance of earthen drainage ditches, annually, which will include cutting of vegetation to 3 inches or less in height and complete removal, including root system of perennial vegetation.

CONCRETE-LINED DRAINAGE DITCHES

- Perform routine maintenance of concrete-lined drainage ditches, which will include removal of vegetation, vegetative debris, and soil, annually. Vegetation is to be cut and removed from within the ditches and a minimum of 6 inches on both sides of the ditch. Coyote brush and other perennial vegetation grow on site and will require removal to a height of 6 feet above a vertical projection of the ditch.
- Seal open cracks, less than $\frac{1}{2}$ inch in width, in a manner that will maintain the integrity of the ditch. Vegetation and soil should be removed from the cracks, and the cracks should be dry prior to placement of sealing compound. Cracks larger than about $\frac{1}{2}$ inch in width may be indicative of slope movement or instability and should be viewed by an engineer or geologist to determine the cause of the displacement prior to repair. Repair of larger cracks may involve sealing or replacement of the segment of the ditch containing the distressed area.

- Repair or replace areas of damaged concrete-lined drainage ditch, as determined by the GHAD Manager or designee. Depending on the severity of the damage, this could involve replacing the damaged area only or the entire segment that includes the distressed area. Replaced areas should be saw cut and doweled into the existing segments adjacent to the repair.

STORM DRAIN INLET/OUTLET STRUCTURES

- Storm drain inlets are located along the concrete-lined drainage ditches and will be maintained by the GHAD. Maintenance will include removal of accumulated vegetation, debris, and soil, annually.
- Storm drain inlets and outlets located within detention/water quality basins will be maintained and will include removal of accumulated vegetation, debris, and soil, annually.
- Storm drain structures that are damaged will be repaired or replaced, as determined by the GHAD Manager or designee, to allow for proper function and to meet the original intent of structure design.

MAINTENANCE/EMERGENCY VEHICLE ACCESS ROADWAYS

- Vegetation from and adjacent to gravel-surfaced roadway will be removed to maintain an average road width of approximately 12 feet or the gravel-surfaced width, whichever is greater. The initial clearing of vegetation shall occur once every 3 years. Application of pre- and post-emergent herbicides and clearing of significant vegetation growth on the gravel roadways will be performed annually. Vegetation will be disposed of off site in a proper manner.
- Vegetation on the earth-surfaced maintenance roadways will be cut annually to a maximum height of 3 inches and disposed of off site in a proper manner.
- Maintenance of GHAD-maintained roadways will also include repair of excessive bumps, cracks, and depressions to allow for proper navigation. The type of roadway distress will determine the method and materials used for repairs.
- Access gates will be maintained and repaired by the GHAD, as needed.

SLOPE STABILIZATION AND EROSION CONTROL

The GHAD has maintenance responsibilities related to geologic hazards, such as landslides or erosion, that have either damaged or pose a significant threat of damage to site improvements, as described in the referenced Plan of Control. Emergency response and scheduled repairs will be prioritized as follows, in descending order of priority.

1. Residences, critical lifeline utilities, or emergency vehicle access corridors.
2. Water quality basin improvements, wetlands, riparian features, vegetated swale, restored and unaltered creek channels.
3. Private recreation facilities (e.g., pools, spas, etc.).
4. Landscaping or other similar non-essential amenities.

5. Open space which have neither damage nor pose a significant threat of damage to any site improvements.
- Maintenance of slopes within GHAD-owned Property, as determined by the GHAD Manager or designee, will include repair or mitigation of erosional rills and sediment displacement, and repair or mitigation of landslides.
- Stabilization and control implementation will include use of plastic sheeting, erosion control blankets, straw rolls, straw bales, geo-synthetics, hydroseeding, minor grading, and other winterization measures, as directed by the GHAD Manager or designee.

SUBDRAIN OUTFALL MAINTENANCE

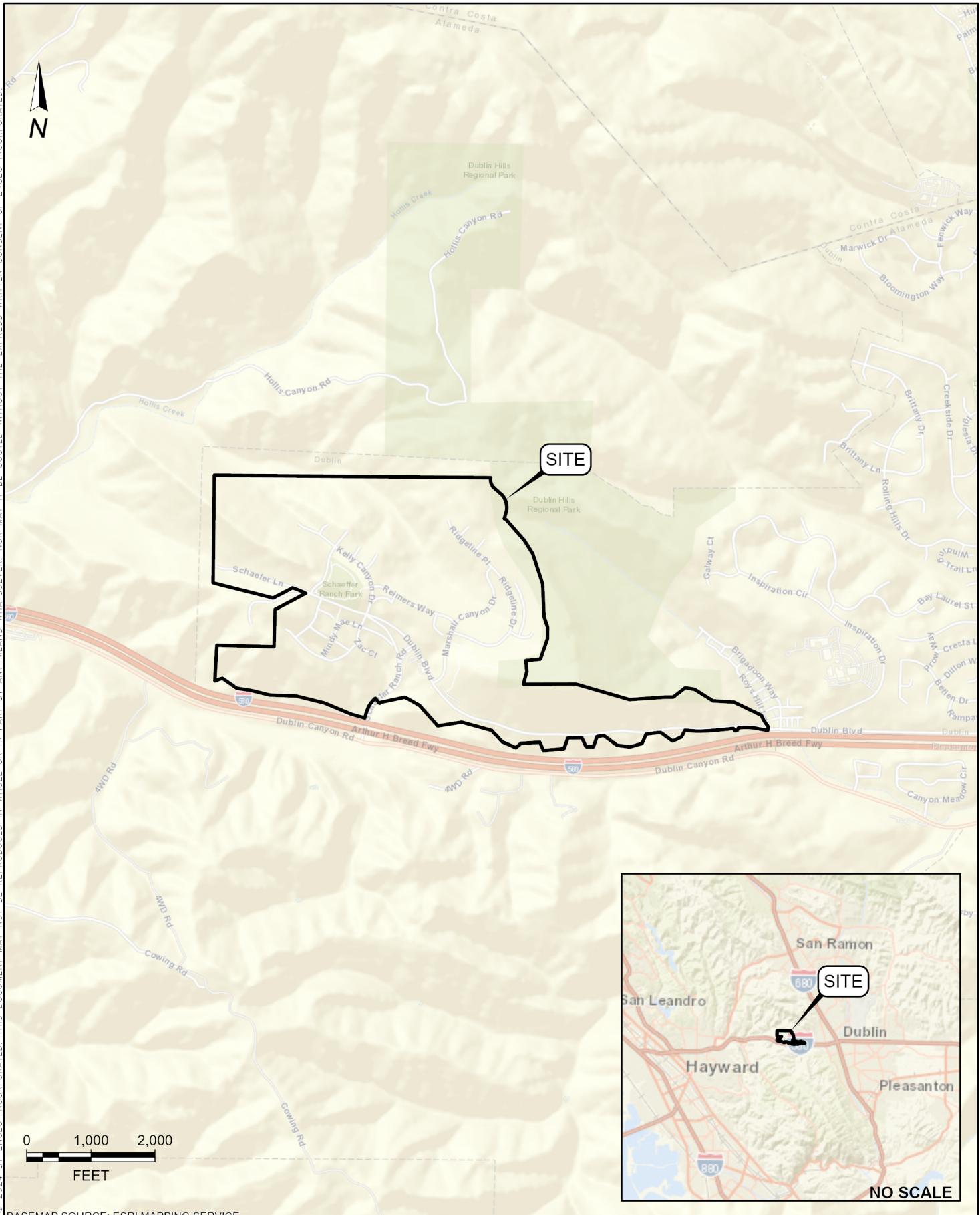
- Maintenance of subdrain outlets will be performed, as needed, to ensure that subdrain pipe outlets are properly exposed to allow for effective drainage.
- Installation of location markers may be required to ensure effective monitoring of subdrain flow. Markers can consist of a labeled, 3-inch-diameter galvanized steel pipe, embedded a minimum of 2 feet below ground surface, with a minimum of 3 feet exposed above-ground surface. The marker will be installed adjacent to the pipe outlet.
- Maintenance may also include installation of outfall structures to help prevent erosion of slopes and maintain slope stability. The outfall structure will consist of a 3-square-foot riprap apron comprised of #25 rock underlain by filter fabric (Mirafi 500X or equivalent).

OPEN SPACE MAINTENANCE

- Maintenance within GHAD-owned open space will include debris/litter collection and removal, as determined by the GHAD Manager or designee. Debris/litter will be disposed of off site in a proper manner.

FIGURES

Figure 1 – Vicinity Map
Figure 2 – Site Plan



BASEMAP SOURCE: ESRI MAPPING SERVICE

ENGEO
Expect Excellence

VICINITY MAP
SCHAEFER RANCH GHAD
DUBLIN, CALIFORNIA

PROJECT NO. : 4748.002.021

SCALE: AS SHOWN

DRAWN BY: CMG CHECKED BY: HJR

FIGURE NO.

1

