

Filed: NA
Staff: Trever Parker
Staff Report: August 7, 2017
Commission Hearing Date: August 16, 2017
Commission Action:

STAFF REPORT: CITY OF TRINIDAD

APPLICATION NO: 2017-02

APPLICANT (S): City of Trinidad

AGENT: NA

PROJECT LOCATION: Trinidad Memorial Lighthouse Overlook parking area and walkway, Edwards Street.

PROJECT DESCRIPTION: Coastal Development Permit and Grading Permit for work that has already been completed under an emergency permit to mitigate and repair damage that occurred from a landslide. Work included: (1) removal of a concrete walkway, fencing, benches and a portion of the parking area; (2) regrading and smoothing of the disturbed area; (3) construction of a new curb and restriping of the parking area to provide parallel spaces; (4) erosion control and hydroseeding of disturbed areas; and (5) installation of inclinometers to gather more information about the slide.

ASSESSOR'S PARCEL NUMBER: 042-091-05 and Edwards St. Right-of-Way

ZONING: OS - Open Space / None (right-of-way)

GENERAL PLAN DESIGNATION: OS - Open Space / None (right-of-way)

ENVIRONMENTAL REVIEW: Categorically Exempt from CEQA per §15301 of the CEQA Guidelines exempting minor alterations of and repairs to existing facilities.

APPEAL STATUS:

Planning Commission action on a coastal development permit, grading permit, variance, conditional use permit, or design review application will become final 10

working days after the date that the Coastal Commission receives a “Notice of Action Taken” from the City unless an appeal to the City Council is filed in the office of the City Clerk within that time. Furthermore, this project is X / ~~is not~~ appealable to the Coastal Commission per the City’s certified LCP, and per Section 30603 of the Coastal Act.

SITE CHARACTERISTICS:

The proposed project is located at and below the parking area at the Trinidad Memorial Lighthouse overlook, and east to the Memorial Lighthouse, at the top of the bluff near the intersection of Trinity and Edwards Streets. Portions of the project are located within the City right-of-way, and other portions are located on City property. The approximately 6.5 acre parcel consists almost entirely of coastal bluff and is designated as part of the Tsurai Study Area (TSA); it also contains the Axel Lindgren Memorial Trail (ALMT). Work occurred at the top of an active land slide, and the purpose was to mitigate and repair damage that occurred as a result of the slide. Old Home Beach (formerly Indian Beach) is located below and to the south of the property. Additional coastal bluff is located to the east and west; the remainder of the TSA is also located on properties to the east. The Trinidad Memorial Lighthouse, owned by the Trinidad Civic Club, is surrounded on three sides by the subject property. Residential development is located to the north of the property, across Edwards Street.

STAFF COMMENTS:

The City hired SHN Consulting Engineers and Geologists, Inc. to evaluate the slide. The result was a “Preliminary Assessment of Current Slope Stability Conditions, Trinidad Memorial Lighthouse, Edwards Street, Trinidad” dated March 24, 2017. The report contained several recommendations, including:

- Completely remove all concrete sidewalks that are currently in a state of disrepair;
- Remove all wooden fencing at the bluff edge;
- Remove all wooden benches at the top of the bluff within the affected areas;
- Construct or place a temporary barrier at the sidewalk around the west side of the lighthouse while directing access to the Axel Lindgren Memorial Trail around the east side of the Lighthouse.
- Remove most of the paved parking area and curb while maintaining enough width for vehicles to park parallel to Edwards Street;
- Construct a new continuous asphalt or concrete curb on the seaward edge of the remaining parking area. The curb should be constructed in such a manner so as to direct surface runoff to flow back onto Edwards Street and be directed to the

nearest downslope storm drain inlet. Grade the new parking area such that no ponding or overtopping of the curb can occur.

It was further specified in the report that this work should be done with the use of hand labor and light construction equipment, which includes small skid-steer type equipment and jackhammers. This requirement was included as part of the specification in the contract for the work. Finally, the report also recommended: (1) drilling a series of boreholes in order to evaluate the soil profile and depth to bedrock; and (2) installation of inclinometers in the borings, which will measure the magnitude and rate of earth movement at various depths. Drilling of the boreholes was done after the demolition work described above, but before the erosion control was in place. Work was done using a portable drill rig that was powered from a vehicle parked on Edwards Street in order to minimize site disturbance.

There were a few minor differences between the project plans provided with this staff report and the actual work that was done. The fence that was proposed along the western edge of the Memorial Lighthouse foundation was eliminated in favor of signage to keep people out of the area. This was done in order to avoid further ground disturbance. In addition, the proposed planting of native vegetation was eliminated due to the fact that the ground is still moving, even during the dry season. Therefore, it was deemed to not be practical to plant with permanent vegetation at this time. Finally a combined hydroseed/erosion control matrix spray was used instead of staking down an erosion control blanket and then hydroseeding.

While this work did not eliminate the possibility of additional earth movement, particularly during the next rainy season, it was necessary to protect public safety, especially considering the onset of the tourism season. It also improved drainage conditions at the top of the slide.

Almost all of the work has already occurred under an Emergency Coastal Development Permit that I issued on March 28, 2017, except for the restriping of the parking area to accommodate three parallel spaces. Section 17.72.080 of the Trinidad Zoning Ordinance allows that: *“Emergency coastal development permits may be granted at the discretion of a local official designated by the city for projects normally requiring a coastal development permit approval which must be undertaken as emergency measures to prevent loss of or damage to life, health or property, or to restore, repair or maintain public works, utilities and services during and immediately following a natural disaster or serious accident.”* A full permit application must be submitted within 30 days of the issuance of the emergency permit. The City had all the materials for a complete application by that time. However, the City held off on processing the permit in case further, follow-up remediation work was recommended after a more thorough geologic investigation.

SHN did produce a follow-up report, “Landslide Mitigation Assessment, Trinidad Memorial Lighthouse and Edwards Street, Trinidad, California,” dated July 20, 2017.

However, the magnitude of the recommendations for stabilization put any further work outside the scope of this permit. One of the recommendations is that the Memorial Lighthouse be moved prior to the next winter, because it is at immediate risk from the active landslide. The preliminary recommendation to protect Edwards Street and utilities is to construct a soldier pile retaining wall such as what is proposed for the Van Wycke Street Trail repair. However, additional data will be collected with the installed inclinometers over the next wet season, which will help refine the options. A planning and public outreach process for that will likely start next year.

TAS / Tribal Consultation

Policy 69 of the Trinidad General Plan states in part that: *“There shall be no disturbance, vegetative removal or construction, except for a protective fence around the burial ground, on lands designated as Open Space within the Tsurai Study Area without approval of the lineal descendants of Tsurai, Trinidad Rancheria, City of Trinidad and the State Historic Preservation Officer.”* Letters were sent to these groups on March 24, 2017. In addition, the City Manager sent a number of emails to the Tsurai Management Team (TMT) and Trinidad Rancheria informing them of the project plans, the permit process and the progression of the work. Cultural monitors from the Yurok Tribe were employed during ground disturbance. Other than a request for cultural monitors, no written comments or objections were received. Public notices were also sent to the TMT and Rancheria to inform them of this hearing.

ZONING ORDINANCE / GENERAL PLAN / COASTAL ACT CONSISTANCY:

This project requires a Coastal Development Permit, and a Grading Permit due to the changes in topography and soil disturbance as well as the zoning and proximity to a bluff. The project is located partially within the Edward Street right-of-way, which has no associated zoning, and partially on City-owned land that is zoned Open Space (OS). The OS land is within the Tsurai Study Area and subject to an easement held by the CA Coastal Conservancy. Only limited uses and structures are allowed in the OS Zone. Because the project involves only repair and removal of existing improvements, no Use Permit is required. The only new structures will be a new curb along the southern edge of the reduced parking area, within the City right-of-way.

The project is located adjacent to a sensitive open space area and on top of an ocean bluff. The area is designated as being of “questionable stability” on Plate 3 of the General Plan, and other areas of the bluff are mapped as being “unstable.” Therefore, the applicable requirements of the SE – Special Environment zone must also be considered. Most of these are not applicable, including the requirements for development in the tsunami hazard area (§17.20.070), on the bluff face (§17.20.080) or in a stream protection area (§17.20.100). Other sections apply to buildings and structures as opposed to grading, such as the requirements for development on slopes near bluffs (§17.20.090), or requirements for open space protection (§17.20.120).

The work that was done was limited to that recommended by a geologist in accordance with Zoning Ordinance §17.20.130, which includes requirements for review by a qualified geologist in unstable areas. This section requires a site visit and a determination from the geologist that the *“proposed development will not significantly increase erosion and slope instability and that any potential adverse impacts have been mitigated to the maximum extent feasible.”* This entire project was based on the recommendations of a geologist as outlined in the preliminary investigation and report.

Policy 5 of the Trinidad General Plan recommends that trails be located away from unstable areas if possible and that trails which are causing instability should be closed. The western access to the ALMT was in an unstable area, and associated drainage improvements may have been contributing to instability, so its removal was consistent with this policy.

Policy 74 of the General Plan protects Open Space areas lying south of Edwards and Van Wycke streets from development in order to maintain the unparalleled views of the coastline. This project is consistent with this policy since it does not affect views from these areas and may improve views by removing existing structures.

The project did impact public access, which is a central tenet of the Coastal Act. The project resulted in removal of what was originally intended to be an ADA access ramp for the Memorial Lighthouse, it also removed the western access to the ALMT, and it eliminated at least one parking space. However, both §30210 and §30214 of the Coastal Act recognize the need to limit public access as necessary to maintain public safety and preserve coastal resources. The walkway ramp was no longer ADA compliant and had become a public safety hazard. Alternative, and more direct, access to the ALMT is provided through the Civic Club property to the east of the Lighthouse. Also, additional public parking is provided nearby along public streets, so this small parking lot is not critical.

Section 30244 provides that when historical or cultural resources may be impacted, reasonable mitigation measures shall be required. The City arranged to have Yurok cultural monitors onsite during ground disturbing activities as needed. The project is consistent with §30251 by considering and protecting coastal viewsheds. It is also consistent with §30253 by minimizing geologic risks, improving stability and implementing erosion control measures. In addition, the project has been sited and designed to protect views to and along the coastline and other scenic resources, to minimize the alteration of existing landforms and to be visually compatible with the character of the surrounding areas, as required by Coastal Act §30251.

Based on the above discussion, the project can be found to be consistent with the City’s Zoning Ordinance and General plan as well as Chapter 3, Coastal Resources Planning and Management Policies, of the Coastal Act.

LANDSCAPING AND FENCING

The project originally proposed to construct a new split-rail fence along the western boundary of the Civic Club property. It also included replanting the area with native vegetation. However, the project was altered to not include these items. One of the reasons was because the area is still actively moving, so it did not seem prudent to include additional improvements.

SLOPE STABILITY

The project is located on property designated as unstable and of questionable stability and at the head of an active landslide. However, the purpose of the project was to mitigate the public safety hazards and drainage issues that resulted from and / or contributed to the instability. All work was done based on recommendations by and under the direction of a licensed geologist.

SEWAGE DISPOSAL

There is no sewage disposal system associated with this project or property.

DESIGN REVIEW/VIEW PRESERVATION FINDINGS:

The project did not alter any structure over three ft. in height or alter the natural contours of the land by more than two ft. Therefore, this project is not subject to the Design Review and View Preservation criteria set by Zoning Ordinance Section 17.60.

STAFF RECOMMENDATION

Based on the above analysis, and notwithstanding public input, the project can be found to be consistent with the City's Zoning Ordinance, Grading Ordinance, General Plan, Coastal Act, and other applicable policies and regulations. Therefore the necessary findings for granting approval of the project can be made. If the Planning Commission agrees with staff's analysis, a proposed motion might be similar to the following:

Based on application material, information and findings included in this Staff Report, and based on public testimony, I move to adopt the information in the staff report and find that the project as submitted and as described herein are consistent with the City's LCP and other applicable regulations.

PLANNING COMMISSION ALTERNATIVES:

If the Planning Commission does not agree with staff's analysis, or if information is presented during the hearing that conflicts with the information contained in the staff report, the Planning Commission has several alternatives.

- A. Add conditions of approval to address any specific concerns on the part of the Commission or the public.
- B. Delay action / continue the hearing to obtain further information.
 - In this case, the Planning Commission should specify any additional information required from staff or the applicant and / or suggestions on how to modify the project and / or conditions of approval.
- C. Denial of the project.
 - The Planning Commission should provide a motion that includes finding(s) as to why the project is not consistent with the City's LCP or other regulations.

ATTACHMENTS

1. Preliminary Geologic Assessment by SHN dated March 24, 2017
2. Design Plans by GHD dated April 3, 2017
3. Three photos from prior to the work occurring

CONDITIONS OF APPROVAL

None proposed.



Reference: 017052

March 24, 2017

City of Trinidad
Attn: Dan Berman, City Manager
409 Trinity Street
P.O. Box 390
Trinidad, CA 95570

**Subject: Preliminary Assessment of Current Slope Stability Conditions,
Trinidad Memorial Lighthouse, Edwards Street, Trinidad**

Introduction

This report presents the results of a visual assessment of slope conditions conducted by a Certified Engineering Geologist from SHN Consulting Engineers & Geologists, Inc. (SHN) on March 13, 2017 at the Trinidad Memorial Lighthouse. SHN's site assessment was performed at the request of the Trinidad City Manager, Mr. Dan Berman. Our work scope for this assessment has been limited to site reconnaissance, preliminary mapping of scarps, and review of existing published and unpublished geologic and geotechnical data. The results of the 2012 Trinidad stormwater study were especially useful, as it includes subsurface data and geophysical information in the near vicinity of the Memorial Lighthouse.

Included with this report are recommendations for immediate action the City of Trinidad should undertake to remove the hazardous, broken concrete walkways and fencing, and to control surface runoff near the parking lot. We have also included recommendations to perform subsurface monitoring of earth movements to address the potential instability hazard posed to the lighthouse and to the southern edge of Edwards Street and underground utilities.

Site Conditions

During our recent site visit we observed fresh vertical head and lateral scarps, and open fissures adjacent to the lighthouse, and extending approximately 100 feet westward through the paved parking area along Edwards Street (Figure 1). The fresh escarpment forms an arcuate feature that defines the head of an active earthflow-type landslide; the highest extent of which occurs in the parking area west of the lighthouse. The earthflow is occurring in low strength bedrock and overlying unconsolidated terrace materials on the bluff face (discussed below). Available geomorphic indicators suggest the slide is large and deep-seated, likely encompassing all or most of the bluff face below the recently active head scarp (that is, it likely extends to the beach). Landslides of this type are generally moisture-sensitive (they move under elevated pore water pressure conditions); therefore, the accelerated movement and expansion during the current rainy season can at least partially be attributed to the high levels of rainfall this year.

The recent episode of slide activity in this area initiated over two years ago, and appears to have substantially accelerated throughout the current winter season, especially over the past month. The height of the scarps and the amount of deformation recorded by the concrete walkways and ground surface displacement has significantly increased when compared to observations over a year ago and as recently as a few weeks ago. Tension cracks currently extend beneath the southwest corner of the concrete apron (sidewalk) located immediately adjacent to the lighthouse. Settlement of the grass-covered ground surface adjacent to the concrete apron is evident, and exceeds 6 inches. The main, active slide scarp has propagated to within about a foot of the southwest corner of the lighthouse's perimeter sidewalk.

The site and vicinity is underlain by Franciscan Complex *mélange*. This regional bedrock unit is composed of a chaotic mixture of highly erodible, low strength matrix of pervasively sheared and highly decomposed clay-rich argillite surrounding rock blocks of a variety of sizes and lithologies. The rock blocks are "rootless" in that they are suspended in the matrix material, and do not necessarily extend to significant depth. Slope stability conditions on slopes underlain by Franciscan *mélange* are strongly influenced by the distribution of the competent rock blocks. The rock blocks form resistant areas that frequently result in headlands (Trinidad Head is a particularly large block), while the low strength matrix is frequently subject to earthflows (it is locally referred to as "blue goo" due to its tendency to move when saturated) and is typically associated with receding portions of the coastline.

Nearby borings indicate that about 70 feet of marine terrace deposits composed of medium dense to dense and weakly to moderately cemented poorly-graded sand overlie the Franciscan bedrock. This material forms the relatively level plateau that most of the City of Trinidad is built on. The terrace is interpreted as a late Pleistocene age landform.

The distribution of rock blocks in the bluff along Edwards Street can, in part, be estimated by the geomorphic expression of the bluff face. The Axel Lindgren trail that descends the bluff below the lighthouse follows a topographic ridgeline likely controlled by competent shallow bedrock. An obvious topographic bench midway down this ridge appears associated with a rock block that underlies this portion of the slope (Figure 2). In addition, an east-west oriented geophysical transect conducted along the southern edge of Edwards Street as part of the ASBS Stormwater Improvement Project Geotechnical Analysis (GHD, 2012) is useful in interpreting subsurface conditions near the site. The profile is particularly useful in interpreting the distribution of underlying bedrock. The profile indicates a relatively large bedrock block to be present in the subsurface to the east and north of the lighthouse. From the geophysical imaging it appears that the western edge of the block may underlie the lighthouse at a depth of 35 feet or less. In the area directly west of the lighthouse along Edwards Street, however, the geophysical profile appears to image the steep west-facing edge of the rock block. The location of the recently active earthflow appears to coincide with the western edge of the buried rock block at depth (that is, the slide is occurring in the materials just west of the stable rock block).

Slope movements now occurring near the top of the bluff are most likely occurring in response to deep-seated earthflow activity (previous or recent) within the underlying *mélange* matrix within the bluff. A review of time-series aerial photographs indicates the presence of an outwardly convex

bulge of *mélange* matrix at the back edge of the beach directly downslope of the observed landsliding that appears to have been mobilizing seaward for some time (Figure 2). The rate and magnitude of slope movements occurring at the top of the bluff has been observed to be greatest during the recent and previous wet seasons when pore water pressures within the clay-rich *mélange* matrix and overlying terrace sediments are highest and the water table is elevated. The large areal extent of the active earthflow underlying the zone of accelerated slope movement leads us to conclude that the recent wetter-than-average rainy seasons have exacerbated stability conditions within this previously dormant landslide. The addition of storm runoff into the subsurface, which has the effect of artificially elevating the ground water table, may also be contributing to the destabilization of the bluff edge. It should therefore be expected that episodic (or even chronic) slope movements will continue into the future at rates similar to, or even greater than, those of the recent winters (particularly if similar above-normal rainfall occurs). However, the timing and magnitude of future slope movements cannot be predicted at this time.

Discussion

The margin of the active landslide at the site is currently encroaching on the southwest corner of the lighthouse apron. Therefore, any significant additional lateral expansion of the landslide will undermine the lighthouse. Available information (geomorphology, geophysics) suggests that the slide is occurring adjacent to a buried rock block. As the precise location of the edge of this block is not known, we cannot predict with any certainty the potential for future lateral expansion of the slide. Additional subsurface data would be required.

In addition to potential adverse impacts to the lighthouse, headward expansion of the landslide would ultimately affect the outboard edge of Edwards Street and potentially a buried water line.

Fortunately, the end of the wet of season is nearing, which will likely result in a reduced rate of ground movement through the coming dry season (although the timing and magnitude of this reduction in rate of movement cannot currently be estimated). It is likely that given the increase in slide activity observed this past winter that reactivation of the slide complex is in its early stages; therefore, significant natural reduction of the rate of movement or the potential for headward expansion are unlikely over an extended period of time.

Recommendations

Interim measures should be undertaken to discourage the public from using the affected areas in order to reduce the risk of personal injury, particularly in light of the coming tourist season. These include the following recommendations that can be achieved with the use of hand labor and light construction equipment:

- Completely remove all concrete sidewalks that are currently in a state of disrepair;
- Remove all wooden fencing at the bluff edge;
- Remove the wooden benches at the top of the bluff within the affected areas;

- Construct or place a temporary barrier at the sidewalk around the west side of the lighthouse while directing access to the Axel Lindgren Memorial Trail around the east side of the lighthouse.
- Remove most of the paved parking area and curb while maintaining enough width for vehicles to park parallel to Edwards Street;
- Construct a new continuous asphalt or concrete curb on the seaward edge of the remaining parking area. The curb should be constructed in such a manner so as to direct surface runoff to flow back onto Edwards Street and be directed to the nearest downslope storm drain inlet. Grade the new parking area such that no ponding or overtopping of the curb can occur.

Additional Work

As described above, it is difficult to predict the areas or rate of potential future landsliding with the existing level of information. Additional subsurface information, specifically targeting the location of the edge of the rock block, would greatly enhance our ability to evaluate future impacts. As such, we recommend drilling a series of boreholes around the lighthouse to evaluate the distribution of buried bedrock. Additional borings along Edwards Street would also be useful, depending on the City's interests and resources.

With additional knowledge regarding the subsurface conditions, we would be better able to discuss potential mitigation options. At this time, we can envision opportunities to underpin the lighthouse through a variety of methods including development of a pile-supported cut-off wall to isolate the head of the landslide from the remainder of the slide body lower on the slope. However, we currently do not have adequate information to successfully evaluate, design, or implement potential repairs; we specifically need to know where bedrock is located in the subsurface near the lighthouse.

Due to the limited access to the site, a portable drill rig would likely be required to develop the necessary subsurface information. Hand augered borings are unlikely to penetrate deeply enough, and large machine rigs will be unable to access the site. A portable rig would be favorable at this site, as the support vehicle can be parked adjacent to the lighthouse on Edwards Street and the tooling carried manually to the study area. As appropriate, inclinometers can be placed in some of the boreholes to facilitate future slope monitoring (particularly the depth, magnitude, and rate of movement in the subsurface).

Closure

We recognize that the Trinidad Memorial Lighthouse is a treasured landmark in the Trinidad community (and beyond). Preservation of this landmark is a high priority, and we are committed to assisting the City in developing a strategy for assessing the risk to the lighthouse, and defining potential mitigation options. We anticipate this strategy will be developed in a phased approach that will involve stakeholder meetings and extensive discussion with City staff. We are happy to engage in these discussions as soon as feasible, at the City's discretion.

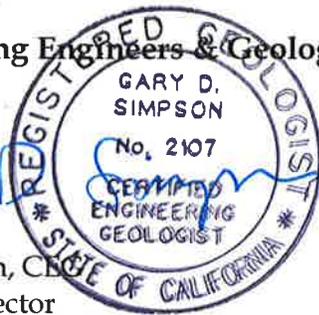
This preliminary assessment was prepared in a short time frame with a limited scope, and is based on currently available information. Our intent is to educate the City and stakeholders regarding what is currently known about the geologic condition of the site, as well as what is not known. It is our desire that the information will allow the City to move forward in a knowledgeable manner, such that they can make informed decisions based on the best available data.

Please feel free to call me at 707-441-8855 if you have any questions.

Sincerely,

SHN Consulting Engineers & Geologists, Inc.


Gary D. Simpson, CEG
Geosciences Director




(825)

Giovanni A. Vadurro, CEG
Senior Engineering Geologist

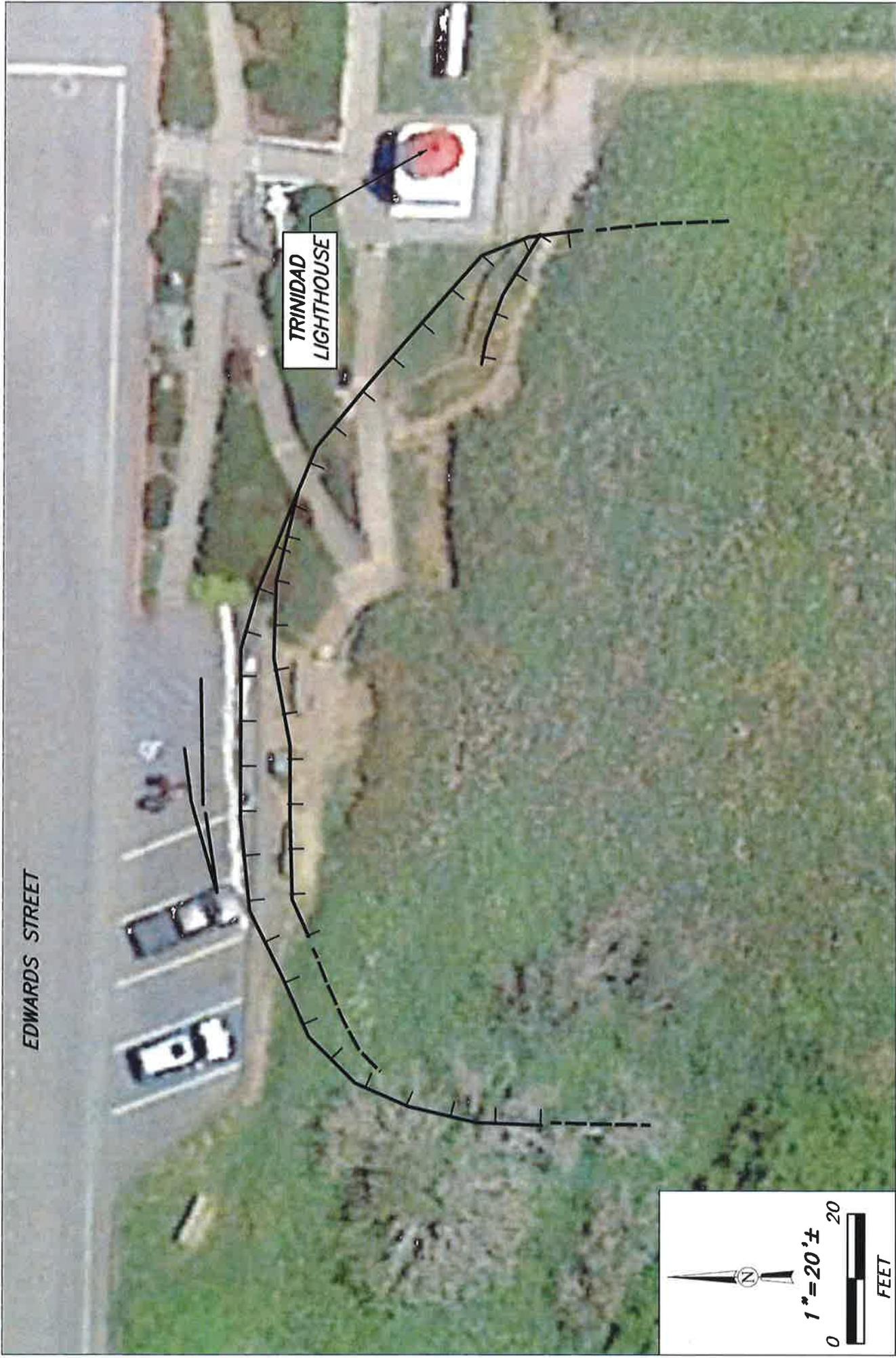
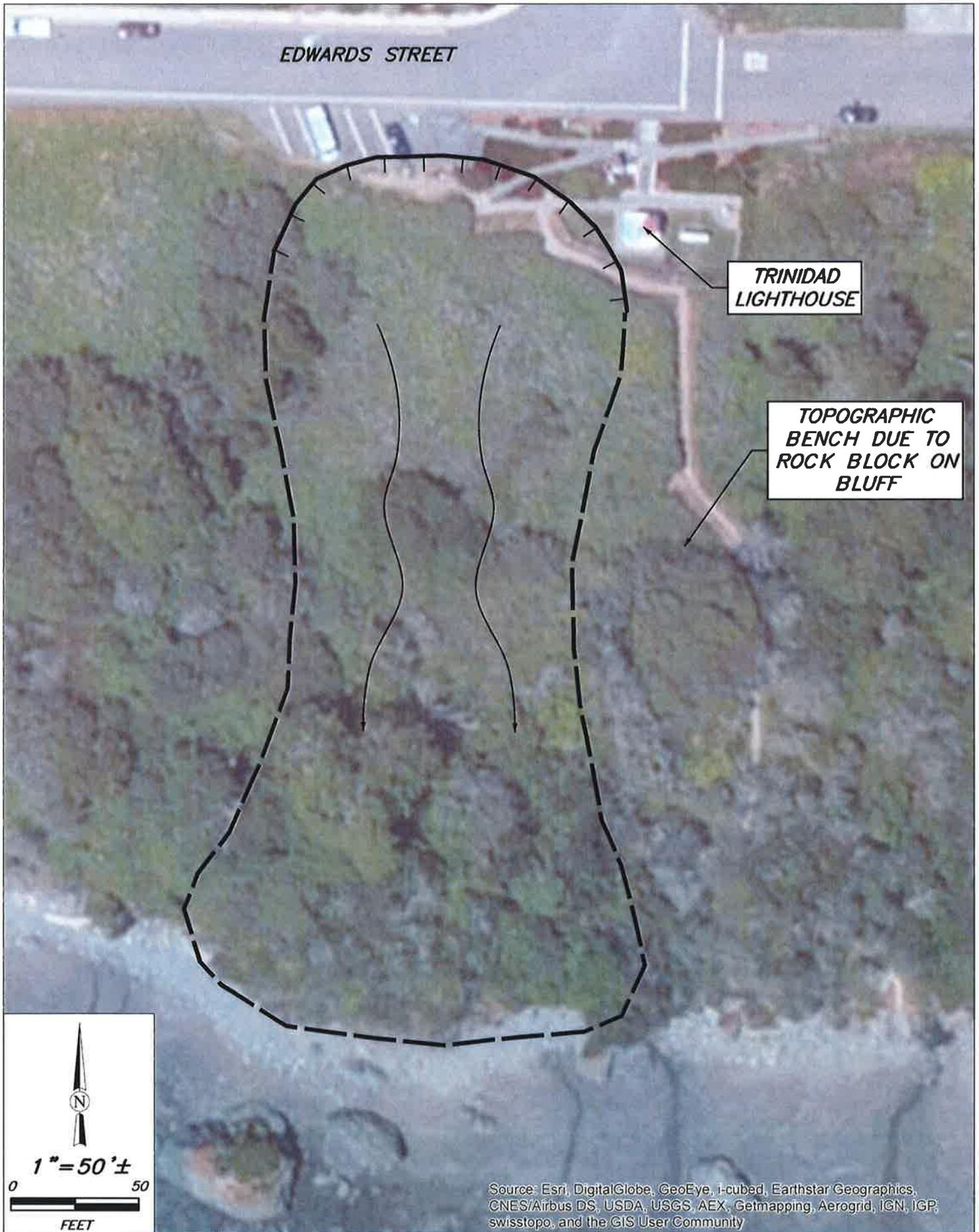


IMAGE SOURCE: GOOGLE EARTH (5/26/2016)	 Consulting Engineers & Geologists, Inc.	City of Trinidad Lighthouse Landslide Assessment Trinidad, California March 2017 Figure1_SiteMap	Site Map Showing Landslide Scarps SHN 017052 Figure 1
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SHN
Consulting Engineers
& Geologists, Inc.

City of Trinidad
Lighthouse Landslide Assessment
Trinidad, California

March 2017

Site Map Showing
Earth Flow
SHN 017052

Figure 2

GENERAL NOTES

- ALL WORK SHALL CONFORM TO STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION (CALTRANS) STANDARD PLANS & SPECIFICATIONS (DATED 2015), UNLESS SHOWN OTHERWISE.
- CONTRACTOR SHALL SCHEDULE AND ATTEND A PRE-CONSTRUCTION MEETING WITH THE CITY ENGINEER PRIOR TO STARTING CONSTRUCTION.
- QUANTITIES OF ITEMS, LENGTH OF PROJECT, AND SITE CONDITIONS SHOWN IN THE PLANS ARE APPROXIMATE. ALL MATERIALS SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNLESS OTHERWISE NOTED.
- CONTRACTOR AGREES TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR THE JOB SITE DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD THE TRIBE, GHD, AND THEIR REPRESENTATIVES HARMLESS FROM ANY AND ALL LIABILITY, REAL AND/OR ALLEGED, IN CONJUNCTION WITH THE PERFORMANCE OF THIS PROJECT.
- CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY AND ALL DAMAGES TO EXISTING STRUCTURES, ROADS, SIGNS, FENCES, AND UTILITIES DURING CONSTRUCTION. ALL DAMAGE SHALL BE RESTORED TO EQUAL OR BETTER CONDITION AT THE CONTRACTOR'S EXPENSE.
- CONTRACTOR SHALL VERIFY LOCATIONS, ELEVATIONS, DISTANCES, AND FEATURES THAT MAY AFFECT THE WORK. SHOULD EXISTING CONDITIONS DIFFER FROM THOSE SHOWN OR INDICATED, OR IF IT APPEARS THAT THESE PLANS AND STANDARD SPECIFICATIONS DO NOT ADEQUATELY DETAIL THE WORK TO BE DONE, CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO CONTINUING WITH ANY RELATED WORK. NO ALLOWANCE WILL BE MADE ON HIS BEHALF FOR ANY EXTRA EXPENSE RESULTING FROM FAILURE OR NEGLECT IN DETERMINING THE CONDITIONS UNDER WHICH WORK IS TO BE PERFORMED. NOTED DIMENSIONS TAKE PRECEDENCE OVER SCALE.
- CONTRACTOR SHALL NOTIFY THE CITY AT LEAST 72 HOURS IN ADVANCE OF COMMENCEMENT OF ANY PART OF THE WORK AND SHALL COORDINATE CONSTRUCTION SCHEDULE WITH CITY'S REPRESENTATIVE.
- EXCAVATED MATERIAL SHALL BE REMOVED FROM SITE AND DISPOSED OF IN A MANNER CONSISTENT WITH APPLICABLE REGULATIONS SUCH AS CITY AND COUNTY GRADING ORDINANCES. THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY AND EXPENSE FOR PROPER LEGAL DISPOSAL OF UNSUITABLE MATERIALS TAKEN FROM SITE.
- THE CONTRACTOR SHALL READ AND MAKE CAREFUL EXAMINATION OF THE PLANS, DIMENSIONS, QUANTITIES AND MATERIALS AND VISIT THE SITE OF THE PROPOSED CONSTRUCTION TO BECOME FAMILIAR WITH THE SITE CONDITIONS AND LIMITATIONS BEFORE MAKING A BID. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL ERRORS RESULTING FROM THE FAILURE TO MAKE SUCH AN EXAMINATION. ANY INFORMATION DERIVED FROM THE MAPS, PLANS, SPECIFICATIONS, OR FROM THE ENGINEER WILL NOT RELIEVE THE CONTRACTOR FROM ANY RISK OR FROM FULFILLING THE TERMS OF THE CONTRACT.
- NO WORK SHALL BE PERFORMED OUTSIDE OF THE DESIGNATED LIMIT OF WORK WITHOUT THE APPROVAL OF THE CITY'S REPRESENTATIVE. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING STAGING AREAS WITH THE CITY'S REPRESENTATIVE.
- UPON COMPLETION OF THE CONSTRUCTION PROJECT, THE CONTRACTOR SHALL LEAVE THE PROJECT AREA FREE OF DEBRIS AND UNUSED MATERIAL. ALL DAMAGE CAUSED BY THE CONTRACTOR SHALL BE RESTORED TO AN "AS GOOD OR BETTER" CONDITION.

UTILITY NOTES

- CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICES ALERT USA NORTH 811 A MIN. OF TWO WORKING DAYS PRIOR TO ANY EXCAVATION AND POTHOLE FOR EXACT LOCATION.
- ALL EXISTING UTILITIES SHOULD BE CONSIDERED ACTIVE UTILITIES UNLESS OTHERWISE INDICATED.

GRADING NOTES

- THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF ALL BASEMAP DATA.
- ALL EXISTING UNPAVED AREAS WHICH ARE DISTURBED BY CONSTRUCTION OR EARTHWORK OPERATIONS SHALL BE HAND RAKED SMOOTH TO TRANSITION TO ADJACENT GROUND SURFACE.
- ALL DITCHES, SWALES, GUTTERS, ETC. SHOULD BE CONSIDERED ACTIVE STORM CONVEYANCES UNLESS OTHERWISE INDICATED. CONTRACTOR IS RESPONSIBLE FOR ADDRESSING STORM WATER DRAINAGE AND DEWATERING OF WORK AREAS DURING CONSTRUCTION.
- THE CONTRACTOR SHALL NOTIFY THE CITY A MINIMUM OF 72 HOURS IN ADVANCE OF ANY EXCAVATION AND WILL NOT PROCEED WITH ANY EXCAVATION WORK UNTIL CLEARED TO DO SO BY THE CITY. A TRIBAL MONITOR OR ARCHAEOLOGIST MAY BE ON SITE DURING CONSTRUCTION ACTIVITIES. THE CONTRACTOR IS ADVISED THAT IF ANY ARCHAEOLOGICAL FINDINGS ARE DISCOVERED DURING CONSTRUCTION THAT THE MONITOR OR ARCHAEOLOGIST HAS THE AUTHORITY TO SLOW OR STOP CONSTRUCTION ACTIVITIES AS THEY DEEM NECESSARY.

TRAFFIC CONTROL NOTES

- TEMPORARY TRAFFIC CONTROL SHALL BE CONSISTENT WITH THE CALIFORNIA MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES - CURRENT EDITION.
- CONTRACTOR SHALL PROVIDE AND MAINTAIN SUFFICIENT TEMPORARY BARRIERS TO PROVIDE FOR THE SAFETY OF THE PUBLIC TO THE SATISFACTION OF THE CITY.

WATER POLLUTION CONTROL NOTES

- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO MINIMIZE EROSION AND PREVENT THE TRANSPORT OF SEDIMENT TO SENSITIVE AREAS.
- AT A MINIMUM, THE CONTRACTOR SHALL EMPLOY THE FOLLOWING BEST MANAGEMENT PRACTICES (BMPs) AS DESCRIBED IN THE CURRENT CALIFORNIA STORMWATER BMP HANDBOOK FOR CONSTRUCTION (WWW.CASQA.ORG):

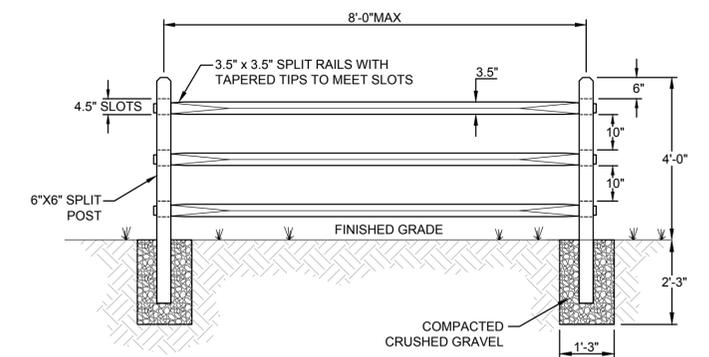
EC-1	SCHEDULING
EC-2	PRESERVATION OF EXISTING VEGETATION
EC-7	GEOTEXTILE AND MATS
SE-5	FIBER ROLLS
SE-7	STREET SWEEPING AND VACUUMING
WE-1	WIND EROSION CONTROL
NS-9	VEHICLE EQUIPMENT AND FUELING
NS-10	VEHICLE & EQUIPMENT MAINTENANCE
WM-1	MATERIALS DELIVERY AND STORAGE
WM-2	MATERIAL USE
WM-3	STOCKPILE MANAGEMENT
WM-4	SPILL PREVENTION AND CONTROL
WM-5	SOLID WASTE MANAGEMENT
WM-9	SANITARY/SEPTIC WASTE MANAGEMENT
- CONTRACTOR MUST ENSURE THAT THE CONSTRUCTION SITE IS PREPARED PRIOR TO THE ONSET OF ANY STORM.
- SUFFICIENT EROSION CONTROL SUPPLIES SHALL BE AVAILABLE AT ALL TIMES TO DEAL WITH AREAS SUSCEPTIBLE TO EROSION DURING RAIN EVENTS.
- MINIMIZE DISTURBANCE OF EXISTING VEGETATION TO THAT NECESSARY TO COMPLETE THE WORK.
- THE CONTRACTOR SHALL MAKE ADEQUATE PREPARATIONS, INCLUDING TRAINING & EQUIPMENT, TO CONTAIN SPILLS OF OIL AND OTHER HAZARDOUS MATERIALS.
- THE CONTRACTOR SHALL PROVIDE COVERED WASTE RECEPTACLE FOR COMMON SOLID WASTES AT CONVENIENT LOCATIONS ON THE JOB SITE AND PROVIDE REGULAR COLLECTION OF WASTES.
- THE CONTRACTOR SHALL PROVIDE SANITARY FACILITIES OF SUFFICIENT NUMBER AND SIZE TO ACCOMMODATE CONSTRUCTION CREWS AND ENSURE ADEQUATE ANCHORAGE OF SUCH FACILITIES TO PREVENT THEM FROM BEING TIPPED BY THE WEATHER OR VANDALISM.
- VEHICLE AND EQUIPMENT & MAINTENANCE SHOULD BE PERFORMED OFF-SITE WHENEVER PRACTICAL.
- ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS OR PARKING AREAS SHALL BE SWEEPED AT THE END OF EACH WORKING DAY, AS NECESSARY OR AS DIRECTED BY THE CITY'S REPRESENTATIVE. A STABILIZED CONSTRUCTION ENTRANCE MAY BE REQUIRED TO PREVENT SEDIMENT FROM BEING DEPOSITED ON PAVED ROADWAYS.
- ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED IN ACCORDANCE TO THEIR RESPECTIVE BMP FACT SHEET UNTIL DISTURBED AREAS ARE STABILIZED.
- THE EROSION CONTROL PLAN MAY NOT COVER ALL THE SITUATIONS THAT ARISE DURING CONSTRUCTION DUE TO UNANTICIPATED FIELD CONDITIONS. VARIATIONS MAY BE MADE TO THE PLAN IN THE FIELD SUBJECT TO THE APPROVAL OF OR AT THE DIRECTION OF THE CITY'S REPRESENTATIVE.
- IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO FIX ANY DEFICIENCIES INDICATED BY THE CITY'S REPRESENTATIVE TO PREVENT EROSION AND CONTROL SEDIMENT.

DESCRIPTION OF WORK

WORK GENERALLY INCLUDES, BUT IS NOT LIMITED TO: DEMOLITION AND REMOVAL OF EXISTING PAVEMENT, CONCRETE WALKWAY/RAMPS AND CURBS, REMOVAL OF WOOD STEPS, HAND RAILING, LANDSCAPING EDGING, FENCING, REMOVAL (SALVAGING) OF A GRANITE PLAQUE, GRADING THE GROUND SURFACE TO MINIMUM SLOPES, PROVIDING TOPSOIL, CONSTRUCTING SLIT RAIL FENCING, PLACING EROSION CONTROL BLANKETS ON DISTURBED AREAS, PROVIDING PLANTS, INSTALLING FIBER ROLLS, AND APPLYING HYDROSEED.

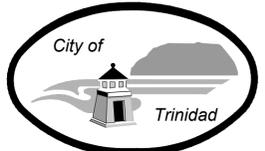
NOTICE

CONTRACTOR SHALL EXERCISE EXTREME CAUTION AND LIMIT GROUND DISTURBANCE WHICH COULD DAMAGE ADJACENT STRUCTURES OR SENSITIVE CULTURAL AREAS, OR DESTABILIZE THE GROUND/BLUFF. THE USE OF HEAVY EQUIPMENT (E.G. BACKHOE, EXCAVATOR) WITHIN THE LIMIT OF WORK WILL BE STRICTLY PROHIBITED. ONLY HAND TOOLS/EQUIPMENT OR LIGHT WEIGHT EQUIPMENT (SUCH AS A SKID STEER LOADER AND JACKHAMMER) APPROVED BY THE PROJECT GEOTECHNICAL ENGINEER WILL BE PERMITTED.



- NOTES:
1. ALL WOOD SHALL BE REDWOOD OR CEDAR.

1
G-002 **TYPICAL SPLIT RAIL FENCE DETAIL**
SCALE: NTS

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BAR IS ONE INCH ON ORIGINAL DRAWING 0 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY									Drafting Check JW	Design Check JW	
									Approved JW		Title GENERAL NOTES
									Date 4/3/17		Contract No. 01063-07-001
									Scale N/A	This Drawing shall not be used for Construction unless Signed and Sealed For Construction	Original Size Ansi D Drawing No: G-002
											Sheet 2 of 4 Rev: 0

LEGEND

- BIODEGRADABLE FIBER ROLLS (SE-5)
- PLANTED AREAS PER (1) C-102
- HYDROSEEDED AREAS PER (1) C-102
- PLANT PER SCHEDULE

NOTES

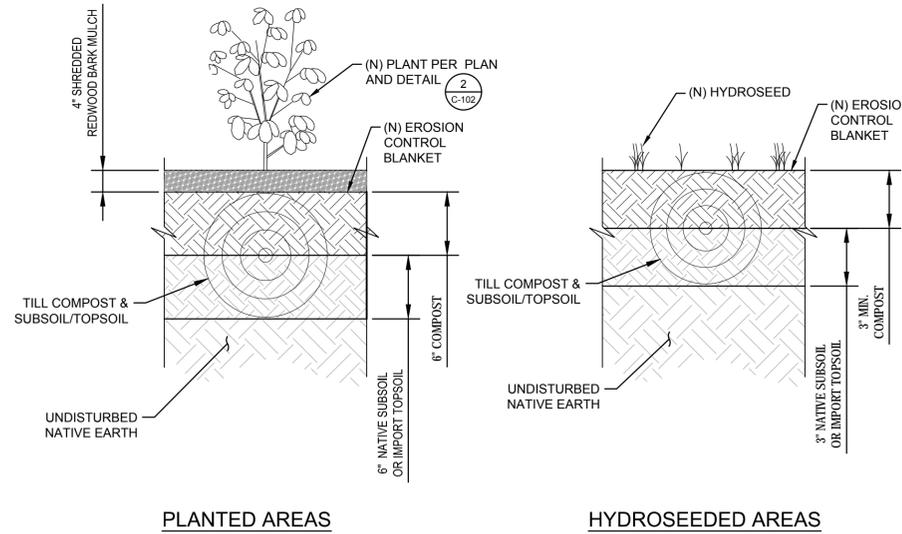
- WHILE THIS PROJECT IS EXEMPT FROM THE MODEL WATER EFFICIENT LANDSCAPE ORDINANCE (MWELO) COMPLIANCE UNDER SECTION 490.1 (E)(1), THE LANDSCAPE STABILIZATION PLANTINGS ARE ALL DROUGHT TOLERANT AND DO NOT REQUIRE IRRIGATION.
- PROVIDE EROSION CONTROL BLANKET (TYPE A OR B PER CALTRANS STANDARD SPECIFICATIONS) ON ALL DISTURBED AREAS.

PLANTING SCHEDULE

SYMBOL	SCIENTIFIC NAME	COMMON NAME	SIZE	QTY	SPACING
Au	Arctostaphylos uva-ursi	Bearberry	1 gal	5	3'
Bp1	Baccharis pilularis 'Pigeon Point'	Dwarf Coyote Bush	1 gal	2	6'
Bp5	Baccharis pilularis 'Pigeon Point'	Dwarf Coyote Bush	5 gal	3	6'
Cg5	Ceanothus griseus horizontalis 'Yankee Point'	Yankee Point Carmel Mountain Lilac	5 gal	1	6'
Da	Diplacus aurantiacus	Sticky Monkey Flower	1 gal	3	2'



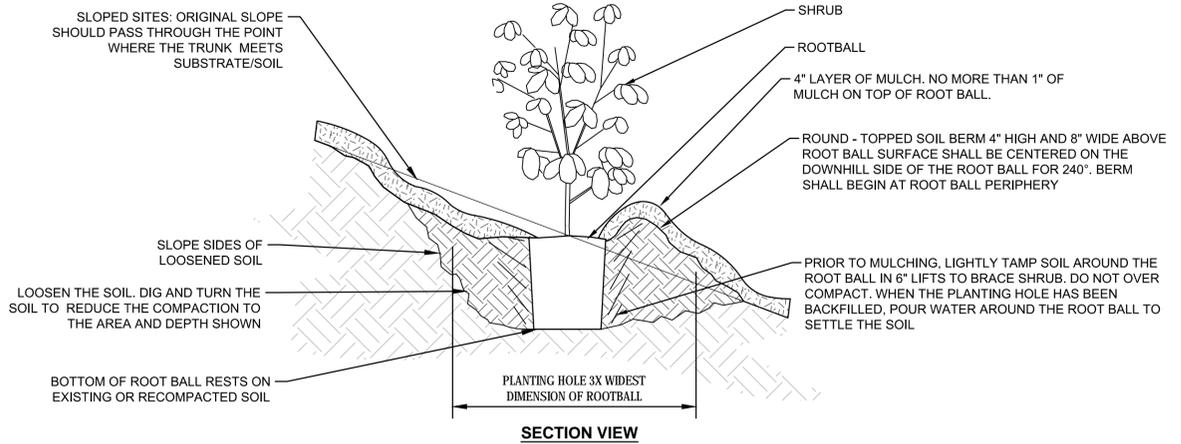
PLANTING & EROSION CONTROL PLAN



1 TYPICAL PLANTING SECTIONS
SCALE: NTS

NOTES:

- TOPSOIL SHALL BE IMPORTED, FERTILE, FRIABLE SOIL OF LOAMY CHARACTER THAT CONTAINS ORGANIC MATTER IN AMOUNTS NATURAL TO THE REGION AND BE CAPABLE OF SUSTAINING HEALTHY PLANT LIFE. TOPSOIL SHALL BE FREE FROM DELETERIOUS SUBSTANCES SUCH AS LITTER, REFUSE, TOXIC WASTE, ROCKS LARGER THAN 1/2-INCH IN SIZE, COARSE SAND, HEAVY OR TUFF CLAY, BRUSH, STICKS, GRASSES, ROOTS, NOXIOUS WEED SEEDS, WEEDS, AND OTHER SUBSTANCES DETRIMENTAL TO PLANT, ANIMAL OR HUMAN HEALTH.
- APPLY HYDROSEED WITH HYDRAULIC SPRAY EQUIPMENT THAT MIXES FIBER, TACKIFIER, FERTILIZER, AND SEED MATERIALS SPECIFIED, AT A MINIMUM APPLICATION RATE OF 100 LBS/ACRE. HYDROSEED SHALL BE APPLIED TO FORM A UNIFORM AND CONTINUOUS BLANKET OVER ALL DISTURBED AREAS, SUBJECT TO THE SATISFACTION OF THE CITY.
- SEED MIX :
REGREEN HYBRID WHEATGRASS (*ELYMUS X TRITICUM*) 42%
BLUE WILD RYE (*ELYMUS GLAUCUS*) 17%
MEADOW BARLEY (*HORDEUM BRACHYANTHERUMIS*) 17%
HAIRGRASS (*DESCHAMPSIA CESPITOSA*) 8%
SMALL FESCUE (*FESTUCA MICROSTACHYS*) 8%
TOMCAT CLOVER (*TRIFOLIUM TRIDENTATUM*) 5%
CALIFORNIA BROME (*BROMUS CARINATUS*) 3%
- ALL DISTURBED AREAS (INCLUDING HYDROSEEDED AND PLANTED AREAS) SHALL BE COVERED WITH EROSION CONTROL BLANKETS (TYPE A OR B PER CALTRANS STANDARD SPECIFICATIONS).



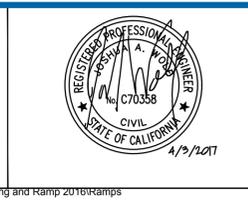
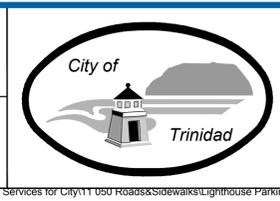
2 PLANTING DETAIL
NTS

No	Revision	Note: * indicates signatures on original issue of drawing or last revision of drawing	Drawn	Job Manager	Project Director	Date

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Drafting Check	JW	Design Check	JW
Approved	JW		
Date	4/3/17		
Scale	AS SHOWN		

Client	CITY OF TRINIDAD
Project	MEMORIAL LIGHTHOUSE SITE MODIFICATIONS
Title	PLANTING & EROSION CONTROL PLAN
Contract No.	01063-07-001
Original Size	ANSI D
Drawing No.	C-102
Sheet	4 of 4
Revision	0



TPW



